

السيد المهندس / رئيس قطاع التنفيذ والمناطق

تحية طيبة وبعد ،،،،

نتشرف بأن نرفق لسيادتكم عدد ١ مقياسة تقديرية معدلة لمشروع اعمال انشاء الجسر الترابي للقطار الكهربائي السريع (٦ اكتوبر - ابوسمبل) القطاع الخامس من الكم 693+533 الي 693+783 بطول 0.250 كم اعداد المكتب الاستشاري سبكترم للاستشارات الهندسية وعلى مسنوليته تنفيذ / شركة عباد الرحمن للتنمية الزراعية والعقارية والمقاولات

برجاء التكرم بالعلم والتوجيه باللازم

وتفضلوا بقبول فائق التحية والاحترام،،


رئيس الإدارة المركزية
م / عماد تحسين

تحرير في ٢٠٢٤/٢/
المرفقات / عدد (١) مقياسة



الهيئة العامة للطرق والكباري

وزارة النقل

مقايمة تقديرية معجلة (جزيئة لبنود الأصال / جزيئة لأعمال الأتربة المرحلة الأولى)

مشروع : الجسر الترابي للقطار السريع (أكتوبر / أبو سمبل)

القطاع الخامس من الكم ٦٢٩+١١٠.١٣ إلى الكم ٧١٥+٦٢٤.٦٣ بطول ٨٦.٥٢ كم

من إحداثي E ٤٨٩٩٢٩.٦٦٧١ و N ٢٨٧٤٢١٥.٥٦٧١

إلى إحداثي E ٤٤٠١٦٨.٦٥٢٢ و N ٢٨١٧٧٧٨.٣١٧٥

إستشاري القطاع سبكتروم للإستشارات الهندسية د. م. / عبد الدين نبيل

تنفيذ الشركة: / شركة عبد الرحمن للتنمية الزراعيه والعقاريه فئة : الساسيه بقيمة : مليون

من الكم ٦٩٣+٥٣٣ إلى الكم ٦٩٣+٧٨٣ بطول ٠.٢٥٠ كم

من إحداثي E ٤٥٩٧٣٥.٢٧٨١ و N ٢٨٢٧٥٤٣.٦٨٦٦

إلى إحداثي E ٤٥٨٨٤٨.٩٤٩٨ و N ٢٨٢٧٠٨٢.٠٤٥٢

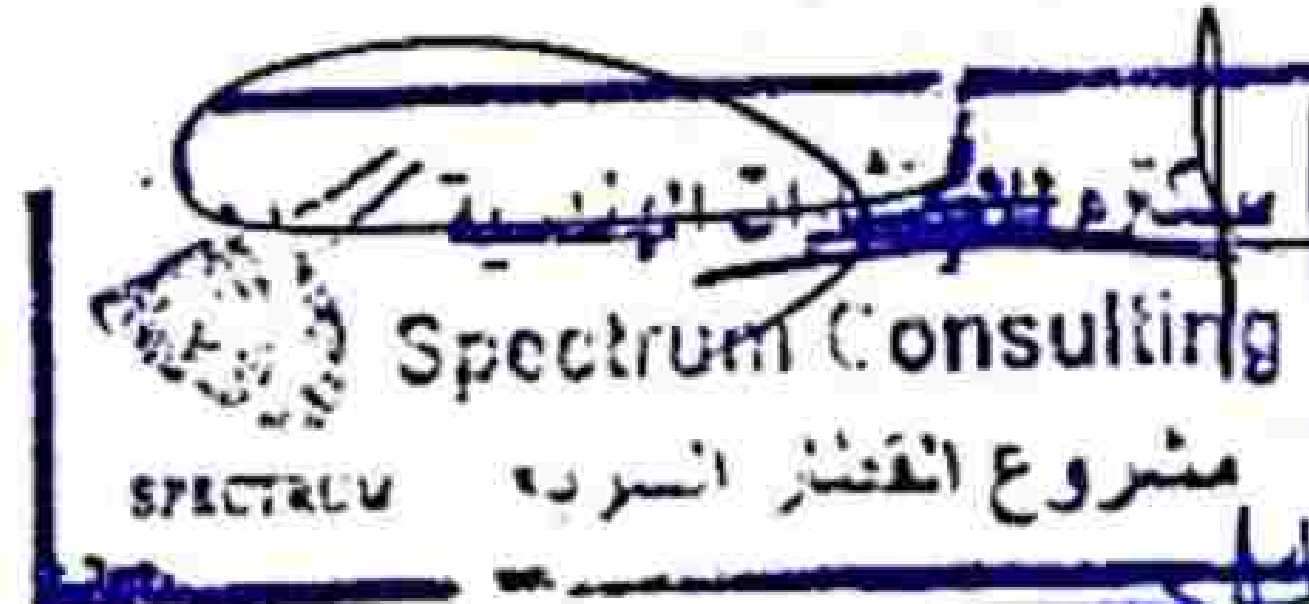
قيمة المقايمة ١٩,٩٩٠,٨٥٥ مليون

شركة عبد الرحمن

للتنمية الزراعية والعقارية والمقاولات
ب.ش. ٢٥٢/٦٥٦/٦٥٠٠ س.ت ١٥٥٢٥

المقاول /

الإستشاري /

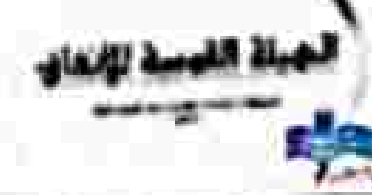


المنطقة الثامنة بقنا /





مقايمة جزئية معدلة



أعمال إنشاء الحرس الترابي للقطار الكهربائي المربع (أكتوبر / أوسمبل)
من محطة ١١٠.١٣ + ٦٢٩ حتى محطة ٦٢٤.٦٣ + ٧١٥ بطول ٨٦.٥١٤٥ كم

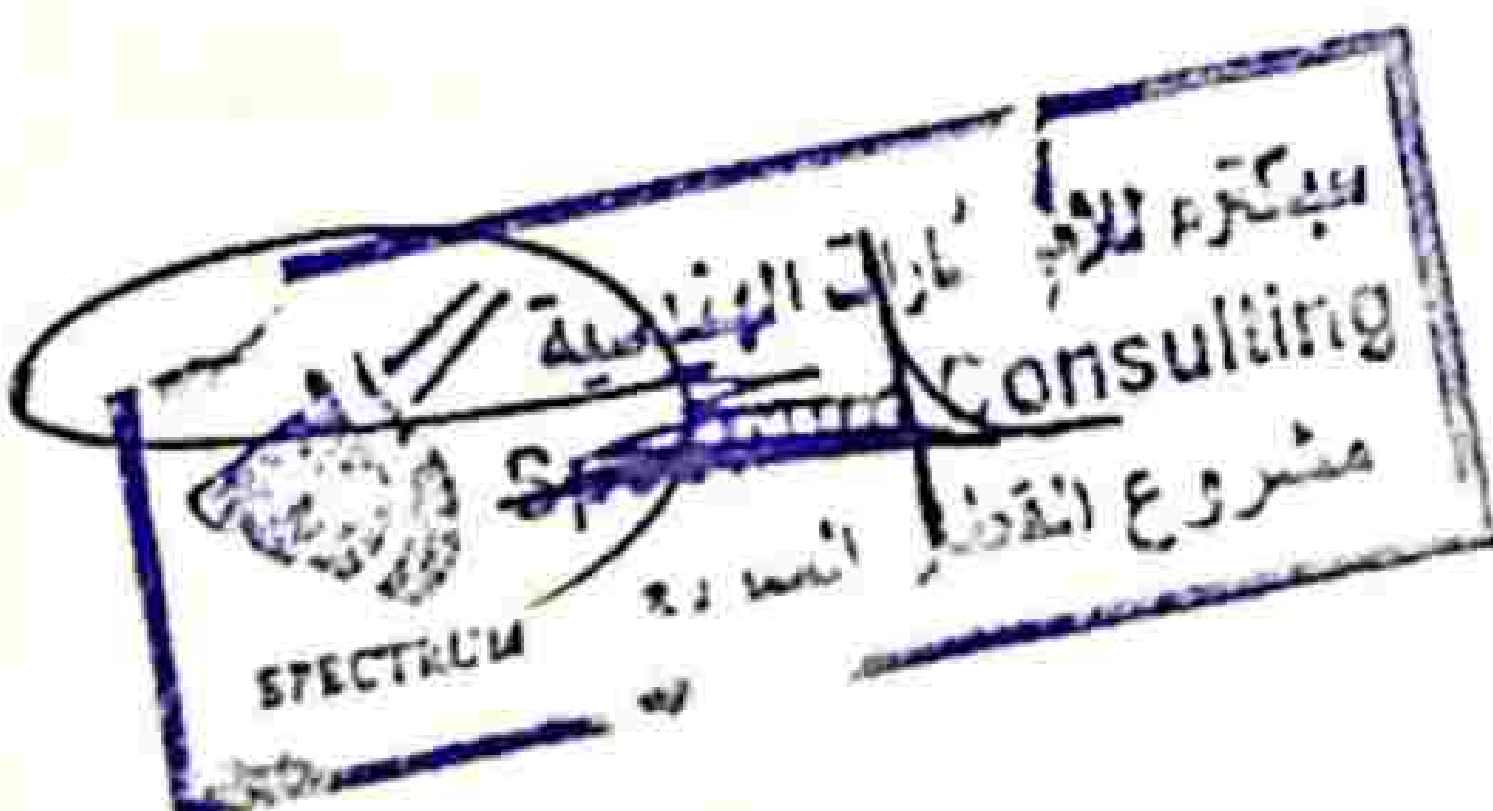
تنفيذ شركة / عباد الرحمن من محطة ٦٩٢ + ٥٣٣ إلى ٦٩٣ + ٧٨٣ بطول ٠.٢٥٠ كم

أعمال (الإزالة والتطهير - الحفر - الردم - embankment - طبقة التأسيس - prepared subgrade - طبقة الأساس - subballast - تربة المساحة - فلاتات الخرسانة / (إرفاق الخرسانة)

رقم البند	بيان الأعمال	الوحدة	الكمية	سعر الوحدة	الإجمالي
1	أعمال الإزالة والتطهير				
1-1	بالمتر المسطح أصل تطهير الموقع من الأشجار والمزروعات والمخلفات في مناطق ذات الطبيعة الزراعية الكثيفة بعمق حتى ٣٠ سم و التخلص منها بالمقابل العمومية وذلك لمسافة حتى ٥٠٠ متر تمهيداً لأعمال الرقع المساحي لكلحد حدود المشروع طبقاً للشروط والمواصفات وتعليمات المهندس المشرف. يتم احتساب علاوة ٠.٣٠ جنيه لكل ١ كم.	م ^٢	١٠	٦.٠٠	٦٠
2-1	المتر المسطح أصل تطهير الموقع من الأشجار والمزروعات والمخلفات و التي يستلزم لها استخدام التنفيذ باستخدام (الورد أو البلدوزر) في مناطق ذات الطبيعة الزراعية الكثيفة و البند يشمل التطهير وإزالة الجذور بعمق لا يقل عن ٣٠ سم و التخلص منها بالمقابل العمومية وذلك لمسافة ٥٠٠ متر. تمهيداً لأعمال الرقع المساحي لكلحد حدود المشروع طبقاً للشروط والمواصفات وتعليمات المهندس المشرف - علاوة ٠.٣ جنيه لكل كم زيادة.	م ^٢	١٠	١١.٠٠	١١٠
3-1	بالمتر المكعب أصل تكسير وإزالة المسطحات المنهارة بالرصيف الحالي في الأماكن التي يحددها المهندس المشرف ونقل نتج التكسير خارج الموقع ومتوسط مسافة النقل حتى ١٠ كم وحصل ما يلزم لنهوض العمل طبقاً لكراسة الشروط والمواصفات وتعليمات المهندس المشرف. وفي حالة زيادة مسافة نقل نتج التكسير عن ١٠ كم من محور الطريق يتم حساب ١ جنيه لكلومتر الزيادة أو النقص.	م ^٣	١٠	٦١.٠٠	٦١٠
4-1	العدد إزالة لشجار من مسار الطريق و التخلص منها على ألا يقل قطر الشجرة عن ٣٠ سم وإزالة الجذور بالكامل ونقلها خارج الموقع طبقاً لتعليمات المهندس المشرف.	العدد	١٠	٧٥.٠٠	٧٥٠
5-1	العدد إزالة أشجار وفخيل بارتفاع لا يقل عن ٤ متر من مسار الطريق و التخلص منها على أن لا يقل القطر عن ٣٠ سم وإزالة الجذور بالكامل ونقلها خارج الموقع طبقاً لتعليمات المهندس المشرف.	العدد	١٠	٤٠٠.٠٠	٤,٠٠٠
2	أعمال الحفر				
1-2	بالمتر المكعب أصل حفر باستخدام المعدات الميكانيكية لجميع أنواع التربة عدا التربة الصخرية وتسوية السطح بالآلات التسوية والرش بالمياه الأصولية للوصول إلى نسبة الرطوبة المطلوبة والدمك الجيد بالهراسات للوصول إلى أقصى كثافة جافة (٩٥% من الكثافة الجافة القصوى) ومحمل على البند تحميل ونقل الأتربة الزائدة لمسافة ٥٠٠ متر من محور الطريق ويتم التنفيذ طبقاً للمناسيب التصميمية والقطاعات العرضية النموذجية والرسومات التفصيلية المعتمدة والبند بجميع مشتعلات طبقاً لأصول الصناعة ومواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف. -علاوة ١ اجنية /كم لمسافة نقل نتج الحفر وتصبح ١.١ اجنية/كم ابتداء من ٤/٥/٢٠٢٣ -علاوة زيادة السولار ٠.٦ اجنية /م ^٣ ابتداء من ٤/٥/٢٠٢٣	م ^٣	٣٥,٠٠٠	٢٣.٠٠	٨٠٥,٠٠٠
	علاوة مسافة النقل ١ كم	م ^٣	٥٠٠	١.١٠	٥٥٠
	علاوة زيادة السولار	م ^٣	٣٥,٠٠٠	٠.٦٠	٢١,٠٠٠
2-2	بالمتر المكعب أصل حفر باستخدام المعدات الميكانيكية في التربة المتماسكة عدا التربة الصخرية (باستخدام البلدوزر) وتسوية السطح بالآلات التسوية والرش بالمياه الأصولية للوصول إلى نسبة الرطوبة المطلوبة والدمك الجيد بالهراسات للوصول إلى أقصى كثافة جافة (٩٥% من الكثافة الجافة القصوى) ومحمل على البند تحميل ونقل الأتربة الزائدة لمسافة ٥٠٠ متر من محور الطريق ويتم التنفيذ طبقاً للمناسيب التصميمية والقطاعات العرضية النموذجية والرسومات التفصيلية المعتمدة والبند بجميع مشتعلات طبقاً لأصول الصناعة ومواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف. -علاوة ١ اجنية /كم لمسافة نقل نتج الحفر وتصبح ١.١ اجنية/كم ابتداء من ٤/٥/٢٠٢٣ -علاوة زيادة السولار ٠.٧ اجنية /م ^٣ ابتداء من ٤/٥/٢٠٢٣	م ^٣	٣٥,٠٠٠	٢٦.٠٠	٩١٠,٠٠٠
	علاوة مسافة النقل ١ كم	م ^٣	٥٠٠	١.١٠	٥٥٠
	علاوة زيادة السولار	م ^٣	٣٥,٠٠٠	٠.٧٠	٢٤,٥٠٠
3-2	بالمتر المكعب أصل حفر باستخدام المعدات الميكانيكية شديدة المتانة (طفلة متحركة أو) عدا التربة الصخرية (باستخدام البلدوزر) وتسوية السطح بالآلات التسوية والرش بالمياه الأصولية للوصول إلى نسبة الرطوبة المطلوبة والدمك الجيد بالهراسات للوصول إلى أقصى كثافة جافة (٩٥% من الكثافة الجافة القصوى) ومحمل على البند تحميل ونقل الأتربة الزائدة لمسافة ٥٠٠ متر من محور الطريق ويتم التنفيذ طبقاً للمناسيب التصميمية والقطاعات العرضية النموذجية والرسومات التفصيلية المعتمدة والبند بجميع مشتعلات طبقاً لأصول الصناعة ومواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف. -يتم تحديد نوع التربة طبقاً لمعدلات التنفيذ باستخدام البلدوزر والتي تحدد بمعرفة المنطقة المشرفة والاستشاري. -علاوة ١ اجنية /كم لمسافة نقل نتج الحفر وتصبح ١.١ اجنية /كم ابتداء من ٤/٥/٢٠٢٣ -علاوة زيادة السولار للبند ٠.٨ اجنية /م ^٣ ابتداء من ٤/٥/٢٠٢٣	م ^٣	٤٨,٨٨٠	٣١.٠٠	١,٥١٥,٢٨٠
	علاوة مسافة النقل ١ كم	م ^٣	٨٨٦	١.١٠	٩٧٥
	علاوة زيادة السولار	م ^٣	٤٨,٨٨٠	٠.٨٠	٣٩,١٠٤



شركة عباد الرحمن
للتنمية الزراعية والعنصرية والمساومات
ب.ف.س. ٢٥٦/٦٥٦/٢٥٦
ت.س. ٢٥٦/٢٥٦



مقاييس جزئية معدلة					الهيئة العامة للإعانة	وزارة النقل
أعمال إنشاء الجسر الترامبولين للقطار الكهربائي السريع (أكتوبر / أبو سميل)						
من محطة ١١٠.١٣ + ٦٢٩ حتى محطة ٦٢٤.٦٢ + ٧١٥ بطول ٨٦.٥١٤٥ كم						
تنفيذ شركة / عباد الرحمن من محطة ٦٩٢+٥٢٣ إلى ٦٩٣+٧٨٣ بطول ٠.٢٥٠ كم						
أعمال (الإنارة والتطهير - الحفر - الردم) embankment-طبقة التأسيس prepared subgrade-طبقة الأساس subballast-التربة المسلحة-البلاطات الخرسانية / الرصف الخرساني						
رقم البند	بيان الأعمال	الوحدة	الكمية	سعر الفئة	الإجمالي	
4-2	بالمتر المكعب أعمال حفر بالمعدات الميكانيكية في تربة صخرية	٣م	١	٦٠.٠٠	٣,٧٤٥,٢١٨	
	ذات إجهاد (٢٠٠-١٠٠) كجم/سم ^٢					
	ذات إجهاد (٢٠٠-١٠٠) كجم/سم ^٢ من يناير ٢٠٢٣					
	علاوة ١.٦ جنيه/م ^٣ لارتفاع السور وذلك للكميات المنقذة بعد ٤/٥/٢٠٢٣					
	ذات إجهاد (٢٠٠-٢٠٠) كجم/سم ^٢					
	ذات إجهاد (٢٠٠-٢٠٠) كجم/سم ^٢ من يناير ٢٠٢٣					
	علاوة ١.٩ جنيه/م ^٣ لارتفاع السور وذلك للكميات المنقذة بعد ٤/٥/٢٠٢٣					
	ذات إجهاد (٤٠٠-٣٠٠) كجم/سم ^٢					
	ذات إجهاد (٤٠٠-٣٠٠) كجم/سم ^٢ من يناير ٢٠٢٣					
	علاوة ٢.٢ جنيه/م ^٣ لارتفاع السور وذلك للكميات المنقذة بعد ٤/٥/٢٠٢٣					
5-2	علاوة زيادة إجهاد كل ١٠٠ كجم/سم ^٢ لكل متر مكعب	٣م	١	٥٨.٠٠	٥٨	
	علاوة زيادة إجهاد كل ١٠٠ كجم/سم ^٢ لكل متر مكعب وذلك للكميات المنقذة بعد ٤/٥/٢٠٢٣					
	ومحمل على البند الآتي					
	١- تحميل ونقل ناتج الحفر لمسافة لا تقل عن ٥٠٠ متر					
	٢- لرنكة الميول الجذبة باستخدام المعدات الميكانيكية					
	٣- توريد تربة مطابقة للمواصفات وتشغيلها باستخدام آلات التسوية بسبك لا يزيد عن ٢٥ سم لاستكمال المنسوب التصميمي لتشكيل الجسر والاكتاف (نسبة تحمل كاليفورنيا حتى ١٠ %) ورشها بالمياه الاصولية للوصول إلى نسبة الرطوبة المطلوبة والتمك الجيد بالهراسات للوصول إلى أقصى كثافة جافة (٩٥ % من الكثافة الجافة القصوى). ويتم التنفيذ طبقاً للمناسيب التصميمية والقطاعات العرضية النموذجية والرسومات التفصيلية المعتمدة والبلد بجميع مشتملاته طبقاً لأصول الصناعة ومواصفات الهيئة العامة للطرق والكباري وتعليمات المهندس المشرف.					
	بالمتر المكعب أعمال تخريم وتنسف طبقاً للمناسيب التصميمية في تربة صخرية صلبة (ذات إجهاد يزيد عن ١٠٠ كجم/سم ^٢) والحساب طبقاً لمحاظر التنف على أن يتم تحميل ونقل ناتج التنف لمسافة لا تقل عن ٥٠٠ متر من محور الطريق وتوريد طبقة من الزلط أو السن المترج مطابقة للمواصفات وتشغيلها باستخدام آلات التسوية بسبك لا يزيد عن ٢٥ سم لاستكمال المنسوب التصميمي لتشكيل الجسر والاكتاف (نسبة تحمل كاليفورنيا لا تقل عن ١٥ %) ورشها بالمياه الاصولية للوصول إلى نسبة الرطوبة المطلوبة والتمك الجيد بالهراسات للوصول إلى أقصى كثافة جافة (لا تقل عن ٩٥ % من الكثافة الجافة القصوى) مع اتباع كافة الشروط والمواصفات المعتمدة من قبل استشاري المشروع ويتم التنفيذ طبقاً للمناسيب التصميمية والقطاعات العرضية النموذجية والرسومات التفصيلية المعتمدة والبلد بجميع مشتملاته طبقاً لأصول الصناعة ومواصفات الهيئة العامة للطرق والكباري وتعليمات المهندس المشرف.					
	السعر لا يشمل قيمة المتفرجات					
	علاوة ١ جنيه/كم لمسافة نقل ناتج التنف وتصحيح ١.١ جنيه ابتداء من ٢٠٢٣-٥-٤					
6-2	بالمتر المكعب أعمال حفر باستخدام المعدات الميكانيكية في السور وتسوية السطح بالآلات التسوية والرش بالمياه الاصولية للوصول إلى نسبة الرطوبة المطلوبة والتمك الجيد بالهراسات للوصول إلى أقصى كثافة جافة (٩٥ % من الكثافة الجافة القصوى) ومحمل على البند تحميل ونقل الأتربة الزائدة لمسافة ١.٥ كم من محور الطريق والفئة تشمل استخدام المياه في تثبيت السور واعداد مقفات على السور لحركة المعدات ويتم التنفيذ طبقاً للمناسيب التصميمية والقطاعات العرضية النموذجية والرسومات التفصيلية المعتمدة والبلد بجميع مشتملاته طبقاً لأصول الصناعة ومواصفات الهيئة العامة للطرق والكباري وتعليمات المهندس المشرف.	٣م	١	٢٨.٠٠	٢٨	
	علاوة ١ جنيه/كم لمسافة نقل ناتج الحفر وتصحيح ١.١ جنيه/كم ابتداء من ٢٠٢٣ / ٥ / ٤					
	علاوة زيادة السور ١ جنيه ابتداء من ٢٠٢٣ / ٥ / ٤					
	علاوة ٢ جنيه/م ^٣ في حالة توريد التربة لفرشها على طبقة السور لامتكانية تحريك المعدات وذلك في حالة الرض					
	الغير ثلثة					
7-2	نفس البند (٢-٦) ولكن للكميات المنقذة بعد يناير ٢٠٢٣	٣م	١	٢٣.٠٠	٢٣	

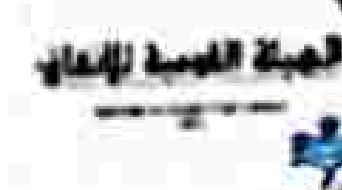
مكتب استشارات الهندسية
Spectrum Consulting
مشروع القطار السريع
SPECTRUM



شركة عباد الرحمن
للتشييد الزراعية والعمرانية والمقاولات
ب.ش. ٢٠٢٣/٦٥٦/٦٥٠ س.ت ١٥٢٢٤



مقايضة جزئية معدلة



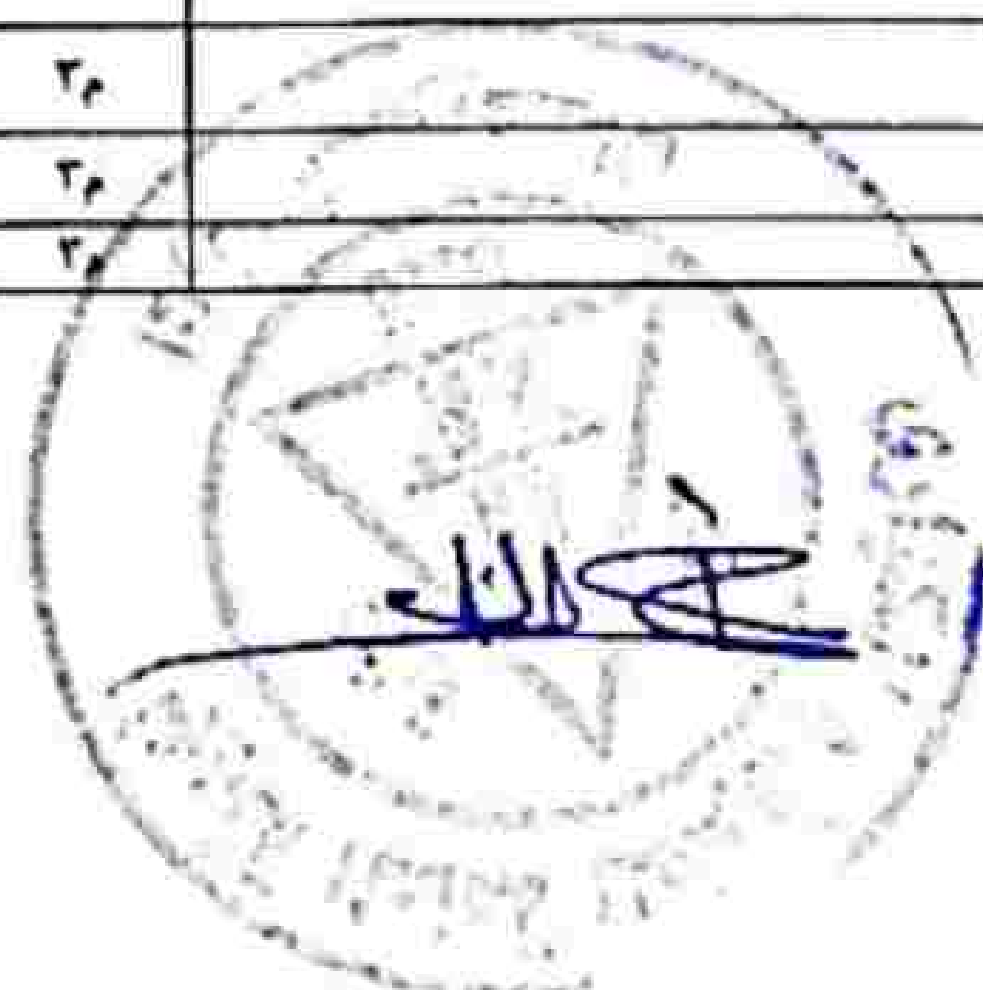
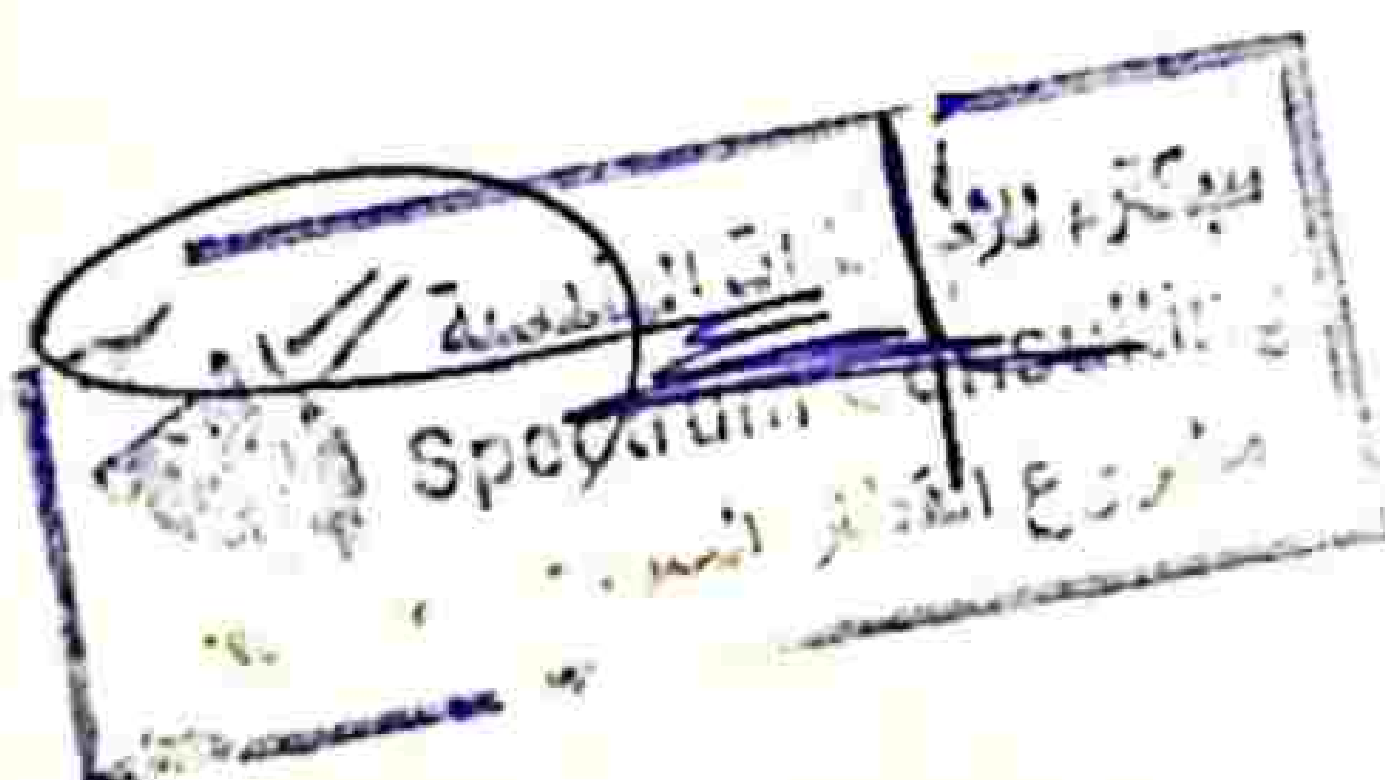
أعمال إنشاء الجسر الترابي للقطار الكهربائي السريع (أكتوبر / أوسمبل)

من محطة ١١٠+٦٢٩ حتى محطة ٦٢٤+٦٢٣ بطول ٧١٥ بطول ٨٦.٥١٤٥ كم

تنفيذ شركة / عباد الرحمن من محطة ٦٢٢+٥٣٣ إلى ٦٩٣+٧٨٣ بطول ٠.٢٥٠ كم

أعمال (الآلة والتطوير - الحفر - الردم - embankment - طبقة التأسيس - prepared subgrade - طبقة الأساس - subballast - التربة المسلحة - البلاطات الخرسانية / الرصف الخرساني)

رقم البند	بيان الأعمال	الوحدة	الكمية	سعر الوحدة	الاجمالي
3	أعمال الردم Embankment				
1-3	أعمال تحميل وتوريد ونقل التربة مطابقة للمواصفات وتشغيلها باستخدام آلات التسوية بسك لا يزيد عن ٥٠ سم حتى منسوب (-) ٢ متر) أسفل منسوب القرمه و بسك لا يزيد عن ٢٥ سم اعلى من منسوب (-) ٢ متر) من منسوب القرمه لاستكمال المنسوب التسميمي لتشكيل الجسر والكتاف (نسبة تحمل كاليفورنيا حتى ١٥%) ورشها بالهياض الاصولية للوصول إلى نسبة الرطوبة المطلوبة والنمك الجيد بالهياض للوصول إلى أقصى كثافة جافة (٩٥%) من الكثافة الجافة القصوى) ويتم التنفيذ طبقاً للمنسب والتصميمية والطبقات العرشيّة التوضيحية والرسومات التفصيلية المعتمدة والبند بجميع مشتلاته طبقاً لأصول الصناعة ومواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف. - في حالة طلب جهاز الإشراف زيادة نسبة النمك عن ١٥% يصعب زيادة ١ جنيه على زيادة نسبة النمك لكل ١%. - مسافة النقل حتى ٢ كم و يتم احتساب علاوة ١.٤ جنيه لكل كم بالزيادة أو النقصان وتصبح ١.٥ جنيه لكل إنشاء من ٢٢/٢٠٢٢. - السعر يشمل عمل تشوينت و تخليط واختبارات و نقل لموقع العمل حتى مسافة ٢ كم. - علاوة زيادة السولار ١.٩ جنيه لكل إنشاء من ٢٢/٢٠٢٢. - السعر لا يشمل قيمة المادة المحجورة.	٢م	٢١٠,٠٠٠	٦٠,٠٠٠	١٢,٦٠٠,٠٠٠
2-3	أعمال تحميل وتوريد ونقل التربة مطابقة للمواصفات وذلك باستخدام نزع الحفر الصخري الصالح وذلك طبقاً لتعليمات المهندس المشرف والتدرج المطلوب باستخدام الكسور ذلك بعد التأكيد من التدرج والمقاسات المطلوبة لاختبار المناخل طبقاً لموسيف الاستشرى وتشغيلها باستخدام آلات التسوية بسك لا يزيد عن ٥٠ سم حتى منسوب (-) ٢ متر و بسك لا يزيد عن ٢٥ سم لاستكمال المنسوب التسميمي لتشكيل الجسر والكتاف (نسبة تحمل كاليفورنيا لا تقل ١٥%) ورشها بالهياض الاصولية للوصول إلى نسبة الرطوبة المطلوبة والنمك الجيد بالهياض للوصول إلى أقصى كثافة جافة (٩٥%) من الكثافة الجافة القصوى) ويتم التنفيذ طبقاً للمنسب والتصميمية والطبقات العرشيّة التوضيحية والرسومات التفصيلية المعتمدة والبند بجميع مشتلاته طبقاً لأصول الصناعة ومواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف. - في حالة طلب جهاز الإشراف زيادة نسبة النمك عن ١٥% يصعب زيادة ١ جنيه على زيادة نسبة النمك لكل ١%. - مسافة النقل حتى ٢ كم و يتم احتساب علاوة ١.٤ جنيه لكل كم بالزيادة أو النقصان وتصبح ١.٥ جنيه لكل إنشاء من ٢٢/٢٠٢٢. - السعر يشمل عمل تشوينت و تخليط واختبارات و نقل لموقع العمل حتى مسافة ٢ كم. - السعر يشمل مسافة نقل نزع الحفر وتغذية الكسور والنقل إلى موقع القطاع بمتوسط مسافة ٣ كم - علاوة زيادة السولار ١.٩ جنيه لكل إنشاء من ٢٢/٢٠٢٢.	٢م	١٠٠	١١٠,٠٠٠	١١,٠٠٠
4	طبقة تأسيس Prepared Subgrade				
1-4	بالمتر المكعب أعمال توريد وفرش طبقة تأسيس (Prepared Subgrade) من الأحجار الصلبة المتدرجة نتاج تكسير الكسرات والمطابقة للمواصفات وأقصى حجم للحبيبات ١٠٠ مم وألا يزيد نسبة المار من منخل ٢٠٠ عن ١٢% والتدرج الوارد بالاشتراطات الخاصة بالمشروع لا تقل نسبة تحمل كاليفورنيا عن ٢٥% وألا تزيد نسبة الفقد بجهاز لوس أنجلوس عن ٣٠% وألا يزيد الامتصاص عن ١٥% وألا يقل معامل المرونة (EV2) من تجربة لوح التحميل عن ٨٠ ميجاباسكال ويتم فرداها على طبقتين باستخدام آلات التسوية الحديثة على أن لا يزيد سمك الطبقة بعد تمام النمك عن ٢٥ سم ورشها بالهياض الاصولية للوصول إلى نسبة الرطوبة المطلوبة والنمك الجيد بالهياض للوصول إلى أقصى كثافة جافة قصوى (لا تقل عن ٩٥%) من الكثافة الجافة القصوى (لا تقل عن ١٠٠%) من الكثافة المعملية والفئة ويتم التنفيذ طبقاً لأصول الصناعة والرسومات التفصيلية والبند بجميع مشتلاته طبقاً للمواصفات الفنية للمشروع وتقرير الاستشرى وتعليمات المهندس المشرف. - مسافة النقل لا تقل عن ٢٠ كم. - يتم احتساب علاوة ١.٢ جنيه لكل ١ كم بالزيادة أو النقصان وتصبح ١.٣ جنيه لكل إنشاء من ٢٢/٢٠٢٢.	٢م	٠	١٣٠,٠٠٠	٠
	مسافة نقل ١٠٠ كم	٢م	٠	١٠٤,٠٠	٠
	كارتة توريد الأسفلت	٢م	٠	٢٥,٠٠	٠
	علاوة زيادة السولار	٢م	٠	١,٨٠	٠
5	طبقات الأساس Subballast				
1-5	بالمتر المكعب أعمال توريد وفرش طبقة أساس من الأحجار الصلبة المتدرجة نتاج تكسير الكسرات والمطابقة للمواصفات وأقصى حجم للحبيبات ما بين ٢١.٥ مم إلى ٤٠ مم وألا يزيد نسبة المار من منخل ٢٠٠ عن ٥% والتدرج الوارد بالاشتراطات الخاصة بالمشروع لا تقل نسبة تحمل كاليفورنيا عن ٨٠% وألا يقل معامل المرونة (EV2) من تجربة لوح التحميل عن ١٢٠ ميجاباسكال وألا يزيد نسبة الفقد بجهاز لوس أنجلوس عن ٣٠% وألا يزيد الامتصاص عن ١٥% ويتم فرداها على طبقتين باستخدام آلات التسوية الحديثة على أن لا يزيد سمك الطبقة بعد تمام النمك عن ٢٠ سم ورشها بالهياض الاصولية للوصول إلى نسبة الرطوبة المطلوبة والنمك الجيد بالهياض للوصول إلى أقصى كثافة جافة قصوى (لا تقل عن ١٠٠%) من الكثافة المعملية والفئة تشمل إجراء التجارب المعملية والمخبرية ويتم التنفيذ طبقاً لأصول الصناعة والرسومات التفصيلية المعتمدة والبند بجميع مشتلاته طبقاً للمواصفات الفنية للمشروع وتقرير الاستشرى وتعليمات المهندس المشرف. - مسافة النقل لا تقل عن ٢٠ كم. - يتم احتساب علاوة ١.٢ جنيه لكل ١ كم بالزيادة أو النقصان وتصبح ١.٣ جنيه لكل إنشاء من ٢٢/٢٠٢٢. - السعر لا يشمل قيمة المواد المحجورة. - علاوة زيادة السولار ١.٨ جنيه لكل إنشاء من ٢٢/٢٠٢٢.	٢م	٠	١٣٥,٠٠	٠
	مسافة نقل ١٠٠ كم	٢م	٠	١٠٤,٠٠	٠
	كارتة توريد الأسفلت	٢م	٠	٢٥,٠٠	٠
	علاوة زيادة السولار	٢م	٠	١,٨٠	٠



شركة عباد الرحمن
للتنمية الزراعية والعقارية والمقاولات
ب.خ. ٢٥٢٢/٦٥٦/٦٥٠ س.ت. ١٥٢٢٥



مقايمة جزئية معدلة



أعمال إنشاء الجسر القوسي للقطار الكهربائي السريع (أكتوبر / أوسمبل)
من محطة ١١٠.١٣ + ٦٢٩ حتى محطة ٦٢٩.٦٣ + ٧١٥ بطول ٨٦.٥١٤٥ كم

تنفيذ شركة / عماد الرحمن من محطة ٦٩٢+٥٢٣ إلى ٦٩٣+٧٨٣ بطول ٢٥٠.٢٥٠ كم

أعمال (الآلة والتطهير - الحفر - الردم) - embankment - طبقة الأساس - prepared subgrade - التربة المسلحة - البلاطات الخرسانية / الرصف الخرساني

رقم البند	بيان الأعمال	الوحدة	الكمية	سعر الفنة	الإجمالي
6	أعمال التربة المسلحة				
1-6	بالمتر مسطح توريد وتركيب طبقة من التسيح الصناعي جيوتكستائل مستورد التداخل لا يقل عن ١٠% ويتم التنفيذ طبقاً لأصول الصناعة والرسومات التفصيلية المعتمدة والبند بجميع محتلاته طبقاً لمواصفات الهيئة العامة للطرق والكباري وتعليمات المهندس المشرف	٢م			
1-1-6	ذات وزن لا يقل عن ٢٠٠ جم/م	٢م	١	٢١.٠٠	٢١
2-1-6	ذات وزن لا يقل عن ٣٠٠ جم/م	٢م	١	٤٣.٠٠	٤٣
3-1-6	ذات وزن لا يقل عن ٤٠٠ جم/م	٢م	١	٦٠.٠٠	٦٠
2-6	بالمتر مسطح توريد وتركيب طبقة من التسيح الصناعي جيوتكستائل مستورد التداخل لا يقل عن ١٠% ويتم التنفيذ طبقاً لأصول الصناعة والرسومات التفصيلية المعتمدة والبند بجميع محتلاته طبقاً لمواصفات الهيئة العامة للطرق والكباري وتعليمات المهندس المشرف	٢م			
1-2-6	ذات قوة شد ٢٠ ك. نيوتن في الإتجاهين	٢م	١	٤٤.٠٠	٤٤
2-2-6	ذات قوة شد ٣٠ ك. نيوتن في الإتجاهين	٢م	١	٤٧.٠٠	٤٧
7	بلاطات الخرسانية / الرصف الخرساني				
1-7	بالمتر المسطح أعمال توريد وصب خرسانة عادية سمك ١٥ سم لإرتفاع ١٠ متر رأسي لحماية الأكتاف والميول الجانبية تتكون من ٠.٨ م من دولوميت متدرج + ٠.٤ م رمل حرش والإضافات طبقاً لتعليمات الاستشاري (فير جسيكا) على أن يكون السن نظيف ومضبول والرمل خالي من الشوائب والطفلة والأملاح والمواد الغريبة مع وضع لوم (بالفاصل) بسمك ٢ سم طبقاً لتعليمات الاستشاري (فير جسيكا) والبند يشمل تجهيز وإستعمال مناديب التربة الطبيعية أسفل البلاطة للوصول إلى المناسيب التصميمية على أن تحقق الخرسانة إجهاد لا يقل عن ٢٥٠ كجم / سم ^٢ وتنظيف السطح وملئ التواصل بالبيتومين المرمل والتنفيذ طبقاً لأصول الصناعة والرسومات التفصيلية المعتمدة والبند بجميع محتلاته طبقاً لمواصفات الهيئة العامة للطرق والكباري وتعليمات المهندس المشرف	٢م	١٠٠	٤٣٣.٠٠	٤٣,٣٠٠
2-7	بالمتر المكعب أعمال توريد وصب خرسانة عادية لتنفيذ قنمه مغليه وعلويه للأكتاف والميول الجانبية تتكون من ٠.٨ م من دولوميت متدرج + ٠.٤ م رمل حرش والإضافات طبقاً لتعليمات الاستشاري (فير جسيكا) على أن يكون السن نظيف ومضبول والرمل خالي من الشوائب والطفلة والأملاح والمواد الغريبة مع وضع لوم (بالفاصل) بسمك ٢ سم طبقاً لتعليمات الاستشاري (فير جسيكا) والبند يشمل أعمال الحفر والتشديد وكل م يلزم لنهر الأعمال أسفل البلاطة للوصول إلى المناسيب التصميمية على أن تحقق الخرسانة إجهاد لا يقل عن ٢٥٠ كجم/سم ^٢ وملئ التواصل بالبيتومين المرمل والتنفيذ طبقاً لأصول الصناعة والرسومات التفصيلية المعتمدة والبند بجميع محتلاته طبقاً لمواصفات الهيئة العامة للطرق والكباري وتعليمات المهندس المشرف	٣م	١٠٠	٢,٦٨٥.٠٠	٢٦٨,٥٠٠
	الإجمالي				٢٩,٩٩٠,٨٥٠



مهندس هيئة الطرق والكباري
(المنطقة الثامنة - قنا)
المهندس / عماد الرحمن
التوقيع



مهندس الشركة المنفذة
المهندس / عماد الرحمن
التوقيع
شركة عبد الرحمن
للتنمية الزراعية والعنارية والمناوالات
ب.ض. : ٢٠٢/٦٥٦/٦٥٠ س.ت ١٠٠٢٥

693+420

693+440

693+460

693+480

693+500

693+520

693+540

217 693+560

693+580

693+600

693+620

693+640

693+660

693+680

693+700

693+720

693+740

693+760

693+780

693+800

693+820

693+840

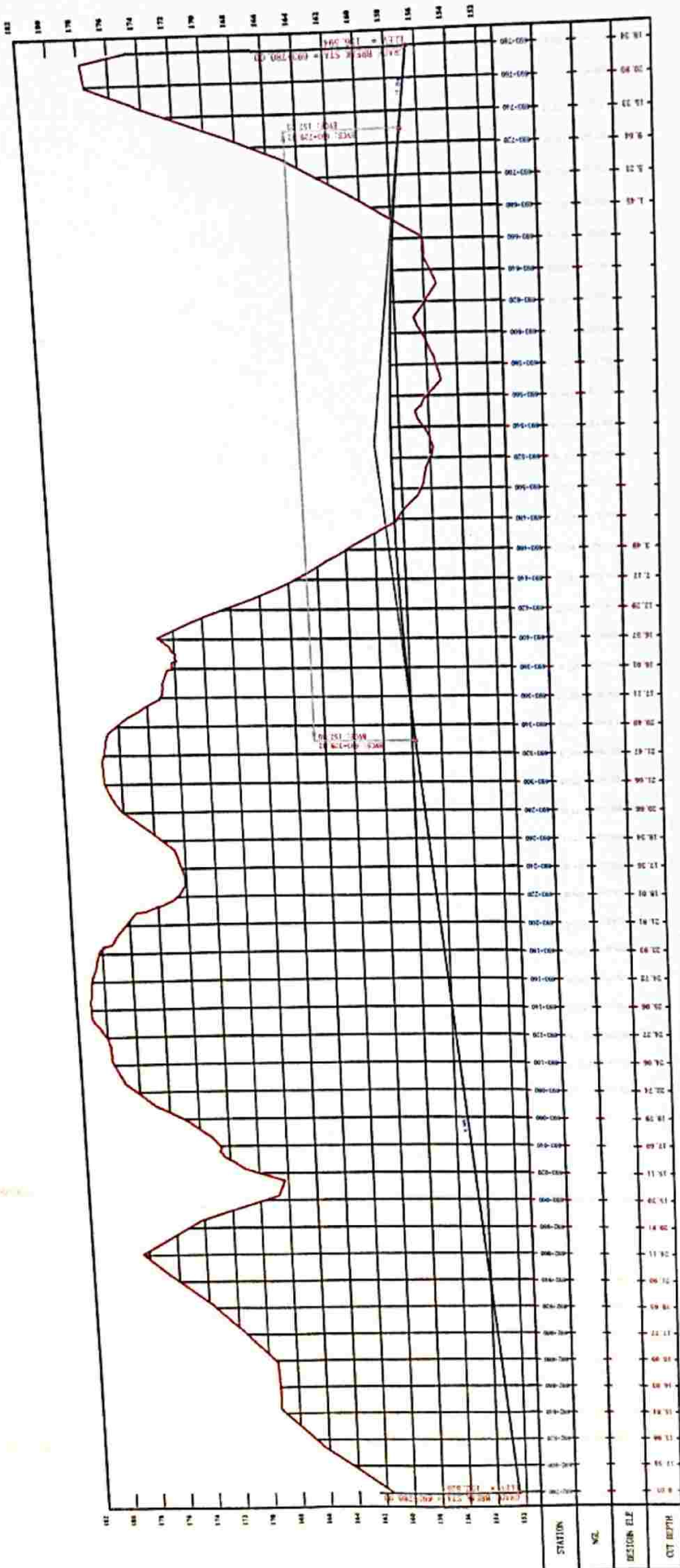
693+860

693+880

693+900 218

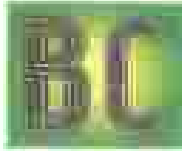
693+920





شركة محمد بن عبد الرحمن
 للتنمية الزراعية والعقارية والمقاولات
 ب.ض. ٢٠٢٦/٥٦/٦٥٠٠ س.ت ١٥٤٢٤

سبكتروم كونسلتينج
 Spectrum Consulting
 مشروع القنطرة الجديدة



مخطط احداث جسر هبات



التاريخ : ٢٠٢١/٠٩/٢٩

اسم المشروع : مشروع الطرق الكروية السريع (القرى - سجون - جوسون) قطاع الشمال

الامتداد : طريق برافيتا - كوكند - لاسكولاند - الهندسة المعمارية (المشروع) - الهندسة المعمارية تهيئة الطرق والمواصلات

بالاشتراك مع: الشركة العامة للتصميم والدراسات الهندسية والبيئية والهندسة المعمارية والهندسة المعمارية
قطاع الطرق - المصمم : المهندس / محمد / ٢٠٢١/٠٩/٢٩ - ٢٠٢١/٠٩/٢٩

محل : (٢٠٢١/٠٩/٢٩ - ٢٠٢١/٠٩/٢٩)

رقم	من نقطة رقم	إلى نقطة رقم	المساحة	القيمة بالدينار الليبي	الملاحظات
١	671+780	672+190	رأس القرية	55340.08	رأس القرية REV07
إجمالي القيمة				55340.08	

مهندس جابر (٣)

مهندس

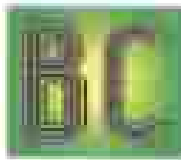
استاذ مهندسة

طائرات

شركة التصميم والدراسات

مكتب التصميم والدراسات





توضيح العمل المصغر



طرق جديدة تخدم التنمية الزراعية والصناعية والمكثفات

جدول توضيح العمل المصغر				
رقم	من المخطط	في المخطط	كمية	REV
1	671+700	672+190	55340.39	REV 01
المجموع			55340.39	

مكتب استشارات الهندسة



مستثمر المشروع



مجلس إدارة المنطقة





توضيح الملل الحصر (صفحة ١)



شركة عبد الرحمن كشبة الزراعية والحضرية والمطويات

تمت توضيح به الكميات

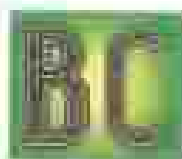
الرقم	المساحة	Fill Area (Sq.M.)	Fill Volume (Cu.M.)	OLD Volume (Cu.M.)	Dir Fill Volume (Cu.M.)
1	671+780.00	239.38	1295.9	474.59	821.31
2	671+790.00	253.81	2565.94	1325.78	1240.16
3	671+800.00	253.28	2635.43	1601.99	873.44
4	671+810.00	262.77	2684.26	1884.54	1015.72
5	671+820.00	304.95	2938.81	1954.25	1274.56
6	671+830.00	303.53	3007.88	1952.45	1355.43
7	671+840.00	299.38	3009.53	1933.74	1375.79
8	671+850.00	256.28	2978.33	1812.05	1365.50
9	671+860.00	295.85	2960.9	1593.46	1367.42
10	671+870.00	299.1	2954.95	1878.03	1376.93
11	671+880.00	294.59	2548.95	1565	1383.95
12	671+890.00	291.83	2932.63	1554.91	1377.67
13	671+900.00	289.09	2908.07	1550.16	1358.91
14	671+910.00	291.94	2909.64	1532.67	1356.97
15	671+920.00	296.08	2940.12	1553.81	1376.31
16	671+930.00	315.36	3057.37	1554.51	1472.76
17	671+940.00	330.34	3228.68	1809.56	1629.12
18	671+950.00	335.44	3278.93	1800.06	1670.87
19	671+960.00	314.49	3199.07	1959.07	1640.5
20	671+970.00	303.42	3009.57	1487.97	1821.8
21	671+980.00	291.25	2973.34	1340.72	1632.82
المجموع					28423.59

مكتب استشاري الهندسة

استشاري المساحة

مهندس الزراعة المساحة





توضيح اجمالي التصر (صفحة ١)



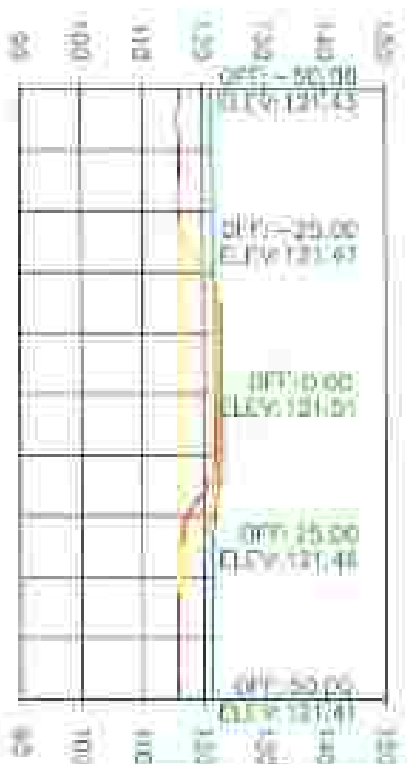
شركة مياه الشرب والري - القاهرة

بيانات توضيحية					
رقم	المساحة	Fill Area (Sq.M.)	Fill Volume (Cu.M.)	OLD Volume (Cu.M.)	Div-Fill Volume (Cu.M.)
22	671+890.00	275.12	2531.84	1273.8	1557.94
23	672+000.00	288.36	2717.38	1226.88	1490.5
24	672+010.00	281.85	2759.84	1234.82	1515.02
25	672+020.00	297.48	2892.83	1241.5	1551.33
26	672+030.00	293.67	2656.34	1222.93	1722.41
27	672+040.00	290.37	2913.88	1206.83	1714.15
28	672+050.00	289.33	2887.97	1184.46	1713.51
29	672+060.00	297.36	2936.94	1204.12	1731.82
30	672+070.00	301.36	2987.82	1255.81	1742.61
31	672+080.00	307.84	3047.54	1294.77	1782.77
32	672+090.00	308.14	3080.4	1291.16	1789.24
33	672+100.00	301.88	3058.43	1258.82	1791.81
34	672+110.00	300.95	3029.82	1286	1773.82
35	672+120.00	317.68	3118.19	1320.82	1797.37
36	672+130.00	323.88	3206.34	1363.47	1844.87
37	672+140.00	321.88	3229.66	1363.1	1876.56
38	672+150.00	313.88	3178.14	1316.41	1861.73
39	672+160.00	312.28	3129.87	1294.15	1835.82
40	672+170.00	310.88	3116.74	1289.81	1826.93
41	672+180.00	311.81	3113.64	1283.82	1830.82
42	672+190.00	318.41	3141.1	1238.56	1902.55
المجموع		86340.00			

مكتب استشاري الهندسة



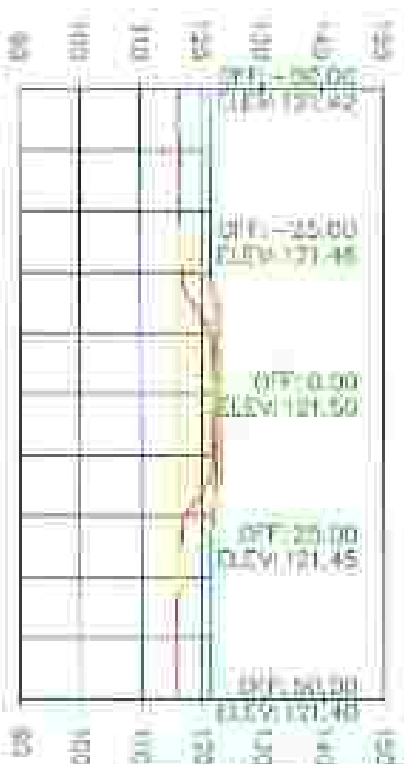
671 ÷ 780.00



Total Value of Writings = \$100.00	
City Bank	\$1.00
City Bank	\$100.00
City Bank	\$1.00
City Bank	\$100.00
City Bank	\$1.00
City Bank	\$100.00
City Bank	\$1.00
City Bank	\$100.00
City Bank	\$1.00
City Bank	\$100.00

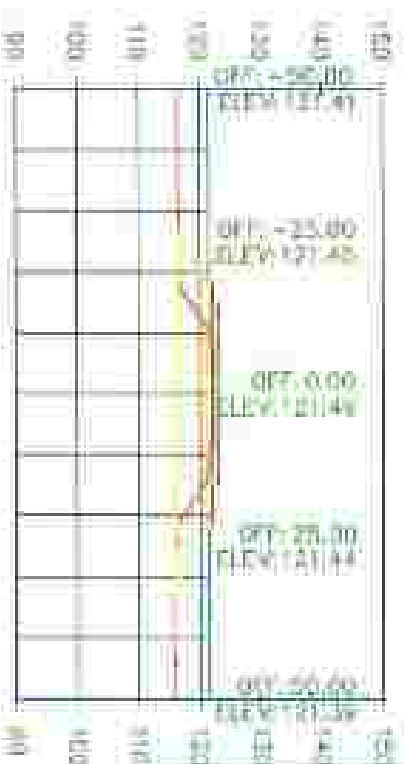
شرکت عیاد الزحمی
للإستشارات الهندسية والعمارة والكهرباء والميكانيكا
ت. ٩٥٢ / ١٥٧ / ٩٥٢ ف. ٩٥٢ / ٩٥٢

OFFSET	EXISTING ELEVATIONS	PROPOSED ELEVATIONS
10	10.00	10.00
11	11.00	11.00
12	12.00	12.00
13	13.00	13.00
14	14.00	14.00
15	15.00	15.00
16	16.00	16.00
17	17.00	17.00
18	18.00	18.00
19	19.00	19.00
20	20.00	20.00
21	21.00	21.00
22	22.00	22.00
23	23.00	23.00
24	24.00	24.00
25	25.00	25.00
26	26.00	26.00
27	27.00	27.00
28	28.00	28.00
29	29.00	29.00
30	30.00	30.00
31	31.00	31.00
32	32.00	32.00
33	33.00	33.00
34	34.00	34.00
35	35.00	35.00
36	36.00	36.00
37	37.00	37.00
38	38.00	38.00
39	39.00	39.00
40	40.00	40.00
41	41.00	41.00
42	42.00	42.00
43	43.00	43.00
44	44.00	44.00
45	45.00	45.00
46	46.00	46.00
47	47.00	47.00
48	48.00	48.00
49	49.00	49.00
50	50.00	50.00
51	51.00	51.00
52	52.00	52.00
53	53.00	53.00
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57	57.00	57.00
58	58.00	58.00
59	59.00	59.00
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67	67.00	67.00
68	68.00	68.00
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70	70.00	70.00
71	71.00	71.00
72	72.00	72.00
73	73.00	73.00
74	74.00	74.00
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76	76.00	76.00
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79	79.00	79.00
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81	81.00	81.00
82	82.00	82.00
83	83.00	83.00
84	84.00	84.00
85	85.00	85.00
86	86.00	86.00
87	87.00	87.00
88	88.00	88.00
89	89.00	89.00
90	90.00	90.00
91	91.00	91.00
92	92.00	92.00
93	93.00	93.00
94	94.00	94.00
95	95.00	95.00
96	96.00	96.00
97	97.00	97.00
98	98.00	98.00
99	99.00	99.00
100	100.00	100.00



Total Volume of Solution (L) = 200.00	
Conc. NaOH	0.100
eq. NaOH	20.000
Conc. HCl	0.100
Vol. HCl	200.00
Conc. HCl	0.100
eq. HCl	20.000
Net Vol	-200.00

MSA - Blue Line - Sec. 05

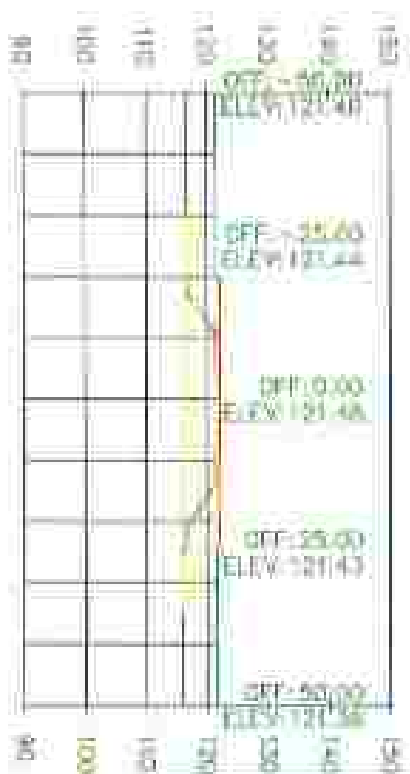
[illegible]

LIFE INSURANCE OF \$100,000 - 60%+60% (30)		
Cash Value	0.00	
Term Years	250.00	
Cash Value	0.00	
Life Policy	250.00	
Life Policy Fee	0.00	
Term Life Fee	0.00	
Life Policy	250.00	

[illegible]

OFFSET	EXISTING ELEVATIONS	PROPOSED ELEVATIONS
11	11.00	11.00
12	12.00	12.00
13	13.00	13.00
14	14.00	14.00
15	15.00	15.00
16	16.00	16.00
17	17.00	17.00
18	18.00	18.00
19	19.00	19.00
20	20.00	20.00
21	21.00	21.00
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23	23.00	23.00
24	24.00	24.00
25	25.00	25.00
26	26.00	26.00
27	27.00	27.00
28	28.00	28.00
29	29.00	29.00
30	30.00	30.00
31	31.00	31.00
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34	34.00	34.00
35	35.00	35.00
36	36.00	36.00
37	37.00	37.00
38	38.00	38.00
39	39.00	39.00
40	40.00	40.00
41	41.00	41.00
42	42.00	42.00
43	43.00	43.00
44	44.00	44.00
45	45.00	45.00
46	46.00	46.00
47	47.00	47.00
48	48.00	48.00
49	49.00	49.00
50	50.00	50.00
51	51.00	51.00
52	52.00	52.00
53	53.00	53.00
54	54.00	54.00
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58	58.00	58.00
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61	61.00	61.00
62	62.00	62.00
63	63.00	63.00
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67	67.00	67.00
68	68.00	68.00
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71	71.00	71.00
72	72.00	72.00
73	73.00	73.00
74	74.00	74.00
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76	76.00	76.00
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79	79.00	79.00
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91	91.00	91.00
92	92.00	92.00
93	93.00	93.00
94	94.00	94.00
95	95.00	95.00
96	96.00	96.00
97	97.00	97.00
98	98.00	98.00
99	99.00	99.00
100	100.00	100.00

671+810,000

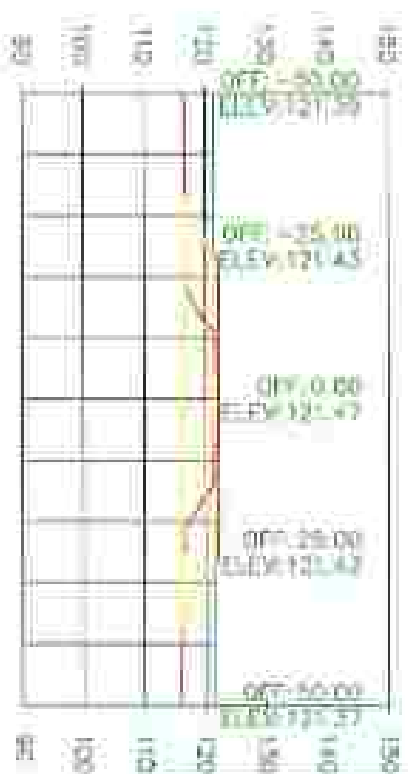


Miles traveled by Student A to school	
Day 1	2.20
Day 2	2.637
Day 3	0.00
Day 4	2.8824
Day 5	0.00
Day 6	2.4125
Day 7	0.00250

شركة بن جلال حميد
للتنفيذ والبناء والتجارة
ص.ب. ١٤٧٢ / الرياض ١١٥٦١

CHTSET	EXISTING ELEVATIONS	PROPOSED ELEVATIONS
7		
8		
8.1		
8.2		
8.3		
8.4		
8.5		
8.6		
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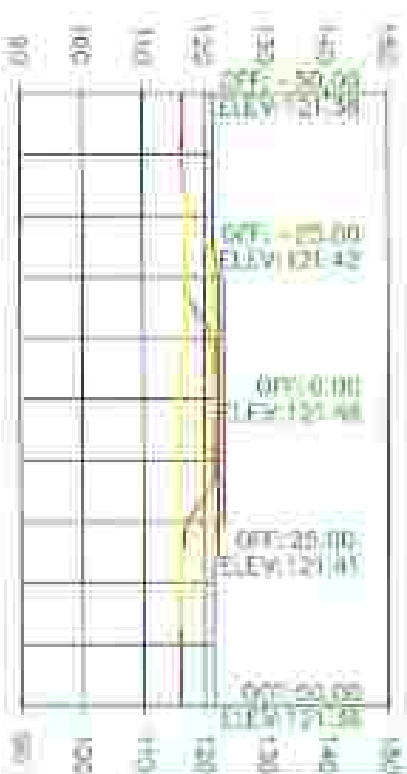
671+820 00

[illegible]

HSR - Blue Line - Sec. 01
استبيان ارجع المصلحة القطاع العام

OFFSET	EXISTING ELEVATIONS	PROPOSED ELEVATIONS
1	10.00	10.00
2	10.00	10.00
3	10.00	10.00
4	10.00	10.00
5	10.00	10.00
6	10.00	10.00
7	10.00	10.00
8	10.00	10.00
9	10.00	10.00
10	10.00	10.00
11	10.00	10.00
12	10.00	10.00
13	10.00	10.00
14	10.00	10.00
15	10.00	10.00
16	10.00	10.00
17	10.00	10.00
18	10.00	10.00
19	10.00	10.00
20	10.00	10.00
21	10.00	10.00
22	10.00	10.00
23	10.00	10.00
24	10.00	10.00
25	10.00	10.00
26	10.00	10.00
27	10.00	10.00
28	10.00	10.00
29	10.00	10.00
30	10.00	10.00
31	10.00	10.00
32	10.00	10.00
33	10.00	10.00
34	10.00	10.00
35	10.00	10.00
36	10.00	10.00
37	10.00	10.00
38	10.00	10.00
39	10.00	10.00
40	10.00	10.00
41	10.00	10.00
42	10.00	10.00
43	10.00	10.00
44	10.00	10.00
45	10.00	10.00
46	10.00	10.00
47	10.00	10.00
48	10.00	10.00
49	10.00	10.00
50	10.00	10.00
51	10.00	10.00
52	10.00	10.00
53	10.00	10.00
54	10.00	10.00
55	10.00	10.00
56	10.00	10.00
57	10.00	10.00
58	10.00	10.00
59	10.00	10.00
60	10.00	10.00
61	10.00	10.00
62	10.00	10.00
63	10.00	10.00
64	10.00	10.00
65	10.00	10.00
66	10.00	10.00
67	10.00	10.00
68	10.00	10.00
69	10.00	10.00
70	10.00	10.00
71	10.00	10.00
72	10.00	10.00
73	10.00	10.00
74	10.00	10.00
75	10.00	10.00
76	10.00	10.00
77	10.00	10.00
78	10.00	10.00
79	10.00	10.00
80	10.00	10.00
81	10.00	10.00
82	10.00	10.00
83	10.00	10.00
84	10.00	10.00
85	10.00	10.00
86	10.00	10.00
87	10.00	10.00
88	10.00	10.00
89	10.00	10.00
90	10.00	10.00
91	10.00	10.00
92	10.00	10.00
93	10.00	10.00
94	10.00	10.00
95	10.00	10.00
96	10.00	10.00
97	10.00	10.00
98	10.00	10.00
99	10.00	10.00
100	10.00	10.00

671-638.00

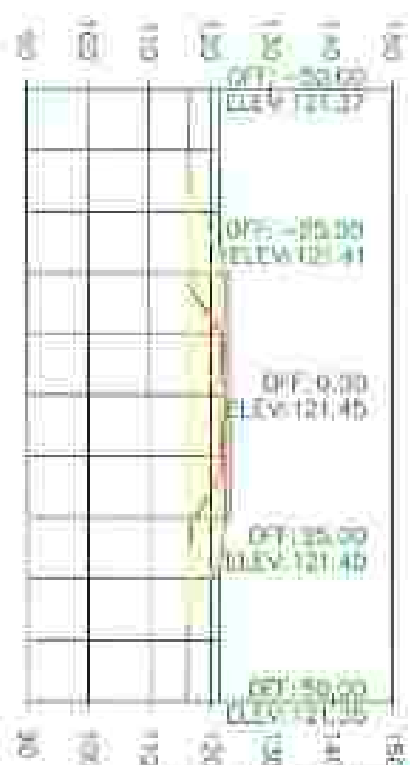


Bayer Pharma AG (Bayer AG) (BAYE)	
Cap. Price	0.00
7th 2014	300.45
Cap. Wtd	0.00
11th 2014	202.79
5th 2014	200
Cap. Wtd	2004.25
11th 2014	1000.00



OFFSET	EXISTING ELEVATIONS	PROPOSED ELEVATIONS
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671+840.00

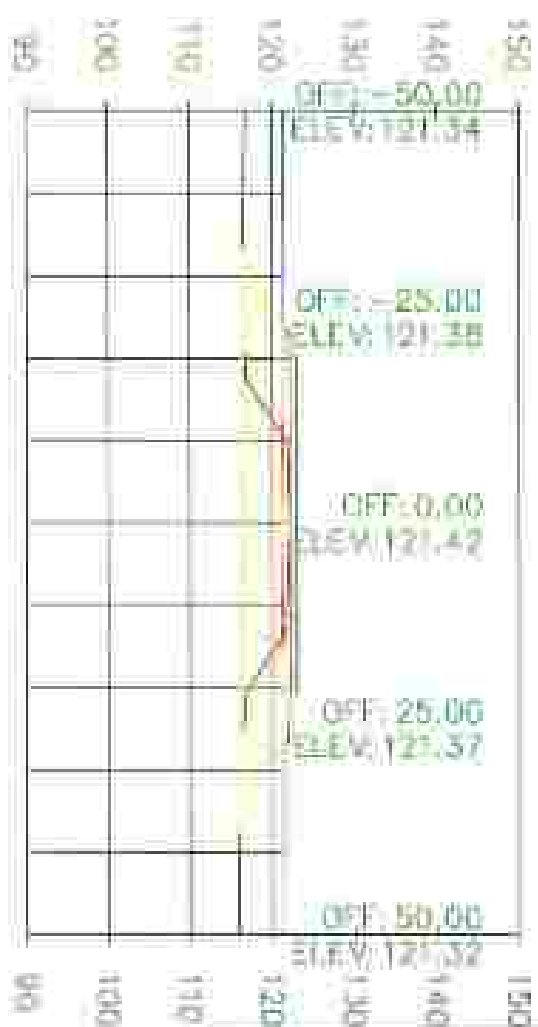


Total Volume at Station 671+840.00	
Cut Area	1138
Fill Area	288.18
Cut Vol	3000
Fill Vol	2880.53
Clear Cut Vol	0.00
Clear Fill Vol	3500.48
Sub Vol	-1000.48

شركة حجاز للدراسات
المهندسين المعماريين والمهندسين
الميكانيكيين والكهربائيين والمدنيين
بإشراف المهندس محمد بن عبد الله بن محمد

Offset	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F	10	11	12	13	14	15	16	17	18	19	1A	1B	1C	1D	1E	1F	20	21	22	23	24	25	26	27	28	29	2A	2B	2C	2D	2E	2F	30	31	32	33	34	35	36	37	38	39	3A	3B	3C	3D	3E	3F	40	41	42	43	44	45	46	47	48	49	4A	4B	4C	4D	4E	4F	50	51	52	53	54	55	56	57	58	59	5A	5B	5C	5D	5E	5F	60	61	62	63	64	65	66	67	68	69	6A	6B	6C	6D	6E	6F	70	71	72	73	74	75	76	77	78	79	7A	7B	7C	7D	7E	7F	80	81	82	83	84	85	86	87	88	89	8A	8B	8C	8D	8E	8F	90	91	92	93	94	95	96	97	98	99	9A	9B	9C	9D	9E	9F	AA	AB	AC	AD	AE	AF	BA	BB	BC	BD	BE	BF	CA	CB	CC	CD	CE	CF	DA	DB	DC	DD	DE	DF	EA	EB	EC	ED	EE	EF	FA	FB	FC	FD	FE	FF																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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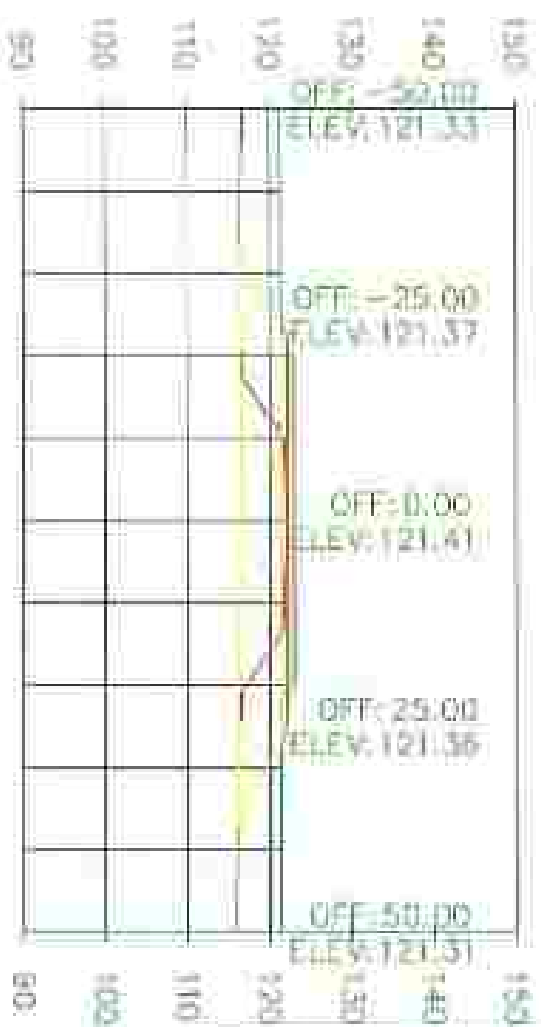
6714870.00



Total Volume at Selection: 671,4070.00	
Cut Area	0.00
Fill Area	266,110
Cut Vol	0.00
Fill Vol	266,110
Cut Cut Vol	0.00
Cut Fill Vol	266,110
Net Vol	-266,110

شركة حواء للتجارة العامة

PROPOSED ELEVATIONS	EXISTING ELEVATIONS	OFFSET
117.40		0
118.12		20
118.12		10
122.17	119.47	0
122.17		10
122.17		20
119.03		30
		60

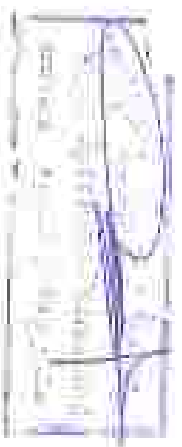


Total Volume of Solution: 1075 mL = 1.075 L	
Cal Area	0.00
Fill Area	234.59
Cut Vol	0.00
Fill Vol	234.59
Form Cal Vol	0.00
Form Fill Vol	234.59
Net Vol	-234.59

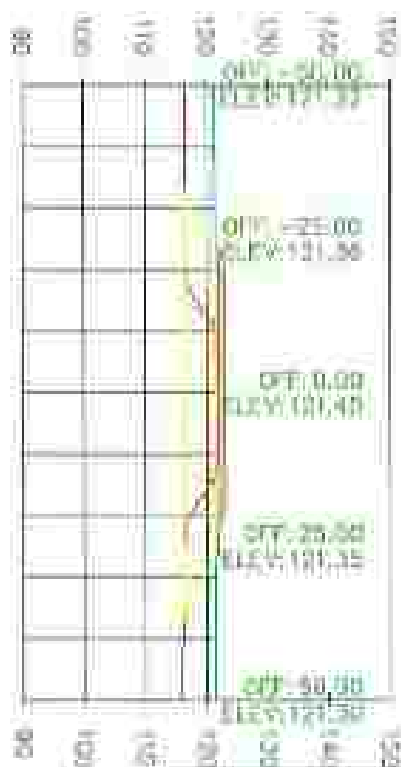
671+880.00

PROPOSED ELEVATIONS	EXISTING ELEVATIONS	OFFSET
117.11		11
117.10		20
117.15		29
117.15		38
117.16	116.48	0
117.16		9
117.16		20
116.61		30
		40

إلى الجانب في محطة الانتظار في القاهرة
HSR - Blue Line - Sec. 03
استعداداً للعمل الفسخية في خطي الخلف



[671+890.00]



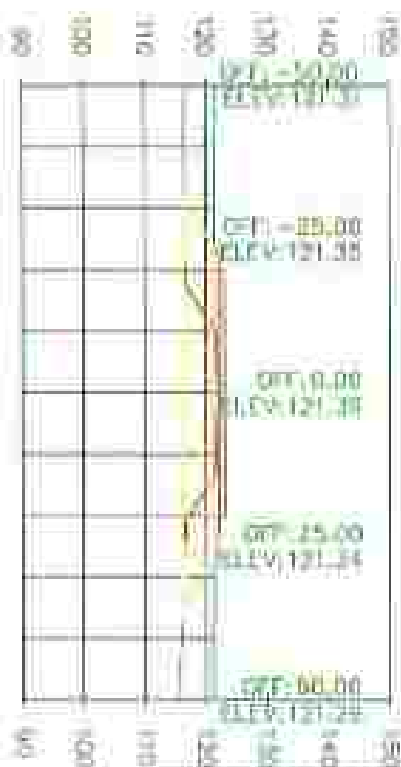
Total Station at Station 671+890.00

Dist. Road	0.00
TM Area	0.00 m²
Cal. Vol.	0.00
Est. Vol.	2000.00
Dist. Cal. Vol.	0.00
Sum TM Vol.	2000.00
Est. Vol.	-2000.00

شركة هندسة و التخطيط
للبنية التحتية والبيئة
ت. ٠١٠ ٤٤٤ ٤٤٤ ٤٤٤
ف. ٠١٠ ٤٤٤ ٤٤٤ ٤٤٤

OFFSET	9	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
EXISTING ELEVATIONS																				
PROPOSED ELEVATIONS																				

[671+900.00]

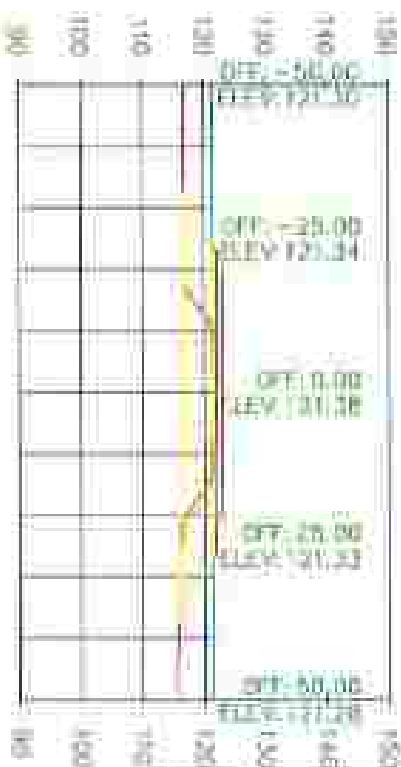


Total Station at Station 671+900.00

Dist. Road	0.00
TM Area	0.00 m²
Cal. Vol.	0.00
Est. Vol.	2000.00
Dist. Cal. Vol.	0.00
Sum TM Vol.	2000.00
Est. Vol.	-2000.00

OFFSET	9	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
EXISTING ELEVATIONS																				
PROPOSED ELEVATIONS																				

[671+910.00]



Total Station at Station 671+910.00

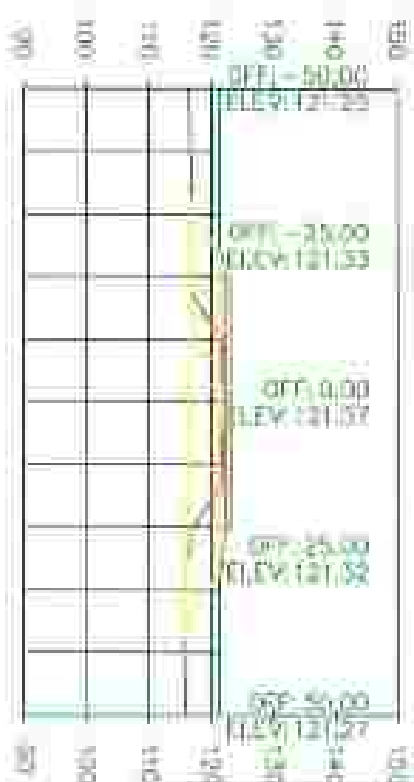
Dist. Road	0.00
TM Area	0.00 m²
Cal. Vol.	0.00
Est. Vol.	2000.00
Dist. Cal. Vol.	0.00
Sum TM Vol.	2000.00
Est. Vol.	-2000.00



OFFSET	9	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
EXISTING ELEVATIONS																				
PROPOSED ELEVATIONS																				

رئاسة كوفات للاستشارات الهندسية
HSR - Blue Line - Section
في إطار مشروع تطوير القاهرة الجديدة

671+920.00

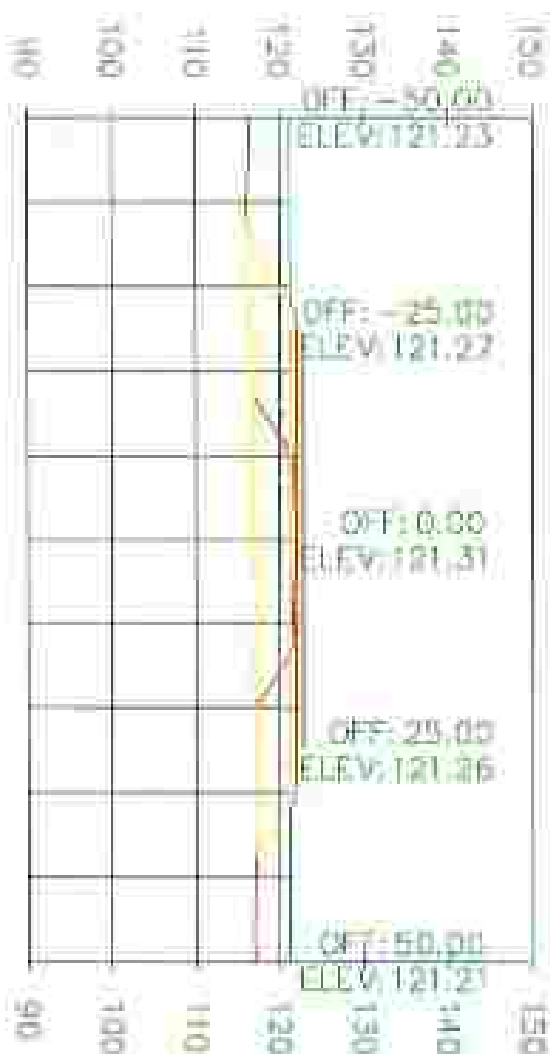


Total Volume at Station 671+920.00	
Cut Area	3.36
Fill Area	28.00
Cut Vol	0.00
Fill Vol	2800.00
Over Cut Vol	0.00
Over Fill Vol	4788.00
Net Vol	-4788.00

مهندس محمد بن عبد الله بن محمد
مهندس في الهندسة المدنية
جواز مزاولة المهنة رقم 117/92
1431

OFFSET	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	1220	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671+980.00

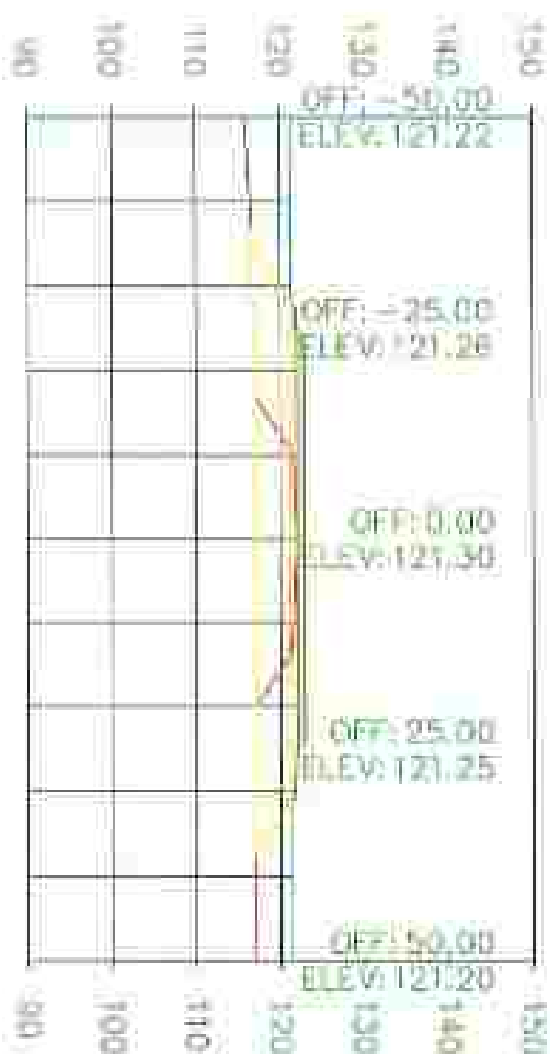


Total Volume of Section 671+980.00	0.00
Cut Area	0.00
Fill Area	2801.24
Net Vol	0.00
Cum Cut Vol	0.00
Cum Fill Vol	8192.81
Net Vol	-80425.48

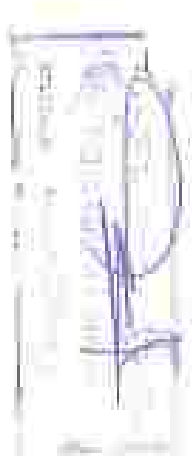
شركة الهندسة المعمارية
للتنفيذ والتشييد والتجارة
بدرية

Offset	Existing Elevations	Proposed Elevations
-50		
-40		
-30		
-20		
-10		
0	122.06	121.95
10		
20		
30		
40		
50		

671+990.00



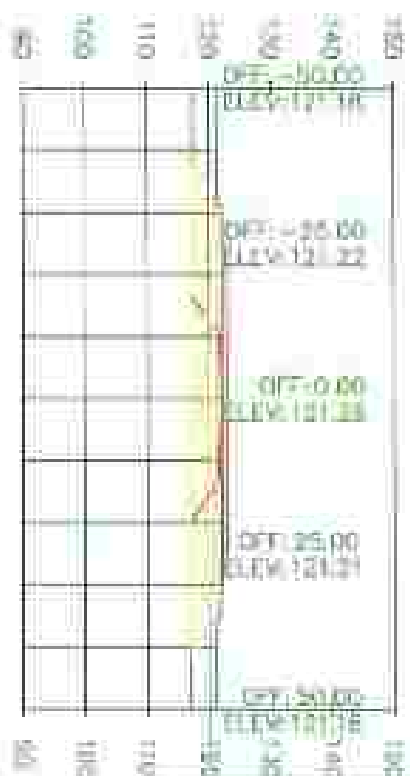
Total Volume of Section 671+990.00	0.00
Cut Area	0.00
Fill Area	275.12
Net Vol	0.00
Cum Cut Vol	2801.24
Cum Fill Vol	0.00
Net Vol	63258.00
Net Vol	-33258.00



Offset	Existing Elevations	Proposed Elevations
-50		
-40		
-30		
-20		
-10		
0	122.06	121.17
10		
20		
30		
40		
50		

رسم في المقياس 1:100
HSR - Blue Line - Sec. 671
المصمم: المهندس المعماري

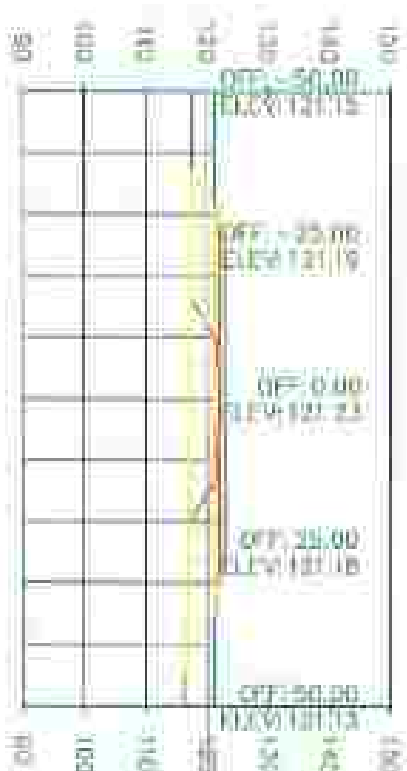
672+030.00



Total Volume of Existing Roadway	
Old Road	0.00
New Road	283.37
Total New	0.00
Total Old	283.37
Total New	0.00
Total Old	283.37

OFFSET	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	1220	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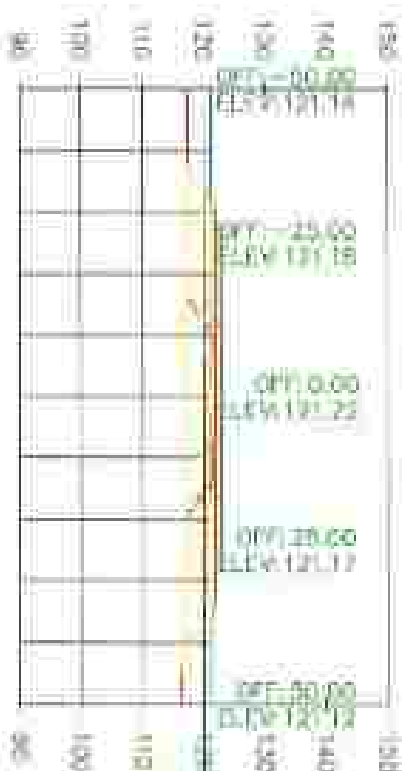
672-0660-710



Sells: Volume of Sales (75,000 Units)	
Old Price	0.00
75,000	227.50
New Price	3.00
75,000	2250.00
Gain (Old - New)	0.00
Loss (New - Old)	2022.50
Net Gain	-2022.50

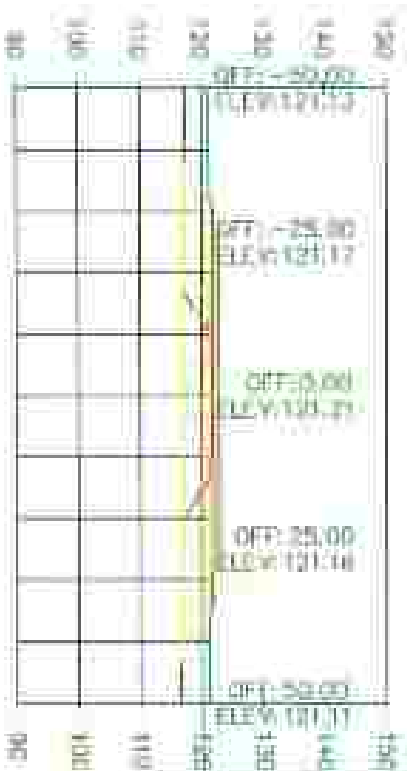
شركة إيمان الزحمان

OFFSET	EXISTING ELEVATIONS	PROPOSED ELEVATIONS
00	100.00	100.00
01	100.00	100.00
02	100.00	100.00
03	100.00	100.00
04	100.00	100.00
05	100.00	100.00
06	100.00	100.00
07	100.00	100.00
08	100.00	100.00
09	100.00	100.00
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13	100.00	100.00
14	100.00	100.00
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17	100.00	100.00
18	100.00	100.00
19	100.00	100.00
20	100.00	100.00
21	100.00	100.00
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23	100.00	100.00
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37	100.00	100.00
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98	100.00	100.00
99	100.00	100.00
100	100.00	100.00



Test Value at 5% Significance	
Chi-Sq	3.84
F(1,100)	3.94
Crit Val	3.84
Test Stat	4.8742
Crit Val (1-tail)	2.30
Test P-Val	0.028390
Test Stat	-1.645749

672 + 370 = 1042

[illegible]

Total Number of Values: 100,000,000	
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99999992	99999992
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99999982	99999982
99999981	99999981
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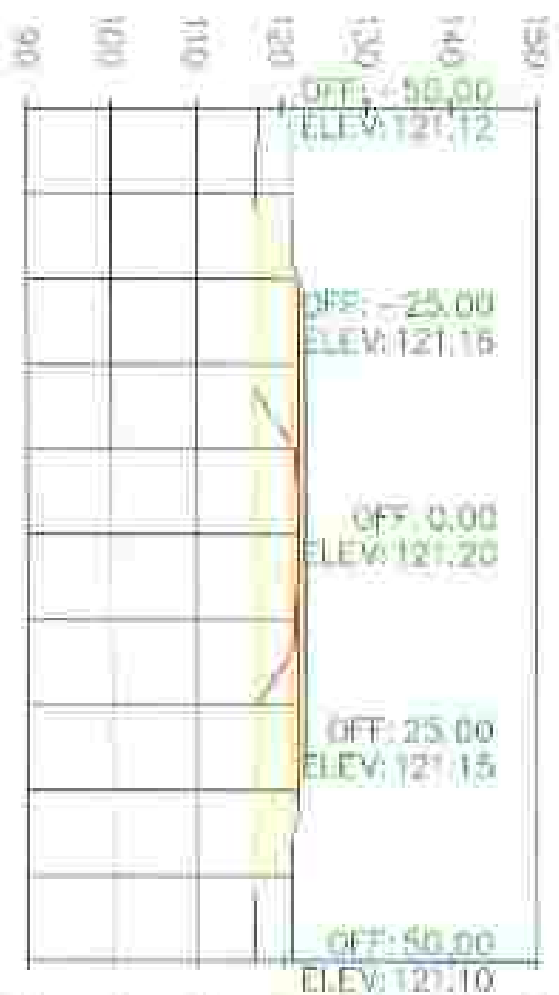
16372+0600.00



OFFSET	EXISTING ELEVATIONS	PROPOSED ELEVATIONS
10	10	10
20	20	20
30	30	30
40	40	40
50	50	50
60	60	60
70	70	70
80	80	80
90	90	90
100	100	100
110	110	110
120	120	120
130	130	130
140	140	140
150	150	150
160	160	160
170	170	170
180	180	180
190	190	190
200	200	200
210	210	210
220	220	220
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250	250	250
260	260	260
270	270	270
280	280	280
290	290	290
300	300	300
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330	330	330
340	340	340
350	350	350
360	360	360
370	370	370
380	380	380
390	390	390
400	400	400
410	410	410
420	420	420
430	430	430
440	440	440
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460	460	460
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750	750	750
760	760	760
770	770	770
780	780	780
790	790	790
800	800	800
810	810	810
820	820	820
830	830	830
840	840	840
850	850	850
860	860	860
870	870	870
880	880	880
890	890	890
900	900	900
910	910	910
920	920	920
930	930	930
940	940	940
950	950	950
960	960	960
970	970	970
980	980	980
990	990	990
1000	1000	1000

اللائحة التنفيذية للإصلاح القضائي
HSR: ~~336.0~~ - 336.0
اللائحة التنفيذية للإصلاح القضائي

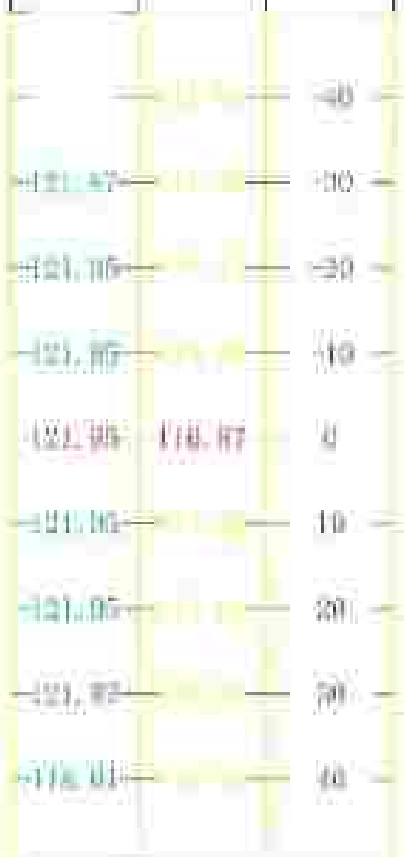
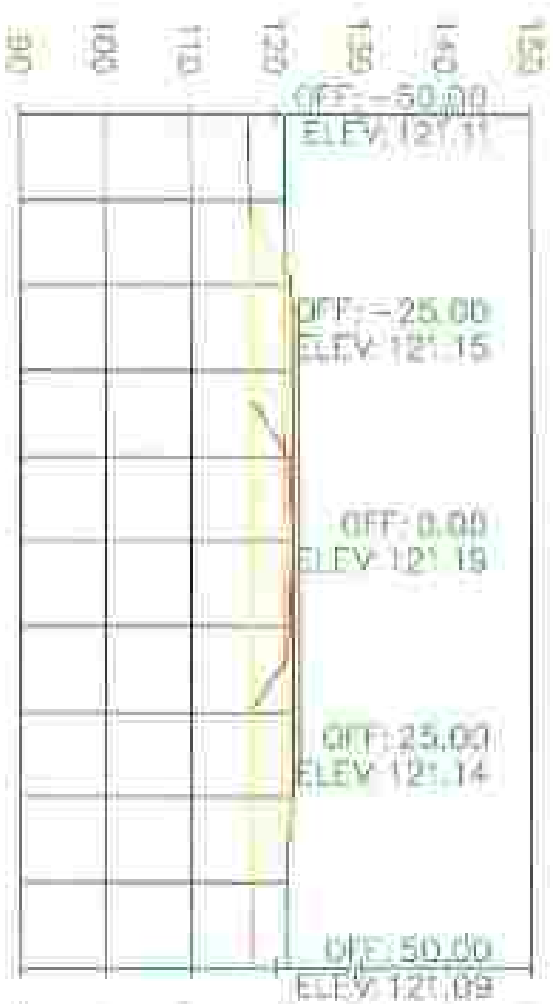
672+090.00



Total Volume of Solution: 0.72 + 0.090.00	
Cal Area	0.00
Fill Area	308.14
Cut Vol	0.00
Fill Vol	3080.40
Comp. Cut Vol	0.00
Comp. Fill Vol	308.05.00
Net Vol	- 324.84.98

شرکت سهامی عام
تأسیس ۱۳۳۵ خورشیدی
مدیر عامل: آقای دکتر...

OFFSET	EXISTING ELEVATIONS	PROPOSED ELEVATIONS
0		
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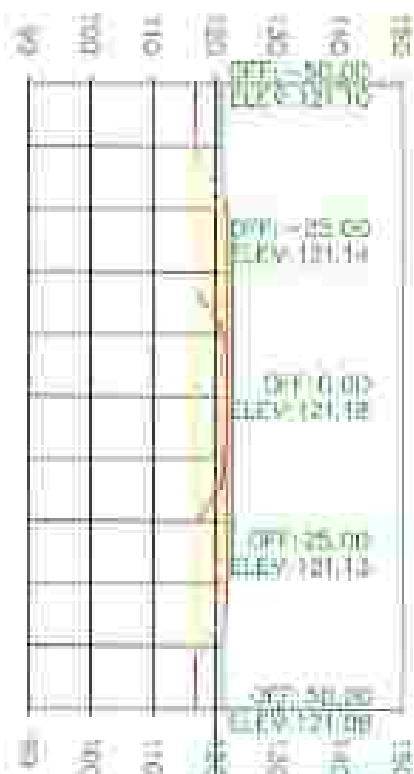
672+100.00

Total Volume of Station	673 + 100.00
Cut Area	5.00
Fill Area	30.00
Cut Vol	0.00
Fill Vol	30.00
Cum. Cut Vol	0.00
Cum. Fill Vol	30.00
Total Vol	-30.00

HSR Blue Line - Sec 11

PROPOSED ELEVATIONS	EXISTING ELEVATIONS	OFFSET
121.80	121.80	0
121.98	121.98	0
121.94	121.94	0
121.54	119.04	2.50
121.94	121.94	0
121.94	121.94	0
121.00	121.00	0
118.00	118.00	0

672+110.00



Total Volume at Station 672+110.00	
Cut Area	0.00
Fill Area	201.50
Cut Vol	0.00
Fill Vol	2015.0
Clear Cut Vol	0.00
Clear Fill Vol	2015.0
Net Vol	-2015.0

OFFSET	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	1220	1221	1222	1223	1224	1225	1226	1227	1228	1229	1230	1231	1232	1233	1234	1235	1236	1237	1238	1239	1240	1241	1242	1243	1244	1245	1246	1247	1248	1249	1250	1251	1252	1253	1254	1255	1256	1257	1258	1259	1260	1261	1262	1263	1264	1265	1266	1267	1268	1269	1270	1271	1272	1273	1274	1275	1276	1277	1278	1279	1280	1281	1282	1283	1284	1285	1286	1287	1288	1289	1290	1291	1292	1293	1294	1295	1296	1297	1298	1299	1300	1301	1302	1303	1304	1305	1306	1307	1308	1309	1310	1311	1312	1313	1314	1315	1316	1317	1318	1319	1320	1321	1322	1323	1324	1325	1326	1327	1328	1329	1330	1331	1332	1333	1334	1335	1336	1337	1338	1339	1340	1341	1342	1343	1344	1345	1346	1347	1348	1349	1350	1351	1352	1353	1354	1355	1356	1357	1358	1359	1360	1361	1362	1363	1364	1365	1366	1367	1368	1369	1370	1371	1372	1373	1374	1375	1376	1377	1378	1379	1380	1381	1382	1383	1384	1385	1386	1387	1388	1389	1390	1391	1392	1393	1394	1395	1396	1397	1398	1399	1400	1401	1402	1403	1404	1405	1406	1407	1408	1409	1410	1411	1412	1413	1414	1415	1416	1417	1418	1419	1420	1421	1422	1423	1424	1425	1426	1427	1428	1429	1430	1431	1432	1433	1434	1435	1436	1437	1438	1439	1440	1441	1442	1443	1444	1445	1446	1447	1448	1449	1450	1451	1452	1453	1454	1455	1456	1457	1458	1459	1460	1461	1462	1463	1464	1465	1466	1467	1468	1469	1470	1471	1472	1473	1474	1475	1476	1477	1478	1479	1480	1481	1482	1483	1484	1485	1486	1487	1488	1489	1490	1491	1492	1493	1494	1495	1496	1497	1498
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شركة مياه الشرب والصرف الصحي - غزة القطاع العام - غزة من 01/01/2019 إلى 31/12/2019 بالدينار الفلسطيني								
بيان الحسابات الخيرية - 2019								
رقم الحساب	الحساب	الحساب	الحساب	الحساب	الحساب	الحساب	الحساب	الحساب
رقم الحساب	الحساب	الحساب	الحساب	الحساب	الحساب	الحساب	الحساب	الحساب
0	20000.00	0	0	0	0	0	0	0
0	0000.00	0000.00	0000.00	0000.00	0000.00	0000.00	0000.00	0000.00
0	0000.00	0000.00	0000.00	0000.00	0000.00	0000.00	0000.00	0000.00
0011.40	17750.00	0000.00	0	0	0	0	0	0
0	0	0000.00	0000.00	0000.00	0000.00	0000.00	0000.00	0000.00
70000.00	0	0	0	0	0	0	0	0
00000.00	0	0	0	0	0	0	0	0
0	0000.00	0	0	0	0	0	0	0
0011.40	0000.00	0000.00	0000.00	0000.00	0000.00	0000.00	0000.00	0000.00
100000.00	0	0000.00	0000.00	0000.00	0000.00	0000.00	0000.00	0000.00
0	0000.00	0	0	0	0	0	0	0
07100.00	0000.00	0000.00	0000.00	0000.00	0000.00	0000.00	0000.00	0000.00
100000.00	0	0000.00	0000.00	0000.00	0000.00	0000.00	0000.00	0000.00
0	0000.00	0	0	0	0	0	0	0
000.00	0000.00	0000.00	0000.00	0000.00	0000.00	0000.00	0000.00	0000.00
0000.00	0	0000.00	0000.00	0000.00	0000.00	0000.00	0000.00	0000.00

مستشار مالي محاسب

شركة مياه الشرب والصرف الصحي - غزة

01/01/2019 - 31/12/2019

بالدينار الفلسطيني

شركة مياه الشرب والصرف الصحي - غزة

01/01/2019 - 31/12/2019

بالدينار الفلسطيني

Company Name : شركة عبد الرحمن
 Project : Electric Express Train – HSR From Qass To Ar-Riad
 Testing Date : 23/11/2023
 Soil type : Lower Embankment
 Location : ST From 671+940 / 671+960
 Level : - 6 M
 Report No. : 65

Compaction test by using Sand – Cone Test Method
ASTM D- 1558

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction n (%)	Acceptance
1	671+650	1353	2.23	5.8	2.10	95.2%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.21 gm/cm³
- At optimum moisture content = 5.8 %

Signature / 

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Armut
Testing Date : 23/11/2023
Soil type : middle Embankment
Location : ST From 672+000 / 672+100
Level : - 5 M
Report No. : 64

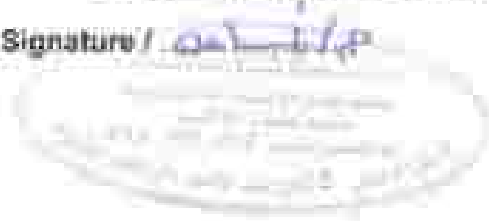
**Compaction test by using Sand - Cone Test Method
ASTM D- 1556**

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	672+090	1307	2.31	6	2.18	98.4%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.21 gm/cm³
- At optimum moisture content = 5.8 %

Signature / 



Company Name : شركة عجد الرحمن
Project : Electric Express Train – RSR From Qina To Aswan
Testing Date : 23/11/2023
Soil type : middel Embankment
Location : 5T From: 672+100 / 672+140
Level : 1 - 5 M
Report No. : 163

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	672+120	1547	2.28	6.4	2.14	97.0%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.21 gm/cm³
- At optimum moisture content = 5.8 %

Signature / 

Company Name : شركة عبد الرحمن
 Project : Electric Express Train – HSR From Qass To Arman
 Testing Date : 28/11/2023
 Soil type : middle Embankment
 Location : ST From 672+000 / 672+020
 Level : + 4.5 M
 Report No. : 67

**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	672+010	1775	2.29	5.8	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 = 5.8 %

Signature / 



Company Name : شركة خدات
Project : Eldelek Express Trials - JISS Free Zone - Terminal
Location : ST-472-131 E-35.7145521 N-35.8396723
Type of sample : Bulk Embankment
Delivery Date : 17/10/2023
Reporting Date : 31/10/2023
Reporting No. : 01-13

Dear Gentlemen,

Attached here with file delivered on 27 / 10 / 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

Note: The sample was brought by the client to our laboratory and the laboratory is not responsible for the way it is taken

Signature /.....



Complaint Name : كرتة حيد النسيم
 Project : Electric Express Train - ESR from Qassim To Almadinah
 Location : ST-672x180 D-92.37x562.1 (Rm 25.657x672)
 Type of sample : Soil Zothoclitonous
 Delivery Date : 17/10/2023
 Reporting Date : 31/10/2023
 Reporting No. : 01-13

RESULTS OF SIEVE ANALYSIS According to ASTM D-422

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	98.3
37.5	1.5	92.5
25	1	87.2
19	¾	74.0
12.50	½	69.1
9.50	3/8	63.8
4.75	4	57.3
2.00	10	43.4
0.425	40	16.5

Signature



Project Engineer
 09992 3911
 09992 3911

IAS
 Engineering & Construction
 Jeddah - Saudi Arabia

09992 3911
 09992 3911

Company Name : JICA
 Project : JICA Express Train - RSC From Qadisiya
 Location : ST 67+100 E=22.776562 N=25.659672
 Type of sample : Soil Subgrade
 Delivery Date : 27/10/2023
 Reporting Date : 31/10/2023
 Reporting No. : 01-13

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ m (No.200)	3.2

Signature /...

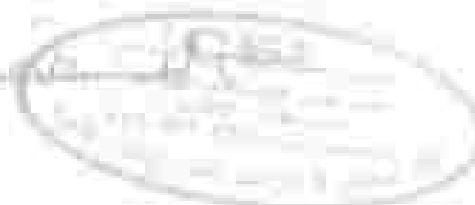


Company Name : **CEL**
 Project : **Electric Express Train - 3150 From Qana To Arman**
 Location : **ST: 873+197 R=32.7745031 R=25.6556721**
 Type of sample : **Soil Embankment**
 Delivery Date : **27/10/2013**
 Reporting Date : **31/10/2013**
 Reporting No. : **01-13**

**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. H. H. H. H.
 Director
 10-10-10-10-10



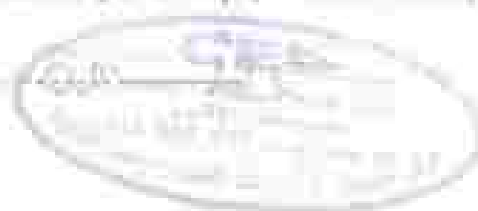
Company Name : شركة ايجي اس
 Project : Electric Substation Traffic - HBR Point Quality Control
 Location : ET - AT24-100 E=31.7745621 N= 25.6596723
 Type of sample : Soil Embankment
 Delivery Date : 27/10/2023
 Reporting Date : 31/10/2023
 Reporting No. : 01-13

Soil Classification

TEST	Results (%)	Limits according Projects Specs		
Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-3-4)
2.00 mm (No. 10).	43.4	Max 50 %	—	—
0.425 mm (No. 40).	26.5	Max 30 %	Max 50 %	—
0.075 mm (No. 200).	9.2	Max 15 %	Max 15 %	Max 15 %
Liquid Limit		—	—	—
Plasticity Index	0	Max 6 %	Max 6 %	Max 10 %

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

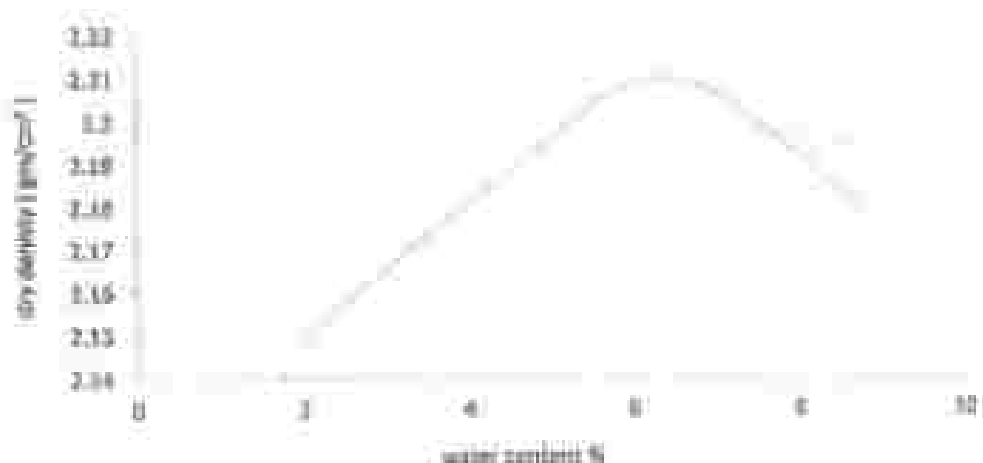
Signature /





Company Name : *Alto, R. A.*
 Project : *Electricity Supplying Trench - 1120, From Group 7 to Aerial*
 Location : *ST: 4724130 E=52,774563 N=23,459473*
 Type of sample : *Soil Subgrade*
 Delivery Date : *27/10/2013*
 Reporting Date : *31/10/2013*
 Reporting No. : *01-13*

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



- Max dry density (gm/cc) : *2.31*
- Optimum moisture content % : *5.3*

Signature /



Checked by : *Engr. R. A. Alto*
 Date : *31/10/2013*



27/10/2013

Designation: **Sub-Engineer**

Location: **Dehra Dun** **Dist. Dehra Dun** **UT= Uttarakhand**

Type of sample: **Soil Embankment**

Delivery Date: **11/12/2021**

Reporting Date: **11/12/2021**

Reporting No.: **03-11**

Test Results of California Bearing Ratio (CBR) Test /
ASTM D 1586

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.41
1.27	0.050	1.47
1.91	0.075	2.49
2.54	0.100	3.44
3.18	0.125	4.36
3.81	0.150	5.17
4.45	0.175	5.78
5.08	0.200	6.04
6.35	0.250	6.14

CBR Result	Stress (Mpa)		CBR 100 %
At 0.5 inch (12.5 mm) penetration	th. Value	Sample results	49.5 %
	6.90	3.44	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of $\sim 2.21 \text{ (gm/cc)}$
At $\sim 5.8 \%$ optimum water content.
- 3- Surcharge load 4.50 Kg.
- 4- CBR ≥ 20 for middle and lower embankments according to project spec page No. 35.

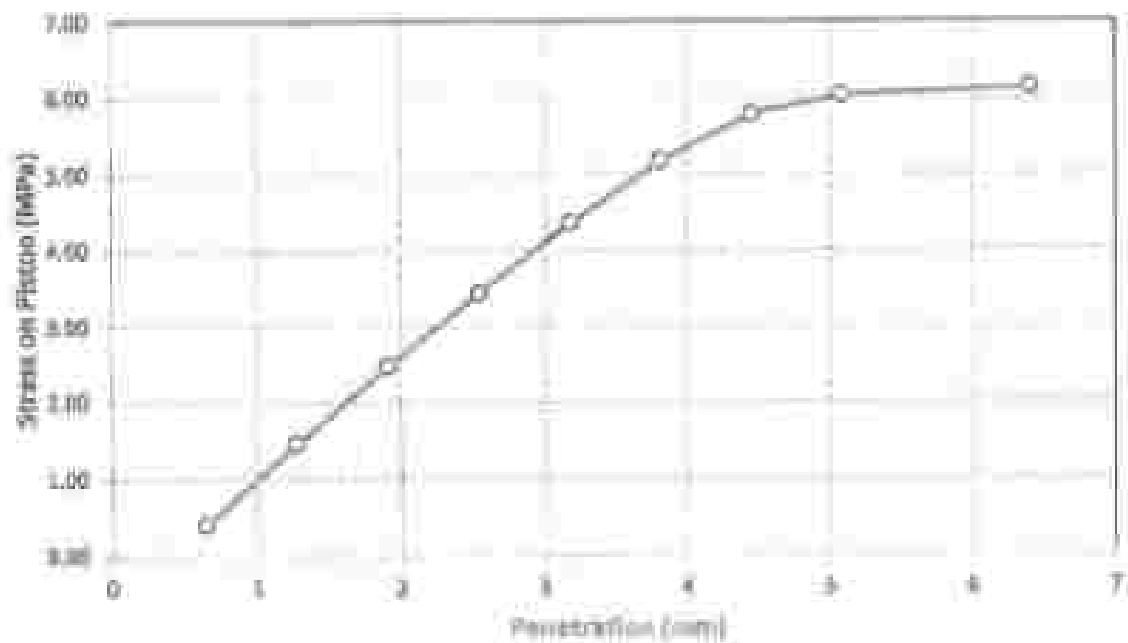
Signature: 

Sub-Engineer

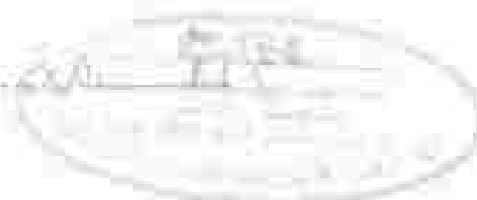


Company Name : *CEL*
 Project : *Shams Express Trade - (ISA) From Omar To Ahsan*
 Location : *ST-172+300 B=32.7745011 N=24.6336723*
 Type of sample : *Soil Embankment*
 Delivery Date : *17/10/2023*
 Reporting Date : *31/10/2023*
 Reporting No. : *01-12*

Load Penetration Curve of CBR Test
ASTM D-1883



Signature /



Prepared By : *Eng. H. H. H.*
 Checked By : *Eng. H. H. H.*
 Date : *31/10/2023*



Project No. : *01-12*
 Date : *31/10/2023*

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Arman
Testing Date : 28/11/2023
Soil type : middel Embankment
Location : ST From 672+020 To 672+180
Level : + 4.5 M
Report No. : 67-8

**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	672+050	1408	2.31	6	2.18	98.5%	Comply
2	672+080	1505	2.30	6.4	2.16	97.6%	Comply
3	672+120	1919	2.33	6	2.19	99.3%	Comply
4	672+160	1575	2.24	6.4	2.11	95.5%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.21 gm/cm³
- At optimum moisture content = 5.8 %

Signature /

[Handwritten Signature]

Engr. [Name]



Company Name : شركة عبد الرحمن
 Project : Electric Express Train - HSR From Qass To Arimat
 Testing Date : 28/11/2023
 Soil type : middle Embankment
 Location : ST From 671+780 To 671+800
 Level : - 5.5 M
 Report No. : 67-2

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	671+790	1341	2.28	5.8	2.15	97.4%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.21 gm/cm³
- At optimum moisture content = 5.8 %

Signature / ...  / P

Checked By: M. H. H. H.
 Quality Control
 K. H. H. H. H. H. H.



Lab No. 1111111111
 Date: 28/11/2023
 Page: 1/1

Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Armanat
Testing Date : 28/11/2023
Soil type : middel Embankment
Location : ST From 671+820 To 671+920
Level : - 5.5 M
Report No. : 67-3

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	671+860	1536	2.32	5.6	2.20	99.5%	Comply
2	671+910	1407	2.24	5.6	2.12	96.1%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.21 gm/cm³
- At optimum moisture content = 5.8 %

Signature / 

Engineer / 
Date / 28/11/2023
Place / Qous



المرجع
مكتب عبد الرحمن
الهندسة

Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Arman
Testing Date : 28/11/2023
Soil type : middel Embankment
Location : ST From 671+920 To 671+960
Level : - 5.5 M
Report No. : 67-4

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	671+940	1385	2.27	5.6	2.15	97.2%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.21 gm/cm³
- At optimum moisture content = 5.8 %

Signature / 

Company Name : شركة عباد الرحمن
Project : Electric Express Train - HSR From Qous To Armanat
Testing Date : 28/11/2023
Soil type : middel Embankment
Location : ST From 671+080 To 671+100
Level : - 5 M
Report No. : 67-6

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	671+090	1609	2.24	5.6	2.13	96.2%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.21 gm/cm³
- At optimum moisture content = 5.8 %

Signature /



Company Name : شركة عماد الرحمن
Project : Electric Express Train - HSR From Qous To Arman
Testing Date : 28/11/2023
Soil type : middel Embankment
Location : ST From 671+120 To 671+140
Level : - 5 M
Report No. : 67-7

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	671+110	1355	2.29	5.6	2.17	98.2%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.21 gm/cm³
- At optimum moisture content = 5.8 %

Signature / 


Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qatir To Ar-Ramth
Location : ST: 672+180 E=32.7745631 N= 25.6596723
Type of sample : Soil Embankment
Delivery Date : 19/11/2023
Reporting Date : 23/11/2023
Reporting No. : 01-14

RESULTS OF SIEVE ANALYSIS According to ASTM D-421

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	96.1
37.5	1.5	90.3
25	1	83.1
19	3/4	71.2
12.50	1/2	65.9
9.50	3/8	60.4
4.75	4	55.1
2.00	10	41.2
0.425	40	23.9


Signature / *[Signature]*

Project Engineer
Checked by
Date: 2023-11-23

IAS
Geotechnical
Engineering

Project Engineer
Checked by
Date: 2023-11-23



CONSULTING ENGINEERING DESIGN & LABORATORY
مكتب استشارات الهندسة والتصاميم والمختبر

Company Name : شركة عبد الرحمن
Project : Electric Express Train → HSR From Qous To Armand
Location : ST: 672+180 E=32.7145631 N= 25.6596723
Type of sample : Soil Embankment
Delivery Date : 19/11/2023
Reporting Date : 23/11/2023
Reporting No. : 01-14

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ m (No.200)	10.1

Signature / 

Dr. Nabil Hamed
Head of Lab
Nabil.hamed@cel.com



Dr. Nabil Hamed
Head of Lab
Nabil.hamed@cel.com



Geotechnical Engineering Bureau & Laboratories
مكتب الاستشارات الهندسية

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qada To Arbil
Location : ST: 672+180 E=31.7145631 N= 25.6596723
Type of sample : Soil Embankment
Delivery Date : 19/11/2023
Reporting Date : 23/11/2023
Reporting No. : 01-14

**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: 


1. Mr. Ali H. H. H.
2. Mr. Ali H. H. H.
3. Mr. Ali H. H. H.

IAS
ARCHITECTURE

1. Mr. Ali H. H. H.
2. Mr. Ali H. H. H.
3. Mr. Ali H. H. H.



Consulting Engineering Bureau & Laboratories
مكتب دراسات الاستشارات والمختبرات

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qana To Arman
Location : ST: 672+180 E=32.7745621 N= 25.6596721
Type of sample : Soil Embankment
Delivery Date : 19/11/2023
Reporting Date : 23/11/2023
Reporting No. : 01-14

Soil Classification

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)	41.2	Max 50 %	—	—
0.425 mm (No. 40)	23.9	Max 30 %	Max 50 %	—
0.075 mm (No. 200)	10.1	Max 15 %	Max 15 %	Max 15 %
Liquid Limit		—	—	—
Plasticity Index	0	Max 6 %	Max 6 %	Max 10 %

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

Signature: 

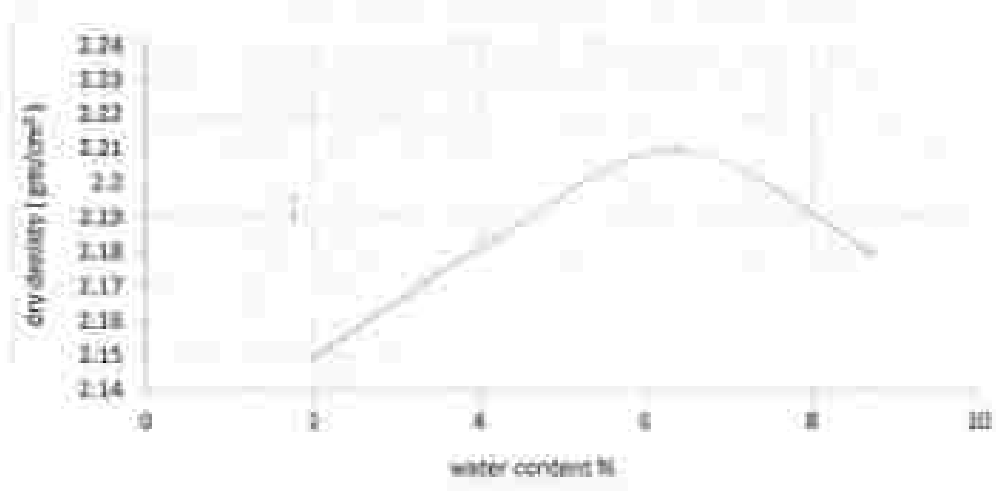
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إلى ربنا
والعالمين
AMEN

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qont To Arman
Location : ST: 672+180 E=32.7745611 N= 25.6396723
Type of sample : Soil Embankment
Delivery Date : 19/11/2023
Reporting Date : 23/11/2023
Reporting No. : 01-14

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



- Max dry density (g/cc) : 2.21
- Optimum moisture content % : 5.8

Signature / 

Company Name : شركة آبي الرحمن
Project : Electric Express Train - HSR From Qous To Arment
Location : ST: 672+180 E=32.7745621 N=25.6596723
Type of sample : Soil Embankment
Delivery Date : 19/11/2023
Reporting Date : 23/11/2023
Reporting No. : 01-14

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

penetration		stress on piston (Mpa)
mm	inch	
0.64	0.025	0.41
1.27	0.050	1.50
1.91	0.075	2.54
2.54	0.100	3.51
3.18	0.125	4.43
3.81	0.150	5.33
4.45	0.175	5.88
5.08	0.200	6.09
6.35	0.250	6.16

CBR Result	Stress (Mpa)		CBR 100 %
At 0.1 inch (2.54 mm) penetration	5% Value	Sample results	50.9 %
	6.90	3.51	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of $\sim 2.21 \text{ (gm/cc)}$
At = 3.3 % optimum water content.
- 3- Standard load 4.50 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 35.

Signature / 

En. Hani Alwan
En. Hani Alwan
En. Hani Alwan



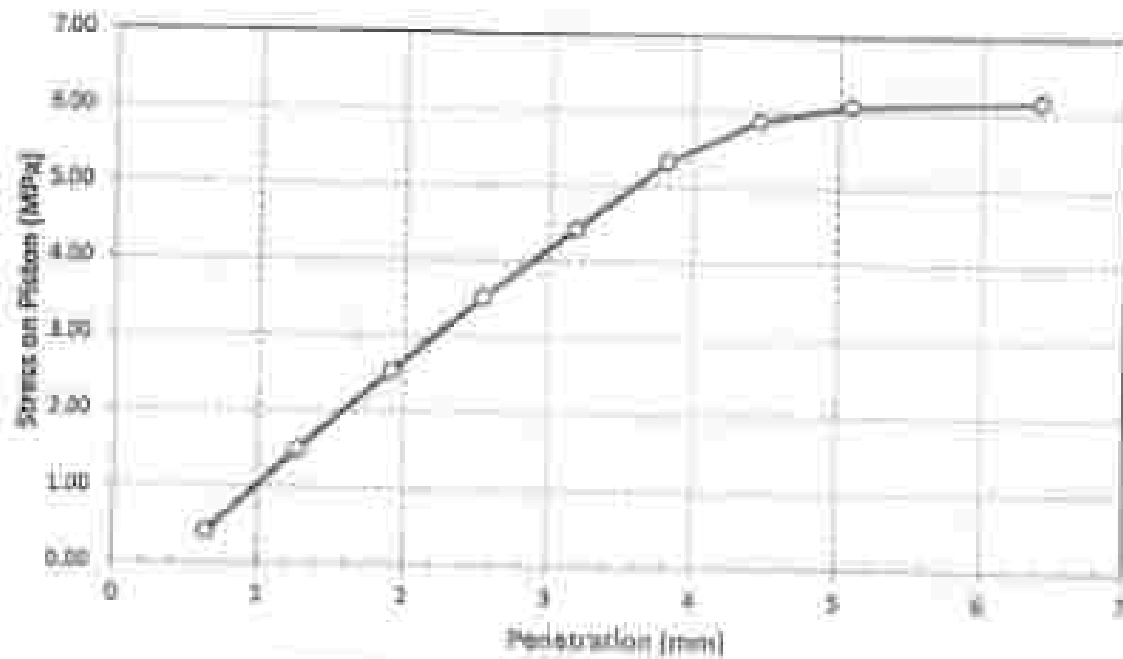
En. Hani Alwan
En. Hani Alwan
En. Hani Alwan

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مكتب استشارات الهندسة

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qouz To Arman
Location : ST: 572+180 E=32.7745621 N=25.6596723
Type of sample : Soil Embankment
Delivery Date : 19/11/2023
Reporting Date : 23/11/2023
Reporting No. : 01-14

Load Penetration Curve of CBR Test ASTM D-1883



Signature / 

Dr. Hisham H. Al-Badri
Engineer
No. 10, Al-Badri Street

IAS
ACCREDITED
LABORATORY

Dr. Hisham H. Al-Badri
Engineer
No. 10, Al-Badri Street

Company Name : شركة عبد الرحمن
Project : Electric Express Train - BSR From Qons To Arman
Testing Date : 2/12/2023
Soil type : middle Embankment
Location : ST From 671+790 To 671+800
Level : - 5 M
Report No. : 68-4

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	671+790	1542	2.22	5.6	2.10	95.1%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.21 gm/cm³
- At optimum moisture content = 5.8 %

Signature / 

Company Name : شركة عبد الرحمن
 Project : Electric Express Train – HSR From Qass To Arimat
 Testing Date : 2/12/2023
 Soil type : middle Embankment
 Location : ST From 672+820 To 672+920
 Level : - 5 M
 Report No. : 68-2

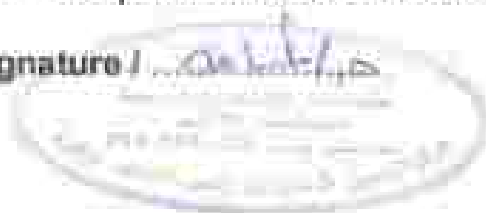
Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	672+860	1499	2.28	6	2.16	97.5%	Comply
2	672+900	1391	2.27	6.4	2.13	98.3%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.21 gm/cm³
- At optimum moisture content = 5.8 %

Signature /



Company Name : شركة عبد الرحمن
 Project : Electric Express Train – HSR From Qosr To Arimat
 Testing Date : 2/11/2023
 Soil type : middel Embankment
 Location : ST From 671+940 To 671+980
 Level : - 5 M
 Report No. : 68-3

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 n (%)	Acceptance
1	672+960	1580	2.26	5.6	2.14	96.7%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.21 gm/cm³
- At optimum moisture content = 5.8 %

Signature



Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Armanat
Testing Date : 6/12/2023
Soil type : middle Embankment
Location : ST From 672+000 To 672+020
Level : +4 M
Report No. : 70-4

Compaction test by using Sand - Cone Test Method
ASTM D- 1558

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (n %)	Acceptance
1	672+010	1393	2.27	6	2.14	96.7%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.21 gm/cm³
- At optimum moisture content = 5.8 %

Signature / 

Company Name : شركة عبد الرحمن
 Project : Electric Express Train - HSR From Qass To Arimat
 Testing Date : 6/12/2023
 Soil type : middle Embankment
 Location : ST From 672+020 672+180
 Level : -4 M
 Report No. : 70-3

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	672+060	1481	2.27	6.4	2.14	96.7%	Comply
2	672+100	1495	2.31	6.4	2.17	98.3%	Comply
3	672+130	1601	2.21	5.3	2.10	96.1%	Comply
4	672+160	1437	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 = 5.8 %

Signature / 

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qais To Arman
Location : ST: 672+180 E=32.7745621 N= 26.6596723
Type of sample : Soil Embankment
Delivery Date : 19/11/2023
Reporting Date : 23/11/2023
Reporting No. : 01-15

Dear Gentleman,

Attached here with the delivered on 19 / 11 / 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



Company Name : شركة عباد الرحمن
Project : Electric Express Train - HSR From Qous To Armanat
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment
Delivery Date : 19/11/2023
Reporting Date : 23/11/2023
Reporting No. : 01-15

RESULTS OF SIEVE ANALYSIS According to ASTM D-422

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	95.2
37.5	1.5	91.2
25	1	81.0
19	3/4	72.1
12.50	1/2	67.1
9.50	3/8	61.3
4.75	4	56.8
2.00	10	43.8
0.425	40	24.3

Signature / 

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1011000-01-001-001

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Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Arment
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment
Delivery Date : 19/11/2023
Reporting Date : 23/11/2023
Reporting No. : 01-15

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ m (No.200)	9.4

Signature / 


Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Armanat
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment
Delivery Date : 19/11/2023
Reporting Date : 23/11/2023
Reporting No. : 01-15

Soil Classification

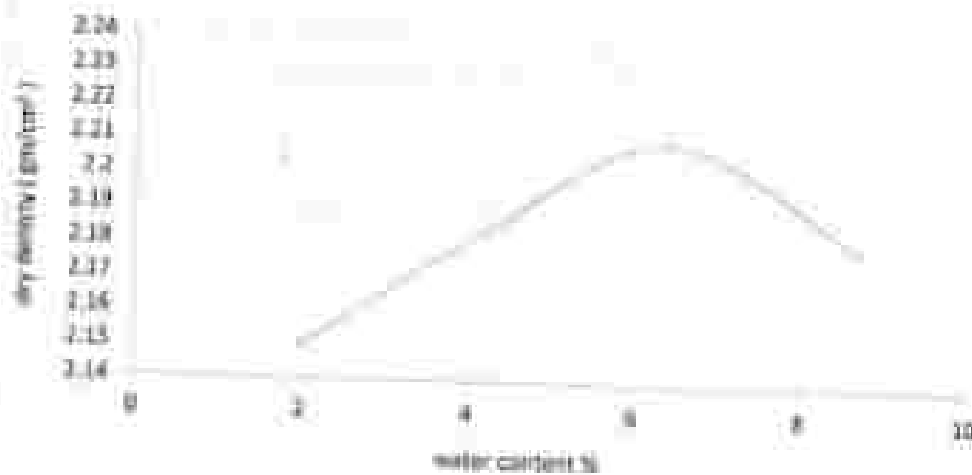
TEST	Results (%)	Limits according Projects Specs		
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-a)
2.00 mm (No. 10)	43.8	Max 50 %	—	—
0.425 mm (No. 40)	24.3	Max 30 %	Max 50 %	—
0.075 mm (No. 200)	9.4	Max 15 %	Max 15 %	Max 15 %
Liquid Limit		—	—	—
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

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

Signature / 


Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Arman
Location : ST: 872+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment
Delivery Date : 19/11/2023
Reporting Date : 23/11/2023
Reporting No. : 01-15

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



- Max dry density (gm/cm³) : 2.21
- Optimum moisture content % : 5.8

Signature / *[Signature]*

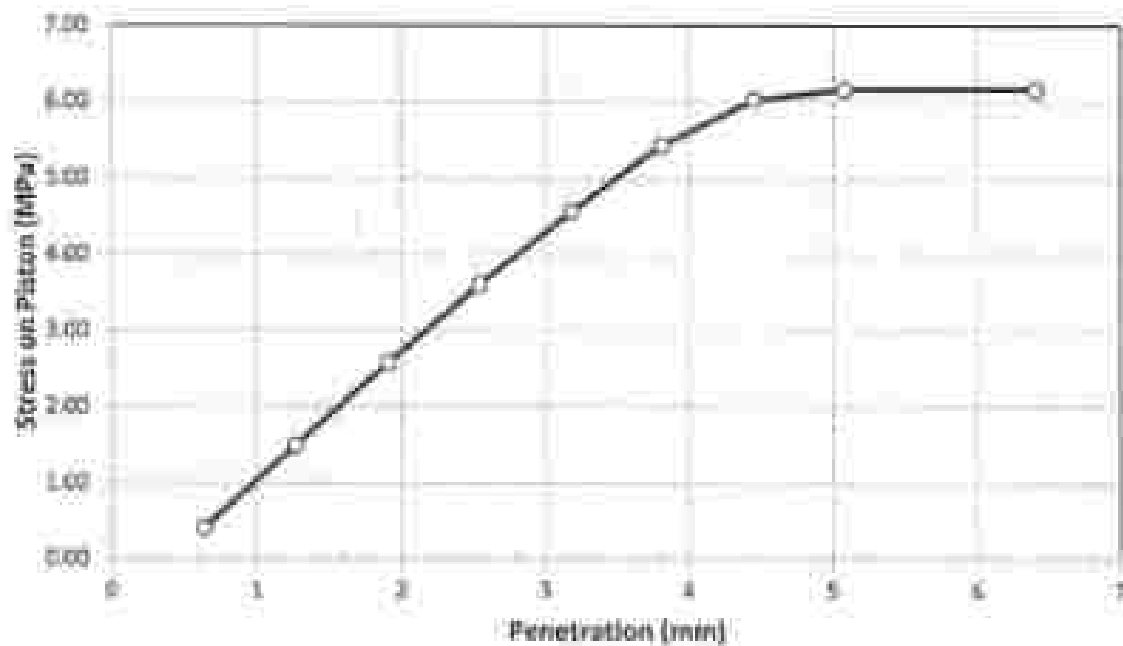




Consulting Engineering Bureau & Laboratories
مكتب استشارات ومختبرات

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Armanat
Location : ST: 672+180 E=32.7745624 N= 25.6596723
Type of sample : Soil Embankment
Delivery Date : 19/11/2023
Reporting Date : 23/11/2023
Reporting No. : 01-15

Load Penetration Curve of CBR Test
ASTM D-1883



Signature / 

Dr. Hamed Al-Husseini
Engineer
No. 10, Street 10, Baghdad



المهندس
هدهد الحسيني
رقم 10، شارع 10، بغداد

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qom To Aramut
Testing Date : 6/12/2023
Soil type : middle Embankment
Location : ST From 672+020 To 672+180
Level : -4 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 n (%)	Acceptance
1	672+042	1560	2.25	5.8	2.13	96.9%	Comply
2	672+095	1489	2.27	5.8	2.14	97.5%	Comply
3	672+145	1491	2.30	5.8	2.18	99.0%	Comply
4	672+175	1601	2.25	5	2.14	97.2%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.20 gm/cm³
- At optimum moisture content = 5.8 %

Signature / 


Company Name : شركة عبد الرحمن
 Project : Electric Express Train - HSR From Ques To Arhamat
 Testing Date : 6/12/2023
 Soil type : middle Embankment
 Location : ST From 672+000 To 672+020
 Level : ± 4 M
 Report No. : 69

**Compaction test by using Sand - Cone Test Method
 ASTM D- 1558**

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	672+010	1546	2.26	5.5	2.14	97.5%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.20 gm/cm³
- At optimum moisture content = 5.5 %

Signature / 



Company Name : شركة جيد الرحمن
Project : Electric Express Train - HSR From Qous To Arman
Testing Date : 6/12/2023
Soil type : middle Embankment
Location : ST From 672+000 To 672+020
Level : -3.5 M
Report No. : 78-6

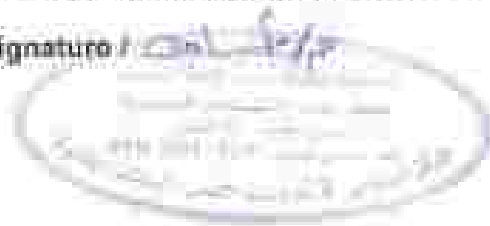
Compaction test by using Sand - Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	672+010	1422	2.29	6	2.16	98.2%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.20 gm/cm³
- At optimum moisture content = 5.8 %

Signature /



Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qom To Arvand
Testing Date : 12/12/2023
Soil type : Middle Embankment
Location : ST From 671+820/ 671+920
Level : -4.5M
Report No. : 179-2

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	671+840	1503	2.28	6.4	2.14	96.8%	Comply
2	671+890	1471	2.28	6	2.15	97.4%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.20 gm/cm³
- At optimum moisture content = 5.8 %

Signature / 



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QOM - IRAN



QOM - IRAN

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Armanat
Testing Date : 12/12/2023
Soil type : Middle Embankment
Location : ST From: 671+940/ 671+980
Level : ± 4.5 M
Report No. : 793

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	671+980	1438	2.30	6	2.17	98.4%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.20 gm/cm³
- At optimum moisture content = 5.8 %

Signature / 



Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Arment
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment
Delivery Date : 30/11/2023
Reporting Date : 4/12/2023
Reporting No. : 01-16

Dear Gentleman,

Attached here with the delivered on 30 / 11 / 2023

This sample is representative for 5.000 M²

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 



Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Armanat
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment
Delivery Date : 30/11/2023
Reporting Date : 4/12/2023
Reporting No. : 01-16

RESULTS OF SIEVE ANALYSIS According to ASTM D-422

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	94.5
37.5	1.5	90.8
25	1	81.8
19	3/4	70.2
12.50	1/2	62.2
9.50	3/8	57.2
4.75	4	51.2
2.00	10	43.1
0.425	40	25.9

Signature: 

Prepared by: 
Reviewed by: 
Date: 04/12/2023



Page 1 of 1
Date: 04/12/2023

Company Name : شركة عبد الرحمن
 Project : Electric Express Train - HSR From Qous To Armanat
 Location : ST: 672+180 E=32.7745621 N= 25.6596723
 Type of sample : Soil Embankment
 Delivery Date : 30/11/2023
 Reporting Date : 4/12/2023
 Reporting No. : 01-16

**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 عبد الرحمن
 Project : Electric Express Train - HSR From Qons To Arment
 Location : ST: 672+180 E=32.7745621 N= 25.6596723
 Type of sample : Soil Embankment
 Delivery Date : 30/11/2023
 Reporting Date : 4/12/2023
 Reporting No. : 01-16

Soil Classification

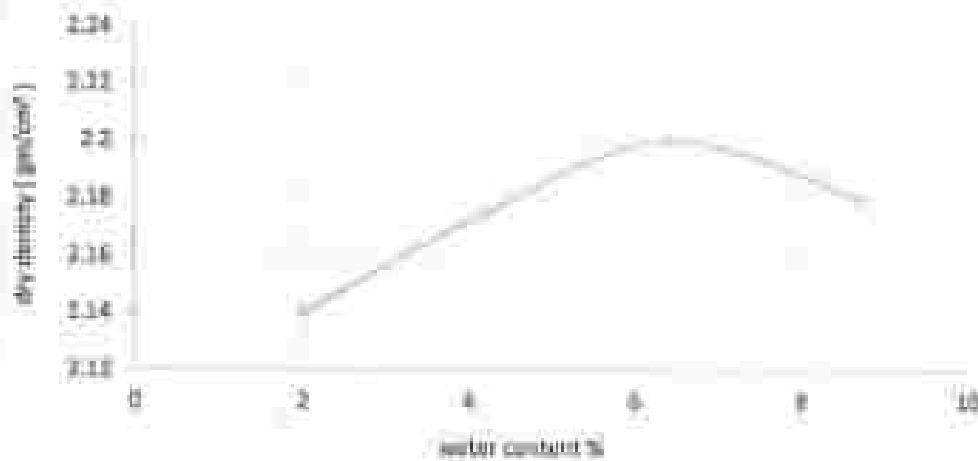
TEST	Results (%)	Limits according Projects Specs		
* Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No. 10).	43.1	Max 50 %	-----	-----
0.425 mm (No. 40).	25.9	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	10.6	Max 15 %	Max 15 %	Max 15 %
Liquid Limit		-----	-----	-----
Plasticity Index	0	Max 6 %	Max 6 %	Max 10 %

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

Signature *E. El Amrani*

Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Arمنت
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment
Delivery Date : 30/11/2023
Reporting Date : 4/12/2023
Reporting No. : 01-16

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



- Max dry density (gm/cm³) : 2.20
- Optimum moisture content % : 5.8

Signature 





Consulting Engineering Bureau & Laboratories
مكتب استشارات الهندسة والاختبارات

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qons To Armanat
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment
Delivery Date : 30/11/2023
Reporting Date : 4/12/2023
Reporting No. : 01-16

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

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.41
1.27	0.050	1.40
1.91	0.075	2.43
2.54	0.100	3.35
3.18	0.125	4.36
3.81	0.150	5.17
4.45	0.175	5.83
5.08	0.200	6.16
6.35	0.250	6.24

CBR Result	Stress (Mpa)		CBR 100 %
At 0.2 inch (5.08 mm) penetration	St. Value	Sample result	48.6 %
	0.00	3.35	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of $\approx 2.20 \text{ (gm/cc)}$
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: 

11/12/2023
Engineer
Said Mohamed Elmaghrabi



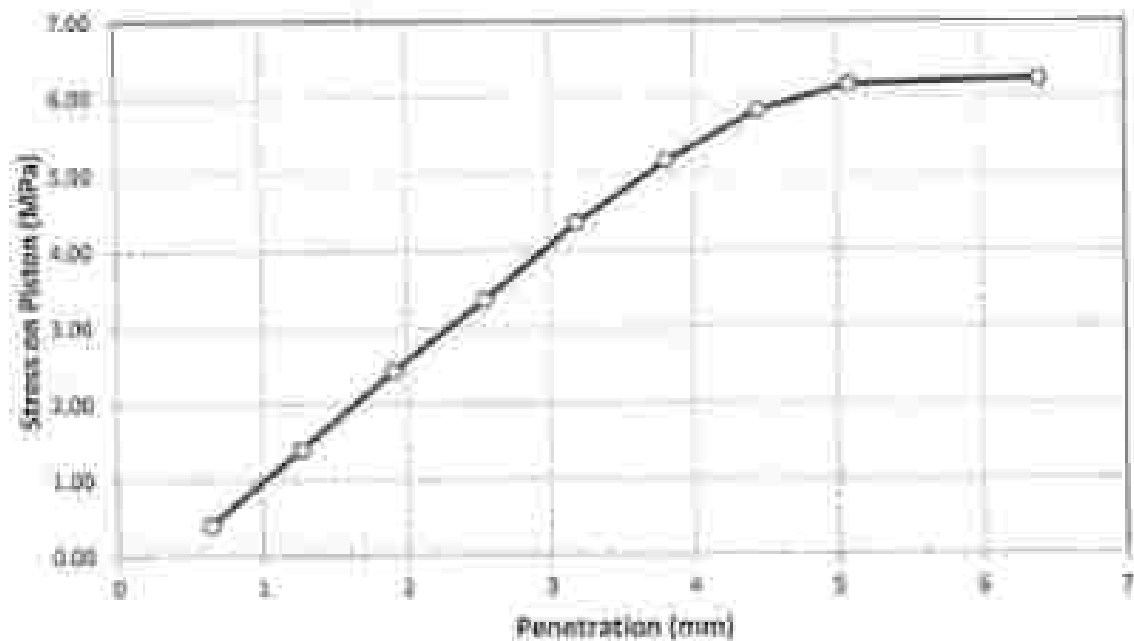
CEL

Consulting Engineering Bureau & Laboratories
مكتب مهندسي الاستشارات والمختبرات

Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Armanat
Location : ST: 672+180 E=32.7745621 N=25.6596723
Type of sample : Soil Embankment
Delivery Date : 30/11/2023
Reporting Date : 4/12/2023
Reporting No. : 01-16

Load Penetration Curve of CBR Test

ASTM D-1883



Signature / 

1-11-2023, 11:11:11 AM

Engineer / 
Civil Engineer - 200001

IAS
ACCREDITED

1-11-2023, 11:11:11 AM
1-11-2023, 11:11:11 AM



Consulting Engineering Bureau & Laboratories
مكتب دراسات الاستشارات الهندسية

Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qom To Arsanjan
Testing Date : 12/12/2023
Soil type : Middle Embankment
Location : ST From 672+020 To 672+180
Level : +3 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	672+085	1421	2.32	6.4	2.18	99.2%	Comply
2	672+145	1476	2.32	6.4	2.18	99.1%	Comply
3	672+170	1499	2.30	6.4	2.16	98.1%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.20 gm/cm³
- At optimum moisture content = 5.8 %

Signature / 



13/ Mobarakeh Ave
Qom City
13186-13186, Iran



مكتب الدراسات الهندسية
Qom City
13186-13186, Iran

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qom To Arman
Testing Date : 12/12/2023
Soil type : Lower Embankment
Location : ST From 671+820 To 671+840
Level : -6 M
Report No. : 75

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	671+830	1556	2.23	5.8	2.11	96.8%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.20 gm/cm³
- At optimum moisture content = 5.8 %

Signature / 



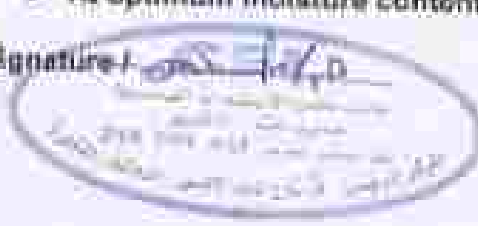
Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qout To Armanat
Testing Date : 12/12/2023
Soil type : Middle Embankment
Location : ST From 671+986 To 672+000
Level : - 5 M
Report No. : 73

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	671+990	1402	2.23	6.4	2.10	95.4%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.20 gm/cm³
- At optimum moisture content = 6.8 %

Signature: 


CEL

Consulting Engineering Bureau & Laboratories
مكتب استشارات الهندسة والاختبارات

Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Arman
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment
Delivery Date : 4/12/2023
Reporting Date : 9/12/2023
Reporting No. : 01-17

Dear Gentleman,

Attached here with the delivered on 4 / 12 / 2023

This sample is representative for 5.000 M²

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 / 
ممثل الشركة
T: 011-431 431 431
F: 011-431 431 431

CEL Bureau & Laboratories
Qous, Egypt
T: 011-431 431 431

IAS
ACCREDITED

المعتمد
بموجب
الاعتماد
T: 011-431 431 431

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Arman
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment
Delivery Date : 4/12/2023
Reporting Date : 9/12/2023
Reporting No. : 01-17

RESULTS OF SIEVE ANALYSIS According to ASTM D-422

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	97.8
37.5	1.5	92.1
25	1	87.1
19	3/4	73.8
12.50	1/2	66.3
9.50	3/8	61.1
4.75	4	54.6
2.00	10	42.1
0.425	40	22.6

Signature 

Dr. Hisham E. Al-Hadi
Engineer
30074000000 (06000)



Dr. Hisham E. Al-Hadi
Engineer
30074000000 (06000)



Consulting Engineering Bureau & Laboratories
مكتب دراسات الاستشارات والمختبرات

Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qons To Arman
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment
Delivery Date : 4/12/2023
Reporting Date : 9/12/2023
Reporting No. : 01-17

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ m (No.200)	10.3

Signature 
Engineer

11111111111111111111
11111111111111111111
11111111111111111111



11111111111111111111
11111111111111111111
11111111111111111111

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Arman
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment
Delivery Date : 4/12/2023
Reporting Date : 9/12/2023
Reporting No. : 01-17

**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 of the Engineer
Date: 9/12/2023

Dr. Huda B. Al-Hadi
Geotechnical Engineer
No. 100, Al-Rasheed Street, Baghdad



Dr. Huda B. Al-Hadi
Geotechnical Engineer
No. 100, Al-Rasheed Street, Baghdad

Company Name : شركة بحمد الرحمن
 Project : Electric Express Train - HSR From Qous To Arman
 Location : ST: 672+180 E=32.7745621 N= 25.6596723
 Type of sample : Soil Embankment
 Delivery Date : 4/12/2023
 Reporting Date : 9/12/2023
 Reporting No. : 01-17

Soil Classification

TEST	Results (%)	Limits according Projects Specs		
Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No. 10).	42.1	Max 50 %	————	————
0.425 mm (No. 40).	22.6	Max 30 %	Max 50 %	————
0.075 mm (No. 200).	10.3	Max 15 %	Max 15 %	Max 15 %
Liquid Limit		————	————	————
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

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

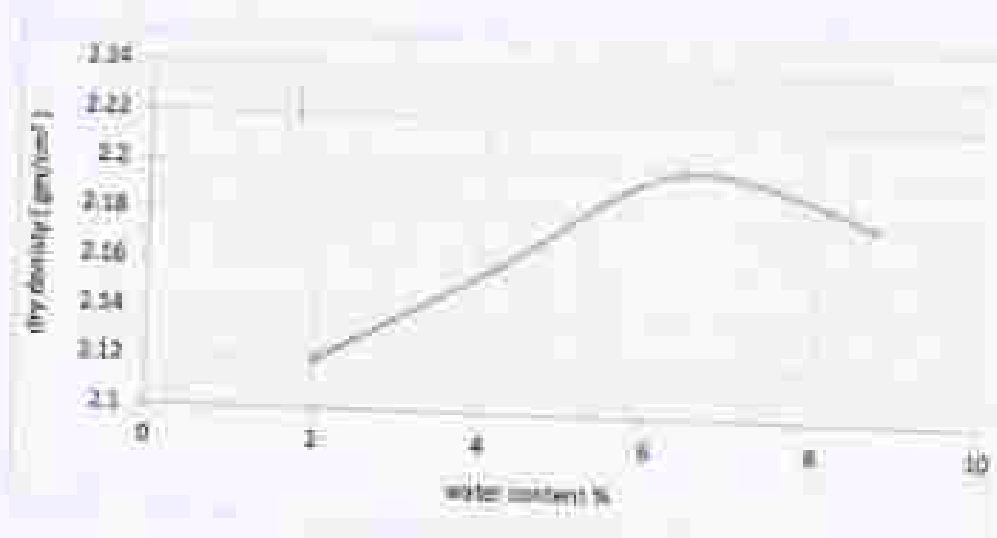
Signature / *[Signature]* /

CEL

Consulting Engineering Bureau & Laboratories
مكتب دراسات الاستشارات الهندسية

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qom To Arman
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment
Delivery Date : 4/12/2023
Reporting Date : 9/12/2023
Reporting No. : 01-17

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



- Max dry density (gm/cm³) : 2.20
- Optimum moisture content % : 5.8

Signature



Dr. Hossain Ali Khan
General Civil
NSR No. 20021-2010000



Dr. Hossain Ali Khan
General Civil
NSR No. 20021-2010000

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Arman
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment
Delivery Date : 4/12/2023
Reporting Date : 9/12/2023
Reporting No. : 01-17

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

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.41
1.27	0.050	1.40
1.91	0.075	2.43
2.54	0.100	3.56
3.18	0.125	4.56
3.81	0.150	5.43
4.45	0.175	6.04
5.08	0.200	6.29
6.35	0.250	6.39

CBR Result	Stress (Mpa)		CBR 100 %
	St. Value	Sample results	
At 0.1 inch (2.54 mm) penetration	6.90	3.45	51.5 %

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of $\approx 2.20 \text{ (gm/cc)}$
At = 5.8 % optimum water content.
- 3- Surcharge load 4.50 Kg.
- 4- CBR > 20 for middle and lower embankments according project spec page No 16.

Signature : *[Signature]*

CEL
Consulting Engineering Bureau & Laboratories
10110, Cairo
10110, Cairo, Egypt



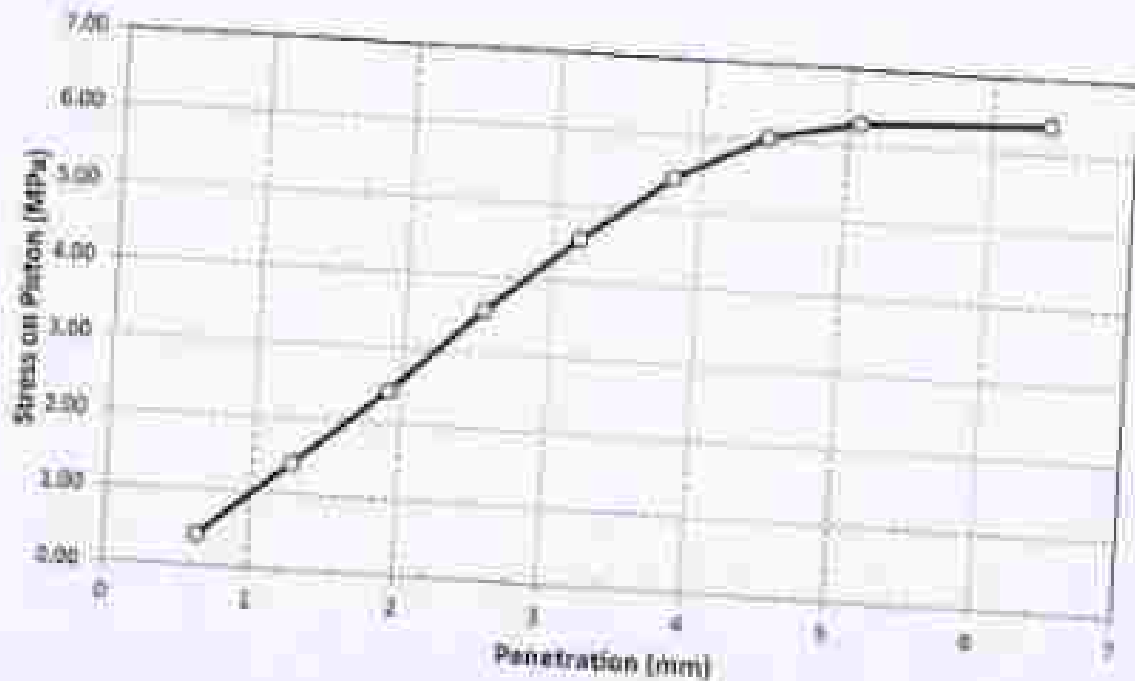
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CEL

Consulting Engineering Bureau & Laboratories
مكتب دراسات الاستشارات الهندسية

Company Name : شركة عواد الزخمين
Project : Electric Express Train - HSR From Qous To Armanat
Location : ST: 672+180 E=32.7745621 N= 25.6896723
Type of sample : Soil Embankment
Delivery Date : 4/12/2023
Reporting Date : 9/12/2023
Reporting No. : 01-17

Load Penetration Curve of CBR Test ASTM D-1883



Signature / 

VP/Manager of Quality Control
Dr. Huda, CMC
Tel: 011 2000000 - 0000000

IAS
ACCREDITED
by the Ministry of Planning

إدارة الجودة
د. هدا
الهاتف: 011 2000000 - 0000000

CEL

Consulting Engineering Bureau & Laboratories
مكتب استشارات الهندسة والاختبارات

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Arment
Testing Date : 18/12/2023
Soil type : Middle Embankment
Location : ST From 671+700 To 671+960
Level : -5.5 M
Report No. : 802

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	671+820	1494	2.31	6	2.18	99.2%	Comply
2	671+870	1605	2.22	5.6	2.10	95.6%	Comply
3	671+910	1402	2.24	6.4	2.11	95.9%	Comply
4	671+950	1426	2.28	6	2.15	97.9%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.20 gm/m³
- At optimum moisture content = 5.8 %

Signature / 



40 Nakh El-Hayat Street
Zakariya, Cairo
Tel: 23342222 Fax: 23342222



إدارة الجودة
مصر
11





Consulting Engineering Bureau & Laboratories
مكتب استشارات الهندسية

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qouz To Arman
Location : ST: 6724180 E=31.7745621 N=25.6896723
Type of sample : Soil Embankment
Delivery Date : 10/12/2023
Reporting Date : 14/12/2023
Reporting No. : 01-18

RESULTS OF SIEVE ANALYSIS According to ASTM D-422

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	98.2
37.5	1.5	93.3
25	1	86.0
19	¾	71.2
12.50	½	67.7
9.50	3/8	60.1
4.75	4	52.2
2.00	10	40.0
0.425	40	21.3

Signature / 

Engr. Mervat El-Helwan
Zakaria Gohar
Talaat El-Dokki - Egypt



Engr. Mervat El-Helwan
Engr. Zakaria Gohar
Engr. Talaat El-Dokki - Egypt

Company Name : شركة عراد الزبدان
Project : Electric Express Train - HSR From Qom To Armanat
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment
Delivery Date : 10/12/2023
Reporting Date : 14/12/2023
Reporting No. : 01-18

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ m (No.200)	9.7

Signature /



Consulting Engineering Division & Laboratories
مكتب استشارات الهندسة

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qom To Arman
Location : ST: 672+180 E=32.7745631 N= 25.6596723
Type of sample : Soil Embankment
Delivery Date : 10/12/2023
Reporting Date : 14/12/2023
Reporting No. : 01-18

**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 / 



Engineer / IAS
Geotechnical
Laboratory / Arman



مهندس /
جيو تكنولوجي
مختبر / ارمان

Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Armanat
Location : ST: 672+180 E=32.7745623 N=25.6596723
Type of sample : Soil Embankment
Delivery Date : 10/12/2023
Reporting Date : 14/12/2023
Reporting No. : 01-18

Soil Classification

TEST	Results (%)	Limits according Projects Spec		
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-a)
2.00 mm (No.10)	40.0	Max 50 %	—	—
0.425 mm (No. 40)	21.3	Max 30 %	Max 50 %	—
0.075 mm (No. 200)	9.7	Max 15 %	Max 15 %	Max 15 %
Liquid Limit		—	—	—
Plasticity Index	0	Max 6 %	Max 6 %	Max 10 %

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

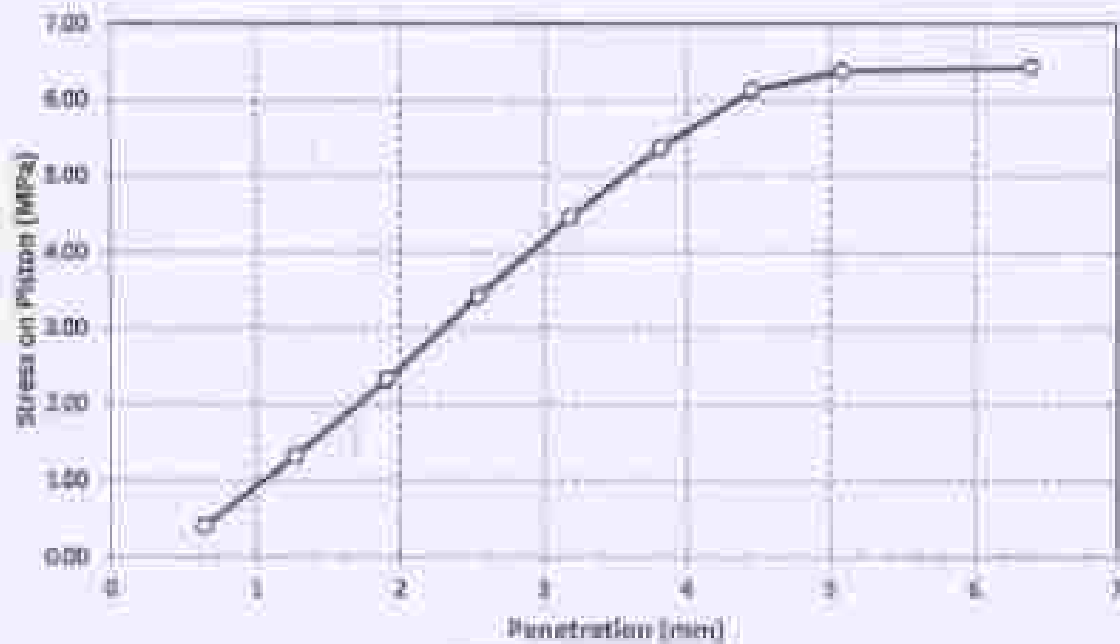
Signature / 

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



Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qouz To Armut
Location : ST: 672+180 E=32.7745621 N=25.6596723
Type of sample : Soil Embankment
Delivery Date : 10/12/2023
Reporting Date : 14/12/2023
Reporting No. : 01-18

Load Penetration Curve of CBR Test ASTM D-1883



Signature / 



Consulting Engineering Bureau & Laboratories
مكتب مهندسي الاستشارات والاختبارات

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qom To Arvand
Testing Date : 21/12/2023
Soil type : Middle Embankment
Location : ST From 671+780 To 672+000 (توسعة بين شعير)
Level : -4 M
Report No. : 82

**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	671+830	1861	2.32	5.8	2.20	99.8%	Comply
2	671+875	1784	2.26	6.4	2.12	96.3%	Comply
3	671+910	1492	2.24	8	2.11	95.9%	Comply
4	671+950	1352	2.26	5.8	2.13	97.0%	Comply
5	671+997	1438	2.23	5.6	2.11	96.0%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.20 gm/cm³
- At optimum moisture content = 5.8 %

Signature / 

101 MOHAMED EL-DARS ST - 3
Bandra, Cairo
Tel No. 27600000 - 0770000



الاستاذ المهندس
عبد الرحمن عبد الرحمن
مدير المختبر

Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Armanat
Testing Date : 26/12/2023
Soil type : Middle Embankment
Location : ST From 672+020 To 672+180
Level : -2.5 M
Report No. : 56

Compaction test by using Sand – Cone Test Method
ASTM D- 1558

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	672+050	1128	2.28	5.5	2.14	97.2%	Comply
2	672+090	1542	2.22	5.5	2.11	95.8%	Comply
3	672+120	1504	2.28	5.8	2.16	98.0%	Comply
4	672+160	1554	2.25	5.8	2.13	96.7%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.20 gm/cm³
- At optimum moisture content = 5.8 %

Signature 

Cellular & Fax : 011 444 4444
Amman, Jordan
11176 Jordan, Jordan



البريد الإلكتروني : info@cel-jordan.com
الهاتف : 011 444 4444
الفاكس : 011 444 4444

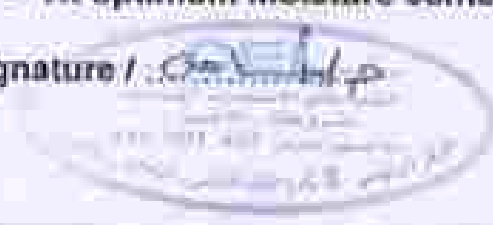
Company Name : شركة عبد الرحمن
 Project : Electric Express Train - HSR From Qous To Armanat
 Testing Date : 21/12/2013
 Soil type : Middle Embankment
 Location : ST From 671+780 To 671+960 (تونسقة بنزل الممر)
 Level : - 3 M
 Report No. : 81

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	671+830	1523	2.25	6	2.12	96.3%	Comply
2	671+870	1583	2.31	5.6	2.18	99.3%	Comply
3	671+900	2030	2.24	6.4	2.11	95.8%	Comply
4	671+950	2009	2.26	6	2.13	96.7%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.20 gm/cm³
- At optimum moisture content = 5.8 %

Signature / 




Consulting Engineering Bureau & Laboratories
مكتب استشارات الهندسة والمختبرات

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Arman
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment
Delivery Date : 10/12/2023
Reporting Date : 14/12/2023
Reporting No. : 01-19

Dear Gentleman ,

Attached here with the delivered on 10 / 12 / 2023

This sample is representative for 5,000 M²

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 /



11/11/2023
Amman, Jordan
14455 200000 1000000



2023/12/14
01-19
01-19



Chemical Engineering Bureau & Laboratories
مكتب الدراسات الكيميائية

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Armani
Location : ST: 672+180 E=32.7745621 N=25.6596723
Type of sample : Soil Embankment
Delivery Date : 10/12/2023
Reporting Date : 14/12/2023
Reporting No. : 01-19

RESULTS OF SIEVE ANALYSIS According to ASTM D-422

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	96.1
37.5	1.5	91.1
25	1	84.0
19	¾	72.2
12.50	½	65.6
9.50	3/8	59.5
4.75	4	51.1
2.00	10	42.4
0.425	40	24.1

Signature / 

11/12/2023
Date
14/12/2023 20:48:00



11/12/2023
Date
14/12/2023 20:48:00



Consulting Engineering Bureau & Laboratories
مكتب استشارات الهندسة والاختبارات

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qass To Arinani
Location : ST: 672+180 E=31.7745621 N=25.6696723
Type of sample : Soil Embankment
Delivery Date : 10/12/2023
Reporting Date : 14/12/2023
Reporting No. : 01-19

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ m (No.200)	9.4

Signature 


Prepared By: 
Reviewed By: 
Date: 14/12/2023



إعداد: 
مراجعة: 
التاريخ: 14/12/2023



Consulting Engineering Bureau & Laboratories
مكتب استشارات الهندسة

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Armitat
Location : ST: 672+180 E=32.7745631 N=25.6596723
Type of sample : Soil Embankment
Delivery Date : 10/12/2023
Reporting Date : 14/12/2023
Reporting No. : 01-19

**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 / 
Engineer / 

10/12/2023
10/12/2023
10/12/2023



10/12/2023
10/12/2023
10/12/2023

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qass To Arman
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment
Delivery Date : 10/12/2023
Reporting Date : 14/12/2023
Reporting No. : 01-19

Soil Classification

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)	42.4	Max 50 %	—	—
0.425 mm (No. 40)	24.1	Max 30 %	Max 50 %	—
0.075 mm (No. 200)	9.4	Max 15 %	Max 15 %	Max 15 %
Liquid Limit		—	—	—
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

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

Signature / 

TESTED BY: 01/12/2023
Signed: 
DATE: 14/12/2023



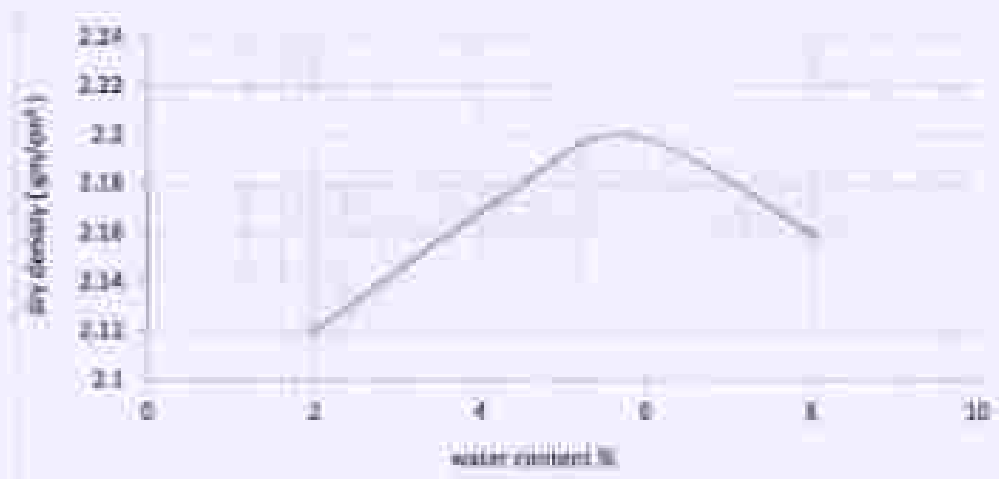
Reviewed By: 
DATE: 14/12/2023

CEL

Consulting Engineering Bureau & Laboratories
مكتب استشارات الهندسية

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qom To Arman.
Location : ST: 672+180 E=32.7743621 N= 25.6596723
Type of sample : Soil Embankment
Delivery Date : 10/12/2023
Reporting Date : 14/12/2023
Reporting No. : 01-19

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



- Max dry density (gm/cm³) : 2.20
- Optimum moisture content % : 5.8

Signature

101 Ahmad Al Arabi Street
Sindia City
Tehran - Islamic Republic of Iran

IAS
ACCREDITED

101 Ahmad Al Arabi Street
Sindia City
Tehran - Islamic Republic of Iran

Company Name : شركة عمار الرحمن
Project : Electric Express Train - HSR From Qass To Arman
Location : ST: 672+180 E=31.7745621 N= 25.6596723
Type of sample : Soft Embankment
Delivery Date : 10/12/2023
Reporting Date : 14/12/2023
Reporting No. : 01-19

Test Results of California Bearing Ratio on Base Materials ASTM D 1553

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.41
1.27	0.050	1.42
1.91	0.075	2.49
2.54	0.100	3.56
3.18	0.125	4.57
3.81	0.150	5.48
4.45	0.175	6.24
5.08	0.200	6.54
6.35	0.250	6.62

CBR Result	Stress (Mpa)		CBR 100 %
A1 (A1 max (2.54 mm) penetration)	St. Value	Sample result	51.5 %
	6.99	3.56	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
 - 2- The sample was compacted to dry density of $\approx 2.20 \text{ (gm / cm}^3\text{)}$
A1 = 5.0 % optimum water content.
 - 3- Surcharge load 4.50 Kg.
- ← CBR > 10 for middle and lower embankments according project spec page No 26.

Signature / 

TESTED BY: 
DATE: 14/12/2023

IAS
ACCREDITED

TESTED BY: 
DATE: 14/12/2023

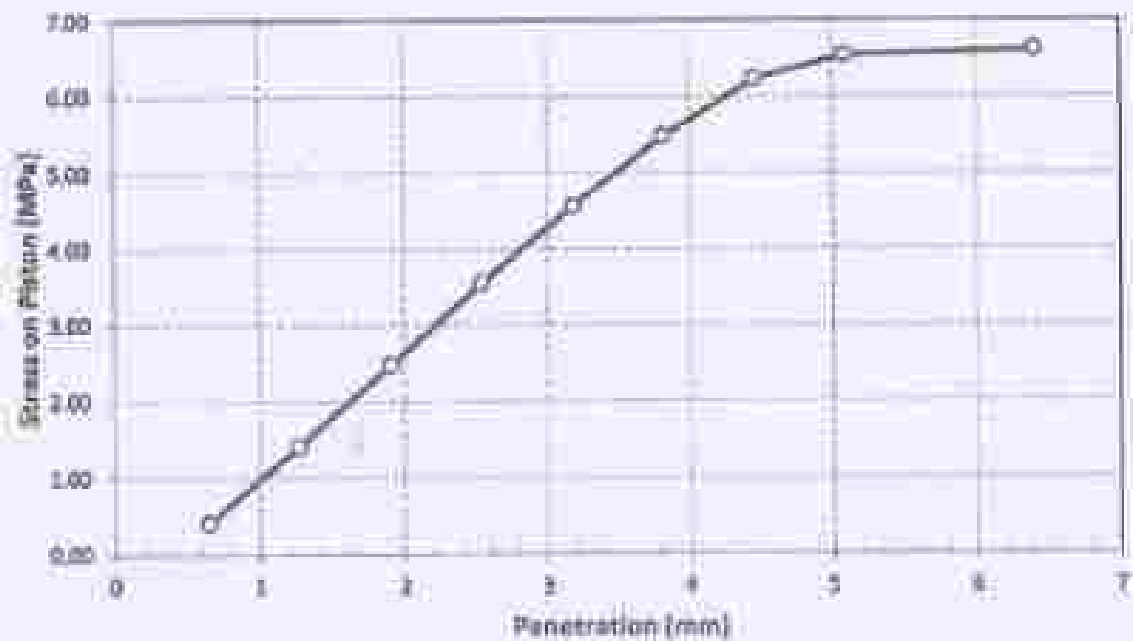
CEL

Consulting Engineering Bureau & Laboratories
مكتب استشارات وهندسة

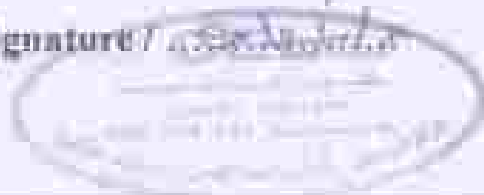
Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qom To Arman
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment
Delivery Date : 10/12/2023
Reporting Date : 14/12/2023
Reporting No. : 01-19

Load Penetration Curve of CBR Test

ASTM D-1883



Signature / *[Signature]*



11/12/2023
20/12/2023
20/12/2023



11/12/2023
20/12/2023
20/12/2023

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qom To Arman
Testing Date : 21/12/2023
Soil type : Middle Embankment
Location : ST From 672+000 To 672+100-3 (توسعة سكة الحديد)
Level : - 3 M
Report No. : 85

**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	672+050	2021	2.24	5.5	2.13	96.6%	Comply
2	672+075	1918	2.31	5.5	2.19	99.4%	Comply
3	672+144	1758	2.28	5.5	2.16	98.1%	Comply
4	672+176	1560	2.23	5.5	2.12	96.3%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.20 gm/cm³
- At optimum moisture content = 5.8 %

Signature / 

Dr. Mostafa F. Al-Hadi
General Manager
National Engineering Bureau



أ. م. هادي
مدير عام
مكتب الدراسات الهندسية



Consulting Engineering Bureau & Laboratories
مكتب استشارات الهندسة

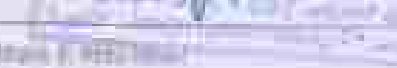
Company Name : شركة جيد الرحمن
Project : Electric Express Train - HSE From Qass To Arimat
Testing Date : 26/12/2023
Soil type : Upper Embankment
Location : ST From 671+500 To 672+000
Level : - 6.5 M
Report No. : 87

**Compaction test by using Sand - Cone Test Method
ASTM D- 1586**

Test #	Station	Test Hole Volume cm ³	Bulk Density gni/ cm ³	Moisture Content %	Dry Density (gni/ cm ³)	Degree of Compaction (%)	Acceptance
1	671+800	1398	2.31	5.8	2.18	99.2%	Comply
2	671+820	1515	2.29	5.3	2.14	97.5%	Comply
3	671+840	1491	2.30	5	2.19	99.5%	Comply
4	671+860	1407	2.28	5.5	2.17	98.4%	Comply
5	671+880	1558	2.29	5.5	2.18	98.1%	Comply
6	671+900	1622	2.30	5.3	2.18	99.1%	Comply
7	671+920	1439	2.29	5.5	2.17	98.8%	Comply
8	671+940	1361	2.25	5.5	2.13	95.8%	Comply
9	671+970	1628	2.25	5.3	2.14	97.4%	Comply
10	672+000	1427	2.24	5.4	2.11	95.7%	Comply
11	672+030	1609	2.29	5.8	2.16	98.3%	Comply
12	672+060	1447	2.24	5.3	2.13	96.8%	Comply

Degree of compaction based on proctor test dated 21

- Max. dry density = 2.20 gni/cm³
- At optimum moisture content = 5.8 %
- Signature / 

Engineer / 
Civil Eng.
No. 127022-00000



إمارة دبي
شارع
127022-00000

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Armanat
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 21/12/2023
Reporting Date : 26/12/2023
Reporting No. : 01-20

Dear Gentlemen,

Attached here with the delivered on 21 / 12 / 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 



CEL

Consulting Engineering Bureau & Laboratories
مكتب دراسات الاستشارات الهندسية

Company Name : شركة عباد الرحمن
Project : Electric Express Train – HSR From Qous To Armanat
Location : ST: 672+180 E=32,7745621 N= 25,6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 21/12/2023
Reporting Date : 26/12/2023
Reporting No. : 01-20

RESULTS OF SIEVE ANALYSIS According to ASTM D-421

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	95.8
37.5	1.5	91.9
25	1	83.6
19	3/4	73.1
12.50	1/2	64.9
9.50	3/8	58.2
4.75	4	51.0
2.00	10	41.6
0.425	40	23.1

Signature /



Youssef E. Al-Hadi Street
Sana'a, Cam
TEL Fax: (0662) 21 276697 /



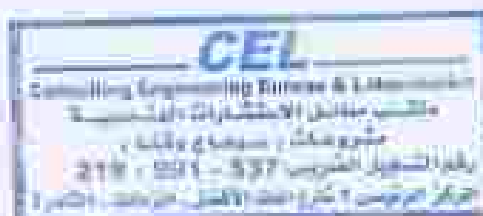
مركز الدراسات
شركة عباد الرحمن
الهاتف: (0662) 21 276697 /



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)	9.1

Signature _____

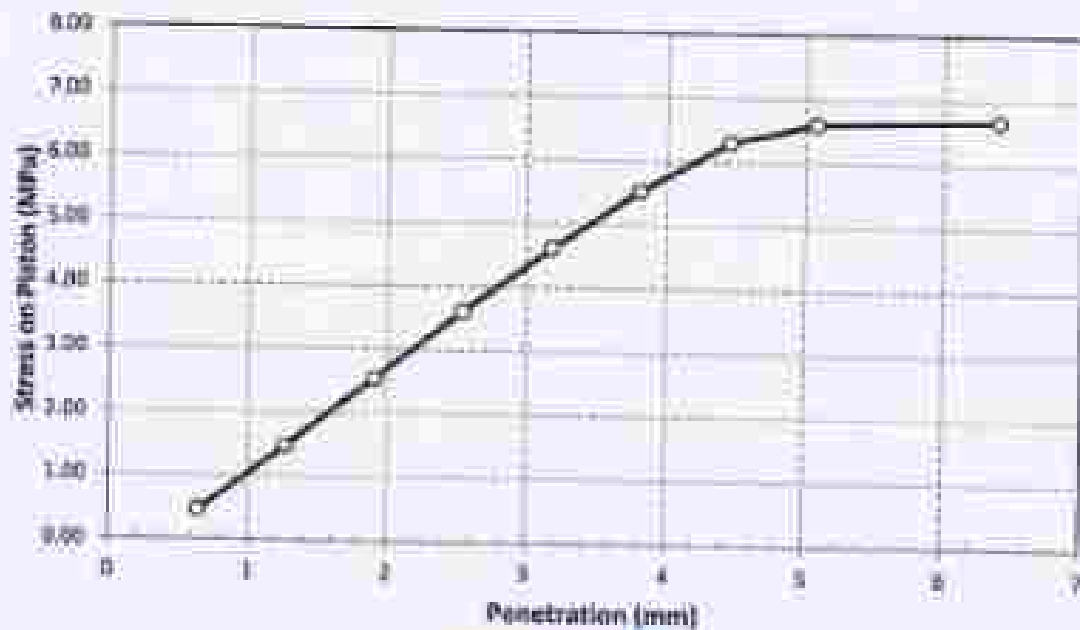


CEL

Consulting Engineering Bureau & Laboratories
مكتب دراسات واستشارات وهندسية

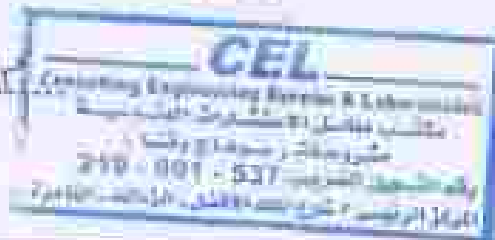
Company Name : شركة عبيد الرحمن
Project : Electric Express Train - HSR From Qous To Armanat
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 21/12/2023
Reporting Date : 26/12/2023
Reporting No. : 01-20

Load Penetration Curve of CBR Test ASTM D-1883



Signature

[Handwritten Signature]



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Consulting Engineering Office & Laboratories
مكتب استشارات الهندسية

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Ques To Arment
Testing Date : 28/12/2023
Soil type : Upper Embankment
Location : ST From 672+000 to 673+180
Level : + 0.5 M
Report No. : ET-2

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

Test #	Station	Test Hole Volume cm ³	Dulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	672+100	1483	2.23	5.3	2.12	96.4%	Comply
2	672+120	1454	2.26	5.3	2.15	97.6%	Comply
3	673+140	1433	2.28	5.3	2.16	98.4%	Comply
4	673+160	1464	2.25	5.3	2.14	97.3%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.20 gm/cm³
- At optimum moisture content = 5.8 %
- Signature /


Engineer
272-1111-1111
272-1111-1111

Project: HSR
Drawing: 272-1111-1111
Date: 28/12/2023



Project: HSR
Drawing: 272-1111-1111
Date: 28/12/2023



Consulting Engineering Bureau & Laboratories
مكتب استشارات الهندسية

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qina To Assiut
Testing Date : 28/12/2023
Soil type : Middle Embankment
Location : ST From 671+780 To 672+000 بين المسار
Level : - 3.5 M
Report No. : 89

**Compaction test by using Sand - Core 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	671+836	1431	2.24	5.3	2.12	96.5%	Comply
2	671+880	1507	2.22	5.3	2.11	95.8%	Comply
3	671+925	1517	2.25	5.3	2.13	97.0%	Comply
4	671+970	1475	2.30	5.3	2.18	99.1%	Comply
5	671+985	1456	2.24	5.3	2.12	96.5%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.20 gm/cm³
- At optimum moisture content = 5.6 %
- Signature / 



CEL Bureau & Lab. No. 1
20000, Cairo
Tel: 20000- 2150000



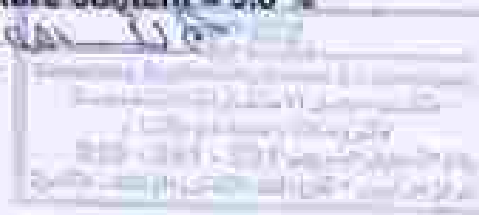
إبراهيم عبد الرحمن
مهندس
مهندس استشاري



Company Name	: شركة عبد الرحمن
Project	: Electric Express Train - HSR From Qian To Anlu
Testing Date	: 28/12/2023
Soil type	: Middle Embankment
Location	: KT From: 671+788 671+880 شمل المسار
Level	: +4.5 M
Report No.	: 88

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	671+830	1519	2.27	5.3	2.16	98.5%	Comply
2	671+885	1564	2.24	5.3	2.13	97.3%	Comply
3	671+900	1562	2.22	5.3	2.11	96.4%	Comply
4	671+975	1372	2.26	5.3	2.14	97.9%	Comply

- Max. dry density = 2.19 gm/cm^3
- At optimum moisture content = 5.8 %
- Signature / *[Signature]*



For more information, contact
 Cengage Learning
 The McGraw-Hill Companies, 2455

[illegible]



Engineering Consulting Firm
Solely for the use of the client

Company Name : شركة عبد الرحمن
Project : Electric Express Train - H5H From Qury to Arman
Location : ST: 672+100 E=32.7745621 N=25.6586723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 21-12-2023
Reporting Date : 26-12-2023
Reporting No. : 01-21

Dear Gentleman,

Attached here with the delivered on 21 / 12 / 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 Spec.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883

Signature 

CHER S.A.S
Solely for the use of the client



Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qina To Aswan
Location : ST: 673+180 E=32.7745621 N=25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 21/12/2023
Reporting Date : 26/12/2023
Reporting No. : 01-21

RESULTS OF SIEVE ANALYSIS ~~As per~~ ASTM D-41

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	96.3
37.5	1.5	91.6
25	1	84.3
19	3/8	73.9
12.50	1/2	65.3
9.50	3/8	58.9
4.75	4	51.6
2.00	10	42.6
0.425	40	24.6

Signature 

Company Name : شركة عبد الرحمن
Project : Electric Express Train - ISR From Qassim To Arman
Location : ST/ 672+180 E=32.7745021 N= 25.6696722
Type of sample : Soil Embankment (Upper Embankment R.A)
Delivery Date : 21/12/2023
Reporting Date : 26/12/2023
Reporting No. : 91-21

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ m (No.200)	9.4

Signature / 
 F. Al-Fayez
 Engineer

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qasbi To Arbil
Location : ST: 672-180 E=32.7748611 N= 33.6596711
Type of sample : Soil Embankment (Upper Embankment 3/0)
Delivery Date : 21/12/2023
Reporting Date : 26/12/2023
Reporting No. : 01-21

**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 : 

THAB & PARTners
Geotechnical Engineering
Civil Engineering College - Baghdad University



Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qom To Armonia
Location : S1: 672-100 E=32.7745621 N= 25.6396713
Type of sample : Soil Embankment (Upper Embankment (I/B))
Delivery Date : 21/12/2023
Reporting Date : 26/12/2023
Reporting No. : 01-21

Soil Classification

TEST	Results (%)	Limits according Projects Specs		
		(A-1-a)	(A-1-b)	(A-2-a)
• Group Classification	(A-1-a)	(A-1-b)	(A-1-b)	(A-2-a)
2.00 mm (No.10).	42.6	Max 30 %	—	—
0.425 mm (No. 40).	24.6	Max 30 %	Max 50 %	—
0.075 mm (No. 200).	9.4	Max 15 %	Max 15 %	Max 15 %
Liquid Limit		—	—	—
Plasticity Index	0	Max 4 %	Max 6 %	Max 10 %

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

Signature/ 

Company Name : شركة عبد الرحمن
 Project : Electric Express Train - HSR From Qassim to Aramco
 Location : ST- 072-100 L-35.7745621 N-25.6596723
 Type of sample : Soil Embankment (Upper Embankment 0.0)
 Delivery Date : 21/12/2023
 Reporting Date : 26/12/2023
 Reporting No. : 01-21

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



- Max dry density (gm/cc) : 2.19
- Optimum moisture content % : 5.8

Signature /

+

Dr. Hani Alkhalaf
 Project Manager
 Project Manager - HSR



Dr. Hani Alkhalaf
 Project Manager
 Project Manager - HSR

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Quito To Ayacucho
Location : ST-675-100 E=22.7745621 N= 15.3506723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 21/12/2023
Reporting Date : 26/12/2023
Reporting No. : 01-21

Test Results of California Bearing Ratio on Base Materials ASTM D 1557

penetration		stress on piston (Mpa)
mm	inch	
0.64	0.025	0.42
1.27	0.050	1.42
1.91	0.075	2.49
2.54	0.100	3.56
3.18	0.125	4.57
3.81	0.150	5.49
4.45	0.175	6.25
5.08	0.200	6.58
6.35	0.250	6.62

CBR Result	Stress (Mpa)		CBR 100 %
At 5.1 inch (129 mm) penetration	St. Value	Average Results	51.5 %
	6.96	3.54	

Notes:

- 1- Attached graph shows penetration relation versus penetration rate graph.
 - 2- The sample was subjected to dry density $\rho_d = 2.19$ [gm/cc]
 $A_r = 5.8$ % cohesion value minor.
 - 3- Sample size used 450 Kg.
- a) CBR ≥ 10 for middle and lower embankments according project spec. page no 38.

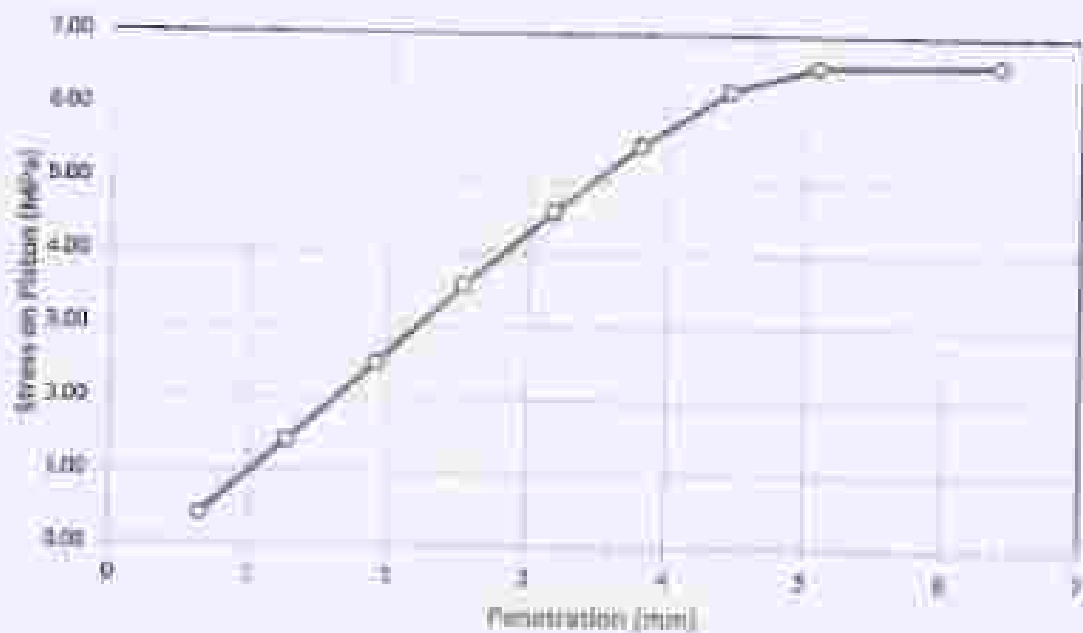
Signature: 

11/12/2023
Date
2023/12/26
Date



Company Name : شركة عبد الرحمن
 Project : Electric Express Train - RSH From Qous To Alibant
 Location : ST: 672+100 E: 31.7745421 N: 25.6896723
 Type of sample : Soft Embankment (Upper Embankment 0.0)
 Delivery Date : 21/12/2023
 Reporting Date : 26/12/2023
 Reporting No. : 01-21

Load Penetration Curve of CBR Test ASTM D-1883



Signature *[Handwritten Signature]*

1. 0000 0000 0000
 2. 0000 0000 0000
 3. 0000 0000 0000



Contract Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Quba To Aramut
Testing Date : 31/12/2023
Soil type : Middle Embankment
Location : RT From: 672+000 To 672+100 شمال البسوة
Level : ± 2.5 M
Report No. : 99-1

**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	672+050	1479	2.29	5.3	2.18	99.3%	Comply
2	672+100	1448	2.27	5.3	2.15	98.4%	Comply
3	672+140	1456	2.27	5.3	2.15	98.2%	Comply
4	672+190	1521	2.27	5.3	2.16	98.5%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.19 gm/cm³
- At optimum moisture content = 5.8 %
- Signature / 



For More Info Visit Our
Website: www.cel.com.lb
Mobile: 03-3333333



For More Info Visit Our
Website: www.ias.edu.lb
Mobile: 03-3333333

Company Name : شركة عود العربي
 Project : Electric Express Train - HSR From Qass To Ar-Ramth
 Testing Date : 03/01/2024
 Soil type : Middle Embankment
 Location : ST. From 671+738 To 672+098 ومن الشبيل
 Level : - 3.0 M
 Report No. : 01-1

**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	671+800	1403	2.25	5.3	2.13	97.4%	Comply
2	671+840	1462	2.28	6	2.15	98.3%	Comply
3	671+880	1433	2.27	6.4	2.13	97.5%	Comply
4	671+930	1434	2.27	6	2.14	97.8%	Comply
5	671+980	1429	2.31	5.8	2.18	99.5%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.19 gm/cm³
- At optimum moisture content = 5.8 %
- Signature / 





Consulting Engineering Bureau & Laboratories
مكتب استشارات الهندسة

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qow To Arment
Testing Date : 03/11/2024
Soil type : Middle Embankment
Location : ST From 671+730 To 671+950 لعل العمار
Level : -4.0 M
Report No. : 81-2

**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	671+800	1487	2.24	5.3	2.12	97.4%	Comply
2	671+840	1574	2.26	5.3	2.14	98.3%	Comply
3	671+900	1558	2.25	5.3	2.13	97.9%	Comply
4	671+950	1444	2.25	5.3	2.14	98.1%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.18 gm/cm³
- At optimum moisture content = 5.8 %
- Signature /



CEL Main Office
Dammam, Saudi Arabia
Tel: +966 3 2902111 - 2280001



المكتب الرئيسي
الرياض
الهاتف: +966 11 444 1111 - 444 1111

CEL

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مكتب استشارات الهندسية

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Armanat
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 25/12/2023
Reporting Date : 30/12/2023
Reporting No. : 01-22

Dear Gentleman,

Attached here with the delivered on 25 / 12 / 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 
130



130 Main E. Hwy 80
Jeddah, KSA
Tel: 011-26000000



جميع الحقوق محفوظة
إلى مكتب استشارات الهندسية
CEL



Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Arمنت
Location : ST: 672+180 E=32,7745621 N= 25,6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 25/12/2023
Reporting Date : 30/12/2023
Reporting No. : 01-22

RESULTS OF SIEVE ANALYSIS According to ASTM D-422

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	95.1
37.5	1.5	88.9
25	1	81.5
19	$\frac{3}{4}$	73.2
12.50	$\frac{1}{2}$	65.4
9.50	$\frac{3}{8}$	59.6
4.75	$\frac{1}{4}$	51.0
2.00	$\frac{1}{16}$	41.2
0.425	$\frac{1}{40}$	22.6

Significance

Levin & Associates
Greensboro, NC
Tel/Fax: 336/272-2200





Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qom To Armanat
Location : ST: 672+180 E=31.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 25/12/2023
Reporting Date : 30/12/2023
Reporting No. : 01-22

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)	100

Signature *[Handwritten Signature]*
 218-941-5222
 [Faint text]

Journal of Management Inquiry
24(10) 1000-1010
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Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Armanat
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 25/12/2023
Reporting Date : 30/12/2023
Reporting No. : 01-21

**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 
Y. Elmaghrabi
STP-001-23
2023

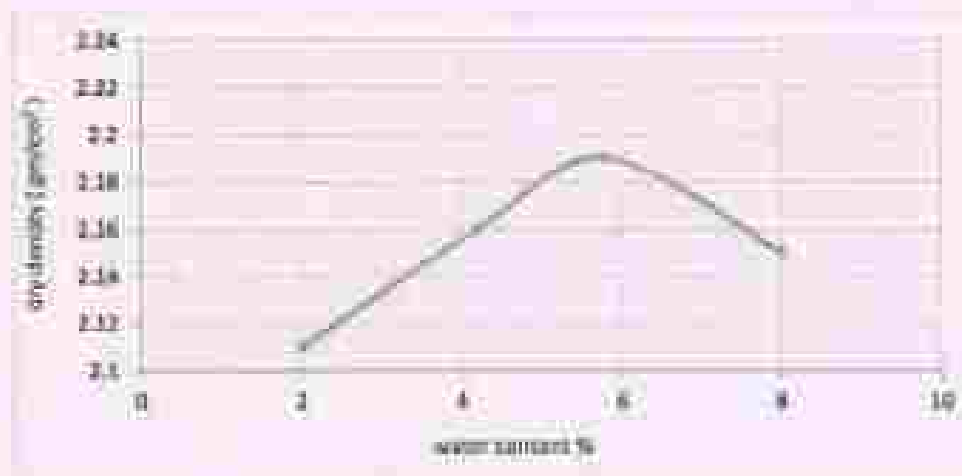
100000 E-400 Street
Zakaria, Cairo
Tel/Fax : 01152311210000



أرمانات
إلى قوس
قطار
المترو

Company Name : شركة عبد الرحمن
 Project : Electric Express Train - HSR From Qous To Arment
 Location : ST: 672+180 E=32.7745621 N= 25.6596723
 Type of sample : Soil Embankment (Upper Embankment 0.0)
 Delivery Date : 25/12/2023
 Reporting Date : 30/12/2023
 Reporting No. : 01-22

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



- Max dry density (gm/cm³) : 2.19
- Optimum moisture content % : 5.8

Signature : 
 Consulting Engineering Bureau & Laboratories
 278 - 777 - 7777
 278 - 777 - 7777



Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Arment
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 6.0)
Delivery Date : 25/12/2023
Reporting Date : 30/12/2023
Reporting No. : 01-22

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

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.50
1.27	0.050	1.52
1.91	0.075	2.59
2.54	0.100	3.65
3.18	0.125	4.67
3.81	0.150	5.58
4.45	0.175	6.34
5.08	0.200	6.69
6.35	0.250	6.67

CHR Result	Stress (Mpa)		CHR 100 %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	51.9 %
	6.90	1.56	

100

- 1- Attached graph shows penetration resistance.
 - 2- The sample was compacted to dry density of 1.9 g/cc .
 - 3- At $\approx 5.5\%$ optimum water content.
 - 4- Surcharge load 4.50 Kg .
- CBR > 10 for middle and lower embankments according to project spec.

Signature _____

Company Name: _____
 Full Name: _____

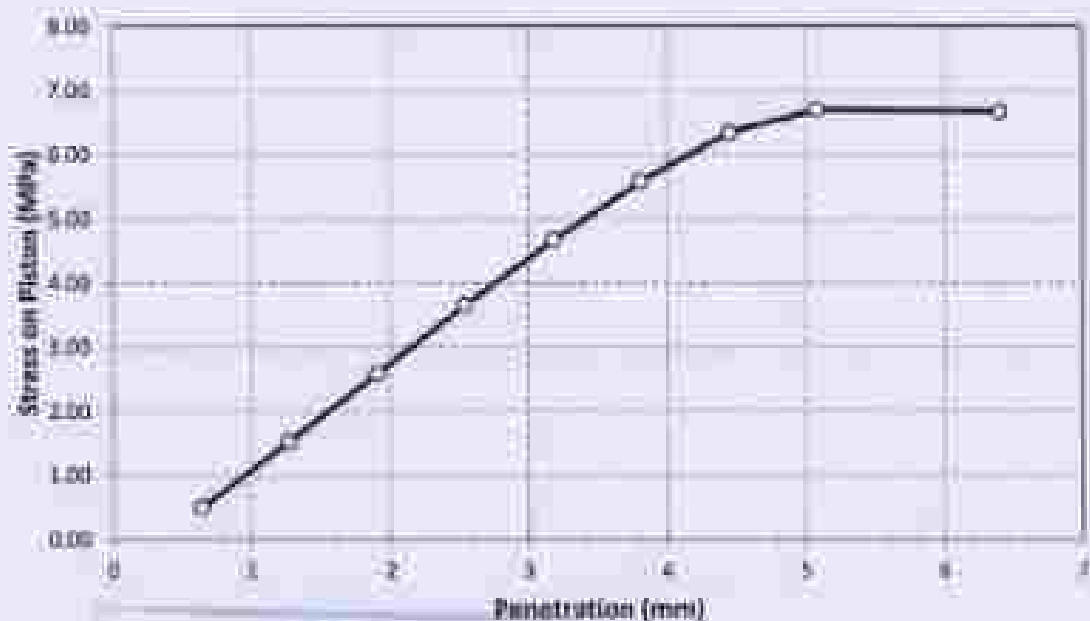


CEL

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مكتب محاسن الاستشارات الهندسية

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Arman
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 25/12/2023
Reporting Date : 30/12/2023
Reporting No. : 01-22

Load Penetration Curve of CBR Test ASTM D-1883



Signature

CEL
Consulting Engineering Bureau & Laboratories
Cairo, Egypt
Tel: 0111 2000 2000

IAS
Accreditation
Institution

Signature
Date
Name



Consulting Engineering Bureau & Laboratories
مكتب استشارات ومختبرات الهندسة

Company Name : شركة عبد الرحمن
Project : Electric Express Train - RSM From Quia To Azmoun
Testing Date : 03/01/2014
Soil type : Middle Embankment
Location : ST. From : 672+020 To 672+180 - شمل المسر
Level : - 2.5 M
Report No. : 91-3

**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	672+060	1461	2.25	5.3	2.14	98.0%	Comply
2	672+100	1447	2.28	5.8	2.15	98.7%	Comply
3	672+140	1450	2.25	5.8	2.13	97.7%	Comply
4	672+160	1435	2.25	5.3	2.14	98.2%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.18 gm/cm³
- At optimum moisture content = 5.8 %
- Signature / 



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Consulting Engineering Bureau & Laboratories
مكتب استشارات الهندسة والاختبارات

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Ques To Armat
Testing Date : 07/01/2024
Soil type : Middle Embankment
Location : ST From 671+790 To 671+930
Level : -3.5 M
Report No. : 02-3

**Compaction test by using Sand - Cone Test Method
ASTM D- 1586**

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	671+800	1521	2.21	5.3	2.10	96.8%	Comply
2	671+840	1513	2.26	5.8	2.14	98.5%	Comply
3	671+900	1509	2.23	5.3	2.12	97.8%	Comply
4	671+960	1487	2.23	5.8	2.11	97.2%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.17 gm/cm³
- At optimum moisture content = 6.4 %
- Signature / ...

[Handwritten signature and stamp]

YOUSSEF E. ALKHALIL
Zindax, CEO
Tel: 761-2760521-2760602



مكتب استشارات
الهندسة والاختبارات
عبد الرحمن



Consulting Engineering Services & Laboratories
مستشارية هندسية ومختبرات

Company Name : شركة عهد الرحمن
Project : Electric Express Train – HSR From Ques To Armaat
Location : ST: 673+180 E=32.7745621 N= 15.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 31/12/2023
Reporting Date : 04/01/2024
Reporting No. : 01-23

Dear Gentleman,

Attached here with the delivered on 31 / 12 / 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 /


Mohamed El-Hadi
Geotechnical Engineer
No. 01-23
Date: 04/01/2024
CEL

Mohamed El-Hadi
Geotechnical Engineer
No. 01-23



Mohamed El-Hadi
Geotechnical Engineer
No. 01-23



Chemical Engineering Bureau & Laboratories
مكتب هندسة الكيمياء والاختبارات

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Arman
Location : ST: 672+180 E=32.7745621 N= 25.6396723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 31/12/2023
Reporting Date : 04/01/2024
Reporting No. : 01-23

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	96.3
37.5	1.5	89.8
25	1	81.6
19	$\frac{3}{4}$	74.4
12.50	$\frac{1}{2}$	66.5
9.50	$\frac{3}{8}$	60.8
4.75	4	52.6
2.00	10	42.7
0.425	40	23.6

Signature /


Mohamed Elmaghrabi
Chief Engineer
Chemical Engineering Bureau & Laboratories
Ministry of Public Works & Urban Planning
Cairo, Egypt

11 Thar El-Had Road
Nasr City, Cairo
Tel: 011 2333 1111 - 1112



مكتب هندسة الكيمياء والاختبارات
وزارة الأشغال والبنية التحتية
القاهرة - مصر



Consulting Engineering Bureau & Laboratories
مكتب استشارات ومختبرات الهندسة

Company Name : شركة بوم الزهر
Project : Electric Express Train – HSR From Qous To Armanat
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 31/12/2023
Reporting Date : 04/01/2024
Reporting No. : 01-23

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ m (No.200)	9.1

Signature 

Dr. Mohamed Elmaghrabi
Geotechnical Engineering
Civil Engineering Department
Faculty of Engineering
Suez Canal University
Suez, Egypt
E-mail: mohamed.elmaghrabi@scu.edu.eg

Dr. Mohamed Elmaghrabi
Geotechnical Engineering
Civil Engineering Department



04/01/2024
Page 1 of 1



Consulting Engineering Research & Laboratories Inc.
مكاتب خدمات الاستشارات الهندسية

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qout To Armut
Location : ST: 672+180 E-32.7745621 N- 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 31/12/2023
Reporting Date : 04/01/2024
Reporting No. : 01-23

**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. Ahmed M. Al-Sayid
Dr. Hani G. Al-Sayid
Dr. Hani G. Al-Sayid



Dr. Hani G. Al-Sayid
Dr. Hani G. Al-Sayid
Dr. Hani G. Al-Sayid



Cell Classification

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

1. Handwritten: *Handwritten signature*
 2. Printed: *Printed name*
 3. Address: *Address line*
 4. City: *City name*
 5. State: *State name*
 6. Zip: *Zip code*
 7. Phone: *Phone number*
 8. Fax: *Fax number*
 9. E-mail: *E-mail address*
 10. Web: *Web address*
 11. Other: *Other information*

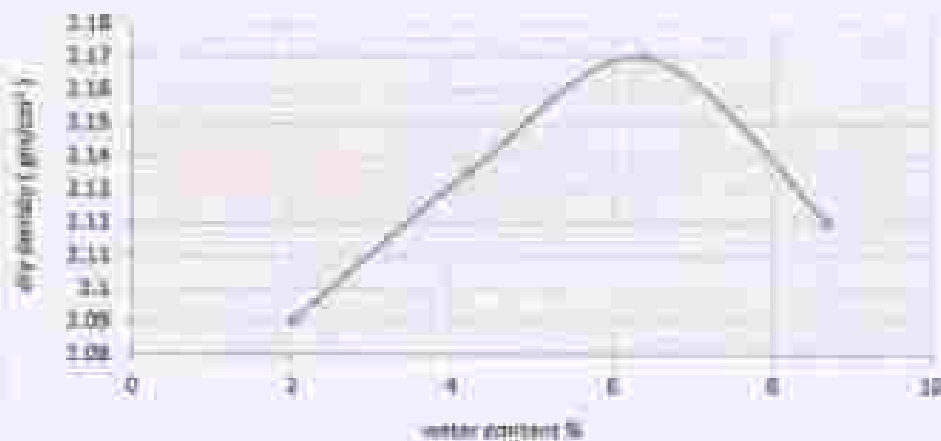
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Compting Engineering Bureau & Laboratories
مكتب استشارات ومختبرات الهندسة والحسابات

Company Name : شركة عود الرضين
Project : Electric Express Train - HSR From Qouz To Azzam
Location : ST: 672-180 E=32.7745621 N= 25.6896723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 31/12/2023
Reporting Date : 04/01/2024
Reporting No. : 01-23

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



- Max.dry density (g/cm³) : 2.17
- Optimum moisture content % : 6.4

Signature / ...

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...
...

10 Mark Street
Dammam, KSA
T: +966 3 888 1111



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...



Consulting Engineering Bureau & Laboratories
مكتب استشارات هندسية ومختبرات

Company Name : شركة عبد الرحمن
Project : Electric Express Train - BSR From Qous To Arment
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 31/12/2023
Reporting Date : 04/01/2024
Reporting No. : 01-23

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

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.44
1.27	0.050	1.36
1.91	0.075	2.32
2.54	0.100	3.39
3.18	0.125	4.51
3.81	0.150	5.40
4.45	0.175	6.09
5.08	0.200	6.52
6.35	0.250	6.59

CBR Result	Stress (Mpa)		CBR 100 %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	49.1 %
	6.09	2.39	

Notes:

- 1- Attached graph shows penetration relative versus penetration magnitude.
 - 2- The sample was compacted to the density of $\approx 2.17 \text{ (gm/cm}^3\text{)}$
At $\approx 5.4\%$ optimum water content.
 - 3- Surcharge load 4.50 Kg.
- +- CBR > 10 for middle and lower embankments according project spec page two 36.

Signature /

101 Main St. 4th Floor
Chicago, Ill 60601
Tel: 312 329 1200 Fax: 312 329 1201



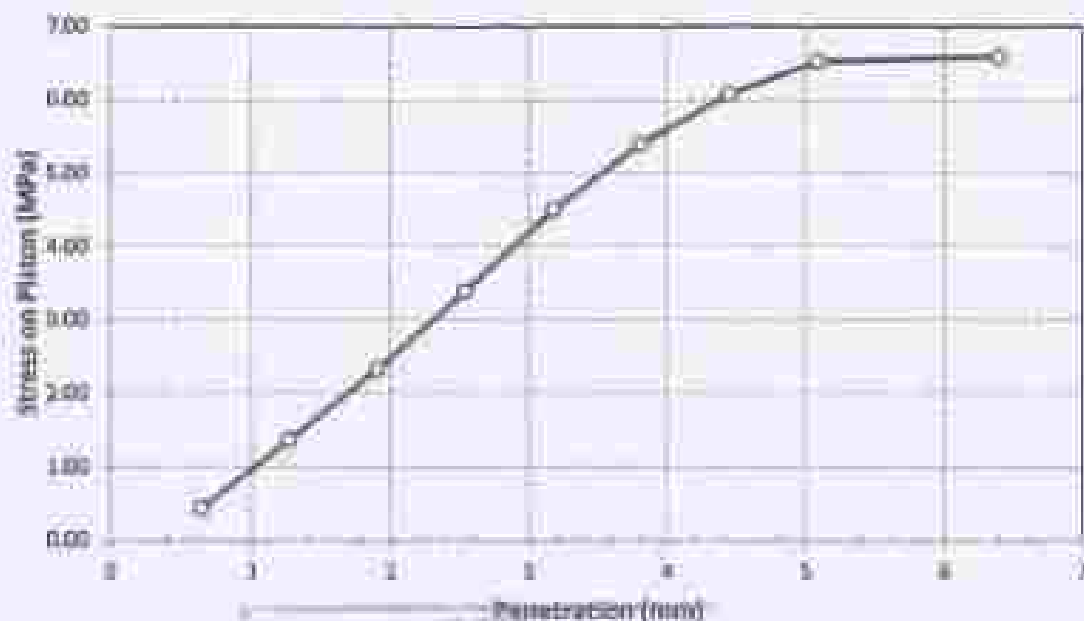
101 Main St. 4th Floor
Chicago, Ill 60601
Tel: 312 329 1200 Fax: 312 329 1201

CEL

Consulting Engineering Bureau & Laboratories
مكتب استشارات الهندسة والاختبارات

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Arman
Location : ST: 672+180 E=32.7745621 N=25.6396723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 31/12/2023
Reporting Date : 04/01/2024
Reporting No. : 01-23

Load Penetration Curve of CBR Test ASTM D-1883



Signature /

[Handwritten Signature]

LABORATORY ADDRESS
Qous City
Post Box 10000 - Qous

IAS
MOHAMED EL-SAYED

LABORATORY PHONE
0111 123 4567
0111 123 4567



Consulting Engineering Bureau & Laboratories
مكتب دراسات الاستشارات والمختبرات

Company Name : شركة جريد الزين
Project : Electric Express Train - HSR From Qom To Arvand
Testing Date : 07/01/2024
Soil type : Middle Embankment
Location : ST From 671+730 To 672+000 بين العمار
Level : -2.5 M
Report No. : 92-2

**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	671+800	1505	2.26	5.8	2.14	98.6%	Comply
2	671+840	1509	2.18	5.3	2.08	95.6%	Comply
3	671+900	1489	2.25	5.8	2.13	97.9%	Comply
4	671+940	1504	2.26	5.8	2.14	98.5%	Comply
5	671+980	1513	2.24	5.8	2.11	97.4%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.17 gm/cm³
- At optimum moisture content = 6.4 %
- Signature / ...

Signature of the Engineer
Signature of the Supervisor
Signature of the Tester
211 - 325 - 217
211 - 325 - 217

TESTING UNIT
211 - 325 - 217
211 - 325 - 217



211 - 325 - 217
211 - 325 - 217
211 - 325 - 217



Consulting Engineering Bureau & Laboratories
مكتب استشارات الهندسية

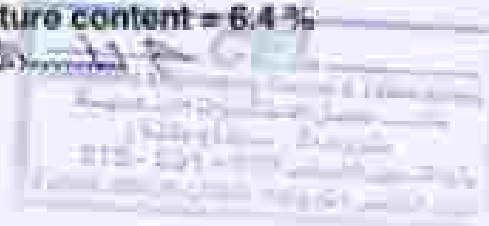
Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qom To Arman
Testing Date : 09/01/2024
Soil type : Middle Embankment
Location : ST. From 672+028 To 672+180 بين المسار
Level : -2.8 M
Report No. : 95-1

**Compaction test by using Sand - Cone Test Method
ASTM D- 1558**

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	672+060	1497	2.25	5.3	2.14	98.6%	Comply
2	672+100	1465	2.26	5.8	2.14	98.6%	Comply
3	672+140	1521	2.21	5.8	2.09	96.3%	Comply
4	672+160	1528	2.23	5.3	2.12	97.7%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.17 gm/cm³
- At optimum moisture content = 6.4 %
- Signature / 



Tested & Approved:
Signed Date:
Tel/Fax 2760001 - 2760001



المرتب
Date: 09/01/2024
مكتب استشارات الهندسية



Consulting Engineering Bureau & Laboratories
مكاتب مهندسين و مختبرات الاستشارات الهندسية

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qass To Ararat
Testing Date : 09/01/2024
Soil type : Middle Embankment
Location : ST From 671+780 To 672+800
Level : -3.0 M
Report No. : 95-2

**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	671+800	1497	2.25	5.8	2.12	97.9%	Comply
2	671+860	1567	2.18	5.3	2.07	95.5%	Comply
3	671+900	1523	2.21	5.8	2.09	96.4%	Comply
4	671+940	1474	2.25	5.8	2.13	98.1%	Comply
5	671+980	1513	2.25	5.3	2.14	98.6%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.17 gm/cm³
- At optimum moisture content = 6.4 %
- Signature / 

مهندس عبد الرحمن
مهندس عبد الرحمن
مهندس عبد الرحمن
219-007-007-007
219-007-007-007

219-007-007-007
219-007-007-007
219-007-007-007



219-007-007-007
219-007-007-007
219-007-007-007



Consulting Engineering Bureau & Laboratories
مكتب دراسات واستشارات الهندسية

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Arman
Location : ST: 672+180 E-32.7745621 N- 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 04/01/2024
Reporting Date : 09/01/2024
Reporting No. : 01-24

Dear Gentleman,

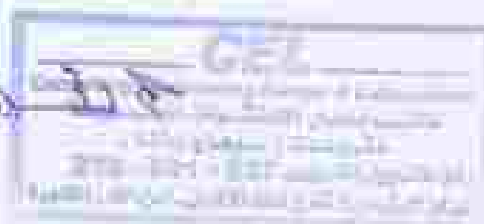
Attached here with the delivered on 04 / 01 / 2024

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 / ...



101 Mark El Hady Street
Dokki, Cairo
Tel/Fax: 20342211 - 20342210



101 شارع هادي
دوكي - القاهرة
الهاتف / الفاكس : 20342211 - 20342210

Company Name : شركة عبد الرحمن
 Project : Electric Express Train – HSR From Qous To Armut
 Location : ST: 672+180 E=32.7745621 N= 25.6596723
 Type of sample : Soil Embankment (Upper Embankment 0.0)
 Delivery Date : 04/01/2024
 Reporting Date : 09/01/2024
 Reporting No. : 01-24

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	95.1
37.5	1.5	88.3
25	1	83.6
19	¾	76.8
12.50	½	67.3
9.50	3/8	61.2
4.75	4	52.7
2.00	10	43.7
0.425	40	21.6

Signature / 



Youssef E. Elgizawi
 Engineer, Civil
 (Full-time) - 01-24



Youssef E. Elgizawi
 Engineer, Civil
 (Full-time) - 01-24

Company Name : شركة عبد الرحمن
 Project : Electric Express Train – HSR From Qous To Armut
 Location : ST: 672+180 E=32.7745621 N= 25.6596723
 Type of sample : Soil Embankment (Upper Embankment 0.0)
 Delivery Date : 04/01/2024
 Reporting Date : 09/01/2024
 Reporting No. : 01-24

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ m (No.200)	82

Signature /

.....

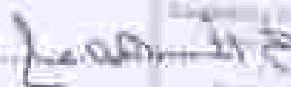


Company Name : شركة عبد الرحمن
 Project : Electric Express Train – HSR From Qous To Armanat
 Location : ST: 672+180 E=32.7745621 N= 25.6596723
 Type of sample : Soil Embankment (Upper Embankment 0.0)
 Delivery Date : 04/01/2024
 Reporting Date : 09/01/2024
 Reporting No. : 01-24

**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 عبد الرحمن
 Project : Electric Express Train - HSR From Qous To Armut
 Location : ST: 672+180 E=32.7745631 N= 25.6596723
 Type of sample : Soil Embankment (Upper Embankment 0.0)
 Delivery Date : 04/01/2024
 Reporting Date : 09/01/2024
 Reporting No. : 01-24

Soil Classification

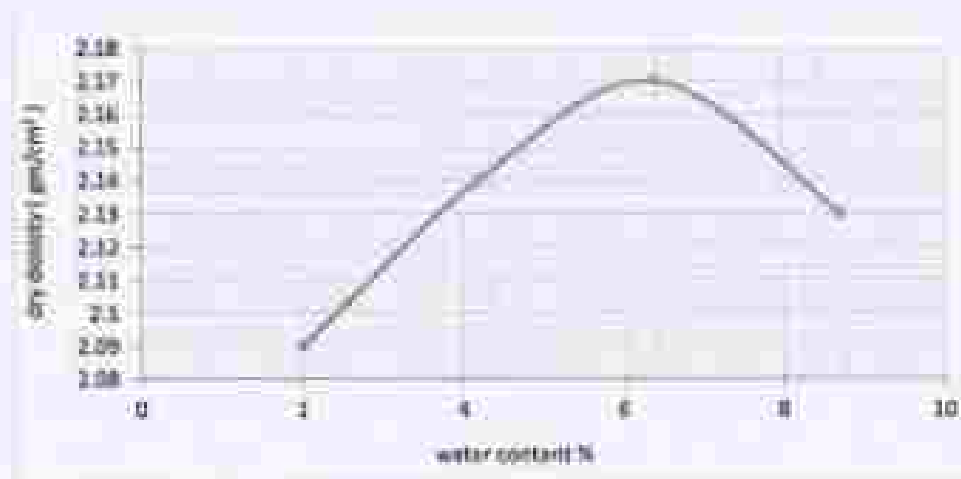
TEST	Results (%)	Limits according Projects Specs		
Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-0)
2.00 mm (No.10).	43.7	Max 50 %	—	—
0.425 mm (No. 40).	21.6	Max 30 %	Max 50 %	—
0.075 mm (No. 200).	8.2	Max 15 %	Max 15 %	Max 15 %
Liquid Limit		—	—	—
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

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

Signature /  

Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Armut
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 04/01/2024
Reporting Date : 09/01/2024
Reporting No. : 01-24

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



- Max dry density (gm/cm³) : 2.17
- Optimum moisture content % : 6.4

Signature / ...



Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Arman
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 04/01/2024
Reporting Date : 09/01/2024
Reporting No. : 01-24

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

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.46
1.27	0.050	1.52
1.91	0.075	2.59
2.54	0.100	3.55
3.18	0.125	4.56
3.81	0.150	5.48
4.45	0.175	6.14
5.08	0.200	6.59
6.35	0.250	6.70

CBR Result	Stress (Mpa)		CBR 100 %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	51.5 %
	6.98	5.58	

Notes:

- Attached graph shows penetration resistance versus penetration magnitude.
- The sample was compacted to dry density of $\sim 2.17 \text{ (gm/cm}^3\text{)}$
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 / 

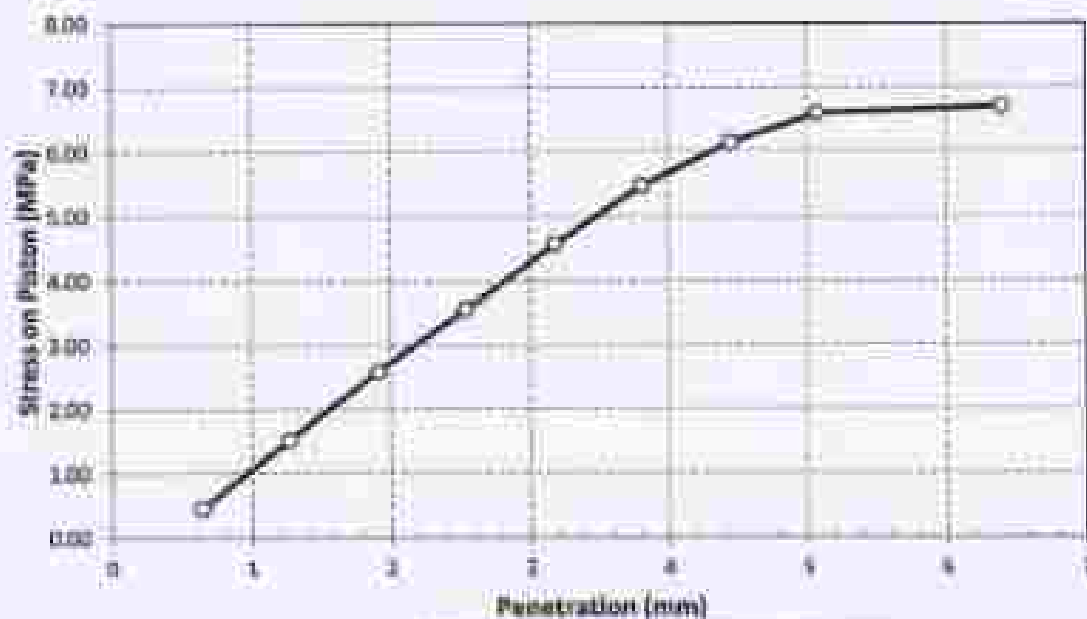
10 MAY 2024
Jeddah, KSA
Tel No: 011-2340000, 011-2340001



10 MAY 2024
Jeddah, KSA
Tel No: 011-2340000, 011-2340001

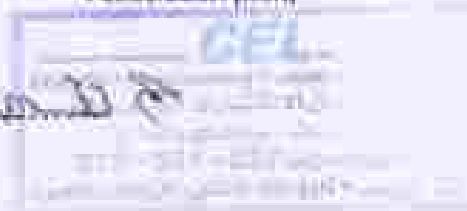
Company Name : شركة عبد الرحمن
 Project : Electric Express Train - HSR From Qous To Armanat
 Location : ST: 672+180 E=32.7745621 N= 25.6596723
 Type of sample : Soil Embankment (Upper Embankment 0.0)
 Delivery Date : 04/01/2024
 Reporting Date : 09/01/2024
 Reporting No. : 01-24

Load Penetration Curve of CBR Test
ASTM D-1883



Signature / ...

[Handwritten Signature]



Eliaoua E. Aras Dine
 Drilling, Civil,
 Soil Test, Materials, etc.



مكتب عبد الرحمن
 الاستشارات الهندسية
 011 23 23 23 23

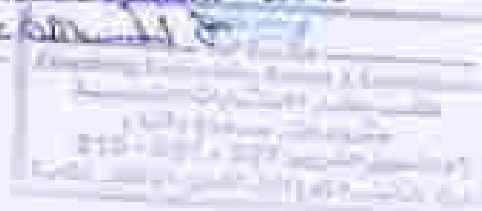
Company Name : شركة عبد الرحمن
Project : Electric Express Train - ISR From Qais To Arman
Testing Date : 11/01/2024
Soil type : Middle Embankment
Location : ST From 671+780 To 672+900 بين التسل
Level : -2.9 M
Report No. : 96

**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	671+800	1477	2.23	5.8	2.11	97.2%	Comply
2	671+840	1520	2.20	5.8	2.08	96.0%	Comply
3	671+880	1528	2.23	5.8	2.10	97.0%	Comply
4	671+920	1506	2.25	5.3	2.13	98.4%	Comply
5	671+960	1528	2.21	5.8	2.09	96.2%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.17 gm/cm³
- At optimum moisture content = 6.4 %
- Signature / 





Company Name : شركة جاد الزهر
Project : Electric Express Train – HSR From Qom To Arsanjan
Testing Date : 13/11/2024
Soil type : Middle Embankment
Location : ST From 672+030 To 672+100 سطر المسار
Level : -1.75 M
Report No. : 95
Compaction test by using Sand – Cone Test Method

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/cm ³	Moisture Content %	Dry Density (gm/cm ³)	Degree of Compaction (%)	Acceptance
1	672+040	1505	2.20	5.8	2.08	95.9%	Comply
2	672+080	1522	2.21	5.3	2.10	96.7%	Comply
3	672+120	1509	2.26	5.8	2.14	98.5%	Comply
4	672+160	1505	2.24	5.3	2.12	97.8%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.17 gm/cm³
- At optimum moisture content = 6.4%
- Signature / _____

1. $2x^2 + 3x - 5$
 2. $x^2 - 4x + 7$
 3. $3x^2 - 2x + 1$
 4. $x^2 + 5x - 6$
 5. $2x^2 - 7x + 4$
 6. $x^2 - 9x + 14$
 7. $3x^2 + 8x - 5$
 8. $x^2 - 11x + 28$
 9. $2x^2 - 9x + 10$
 10. $x^2 - 13x + 40$

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 DOI: 10.1002/eqe.1000





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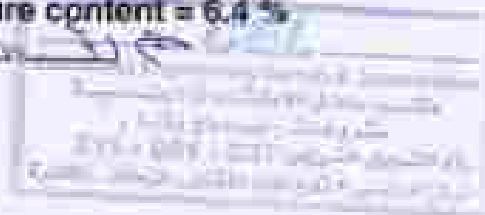
Company Name : شركة محمد الرحمن
Project : Electric Express Train - HSR From Qass To Arman
Testing Date : 15/01/2024
Soil type : Middle Embankment
Location : ST From 671+100 To 672+000 مسار القصر
Level : - 2.5 M
Report No. : 96

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

Test #	Station	Test Hole Volume cm ³	Bulk Density gni cm ³	Moisture Content %	Dry Density (gnc cm ³)	Degree of Compaction (%)	Acceptance
1	671+800	1554	2.22	5.3	2.11	97.2%	Comply
2	671+840	1519	2.25	5.8	2.12	97.8%	Comply
3	671+880	1517	2.24	5.8	2.12	97.5%	Comply
4	671+920	1569	2.23	5.3	2.12	97.6%	Comply
5	671+960	1572	2.22	5.8	2.10	96.7%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.17 gnc/cm³
- At optimum moisture content = 6.4 %
- Signature / 



115 MALL El-Madi Bazar
Qass, Egypt
Tel: 011-216000 - 216001



المهندس محمد الرحمن
مهندس
مهندس

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qons To Arman
Location : ST: 672+180 E=32.7745621 N= 25.6596713
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 06/01/2024
Reporting Date : 10/01/2024
Reporting No. : 01-25

RESULTS OF SIEVE ANALYSIS According to ASTM D-412.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	96.8
37.5	1.5	89.3
25	1	82.5
19	¾	72.7
12.50	½	66.1
9.50	3/8	60.2
4.75	4	54.5
2.00	10	42.7
0.425	40	23.5

Signature /...


Engineer
0181 0064227
www.abdalmohammed.com

101144 E. Post Box
Doha, Qat
Tel: 973 336611 - 336612



0181 0064227
0181 0064228
www.abdalmohammed.com

Company Name : شركة عبد الرحمن
 Project : Electric Express Train – HSR From Qous To Armanat
 Location : ST: 672+180 E=31.7745631 N= 25.6596723
 Type of sample : Soil Embankment (Upper Embankment 0.0)
 Delivery Date : 06/01/2024
 Reporting Date : 10/01/2024
 Reporting No. : 01-25

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ m (No.200)	8.6

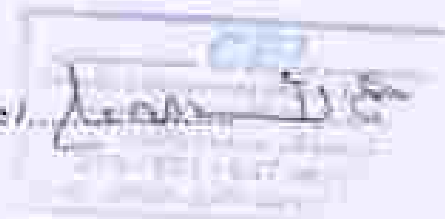
Signature / 

Company Name : شركة عبد الرحمن
 Project : Electric Express Train - HSR From Qous To Armut
 Location : ST: 672+180 E=32.7745621 N= 25.6596723
 Type of sample : Soil Embankment (Upper Embankment 0.0)
 Delivery Date : 06/01/2024
 Reporting Date : 10/01/2024
 Reporting No. : 01-25

**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 /



Y. D. Mawla B. Alad Baw
 Director, Civil
 Tel: 011-2000000 - 2000000



م. د. ماولا ب. العبد
 المهندس
 رقم هاتف: ٢٠٠٠٠٠٠ - ٢٠٠٠٠٠٠

Company Name : شركة عبد الرحمن
 Project : Electric Express Train - HSR From Qous To Arman
 Location : ST: 672+180 E=32.7745621 N= 25.6596723
 Type of sample : Soil Embankment (Upper Embankment 0.0)
 Delivery Date : 06/01/2024
 Reporting Date : 10/01/2024
 Reporting No. : 01-25

Soil Classification

TEST	Results (%)	Limits according Projects Specs		
		(A-1-a)	(A-1-b)	(A-2-a)
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-a)
2.00 mm (No. 10)	42.7	Max 50 %	—	—
0.425 mm (No. 40)	23.5	Max 30 %	Max 50 %	—
0.075 mm (No. 200)	8.6	Max 15 %	Max 15 %	Max 15 %
Liquid Limit	—	—	—	—
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

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

Signature

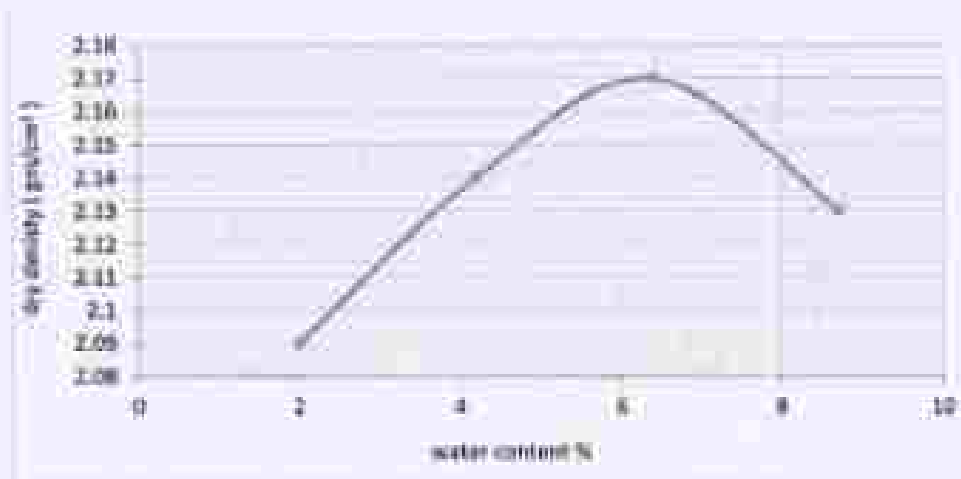

 Engineer in Charge
 2024-01-10
 01-25

CEL

Consulting Engineering Bureau & Laboratories
مكتب محاسن الاستشارات الهندسية

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Arment
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 06/01/2024
Reporting Date : 10/01/2024
Reporting No. : 01-25

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



- Max dry density (gm/cm³) : 2.17
- Optimum moisture content % : 6.4

Signature / 

Engineer / 
212 384 547
212 384 547

171 Main St. 1st Floor
London, Can
Tel: 011-234-2222 - 2222

IAS
REGISTERED

171 Main St. 1st Floor
London, Can
Tel: 011-234-2222 - 2222

Company Name : شركة عبد الرحمن
 Project : Electric Express Train - HSR From Qous To Armanat
 Location : ST: 672+180 E=32.7745621 N= 25.6596723
 Type of sample : Soil Embankment (Upper Embankment 0.0)
 Delivery Date : 06/01/2024
 Reporting Date : 10/01/2024
 Reporting No. : 01-25

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

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.46
1.27	0.050	1.48
1.91	0.075	2.51
2.54	0.100	3.45
3.18	0.125	4.31
3.81	0.150	5.02
4.45	0.175	5.63
5.08	0.200	5.88
6.35	0.250	6.04

CBR Result	Stress (Mpa)		CBR 100 %
At 0.2 inch (5.08 mm) penetration	St. Value	Sample results	50%
	4.9	3.45	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of $\approx 2.17 \text{ (gm /cm}^3\text{)}$
 $A_2 = 64\%$ optimum water content.
- 3- Surcharge load 4.50 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature: 

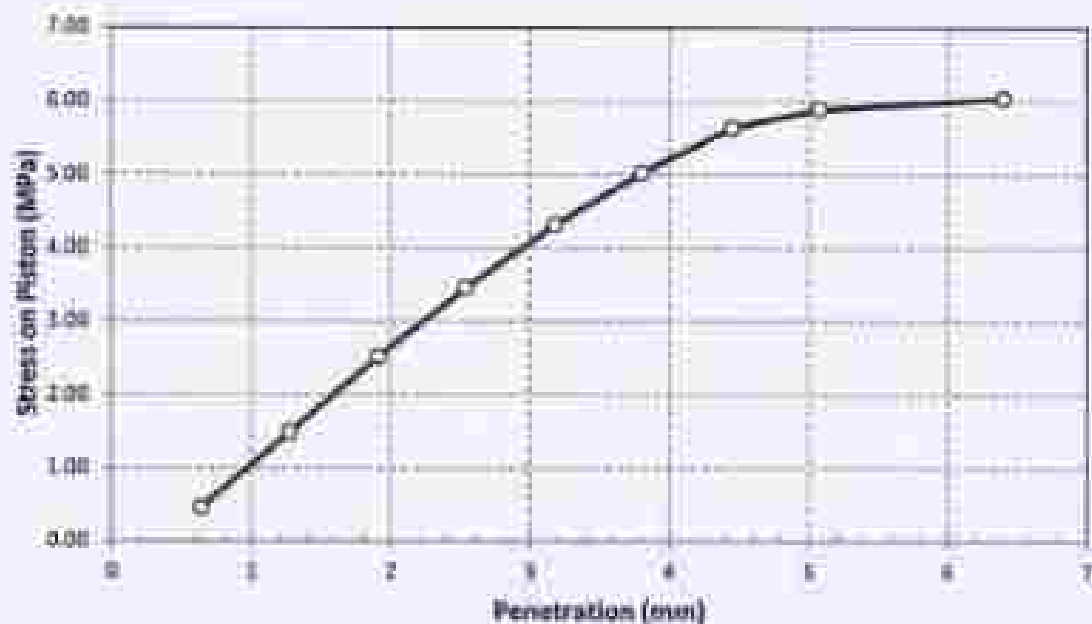
177 Main E. 4th Street
 Dallas, Texas
 Tel Fax: (214) 751-1111 - 2148368



إدارة المشاريع
 177 شارع E. 4th
 دالاس تكساس 75201
 هاتف فاكس: 214 751 1111 - 214 836 8

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Armanat
Location : ST: 672+180 E=31.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 06/01/2024
Reporting Date : 10/01/2024
Reporting No. : 01-25

Load Penetration Curve of CBR Test
ASTM D-1883



Signature /


Engineer /
Date: 10/01/2024
Stamp: [Circular stamp with text]

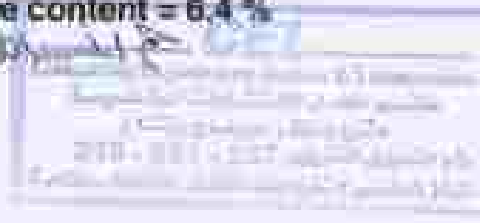
Company Name : شركة محاسن
Project : Electric Express Train - HSR From Ques To Armaat
Testing Date : 17/01/2024
Soil type : Middle Embankment
Location : ST From 672+020 To 672+180 بين المسار
Level : - 1.75 M
Report No. : 97

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	672+050	1595	2.20	5.8	2.08	96.0%	Comply
2	672+090	1522	2.19	5.8	2.07	95.6%	Comply
3	672+130	1432	2.22	5.8	2.10	96.6%	Comply
4	672+170	1554	2.19	5.8	2.07	95.4%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.17 gm/cm³
- At optimum moisture content = 6.4 %
- Signature / ...



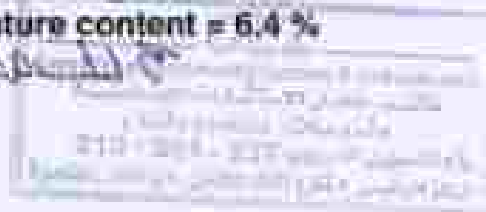
Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qom To Aram
Testing Date : 01/2024
Soil type : Middle Embankment
Location : ST From 671+780 To 672+000 بين السكك
Level : 2 M
Report No. : 98

**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	671+810	1458	2.27	5.8	2.14	98.7%	Comply
2	671+850	1476	2.27	5.8	2.15	98.9%	Comply
3	671+890	1426	2.29	5.8	2.16	99.6%	Comply
4	671+940	1405	2.27	5.8	2.15	98.9%	Comply
5	671+980	1522	2.19	5.8	2.07	95.4%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.17 gm/cm³
- At optimum moisture content = 6.4 %
- Signature / 





Consulting Engineering Bureau & Laboratories
مكتب دراسات الاستشارات والمختبرات

Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qass To Ar-Ramth
Location : ST: 672+180 E=31.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 9.0)
Delivery Date : 13/01/2024
Reporting Date : 17/01/2024
Reporting No. : 01-26

Dear Gentleman,

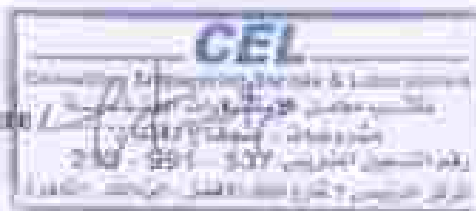
Attached here with the delivered on 13 / 01 / 2024

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



Dr. Hani E. Hani
Dr. Hani E. Hani
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Consulting Engineering Bureau & Laboratories
مكتب مهندسين ومختبرات الاستشارات الهندسية

Company Name : شركة عود الرحمن
Project : Electric Express Train - RSR From Qont To Arment
Location : ST: 671+180 E=32.7745521 N= 25.6596723
Type of sample : Soil Enhancement (Upper Embankment 9.0)
Delivery Date : 13/01/2024
Reporting Date : 17/01/2024
Reporting No. : 01-36

RESULTS OF SIEVE ANALYSIS According to ASTM D-421

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	96.1
37.5	1.5	90.8
25	1	81.2
19	3/4	72.7
12.50	1/2	66.8
9.50	3/8	62.1
4.75	4	36.1
2.00	10	42.1
0.425	40	10.2

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CEL Head Office
Doha, Qatar
P.O. Box 123456, Doha

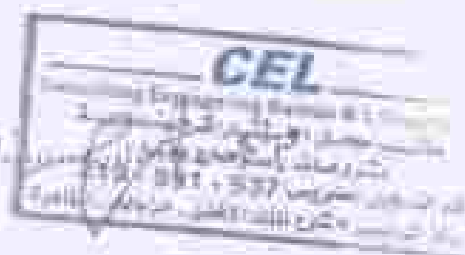


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Doha, Qatar
P.O. Box 123456, Doha

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ m (No.200)	8.9

Signature _____



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Consulting Engineering Bureau & Laboratories
مكتب استشارات الهندسة والبحوث

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Armanat
Location : ST: 672+180 E=32.7745621 N=25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.6)
Delivery Date : 13/01/2024
Reporting Date : 17/01/2024
Reporting No. : 01-26

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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Date: 21/01/2024
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CEL Logo & Stamp
Date: 21/01/2024
Signature: [Handwritten]



Consulting Engineering Bureau & Laboratories
مكتب استشارات الهندسة والاختبارات

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qom To Arman
Location : ST: 672+188 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 13/01/2024
Reporting Date : 17/01/2024
Reporting No. : 01-26

Soil Classification

TEST	Results (%)	Limits according Projects Specs		
- Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10)	42.1	Max 50 %	—	—
0.425 mm (No. 40)	20.2	Max 30 %	Max 50 %	—
0.075 mm (No. 200)	8.9	Max 15 %	Max 15 %	Max 15 %
Liquid Limit	—	—	—	—
Plasticity Index	0	Max 6 %	Max 6 %	Max 10 %

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

Signature /

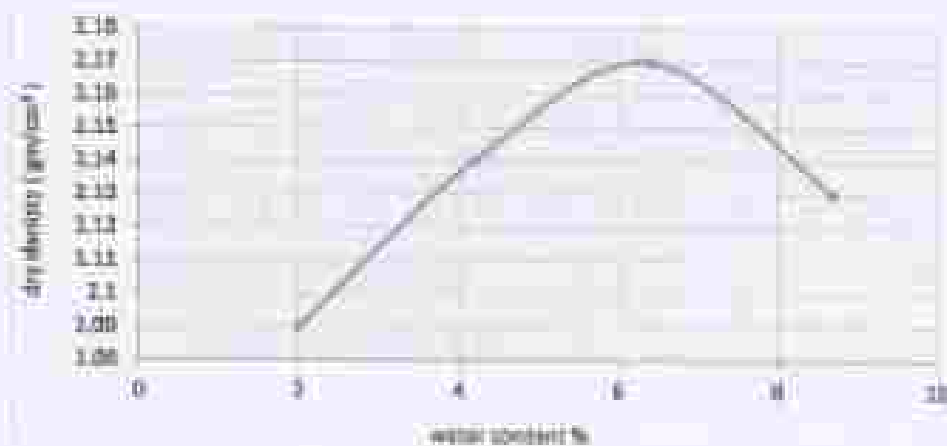
1-01060-EL-Hal-Ham
Shahin, Qom
No. 147, 2nd floor - Qom



1-01060-EL-Hal-Ham
Shahin, Qom
No. 147, 2nd floor - Qom

Company Name : شركة عهد الرحمن
Project : Electric Express Train - HSR From Qous To Armanat
Location : ST: 672+180 E=32.7745621 N=25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 13/01/2024
Reporting Date : 17/01/2024
Reporting No. : 01-26

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



• Max dry density (gm/cc³) : 2.17

• Optimum moisture : 6.4

Signature /





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مكتب استشارات الهندسة والبحوث

Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Arment
Location : ST: 672+180 E=32.7745621 N=25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.8)
Delivery Date : 13/01/2014
Reporting Date : 17/01/2014
Reporting No. : 01-26

Test Results of California Bearing Ratio on Base Materials
ASTM D 1587

penetration		stress on piston (Mpa)
mm	inch	
0.64	0.025	0.47
1.27	0.050	1.61
1.91	0.075	2.63
2.54	0.100	3.68
3.18	0.125	4.64
3.81	0.150	5.48
4.45	0.175	6.09
5.08	0.200	6.34
6.35	0.250	6.49

CBR Result:	Stress (Mpa)		CBR 100 %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	61.5
	10.3	6.34	

Note:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of ≈ 2.17 (gm /cc)
At ≈ 6.4 % optimum water content.
- 3- ~~Penetration head is 45 lb~~
- 4- CBR > 10 for middle and lower layers according to project spec page No.35.

Signature / 

Engr. Mohamed Elmaghrabi
Director, Civil
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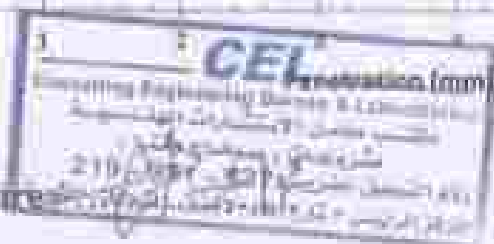
Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Arment
Location : ST: 672+180 E=31.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment:R.D)
Delivery Date : 13/01/2024
Reporting Date : 17/01/2024
Reporting No. : 01-26

Load Penetration Curve of CBR Test

ASTM D-1883



Signature



101 HADJI T. HADJI BOUT
Project: Qous
Site: ST: 672+180



101 HADJI T. HADJI BOUT
Project: Qous
Site: ST: 672+180



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مكتب محامى الاستشارات الهندسية

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qas To Armat
Testing Date : 21/01/2024
Soil type : Middle Embankment
Location : ST From 671+780 To 671+800 بين السيل
Level : - 1.75 M
Report No. : 99

Compaction test by using Sand - Cone Test Method
ASTM D- 1558

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	671+810	1523	2.19	5.8	2.07	95.5%	Comply
2	671+850	1442	2.21	5.8	2.09	96.2%	Comply
3	671+890	1379	2.28	5.8	2.16	99.4%	Comply
4	671+940	1544	2.20	5.8	2.08	95.9%	Comply
5	671+980	1505	2.24	5.8	2.11	97.4%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.17 gm/cm³
- At optimum moisture content = 6.4 %
- Signature / 

Engineer / 
218 = 225 / 100 = 97.3%
218 = 225 / 100 = 97.3%
218 = 225 / 100 = 97.3%

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Tel: 011 2300000 - 011 2300000



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Zamara, Giza
Tel: 011 2300000 - 011 2300000

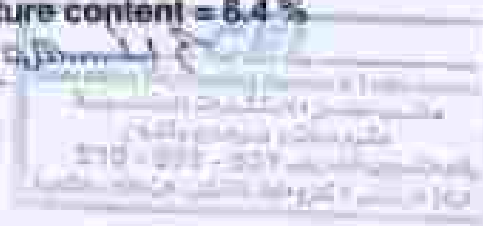
Company Name : شركة اتحاد المهندسين
Project : Electric Express Train – HSR From Qina To Aswan
Testing Date : 21/01/2024
Soil type : Middle Embankment
Location : ST. From 672+020 To 672+180 (تمت المسار)
Level : ± 1.5 M
Report No. : 100

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	672+050	1523	2.19	5.3	2.08	96.0%	Comply
2	672+100	1522	2.20	5.5	2.09	96.3%	Comply
3	672+120	1405	2.24	5.5	2.12	97.8%	Comply
4	672+160	1462	2.23	5.3	2.11	97.4%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.17 gm/cm³
- At optimum moisture content = 6.4 %
- Signature / ...



Contents : طريقة فحص الرصين للتربة والمقاسات :

Project : Electric Express Train - Section 01 - Suez to Aswan
Subject : Determine the deformation and strength characteristics of soil for the plate loading test according specifications EN 121 14-2012 for and project requirements
Test Location : Station : 573+420 to 573+430
Station : 573+420
Level : +4.8
Test Date : 25/01/2024
Report Date : 25/01/2024
Type of soil : Silty Sandstone
Report No. : 01

Test Equipment

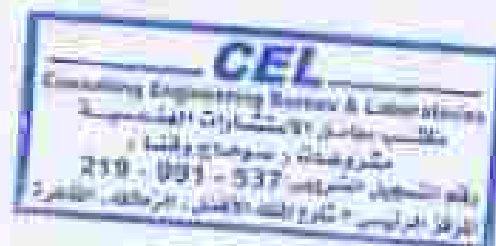
According to the above mentioned subject the test performed as follows:

Apparatus

1. Loading plates consists of two plates with 300 mm and 300 mm diameter
2. The thickness of plates 25 mm
3. Dial gauges with accuracy 0.01 mm to measuring the settlement
4. Steel tripods with hydraulic supports to fixed the dial gauges
5. Hydraulic jack with pump to transfer reaction loads to the testing plates
6. Dial indicator measuring device with scale capacity 100 for (displacement)
7. Reaction loading system by steel support with weight approximately 15 ton
8. Calibration certificates are attached

Test Procedure

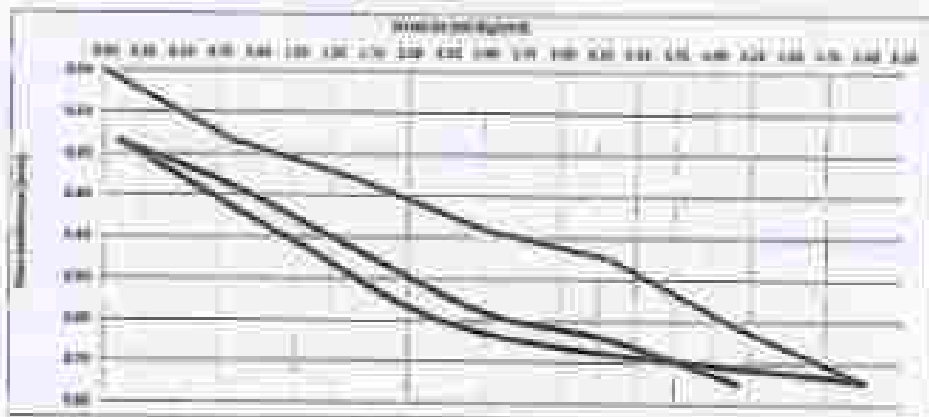
1. Obtain the ground surface and to be required load rate undisturbed soil
2. Install testing plates 300 mm and 300 mm diameter, hydraulic jack and 2 dial gauges
3. Prior to starting the test applied preloading about 30 percent
4. The dial gauge and the dial gauge shall be set to zero
5. For a 300 mm testing plate, the dial values are 0.04 mm
6. The test shall be applied in six stages, at approximately equal increments, until the required maximum tested stress is reached
7. Each stage is read three (3) times or stage shall be completed when rate steady
8. The test shall be repeated in 3 stages, at 50 %, 20 %, and approximately 2 % of the maximum load
9. Following unloading, a further (1st) loading cycle shall be carried out, finally, however, the test is to be repeated only to the preconsolidation stress of the test specimen that the dial need to be reset
10. At each stage the test shall be maintained until the rate of settlement of the plate becomes less than 0.02 mm/min
11. Remove the loads



Sampling Name
Project
Test Date
Report Date
Station
Test No.

قمرية حارة القرمصى للتمارة والتمارة
Electricity Equipment Trade - Station (ET) - Station in Amman
2020/10/04
2020/10/04
KCS-079
10

Successive Static High Load Tests of Rebar QMS 15534



Loading (T)	1	2	3	4	5	6	7
Force (kN)	0	500	1112.8	1758.8	2382.8	2940.1	3492.8
Stroke (mm)	0.00	0.01	1.00	2.00	3.00	4.17	5.00
Settlement (mm)	0.00	0.19	0.26	0.26	0.45	0.82	0.74

0 (mm) = 200	0 (mm) = 0.00	0 (mm) = 0.00	0 (mm) = 0.00
0 (mm) = 0.00	0 (mm) = 0.00	0 (mm) = 0.00	0 (mm) = 0.00

Loading (U)	1	2	3	4	5	6	7
Force (kN)	0	500	1112.8	1758.8	2382.8	2940.1	3492.8
Stroke (mm)	0.00	0.01	1.00	2.00	3.00	4.17	5.00
Settlement (mm)	0.00	0.01	0.40	0.78	1.00	0.79	

0 (mm) = 200	0 (mm) = 0.00	0 (mm) = 0.00	0 (mm) = 0.00
0 (mm) = 0.00	0 (mm) = 0.00	0 (mm) = 0.00	0 (mm) = 0.00

Unloading (U)	1	2	3	4
Force (kN)	200	1758.8	604	71
Stroke (mm)	0.00	0.00	1.200	0.10
Settlement (mm)	0.74	0.00	0.41	0.11

0 (mm) = 0.00

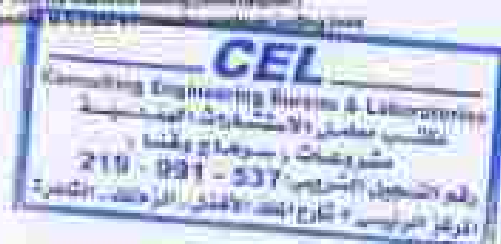
0 (mm) = 0.00

0 (mm) = 0.00

0 (mm) = 0.00

0 (mm) = 0.00

0 (mm) = 0.00



Summary (ملخص الاختبار)

Project	Maruta Express Train - Sector (B) - Omsk to Arzamas
Subject	Determine the deformation and strength characteristics of soil by the plate loading test according specifications GSN 19134:2013-04 and project requirements
Test Location	Station 073+120 to 074+120
Station	073+120
Level	+0.3
Test Date	22/01/2024
Report Date	28/01/2024
Type of soil	Medium Sandstone
Report No.	101

Dear Gentlemen,

According to the above mentioned subject the test performed as follows:

Apparatus

1. Loading plates consists of two plates with 300 mm and 200 mm diameter
2. The thickness of plates 30 mm
3. Dial gauges with accuracy 0.01 mm to measuring the settlement
4. Steel tripods with magnetic supports to fixed the dial gauges
5. Hydraulic jack with pump to transfer reaction loads to the loading plates
6. Dial indicator measuring device with scale capacity 100 mm (downward)
7. Reaction loading system by roller connected with weight approximately 15 tons
8. Calibration certificate are attached

Test Procedure:

1. Clear the ground at test area to the requirement with undisturbed soil
2. Install loading plates 300 mm and 200 mm diameter, hydraulic jack and 2 dial gauges
3. Prior to starting the test applied preloading about 30 seconds
4. The dial gauge and the soil gauge what the soil is pure
5. For a 300 mm loading plate, the load value was 0.3 kg/cm²
6. The test shall be applied in six stages, in approximately equal increments, until the required maximum reaction stress is reached.
7. Each change in load from stage to stage shall be completed within one minute
8. The load shall be measured in 3 stages, in 60 %, 90 % and approximately 1 % of the maximum load.
9. Following unloading, a further 22 % loading cycle shall be applied and, in which, however, the load is to be increased only to the preloading stage or the test cycle (in this the full load is not reached).
10. At each stage the load shall be maintained until the rate of settlement of the plate becomes less than 0.02 mm/min.
11. Remove the loads



Report

1. Evaluation and representation of results.
2. Load Settlement curve.
3. The test report content the following:
 - location of test site - Dimension of loading plate.
 - Measuring device used - Type of soil.
 - Type of bedding material below the plate - Weathering condition.
 - Time and date of measurements - Unusual observation made during test.
 - Dial gauge reading and corresponding normal stress - Loading-settlement curve.
 - Description of the soil condition below the plate after testing.

Report

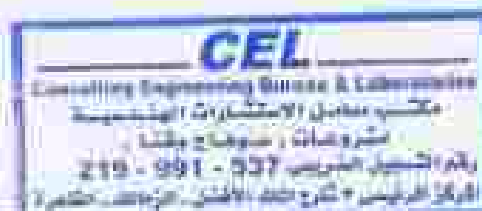
- Type of soil : Middle embankment
- Job requirement : $E_{vd} > 40 \text{ MPa}$

Item	Description
Type of bedding material below the plate	Gravel bed
Plate Diameter (mm)	300
Date of measurements	12/01/2024
Unusual observation made during test	Nil
Description of the soil condition below the plate after testing	No deformation

Evaluation and representation of results

Test No.	Station		Location	Level (m)	First Cycle	Second Cycle	E_{vd} / E_{vc} Ratio
	From	To			$E_{vd} \text{ (MPa)}$	$E_{vc} \text{ (MPa)}$	
1	872+120	872+100	872+100	2.5	60.4	116.9	1.98

Signature: 



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www.cel-egypt.com

Company Name : شركة عبد الرحمن للتصميم والهندسة
Project : Electric Regional Tests - Station (B) - Tanta in Assiut
Test Date : 22/01/2024
Report Date : 25/01/2024
Station : 8/24/100
Test No. : 91

Nonresonant Static Plate Load Tests of Soils RD.18134

Loading Stage (1)

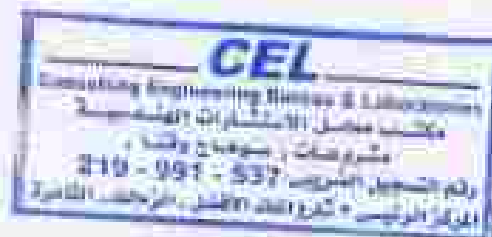
Loading	Stress Kp/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Average
0	0.00	20.20	0.00	20.20	0.00	0.00
1	0.03	19.08	1.00	19.31	0.16	0.08
2	0.06	18.80	0.17	19.40	0.31	0.15
3	0.09	18.44	0.36	19.45	0.37	0.47
4	0.12	18.17	0.61	19.11	0.79	0.70
5	0.17	18.15	0.80	18.87	1.13	0.98
6	0.20	18.10	1.21	18.88	1.35	1.19

Unloading Stage (1)

Loading	Stress Kp/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Average
1	0.20	18.11	1.08	18.81	1.13	1.11
2	0.15	18.12	0.79	18.12	0.88	0.83
3	0.10	18.45	0.65	18.17	0.63	0.68

Loading Stage (2)

Loading	Stress Kp/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Average
0	0.03	18.25	0.08	18.38	0.74	0.60
immediately after	1.00	15.25	0.95	11.95	1.04	0.69
Stress is reloaded						
2	0.30	14.81	1.10	14.75	1.29	1.19
3	0.35	14.35	1.46	14.12	1.47	1.41
4	0.17	14.42	1.48	13.05	1.60	1.50



CEL

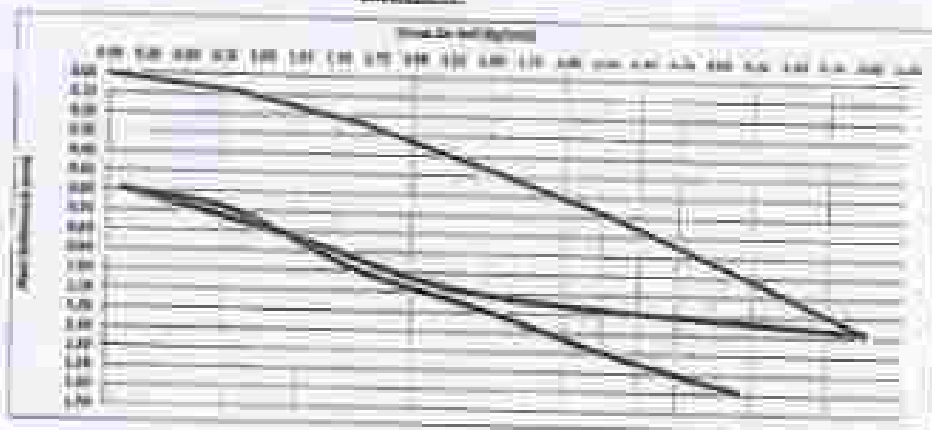
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مكتب معامل الاستشارات الهندسية
مشروعات محافظات الوجه القبلي

Company Name
Project
Test Date
Report Date
Section
Test No

خزعة ابريق الخرسانة المسلحة والمدمرة
Shear Beam Test - Beam No - Date in Arabic
Date Test
20/10/2022
ETP-100
01

Regressive Shear Flow Load Factor of Rein DIN-52134



Load (T)	0	1	2	3	4	5	6
Shear (kg)	0	100	177.2	258.3	339.4	420.5	501.6
Shear (kg/cm²)	0.00	0.40	1.00	2.00	3.00	4.00	5.00
Settlement (mm)	0.00	0.00	0.20	0.40	0.70	1.00	1.20

Load (T)	1	2	3	4
Shear (kg)	100	177.2	258.3	339.4
Shear (kg/cm²)	0.40	1.00	2.00	3.00
Settlement (mm)	0.00	0.20	0.40	0.70

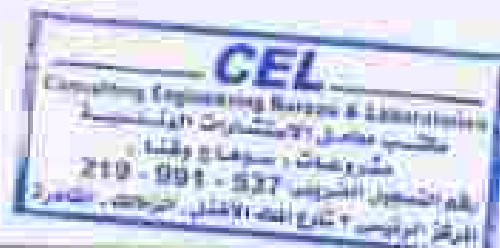
Load (T) = 100	ET (mm)	0.20	ET (mm)	0.40	ET (mm)	0.70	ET (mm)	1.00
ET (mm) = 0.20	ET (mm)	0.20	ET (mm)	0.40	ET (mm)	0.70	ET (mm)	1.00

ET (mm) = 1.00

Load (T)	0	1	2	3	4	5	6
Shear (kg)	0	100	177.2	258.3	339.4	420.5	501.6
Shear (kg/cm²)	0.00	0.40	1.00	2.00	3.00	4.00	5.00
Settlement (mm)	0.00	0.00	0.20	0.40	0.70	1.00	1.20

Load (T) = 100	ET (mm)	0.20	ET (mm)	0.40	ET (mm)	0.70	ET (mm)	1.00
ET (mm) = 0.20	ET (mm)	0.20	ET (mm)	0.40	ET (mm)	0.70	ET (mm)	1.00

ET = Modulus of elasticity during the testing stage
ET = Modulus of elasticity during the following stage
ET = Modulus of elasticity
ET = The difference between ET and ET from the maximum loading point (kg/cm²)
ET = Difference in settlement corresponding to ET and ET from the maximum loading point



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مكتب محاسب الاستشارات الهندسية

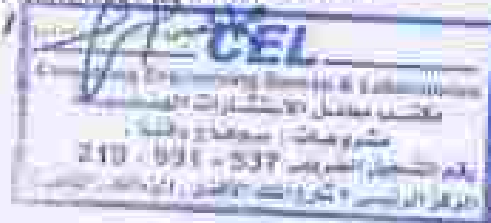
- Company Name : شركة عبد الرحمن
- Project : Electric Express Train – HSR From Qous To Arment
- Testing Date : 23/01/2024
- Soil type : Middle Embankment
- Location : ST From 671+780 To 672+020 بين المحطة
- Level : - 1.50 M
- Report No. : 101-3

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	671+800	1432	2.21	5.3	2.09	96.5%	Comply
2	671+860	1445	2.22	5.8	2.10	96.8%	Comply
3	671+900	1416	2.22	5.3	2.11	97.4%	Comply
4	671+960	1389	2.24	5.8	2.12	97.5%	Comply
5	670+010	1427	2.21	5.8	2.09	96.1%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.17 gm/cm³
- At optimum moisture content = 6.4 %
- Signature /



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Damen, Qous
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Contents : دراسة حربة الرصين لتثبيت والتجارب

Project : El-Rasheen Piers Trial - Station (B) - Giza (in Aswan)
Subject : Determine the settlement and strength characteristics of soil by the plate loading test according specifications SBC 19154-2013-04 and project requirements
Test Location : Station : 871+100 to : 871+800
Station : : 871+825
Level : : +1.2
Test Date : : 23/01/2024
Report Date : : 25/01/2024
Type of soil : : Silty Sand
Report No. : : 01

Dear Gentlemen,

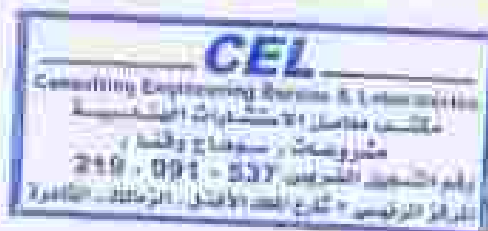
According to the scope mentioned in the contract the test performed as follows:

Equipment

1. Loading plates consist of two plates with 300 mm and 500 mm diameter
2. The thickness of plates 10 mm
3. Dial gauges with accuracy 0.01 mm to measuring the settlement
4. Steel strong floorplate with magnetic supports to fixed the dial gauges
5. Hydraulic jack with pump to transfer reaction loads to the loading plate
6. Dial indicator measuring device with stroke capacity 100 mm (downward)
7. Reaction loading system by roller support with weight approximately 10 tons
8. Calibration certificates are attached.

Test Procedure:

1. Clear the ground on test area to the required level with undisturbed soil
2. Install loading plates 300 mm and 500 mm diameter hydraulic jack and 2 dial gauges
3. Prior to starting the test applied preloading about 30 seconds
4. The test gauges and the dial gauges shall be set to zero
5. Apply 300 mm loading plate, the test value was 1.2 kN/m²
6. The load shall be applied to the rigging, in approximately equal increments, until the required settlement (normal stress) is reached
7. Each stage or test (five steps or stages) shall be completed within one stage
8. The test shall be measured in 5 stages, in 50 N, 10 N, and approximately 2 N of the maximum load
9. Following obtaining a better (2") loading system shall be carried out, in which, however, the test is to be increased only to the previously stage of the test (so that the full load is not measured)
10. At each stage the load shall be increased until the rate of settlement of the plate becomes less than 0.02 mm/min
11. Remove the loads



Report

1. Evaluation and representation of results.
2. Load Settlement curve.
3. The test report contain the following:-
 - Location of test site - Dimension of loading plate.
 - Measuring device used - Type of soil.
 - Type of Bedding material below the plate -Weathering condition.
 - Time and date of measurements - Unusual observation made during test.
 - Dial gauge reading and corresponding normal stress - Loading-settlement curve.
 - Description of the soil condition below the plate after testing.

Result

- Type of soil : Middle Embankment
- Job requirement : $E_{s2} > 40 \text{ MPa}$

Item	Test Results
Type of bedding material below the plate	Refined Soil
Plate Diameter (mm)	300
Date of Measurements	19/02/2018
Unusual observation made during test	NO
Description of the soil condition below the plate after testing	No deformation

Evaluation and representation of results

Test No.	Station		Location	Level (m)	First Cycle	Second Cycle	E_{s1} / E_{s2} Ratio
	From	To			P_{avg} (MPa)	P_{avg} (MPa)	
1	671+250	671+650	371+400	-1.5	26.7	21.3	1.25

Signature /

[Handwritten Signature]





Consulting Engineering Business & Laboratories
مكاتب استشارات الهندسية

- Company Name : شركة حياض الرحمن
- Project : Electric Express Train – HSR From Gous To Armant
- Testing Date : 23/01/2024
- Soil type : Middle Embankment
- Location : ST From 672+020 To 672+180 بين المحطة
- Level : - 1.50 M
- Report No. : 101-4

Compaction test by using Sand – Cone Test Method
ASTM D-1558

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	672+060	1336	2.22	5.8	2.10	96.6%	Comply
2	672+100	1443	2.23	5.3	2.12	97.5%	Comply
3	672+140	1337	2.24	5.8	2.12	97.7%	Comply
4	672+160	1394	2.22	5.8	2.09	96.5%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.17 gm/cm³
- At optimum moisture content = 6.4 %
- Signature



101-4-101-4-101-4
Jeddah, KSA
Tel/Fax: 011-2340011 - 2340005



إدارة المختبر
إدارة المختبر
إدارة المختبر

Summary : طريقة محمل خرصان للحمولة والكشور

Project : El-Dokki Express Train - Station (B) - Open to Access
Subject : Determine the deflection and strength characteristics of soil by plate loading test according specifications ENR 12134/2012-04 and project requirements
Test Location : Station 602+020 to 602+120
Station : 602+070
Level : -1.5
Test Date : 22/02/2014
Report Date : 25/01/2014
Type of soil : Middle Embankment
Report No. : 01

Dear Gentleman,

According to the above mentioned subject the test performed as follows:

Equipment

1. Loading plate consists of two plates with 300 mm x 300 mm diameter
2. The thickness of plates 20 mm
3. Dial gauges with accuracy 0.01 mm to measuring the settlement
4. Steel crossbeams with supports to fixed the dial gauges
5. Hydraulic jack with pump to transfer reaction loads to the loading plates
6. Dial indicator measuring device with screw capacity 100 bar (10 tonnes)
7. Reaction loading system by roller supports with weight approximately 15 ton
8. Calibration certificates are attached.

Test Procedure

1. Clean the ground for test area to the required level with undisturbed soil
2. Install loading plates 300 mm and 300 mm diameter, hydraulic jack and 3 dial gauges
3. Prior to starting the test applied preloading about 30 seconds
4. The dial gauge and the dial gauge read for soil to zero
5. For a 300 mm loading plate the test values are 0.2 kg/cm²
6. The load that has applied in six stages, in approximately equal increments, until the required ultimate value stress is reached
7. Each change to test floor slope is repeated until the required value is reached
8. The test shall be continued in 3 steps, in 30 %, 50 % and approximately 2 % of the maximum load
9. Following unloading, a further (3rd) loading cycle shall be carried out, in which, however, the load is to be increased only to the maximum stage of the first cycle (as this may be followed by the required)
10. At each stage the load shall be maintained until the rate of settlement of the plate becomes less than 0.02 mm/min
11. Return the load



Report

1. Evaluation and representation of results.
2. Load Settlement curve.
3. The test report contain the following:-
 - Location of test site - Dimension of loading plate.
 - Measuring device used - Type of soil.
 - Type of Building material below the plate -Weathering condition.
 - Time and date of measurements - Unusual observation made during test.
 - Dial gauge reading and corresponding normal stress - Loading-settlement curve.
 - Description of the soil condition below the plate after testing.

Result

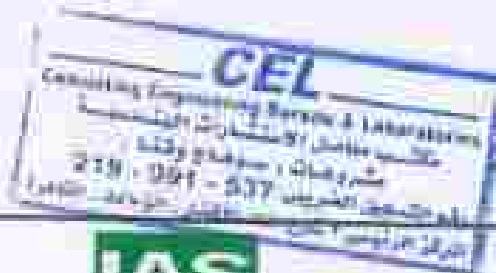
- Type of soil : Middle Embankment
- Job requirement : $E_{s2} > 40 \text{ MPa}$

Item	Description
Type of loading material below the plate	Heavy soil
Plate Diameter (mm)	300
Date of measurements	12/10/2014
Unusual observation made during test	no
Description of the soil condition below the plate after testing	Soil settlement

Evaluation and representation of results

Test No.	Station		Location	Level (m)	First Cycle	Second Cycle	E_{s1} / E_{s2} Ratio
	From	To			E_{s1} (MPa)	E_{s2} (MPa)	
1	272+000	272+100	272+050	+1.0	100.5	77.5	0.48

Signature /

Company Name : شركة معاني للاستشارات والاختبارات
Project : Earth Retention Wall - Section (B) - Cairo - Egypt
Test Date : 22/01/2024
Report Date : 26/01/2024
Station : E72-v170
Test No. : (2)

Nonrepulsive Static Plate Load Tests of Soil RM 18134

Loading Stage (1)

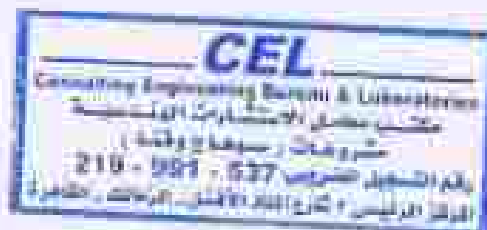
Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	0.00
1	0.01	19.95	0.05	19.95	0.05	0.05
2	0.02	19.90	0.10	19.90	0.10	0.10
3	0.03	19.85	0.15	19.85	0.15	0.15
4	0.04	19.80	0.20	19.80	0.20	0.20
5	0.05	19.75	0.25	19.75	0.25	0.25
6	0.06	19.70	0.30	19.70	0.30	0.30
7	0.07	19.65	0.35	19.65	0.35	0.35
8	0.08	19.60	0.40	19.60	0.40	0.40

Unloading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Average
1	0.00	19.65	0.35	19.65	0.35	0.35
2	0.01	19.70	0.30	19.70	0.30	0.30
3	0.02	19.75	0.25	19.75	0.25	0.25

Loading Stage (2)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Average
9	0.80	19.55	0.45	19.55	0.45	0.45
10	1.00	19.45	0.55	19.45	0.55	0.55
stress is reached						
2	2.00	19.35	0.65	19.35	0.65	0.65
3	3.00	19.25	0.75	19.25	0.75	0.75
4	4.00	19.15	0.85	19.15	0.85	0.85



CEL

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مكروونات معالجات الوجه القبلي

Company Name
Project
Test Date
Project Area
Station
Test No.

قائمة ابيدات الاختبار والاعمال
 Stress Strain Test - Beton 25 - 20cm x 20cm
 22010004
 22010004
 STP-170
 05

Normalised Stress-Strain Tests of Beton EN 12618



Load (T)	1	2	3	4	5	6
Stress (N/mm²)	0.00	0.00	0.00	0.00	0.00	0.00
Strain (mm/mm)	0.00	0.00	0.00	0.00	0.00	0.00

Unloading (T)	1	2	3	4
Stress (N/mm²)	0.00	0.00	0.00	0.00
Strain (mm/mm)	0.00	0.00	0.00	0.00

Stress (N/mm²)	0.00	0.00	0.00	0.00	0.00	0.00
Strain (mm/mm)	0.00	0.00	0.00	0.00	0.00	0.00

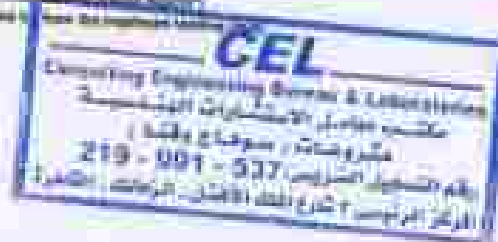
Stress (N/mm²) = 0.00

Load (T)	1	2	3	4	5	6
Stress (N/mm²)	0.00	0.00	0.00	0.00	0.00	0.00
Strain (mm/mm)	0.00	0.00	0.00	0.00	0.00	0.00

Stress (N/mm²)	0.00	0.00	0.00	0.00	0.00	0.00
Strain (mm/mm)	0.00	0.00	0.00	0.00	0.00	0.00

Stress (N/mm²) = 0.00
 Strain (mm/mm) = 0.00
 Stress (N/mm²) = 0.00
 Strain (mm/mm) = 0.00

Stress (N/mm²) = 0.00
 Strain (mm/mm) = 0.00
 Stress (N/mm²) = 0.00
 Strain (mm/mm) = 0.00



219 - 001 - 537
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Client: شركة مياه الري من تشييد وإدارة
Project: El-Dokki Sewerage Train - Sector (2) - Canal to Anwar
Subject: Determine the deformation and strength characteristics of soil by the plate loading test according specifications ENR 18134-2013-04 and project requirements
Test Location: Station: 672+125 to 672+130
Station: 672+125
Level: -1.5
Test Date: 25/01/2024
Report Date: 26/01/2024
Type of soil: (Stable Embankment)
Report No.: 21

Dear Gentlemen,

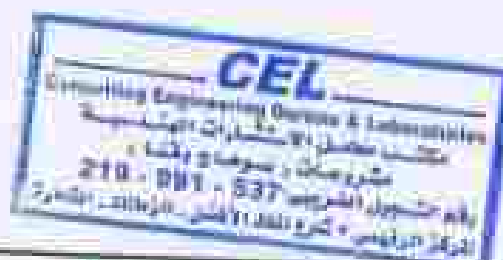
According to the above mentioned subject the test performed as follows:

Apparatus

1. Loading plates consists of two plates with 300 mm and 150 mm diameter
2. The thickness of plates 25 mm
3. Dial gauges with accuracy 0.01 mm to measuring the settlement
4. Steel strap/wedges with magnetic material to fixed the dial gauges
5. Hydraulic jack with pump to transfer reaction loads to the loading plates
6. Dial indicator measuring device with scale capacity 750 Bar (finished)
7. Reaction loading system by roller support with weight approximately 50 ton
8. Calibration certificate are attached

Test Procedure:

1. Check the ground surface is flat around test area and stabilization soil
2. Install loading plate, 300 mm and 150 mm diameter, hydraulic jack and 2 dial gauges
3. Free to placing the test loaded according design load capacity
4. The steel gauge and the dial gauge must be set to zero
5. For a 300 mm loading plate, the test values are 0.2 Mega Pa
6. The test shall be applied in six stages, or more depending about backlogs, until the required maximum desired stress is reached
7. Each stage to hold from 10 min to 1 hour shall be considered until you receive
8. The test shall be reduced 0.2 stages, i.e. 10 %, 20 %, and approximately 5 % of the maximum load
9. Following unloading, a further 24 hr loading time shall be applied and to repeat, however, the test shall be increased only to the immediate stage of the last cycle (as further test is not required)
10. At each stage the load shall be maintained until the rate of settlement of the plate decreases less than 0.02 mm/min
11. Remove the loads



Company Name : شركة عبد الرحمن للتصميم والمقاولات
Project : Bedouin Highway Test - Road 25 - (Road to Assiut)
Test Date : 22/01/2024
Report Date : 25/01/2024
Station : 672+679
Test No. : 21

Nondestructive Static Plate Load Tests of Soils RDS 19124

Loading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Average
0	0.00	20.00	0.00	20.00	0.00	0.00
1	0.03	19.45	0.55	19.45	0.55	0.55
2	0.06	19.00	1.00	19.00	1.00	1.00
3	0.09	18.55	1.45	18.55	1.45	1.45
4	0.12	18.45	1.55	18.45	1.55	1.55
5	0.15	18.35	1.65	18.35	1.65	1.65
6	0.18	18.25	1.75	18.25	1.75	1.75
7	0.21	18.15	1.85	18.15	1.85	1.85

Unloading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Average
1	0.20	18.32	0.78	18.32	0.48	0.63
2	0.15	18.45	0.55	18.45	0.31	0.43
3	0.10	18.54	0.46	18.52	0.06	0.17

Loading Stage (2)

Loading	Stress Kg/cm ²	Dial 1	Settlement mm	Dial 2	Settlement mm	Average
0	0.00	18.58	0.31	18.70	0.24	0.27
1	0.03	18.45	0.13	18.58	0.12	0.13
stress is reached						
2	0.06	18.38	0.20	18.51	0.19	0.19
3	0.09	18.26	0.32	18.39	0.31	0.31
4	0.12	18.18	0.40	18.31	0.43	0.41



Report

1. Evaluation and representation of results
2. Load Settlement curve
3. The test report contain the following:-
 - Location of test site - Dimension of loading plate
 - Measuring device used - Type of soil
 - Type of bedding material below the plate - Weathering condition
 - Time and date of measurements - Unusual observation made during test
 - Dial gauge reading and corresponding normal stress - Loading settlement curve
 - Description of the soil condition below the plate after testing

Report

- Type of soil : Middle Embankment
- Job requirement : $E_v \geq 40 \text{ MPa}$

Data		Designation
Type of bedding material below the plate		Gravel (Silt)
Plate Diameter (mm)		300
Date of measurement		25/05/2016
Unusual observation made during test		NO
Description of the soil condition below the plate after testing		Re deformation

Evaluation and representation of results

Test No.	Station		Location	Level (m)	First Cycle	Second Cycle	E_v/E_{v1} Ratio
	From	To			E_{v1} (MPa)	E_{v2} (MPa)	
1	872+120	872+130	872+125	1.5	118.2	140.0	1.23

Signature /

[Handwritten Signature]



3 El Madinet El Adal Street
Zakaria, Cairo
Tel & Fax : 27367231 - 27367193



في المكاتب الأقاليم
القاهرة - القاهرة
تليفون : فاكس :
www.cel-egypt.com

Company Name : شركة عبد الرحمن السيد والخطيب
Project : (Block Copied Tests - Beam 12 - Gird 12 - Slab 12)
Test Date : 25/12/2024
Report date : 25/12/2024
Station : 8724163
Test No. : 87

Nondestructive Static Plate Load Tests of Soils (DIN 18134)

Loading Stage (1)

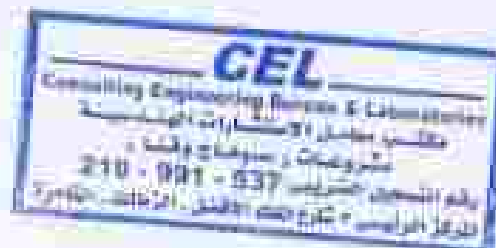
Loading	Stress Kip/cm ²	Dial 1 Settlement mm	Dial 2 Settlement mm	Average
0	0.00	30.00	30.00	0.00
1	0.05	30.00	30.00	0.00
2	0.10	30.70	30.70	0.00
3	0.15	30.70	30.70	0.00
4	0.20	30.70	30.70	0.00
5	0.25	30.70	30.70	0.00
6	0.30	30.70	30.70	0.00

Unloading Stage (1)

Loading	Stress Kip/cm ²	Dial 1 Settlement mm	Dial 2 Settlement mm	Average
1	0.30	30.70	30.70	0.00
2	0.25	30.70	30.70	0.00
3	0.20	30.70	30.70	0.00

Loading Stage (2)

Loading	Stress Kip/cm ²	Dial 1 Settlement mm	Dial 2 Settlement mm	Average
0	0.00	30.00	30.00	0.00
1	0.05	30.00	30.00	0.00
2	0.10	30.00	30.00	0.00
3	0.15	30.00	30.00	0.00
4	0.20	30.00	30.00	0.00
5	0.25	30.00	30.00	0.00
6	0.30	30.00	30.00	0.00
7	0.35	30.00	30.00	0.00
8	0.40	30.00	30.00	0.00
9	0.45	30.00	30.00	0.00
10	0.50	30.00	30.00	0.00
11	0.55	30.00	30.00	0.00
12	0.60	30.00	30.00	0.00
13	0.65	30.00	30.00	0.00
14	0.70	30.00	30.00	0.00
15	0.75	30.00	30.00	0.00
16	0.80	30.00	30.00	0.00
17	0.85	30.00	30.00	0.00
18	0.90	30.00	30.00	0.00
19	0.95	30.00	30.00	0.00
20	1.00	30.00	30.00	0.00



CEL

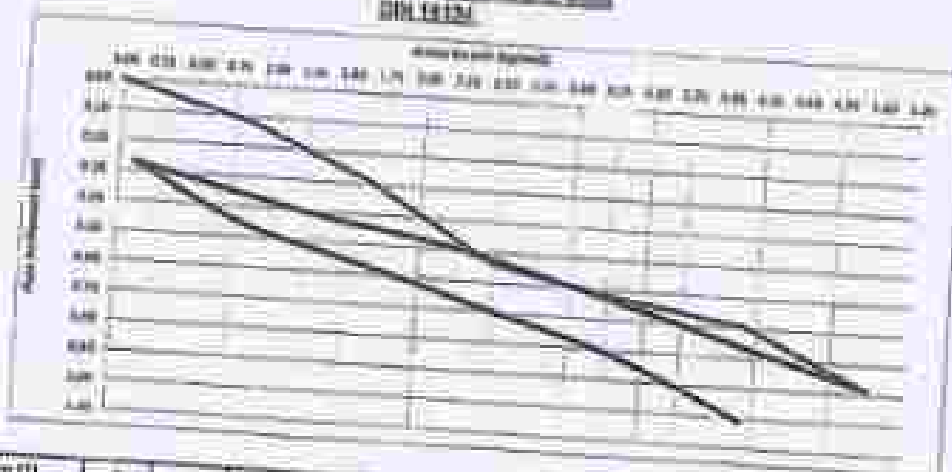
Consulting Engineering Bureau & Laboratories

مكتب محامل الاستشارات الهندسية
مشاريع محافظات الوجه القبلي

Company Name
Project
Test Date
Report No.
Station
Test No.

مرفأ حديد القريش الجديدة والقاهرة
Main Railway Track - New PC - El-Dokki Station
25/05/2024
2024/05/24
02/1/001
01

Normalizing Static Push Load Tests of Rails EN 13234



Loading (kN)	1	2	3	4	5	6	7	8
Displacement (mm)	0.00	0.00	1172.8	1198.3	2052.0	2048.1	2022.8	2022.8
Push Load (kN)	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00

Q (kN) = 200	Q1 (kN) = 0.7777777777777777	Q2 (kN) = 0.7777777777777777	Q3 (kN) = 0.7777777777777777	Q4 (kN) = 0.7777777777777777	Q5 (kN) = 0.7777777777777777	Q6 (kN) = 0.7777777777777777	Q7 (kN) = 0.7777777777777777	Q8 (kN) = 0.7777777777777777
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Unloading (kN)	1	2	3	4
Displacement (mm)	1000	1000	1000	1000
Push Load (kN)	0.00	0.00	0.00	0.00
Displacement (mm)	0.00	0.00	0.00	0.00

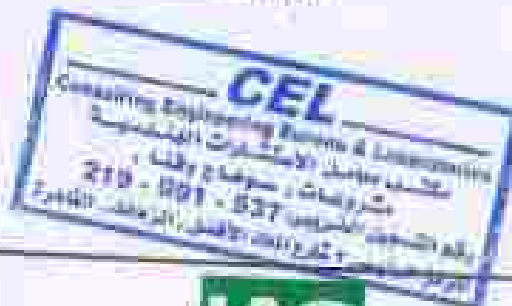
$$Q_{max} = 1.00$$

Loading (kN)	1	2	3	4	5	6	7	8
Displacement (mm)	0.00	0.00	1172.8	1198.3	2052.0	2048.1	2022.8	2022.8
Push Load (kN)	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Displacement (mm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Q (kN) = 200	Q1 (kN) = 0.7777777777777777	Q2 (kN) = 0.7777777777777777	Q3 (kN) = 0.7777777777777777	Q4 (kN) = 0.7777777777777777	Q5 (kN) = 0.7777777777777777	Q6 (kN) = 0.7777777777777777	Q7 (kN) = 0.7777777777777777	Q8 (kN) = 0.7777777777777777
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Q1 = Displacement of specimen during the loading stage.
Q2 = Displacement of specimen during the unloading stage.
Q3 = Push Load (kN).

Q4 = The difference between Q1 and Q2 from the specimen loading (push) stage.
Q5 = Difference in displacement corresponding to Q1 and Q2 from the specimen loading stage.



370 Malek El Ahras Street
Zamalek, Cairo
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هاتف - فاكس : 21567221 - 21563003
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Consulting Engineering Bureau & Laboratories
مكتب دراسات الاستشارات الهندسية

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Armanat
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 16/01/2024
Reporting Date : 20/01/2024
Reporting No. : 01-27

Dear Gentleman,

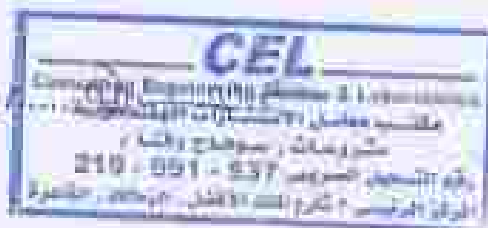
Attached here with the delivered on 16 / 01 / 2024

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 Specn.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883

Signature



S.D. Doss T. 4440 1944
Dossin, Cas
SAF 14 00000 00000



إبراهيم جابر
مهندس
مكتب دراسات الاستشارات الهندسية



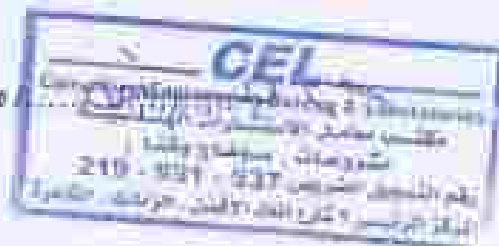
Consulting Engineering Bureau & Laboratories
مكتب استشارات الهندسة والاختبارات

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qom To Armmat
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 16/01/2024
Reporting Date : 20/01/2024
Reporting No. : 01-27

RESULTS OF SIEVE ANALYSIS According to ASTM D-422

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	97.2
37.5	1.5	93.1
25	1	89.4
19	$\frac{3}{4}$	82.3
12.50	$\frac{1}{2}$	70.5
9.50	$\frac{3}{8}$	64.2
4.75	$\frac{1}{4}$	59.1
2.00	10	38.5
0.425	40	17.8

Signature



1 VERIFIED TESTING
General Case
Tel/Fax: 0096611-4700000



إدارة الجودة
شركة عبد الرحمن
رقم التسجيل: 0096611-4700000

CEL

Consulting Engineering Bureau & Laboratories
مكتب استشارات ومختبرات الهندسية

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Armanat
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 16/01/2024
Reporting Date : 20/01/2024
Reporting No. : 01-27

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ m (No.200)	9.2

Signature 
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مكتب استشارات ومختبرات الهندسية
210 - 591 - 537
رقم التسجيل: 2007-2008
الرجوع: 2007-2008

1. Dr. Maher El-Teraa El-Sayid
Zoraba, Cairo
011-591-537

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Accredited

إدارة المختبر
مكتب استشارات ومختبرات الهندسية
011-591-537

CEL

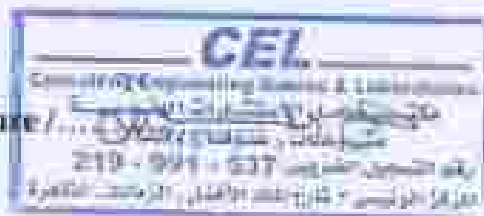
Consulting Engineering Bureau & Laboratories
مكتب مهندسين الاستشارات والمختبرات

Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Arman
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 16/01/2024
Reporting Date : 20/01/2024
Reporting No. : 01-27

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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Damien, Dam
BAGDAD - IRAQ - 11111111



م. هادي هادي
م. هادي هادي
م. هادي هادي

Company Name : شركة عبد الرحمن
 Project : Electric Express Train - HSR From Qous To Armanat
 Location : ST: 672+180 E=32.7745621 N= 25.6596723
 Type of sample : Soil Embankment (Upper Embankment 0.0)
 Delivery Date : 16/01/2024
 Reporting Date : 20/01/2024
 Reporting No. : 01-27

Soil Classification

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)	38.5	Max 50 %	-----	-----
0.425 mm (No. 40)	17.8	Max 30 %	Max 50 %	-----
0.075 mm (No. 200)	9.2	Max 15 %	Max 15 %	Max 15 %
Liquid Limit	-----	-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

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

Signature

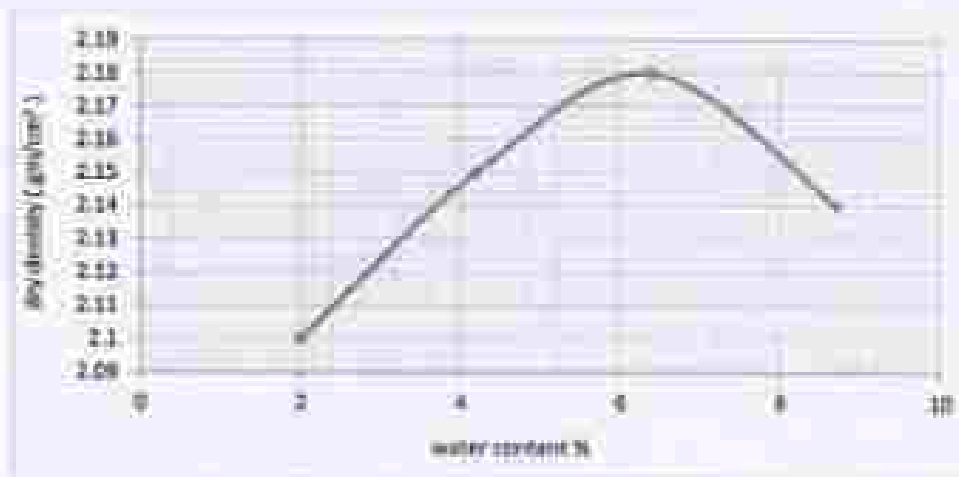


CEL

Consulting Engineering Bureau & Laboratories
مكتب مهندسي الاستشارات والمختبرات

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Armant
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 16/01/2024
Reporting Date : 20/01/2024
Reporting No. : 01-27

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



- Max dry density (g/cm³) : 2.18
- Optimum moisture content % : 6.4

Signature



CEL Head Office
219066, Cairo
Tel/Fax: 2790221 - 2790222

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إدارة القاهرة
219066
الهاتف / الفاكس : 2790221 - 2790222



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مكتب محاسن الاستشارات الهندسية

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Armanat
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 16/01/2024
Reporting Date : 20/01/2024
Reporting No. : 01-27

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

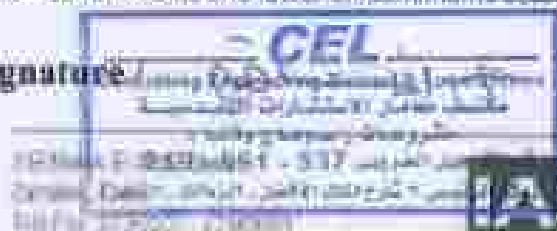
penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.51
1.27	0.050	1.52
1.91	0.075	2.54
2.54	0.100	3.55
3.18	0.125	4.46
3.81	0.150	5.07
4.45	0.175	5.58
5.08	0.200	5.67
6.35	0.250	5.68

CBR Result	Stress (Mpa)		CBR 100 %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	55
	16.3	5.67	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of $\approx 2.18 \text{ (gm/cm}^3\text{)}$
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



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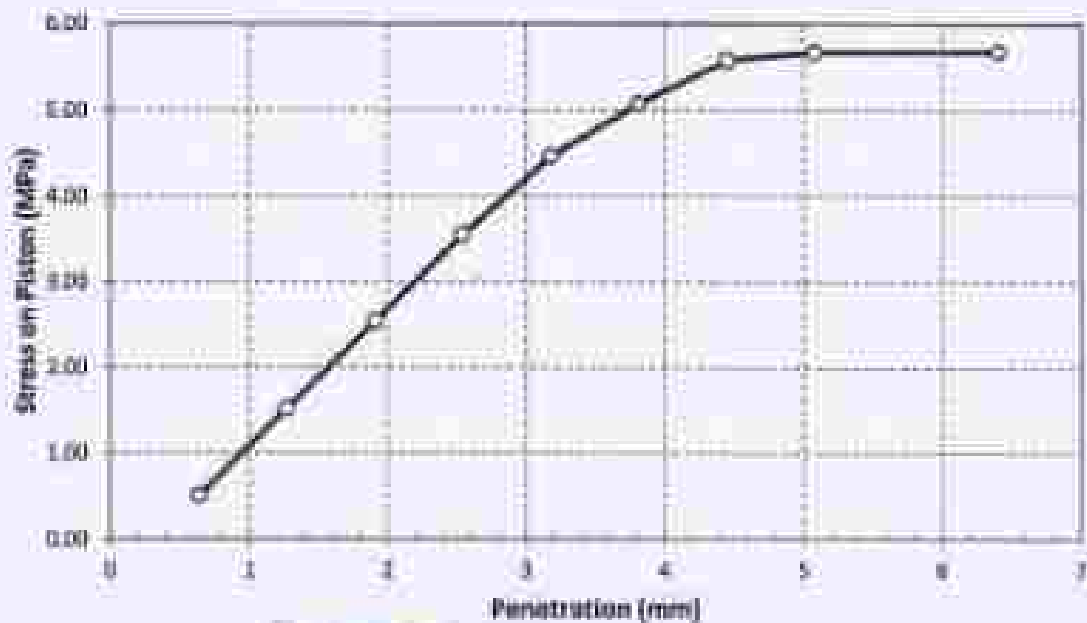
إبراهيم عبد الرحمن
مهندس
مكتب محاسن الاستشارات الهندسية



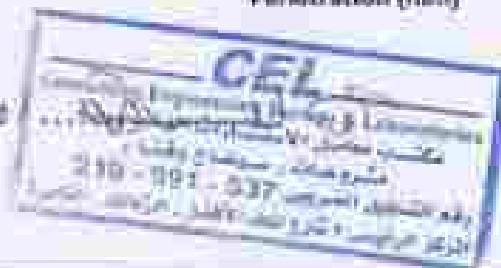
Consulting Engineering Bureau & Laboratories
مكتب خدمات الاستشارات الهندسية

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Armut
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 16/01/2024
Reporting Date : 20/01/2024
Reporting No. : 01-27

Load Penetration Curve of CBR Test
ASTM D-1883



Signature



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Darien, Conn.
Tel: 708.270.6220 - 270.6220



110 Main St. 1st Floor,
Darien, Conn.
Tel: 708.270.6220 - 270.6220



Consulting Engineering Services & Laboratories
مكاتب خدمات الاستشارات والاختبارات

Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qair To Ararat
Testing Date : 25/01/2024
Soil type : Upper Embankment
Location : ST From 671+780 To 672+080 بين المسار
Level : - 1.25 M
Report No. : 102-3

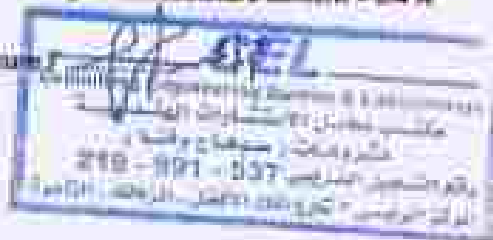
**Compaction test by roling Sand – Core Test Method
ASTM D- 1556**

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	671+800	1415	2.21	6.4	2.08	95.2%	Comply
2	671+820	1417	2.23	5.8	2.11	96.8%	Comply
3	671+840	1447	2.22	5.8	2.09	96.1%	Comply
4	671+860	1451	2.20	5.8	2.08	95.4%	Comply
5	671+880	1432	2.24	5.3	2.13	97.5%	Comply
6	671+920	1414	2.23	5.8	2.12	97.4%	Comply
7	671+940	1438	2.26	5.8	2.13	97.5%	Comply
8	671+960	1445	2.24	6.4	2.10	96.4%	Comply
9	671+980	1432	2.20	5.8	2.08	95.5%	Comply
10	672+000	1430	2.19	5.3	2.12	97.1%	Comply
11	672+040	1407	2.17	5.8	2.15	98.6%	Comply
12	672+060	1447	2.20	5.8	2.08	95.6%	Comply

Degree of compaction based on proctor test detail At

- Max. dry density = 2.18 gm/cm³
- At optimum moisture content = 6.4 %

Signature



12 Main E. High Street
Cairo, Egypt
Tel: 202 23400000 - 23400001



إلى المستلمين
فيما يلي
في مكتب

CEL

Consulting Engineering Bureau & Laboratories
مكتب استشارات الهندسة والبحوث

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Gous To Arment
Testing Date : 25/01/2014
Soil type : Upper Embankment
Location : ST From 672+000 To 672+180 بين المسار
Level : - 1.25 M
Report No. : 102-6

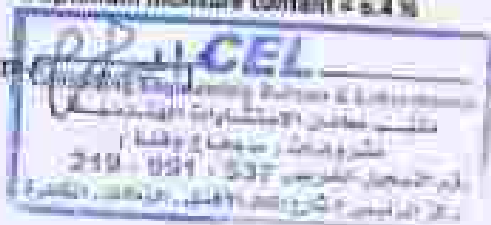
Compaction test by using Sand - Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	672+100	1428	2.21	5.8	2.11	97.6%	Comply
2	672+120	1409	2.26	5.8	2.14	98.0%	Comply
3	672+140	1468	2.21	5.8	2.09	96.0%	Comply
4	672+160	1410	2.17	5.8	2.14	98.2%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.18 gm/cm³
- At optimum moisture content = 5.4 %

Signature



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Doha, Qatar
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Consulting Engineering Bureau & Laboratories
مكتب استشارات الهندسة والاختبارات

Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Doha To Amman
Testing Date : 27/01/2024
Soil type : Upper Embankment
Location : ST From 671+780 To 672+000
Level : - 0.15 M
Report No. : 103-2

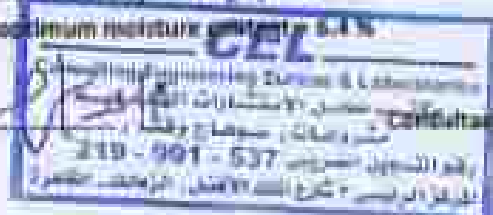
Compaction test by using Sand – Cone Test Method
ASTM D-1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	671+800	1605	2.22	6.2	2.10	96.5%	Comply
2	671+820	1565	2.29	6	2.16	98.9%	Comply
3	671+84	1545	2.21	5.8	2.09	95.7%	Comply
4	671+860	1417	2.27	5.8	2.15	98.7%	Comply
5	671+880	1794	2.25	5.3	2.13	97.7%	Comply
6	671+900	1389	2.23	5.4	2.12	97.0%	Comply
7	671+920	1415	2.22	5.8	2.10	96.2%	Comply
8	671+940	1540	2.27	6.4	2.13	97.7%	Comply
9	671+960	1526	2.19	5.3	2.08	95.4%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.18 gm/cm³
- At optimum moisture content = 5.4 %

Signature :



Testing Eng :

103 Mass E- Mail Report
Doha, Qat
Tel/Fax (974) 3311 2200/2201



إلى السيد المهندس
المهندس
صاحب العمل
صاحب العمل



Consulting Engineering Bureau & Laboratories
مكتب استشارات الهندسية

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qass To Almadina
Testing Date : 28/01/2024
Soil type : Middle Embankment
Location : ST From 671+780 To 672+000
Level : -1.5 M
Report No. : 104-2

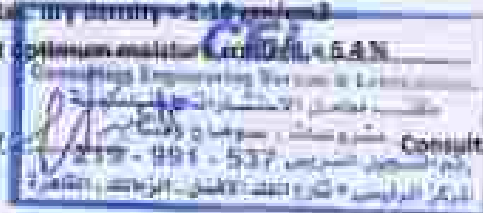
**Compaction test by using Sand - Cone Test Method
ASTM D-1558**

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density gm/ cm ³	Degree of Compaction (%)	Acceptance
1	671+820	1457	2.25	5.4	2.14	98.0%	Comply
2	671+860	1515	2.10	5.3	2.00	95.8%	Comply
3	671+900	1516	2.20	6	2.09	95.3%	Comply
4	671+940	1434	2.22	5.6	2.10	96.4%	Comply
5	671+980	1398	2.25	5.4	2.12	97.1%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.10 gm/cm³
- At optimum moisture content = 5.4%

Signature /



Consultant Eng :

107 Main St. Abu Dhabi
UAE, Emirate
Tel: +966 11 2000000



في الرياض
بوكه حيفا
بوكه حيفا



Consulting Engineering Bureau & Laboratories
مكتب دراسات الاستشارات والمختبرات

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Armani
Location : ST: 672+180 E=32,7745621 N= 25,6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 16/01/2024
Reporting Date : 20/01/2024
Reporting No. : 01-28

Dear Gentleman,

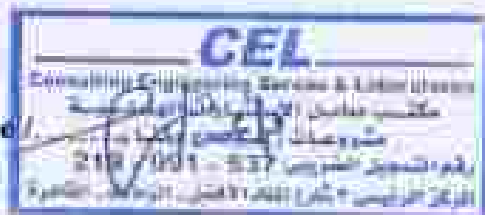
Attached here with the delivered on 16 / 01 / 2024

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 /



Youssef Elmaghrabi
General Manager
SAFAR 21800000000000000000



إبراهيم
مدير عام
SAFAR 21800000000000000000

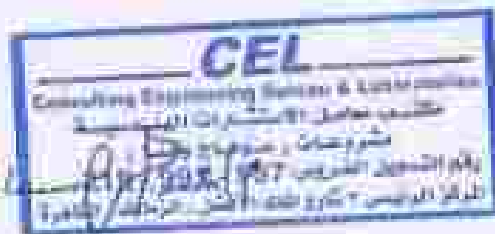


Consulting Engineering Bureau & Laboratories
مكتب مهندسين الاستشارات والمختبرات

Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Armanat
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 16/01/2024
Reporting Date : 20/01/2024
Reporting No. : 01-28

RESULTS OF SIEVE ANALYSIS According to ASTM D-472

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	96.8
37.5	1.5	90.2
25	1	84.1
19	¾	78.2
12.50	½	70.6
9.50	3/8	60.8
4.75	4	53.6
2.00	10	41.5
0.425	40	28.4



Signature

201 Main St. 4th Floor
Cairo, Egypt
Tel/Fax: 202022111111



مكتب مهندسين الاستشارات والمختبرات
القاهرة - مصر
الهاتف / الفاكس: 202022111111

Company Name : شركة عبد الرحمن
 Project : Electric Express Train – HSR From Qous To Arman
 Location : ST: 672+180 E=32.7745621 N= 25.6596723
 Type of sample : Soil Embankment (Upper Embankment 0.0)
 Delivery Date : 16/01/2024
 Reporting Date : 20/01/2024
 Reporting No. : 01-28

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ M (No.200)	8.8

Signature



Company Name : شركة عبد الرحمن
 Project : Electric Express Train - HSR From Qous To Armanat
 Location : ST: 672+180 E=32.7745621 N= 25.6596723
 Type of sample : Soil Embankment (Upper Embankment 0.0)
 Delivery Date : 16/01/2024
 Reporting Date : 20/01/2024
 Reporting No. : 01-28

**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 عبد الرحمن
Project : Electric Express Train - HSR From Qous To Arman
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 16/01/2024
Reporting Date : 20/01/2024
Reporting No. : 01-28

Soil Classification

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)	41.5	Max 50 %	—	—
0.425 mm (No. 40)	28.4	Max 30 %	Max 50 %	—
0.075 mm (No. 200)	8.8	Max 15 %	Max 15 %	Max 15 %
Liquid Limit	—	—	—	—
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

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

Signature

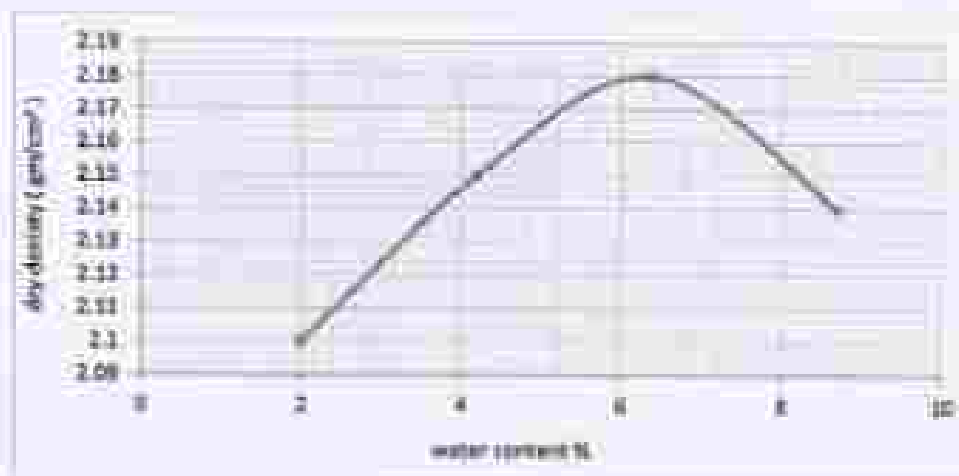


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Consulting Engineering Bureau & Laboratories
مكتب محاسن الاستشارات الهندسية

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Armanat
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 16/01/2024
Reporting Date : 20/01/2024
Reporting No. : 01-28

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



- Max dry density (g/cm³) : 2.18
- Optimum moisture content % : 6.4

Signature



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Tel: 11560000 - 11560001

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Consulting Engineering Bureau & Laboratories
مكتب دراسات الاستشارات الهندسية

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Arman
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 16/01/2024
Reporting Date : 20/01/2024
Reporting No. : 01-28

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

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.48
1.27	0.050	1.45
1.91	0.075	2.44
2.54	0.100	3.45
3.18	0.125	4.46
3.81	0.150	4.97
4.45	0.175	5.48
5.08	0.200	5.63
6.35	0.250	5.73

CBR Result	Stress (Mpa)		CBR 100 %
At 0.2 inch (5.08 mm) penetration	St. Value	Sample results	94.7%
	10.3	5.63	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of $\sim 2.18 \text{ (gm / cm}^3\text{)}$
At = 6.4 % optimum water content.
- 3- Surcharge load 4.50 Kg.
- 4- CBR > 10 for middle and top embankments according project spec page No 36.

Signature

Consulting Engineering Bureau & Laboratories
مكتب دراسات الاستشارات الهندسية
210 091 - 332
الرياض - المملكة العربية السعودية

10, Al-Balad, P.O. Box 1000
Dammam, Saudi Arabia
Tel/Fax: 037900211 - 03790000



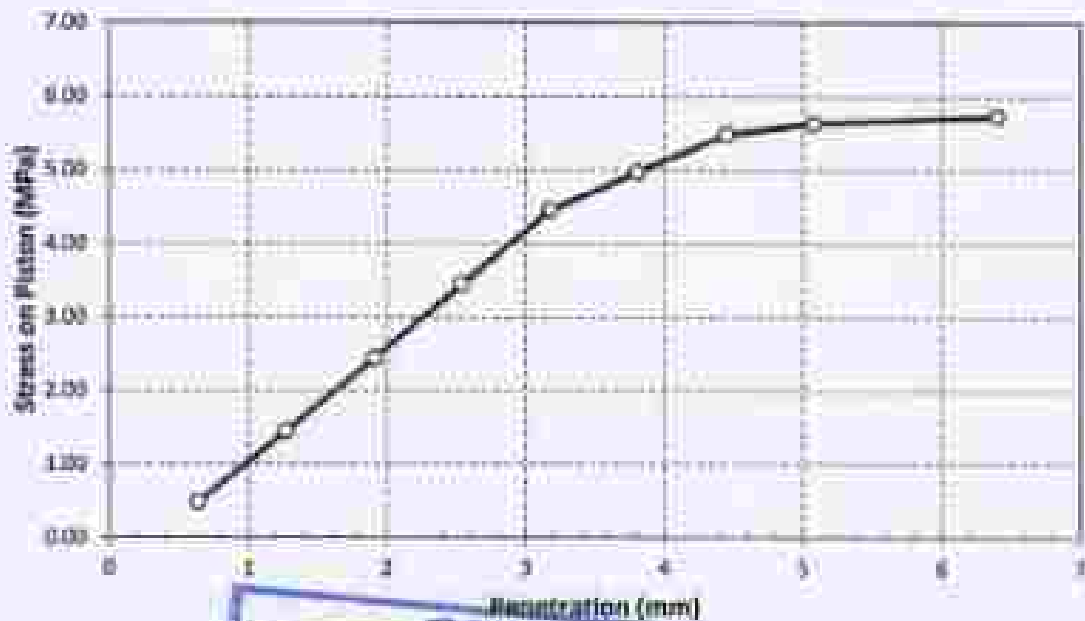
إبراهيم عبد الرحمن
مدير عام
مكتب دراسات الاستشارات الهندسية



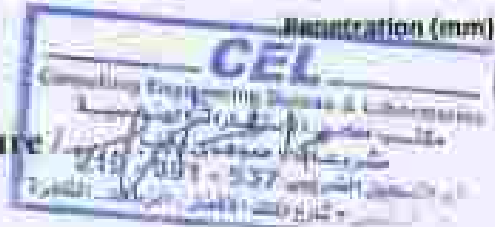
Consulting Engineering Business & Laboratories
مكتب دراسات واستشارات الهندسية

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Arman
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 16/01/2024
Reporting Date : 20/01/2024
Reporting No. : 01-28

Load Penetration Curve of CBR Test
ASTM D-1883



Signature



CEL Head Office
Damascus, Syria
Tel/Fax: 0115221111 - 0115221112



الرياضة
الرياضة
الرياضة

Summary:	بركة عبد الرحمن
Project:	Electric Express Train - Suez (S) - Giza to Arment
Subject:	Determine the deformation and strength characteristics of soil by the plate loading test according specifications DIN 18134/2012-04 and project requirements
Test Location:	Station 671+700 to 671+800
Station:	671+800
Level:	- 1.5
Test Date:	26/01/2024
Report Date:	31/01/2024
Type of soil:	Middle Embankment
Report No.:	01

Dear Gentlemen,

According to the above mentioned subject the test performed as follows:-

Apparatus

1. Loading plates consists of two plates with 200 mm and 300 mm diameter
2. The thickness of plates 20 mm
3. Dial gauges with accuracy 0.01 mm to measuring the settlement
4. Steel straightedges with magnetic supports to fixed the dial gauges
5. Hydraulic jack with pump to transfer reaction force to the loading plates
6. Dial indicator measuring device with scale capacity 100 Bar (Direct)
7. Reaction loading system by roller supports with weight approximately 10 tons
8. Calibration certificates are attached

Test Procedure:

1. Clear the ground in test area to the required level with undisturbed soil
2. Install loading plates 200 mm and 300 mm diameter, hydraulic jack and 2 dial gauges
3. Prior to starting the test applied preloading about 30 seconds
4. The dial gauges and the dial gauge shall be set to zero
5. For a 200 mm loading plate, the test values are 5.0 kg/cm²
6. The test shall be applied in 4 stages, in approximately equal increments, until the required maximum desired stress is reached
7. Each change of load (from stage to stage) shall be correlated with one value
8. The test shall be released in 3 stages, to 50 %, 25 %, and approximately 2 % of its maximum load
9. Following unloading, a further 20% loading cycle shall be carried out, in which, however, the load is to be released only to the intermediate stage of the test cycle (so that the full test is not repeated)
10. At each stage the load shall be maintained until the rate of settlement of the plate is less than 0.02 mm/min.
11. Remove the loads



Report

1. Evaluation and representation of results.
2. Load Settlement curve.
3. The test report contain the following:-
 - location of test site - Dimension of loading plate.
 - Measuring device used - Type of soil.
 - Type of bedding material below the plate -Weathering condition.
 - Time and date of measurements - Unusual observation made during test.
 - Dial gauge reading and corresponding normal stress - Loading-settlement curve.
 - Description of the soil condition below the plate after testing.

Result

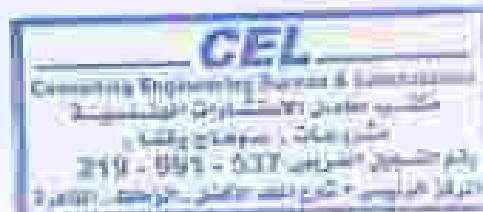
- Type of soil : Middle Embankment
- Jais require : $E_{v2} > 40 \text{ MPa}$

Item	Description
Type of bedding material below the plate	Natural Soil
Plate Diameter (mm)	300
Date of measurements	12/09/2024
Unusual observation made during test	NO
Description of the soil conditions below the plate after testing	No deformation

Evaluation and representation of results

Test No.	Station		Location	Level ± 0.00	First Cycle	Second Cycle	E_{v2}/E_{v1} Ratio
	From	To			$E_{v1}(\text{MPa})$	$E_{v2}(\text{MPa})$	
1	BT1+790	BT1+800	BT1+800	± 1.5	104.0	117.9	1.13

Signature: 



Company Name : شركة عبد الرحمن
Project : Electric System Tests - Station (B) - Giza to Assiut
Test Date : 26/01/2024
report date : 31/01/2024
Station : 871+850
Test No. : 01

Nonrepetitive Static Plate Load Tests of Soils DIN 18134

Loading Stage (1)

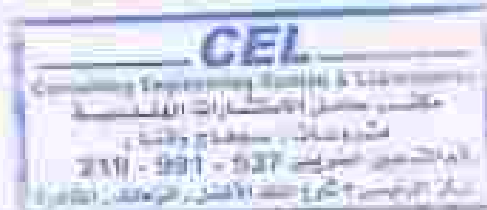
Loading	Stress Kg/cm ²	Dial 1	Settlement	Dial 2	Settlement	Average
			mm		mm	
0	0.00	31.90	0.00	30.00	0.00	0.00
1	0.83	18.90	0.85	19.98	0.02	0.34
2	1.66	12.77	0.33	19.80	0.20	0.21
3	2.50	19.54	0.48	19.68	0.21	0.36
4	3.33	18.08	0.81	19.47	0.53	0.57
5	4.17	19.21	0.79	19.31	0.60	0.74
6	5.00	18.07	0.90	19.17	0.83	0.85

Unloading Stage (1)

Loading	Stress Kg/cm ²	Dial 1	Settlement	Dial 2	Settlement	Average
			mm		mm	
1	2.50	18.55	0.85	19.38	0.72	0.78
2	1.66	18.34	0.88	19.44	0.68	0.81
3	0.83	18.67	0.43	19.66	0.01	0.37

Loading Stage (2)

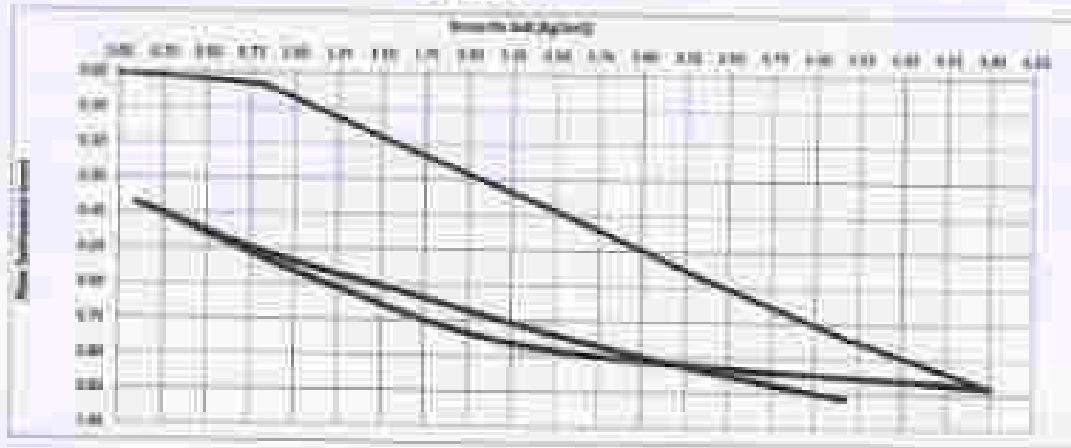
Loading	Stress Kg/cm ²	Dial 1	Settlement	Dial 2	Settlement	Average
			mm		mm	
0	0.00	18.41	0.58	15.57	0.43	0.51
1	1.66	15.28	0.74	16.48	0.51	0.63
2	3.33	19.14	0.68	16.38	0.62	0.74
3	3.33	19.04	0.90	16.28	0.71	0.80
4	4.17	19.06	1.00	16.16	0.81	0.93



Company Name
Project
Test Date
Report Date
Station
Test No.

شركة معامل
Electric Expansion Tank - Station 15 - Giza by Aswan
2024/0004
21/01/2024
877-000
01

Nonpositive Static Plate Load Tests of Soils
DIN 18136



Loading (t)	0	1	2	3	4	5	6
Stress (kg/cm²)	0	0.05	0.10	0.15	0.20	0.25	0.30
Settlement (mm)	0.00	0.04	0.08	0.12	0.16	0.20	0.24

Unloading (t)	1	2	3	4
Stress (kg/cm²)	0.05	0.10	0.15	0.20
Settlement (mm)	0.04	0.08	0.12	0.16

Q (mm²) =	300	Q1 (mm²) =	0.05	Q2 (mm²) =	0.10	Q3 =	0.02
Q4 (mm²) =	0.05	Q5 (mm²) =	0.10	Q6 =	0.02	Q7 =	0.02

Q8 = 0.02

Loading (t)	0	1	2	3	4	5
Stress (kg/cm²)	0	0.05	0.10	0.15	0.20	0.25
Settlement (mm)	0.00	0.04	0.08	0.12	0.16	0.20

Q (mm²) =	300	Q1 (mm²) =	0.05	Q2 (mm²) =	0.10	Q3 =	0.02
Q4 (mm²) =	0.05	Q5 (mm²) =	0.10	Q6 =	0.02	Q7 =	0.02

Q1 = Modulus of settlement during the loading stage

Q2 = Modulus of settlement during the unloading stage

Q3 = Plate diameter (mm)

Q4 = The difference between Q1 and Q2 from the unloading loading (mm²)

Q5 = Difference in settlements corresponding to Q1 and Q2 from the unloading loading stage

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مشاريع ومعاملات الوجه القبلي
219 - 001 - 537
www.cel-egypt.com

Contractor : شركة جيه افرام

Project : Electric Express Train - Station (2) - Giza to Armat
Subject : Determine the deformation and strength characteristics of soil by the
plate loading test according specifications DOK 18134/2012-04 and project requirements
Test Location : Station 671+690 to 671+700
Station : 671+690
Level : + 1.3
Test Date : 28/9/2024
Report Date : 31/09/2024
Type of soil : Middle Claystone
Report No. : 01

Dear Gentleman,

According to the above mentioned subject the test performed as follows:-

Apparatus

1. Loading plate consists of two plates with 200 mm. and 300 mm diameter
2. The thickness of plates 50 mm
3. Dial gauges with accuracy 0.01 mm to measuring the settlement
4. Steel straightedges with magnetic supports to fix the dial gauges
5. Hydraulic jack with pump to transfer reaction loads to the loading plate
6. Dial indicator measuring device with scale capacity 100 Bar (Direct)
7. Reaction loading system by roller support with weight approximately 15 ton
8. Calibration certificates are attached

Test Procedures

1. Open the ground on test area to the required level with undisturbed soil
2. Install loading plates 200 mm. and 300 mm diameter, Hydraulic jack and 3 dial gauges
3. Prior to starting the test applied preloading about 30 seconds
4. The plate gauge and the dial gauge shall be set in zero
5. For a 300 mm loading plate, the test values are 6.0 kg/cm²
6. The soil shall be loaded in six stages in approximately equal increments, until the required maximum desired stress is reached
7. Each change in load (from stage to stage) shall be completed within one minute
8. The load shall be released in 3 stages, to 50%, 25% and approximately 2 % of the maximum load
9. Following unloading, a further (2nd) loading cycle shall be carried out, in which, however, the load is to be increased only to the penultimate stage of the first cycle, so that the full test is not repeated
10. At each stage the load shall be maintained until the rate of settlement of the plate becomes less than 0.02 mm/min
11. Remove the loads



Report

1. Evaluation and representation of results.
2. Load Settlement curve.
3. The test report contain the following:-
 - Location of test site - Dimension of loading plate.
 - Measuring device used - Type of soil.
 - Type of bedding material below the plate - Weathering condition.
 - Time and date of measurements - Unusual observation made during test.
 - Dial gauge reading and corresponding normal stress - Loading-settlement curve.
 - Description of the soil condition below the plate after testing.

Result

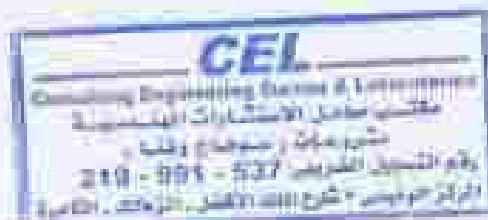
- Type of soil : Middle Embankment
- Job require : $E_{v2} > 40 \text{ MPa}$

Item	Description
Type of bedding material below the plate	Neutral Soil
Plate Diameter (mm)	300
Date of measurement	12/01/2004
Unusual observation made during test	NO
Description of the soil condition below the plate after testing	No deformation

Evaluation and representation of results

Test No.	Station		Location	Level (m)	First Cycle	Second Cycle	E_{v1} / E_{v2} Ratio
	From	To			E_{v1} (MPa)	E_{v2} (MPa)	
1	671+400	671+400	BT1900	-1.8	107.5	100.0	1.40

Signature /



Company Name : شركة عبد الرحمن
Project : Electric Express Train - Sector (B) - Giza to Asyut
Test Date : 29/01/2024
Report Date : 31/01/2024
Station : 671+950
Test No. : 01

Nonrepetitive Static Plate Load Tests of Soils DIN 18134

Loading Stage (1)

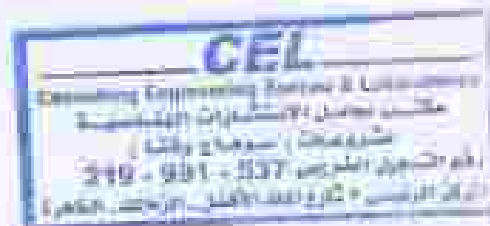
Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Average
	Kg/cm ²		mm		mm	
0	0.00	25.00	0.00	25.00	0.00	0.00
1	0.83	19.86	0.11	19.90	0.10	0.10
2	1.66	19.78	0.20	19.72	0.20	0.20
3	2.50	19.37	0.43	19.50	0.50	0.47
4	3.33	19.40	0.60	19.38	0.52	0.51
5	4.17	19.26	0.73	19.21	0.73	0.73
6	5.00	19.04	0.90	19.02	0.90	0.90

Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Average
	Kg/cm ²		mm		mm	
1	3.33	19.11	0.66	19.13	0.67	0.66
2	1.66	19.27	0.73	19.28	0.73	0.73
3	0.83	19.58	0.41	19.56	0.42	0.42

Loading Stage (2)

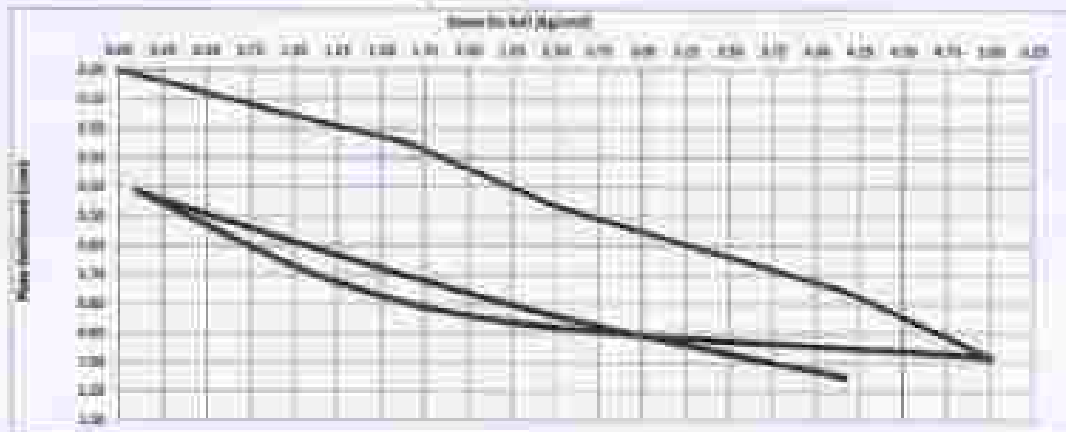
Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Average
	Kg/cm ²		mm		mm	
0	0.00	19.48	0.52	19.41	0.50	0.50
1	1.66	19.32	0.56	19.27	0.73	0.71
2	2.50	19.18	0.62	19.14	0.86	0.84
3	3.33	19.08	0.92	19.00	0.98	0.95
4	4.17	18.98	1.00	18.92	1.08	1.04



Company Name
Project
Test Date
Report No.
Station
Test No.

شركة محامل
Electrical Bridge, Train - Section 02 - Close to Aswan
18/05/2014
19/05/2014
E11-001
10

Nonconfining Static Plate Load Tests of Soils ENR 18154



Loading (T)	0	1	2	3	4	5	6
Stress (kg/cm ²)	0	300	1170.76	1756.25	2053.68	2644.11	3023.9
Stress (kg/cm ²)	0.00	0.30	1.06	2.00	2.32	4.17	5.10
Settlement (mm)	0.00	0.13	0.30	0.47	0.61	0.75	0.80

Unloading (T)	1	2	3	4
Stress (kg)	300	1756	300	71
Stress (kg/cm ²)	0.30	0.60	1.00	0.10
Settlement (mm)	0.30	0.60	0.73	0.80

Q (mm)	200	91 sample	0.01	Stress	0.60	ΔS =	0.01
Q1 (mm)	0.75*1000000		100%				

Exp/Exp = 1.00

Loading (T)	0	1	2	3	4	5
Stress (kg)	0	300.000	1170.76	1756.25	2053.68	2644.11
Stress (kg/cm ²)	0.00	0.30	1.06	2.00	2.32	4.17
Settlement (mm)	0.00	0.00	0.71	0.64	0.00	1.00

Q (mm)	200	91 sample	0.01	Stress	0.07	ΔS =	0.00
Q1 (mm)	0.75*1000000		100%				

Q1 = Modulus of deformation during the working stage

Q2 = Modulus of deformation during the preloading stage

Q3 = Modulus of deformation

Q4 = The difference between Q2 and Q3 from the maximum loading (preloading stage)

Q5 = Difference in settlement corresponding to Q2 and Q3 from the maximum loading stage



Company : شركة عبد الرحمن

Project : Electric Express Train - Sector (B) - Case to Amert.

Subject : Determine the deformation and strength characteristics of soil by the plate loading test according specifications ON 19134/2012-04 and project requirements

Test Location : Station 671+000 to 672+000

Station : 671+000

Level : + 1.5

Test Date : 28/01/2024

Report Date : 31/01/2024

Type of soil : Middle Embankment

Report No. : 91

Dear Gentlemen,

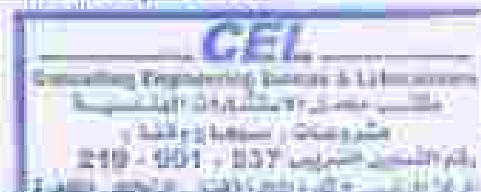
According to the above mentioned subject the test performed as follows:-

Apparatus

1. Loading plates consists of two plates with 300 mm and 300 mm diameter
2. The thickness of plates 30 mm
3. Dial gauges with accuracy 0.01 mm to measuring the settlement
4. Steel straightedges with magnetic supports to fix the dial gauges
5. Hydraulic jack with pump to transfer reactive loads to the loading plates
6. Dial indicator measuring device with scale capacity 100 Bar (Everbest)
7. Reaction loading system by roller (compactor) with weight approximately 15 tons
8. Calibration certificates are attached

Test Procedure

1. Clear the ground on test area to the required level with undisturbed soil
2. Install loading plates 300 mm and 300 mm diameter, hydraulic jack and 2 dial gauges
3. Prior to starting the test started preloading about 30 seconds
4. The strain gauge and the dial gauge shall be set to zero
5. For a 300 mm loading plate, the test values are 0.2 kg/cm²
6. The test shall be started in six stages, in approximately equal increments, until the required Maximum normal stress is reached.
7. Each change in load (from stage to stage) shall be completed within one minute
8. The load shall be released in 3 stages, to 60 %, 35 %, and approximately 2 % of the Maximum load.
9. Following unloading, a further (2nd) loading cycle shall be carried out, in which, however, the load is to be increased only to the penultimate stage of the first cycle (so that the full load is not reached).
10. At each stage the load shall be maintained until the rate of settlement of the plate becomes less than 0.03 mm/min.
11. Remove the loads



Page:

1. Evaluation and representation of results.
2. Load Settlement curve.
3. The test report contain the following:
 - Location of test site - Dimension of loading plate.
 - Measuring device used - Type of soil.
 - Type of bedding material below the plate - Weathering condition.
 - Time and date of measurements - Unusual observation made during test.
 - Dial gauge reading and corresponding normal stress - Loading-settlement curve.
 - Description of the soil condition below the plate after testing.

Report:

- Type of soil : Middle Embankment
- Job require : $E_{v2} > 40 \text{ MPa}$

Item	Description
Type of bedding material below the plate	Natural Soil
Plate Diameter (mm)	300
Date of measurement	1/20/2024
Unusual observation made during test	NO
Description of the soil conditions below the plate after testing	No deformation

Evaluation and representation of results

Test No.	Station		Location	Level (m)	First Cycle		Avg. E_{v2} Ratio
	From	To			E_{v1} (MPa)	E_{v2} (MPa)	
1	271+000	272+000	571+000	-1.2	110.8	188.2	1.70

Signature: _____



Company Name : شركة عبد الرحمن
Project : El-Dokki Express Train - Station (S) - Giza to Aswan
Test Date : 28/01/2024
report date : 31/01/2024
Station : 871+890
Test No. : 01

Nonrepetitive Static Plate Load Tests of Soils DIN 18134

Loading Stage (1)

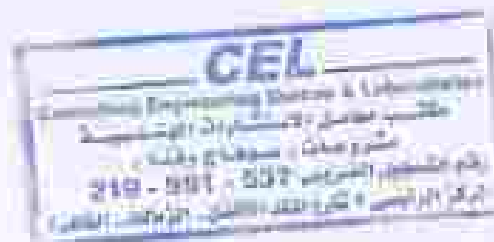
Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Average
	Kg/cm ²		mm		mm	
0	0.00	20.00	0.00	20.00	0.00	0.00
1	0.83	19.88	0.11	19.85	0.10	0.10
2	1.66	19.72	0.28	19.78	0.24	0.26
3	2.50	19.59	0.41	19.60	0.40	0.40
4	3.33	19.35	0.65	19.48	0.51	0.58
5	4.17	19.22	0.78	19.30	0.70	0.74
6	5.00	19.04	0.96	19.15	0.85	0.91

Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Average
	Kg/cm ²		mm		mm	
1	2.50	19.15	0.68	19.28	0.70	0.69
2	1.66	19.24	0.78	19.45	0.55	0.66
3	0.100	19.59	0.41	19.58	0.32	0.37

Loading Stage (2)

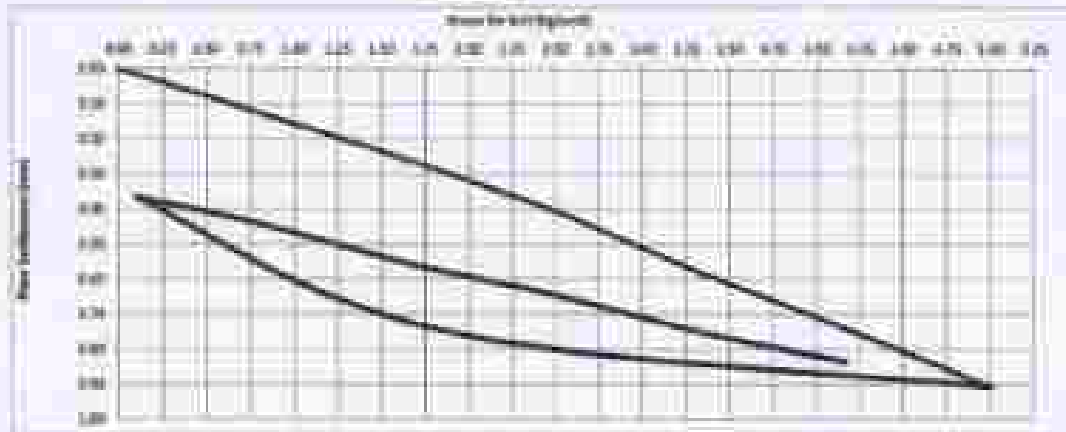
Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Average
	Kg/cm ²		mm		mm	
0	0.60	19.49	0.01	19.62	0.30	0.45
1	1.60	19.40	0.60	19.49	0.51	0.56
2	2.50	19.32	0.88	19.30	0.81	0.85
3	3.33	19.22	0.79	19.28	0.72	0.75
4	4.17	19.19	0.86	19.18	0.82	0.84



Company Name
Project
Test Date
Report Date
Station
Test No.

شركة جيه انجني
Electrical Engineer Train - Sector 20 - Giza in Asmat
1/2005/2005
1/2005/2005
KPT-400
1/07

Incremental Ratio Plate Load Tests of Soils QR-16024



Loading (T)	0	1	2	3	4	5	6
Stages (kg)	0	800	1172.74	1706.25	2392.85	2948.71	3532.4
Stress (kg/cm²)	0.00	0.80	1.09	1.50	2.32	4.17	5.95
Settlement (mm)	0.00	0.15	0.30	0.40	0.55	0.74	0.91

Unloading (T)	1	2	3	4
Stages (kg)	3000	1700	800	75
Stress (kg/cm²)	5.00	2.80	1.25	0.12
Settlement (mm)	0.91	0.80	0.69	0.57

Q (mm) = 300	Q1 (mm) = 0.30	Settlement = 0.91	Q2 = 0.74
Set (mm) = 0.74 (Q1/Q2)	100.0		

Exhibit = 1.00

Loading (T)	0	1	2	3	4	5	6
Stages (kg)	0	800.000	1172.74	1706.25	2392.85	2948.71	3532.4
Stress (kg/cm²)	0.00	0.80	1.09	1.50	2.32	4.17	5.95
Settlement (mm)	0.00	0.15	0.30	0.40	0.55	0.74	0.91

Q (mm) = 300	Q1 (mm) = 0.30	Settlement = 0.91	Q2 = 0.74
Set (mm) = 0.74 (Q1/Q2)	100.0		

Q1 = Load at settlement during the loading stage
Q2 = Load at settlement during the unloading stage
Q = Plate diameter (mm)
Q1 = The difference between Q2 and Q1 from the maximum loading point (kg/cm²)
Q2 = Difference in settlements corresponding to Q2 and Q1 from the maximum loading point

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مشاريع محافظات الوجه القبلي
رقم التسجيل المهنى 537 - 0111 - 219
الشارع الرئيسي : طريق الدخيل - الوجه القبلي - القاهرة



Company Name	شركة عبد الرحمن
Project	Electric Express Train – HSR From Qow To Arment
Testing Date	29/01/2024
Soil type	Upper Embankment
Location	57 From 672+000 To 672+180 (1) مسار
Level	- 1.0 M
Report No.	105-2

Connection test by using Weld – Core Test Method
ASTM D-1534

Test #	Station	Test Hole Volume cm ³	Wet Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction [%]	Acceptance
1	672+020	1564	2.29	5.8	2.16	99.2%	Comply
2	672+040	1393	2.26	5.6	2.14	98.4%	Comply
3	672+060	1252	2.24	5.5	2.12	97.2%	Comply
4	672+080	1580	2.25	5.6	2.14	97.9%	Comply
5	672+100	1687	2.21	5.8	2.09	95.9%	Comply
6	672+120	1720	2.21	6.4	2.08	95.4%	Comply
7	672+140	1430	2.23	5.3	2.16	99.2%	Comply
8	672+160	1390	2.30	5.8	2.18	99.8%	Comply

Degree of comparison based on: [authoritat](#) [verbalis](#) [in](#)

- Max. dry density **1.92** g/cm³
- Optimum moisture **13.5** %

Abstract

APR 1997

Consulting Eng.: Hailuon Montano

TEL: Mark R. Hill, Oreg.
Dorothy, Calif.
SA Fax: (503) 253-2700



ENTER YOUR NAME



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Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Armanat
Testing Date : 30/03/2024
Soil type : Upper Embankment
Location : بين القوس 1- 672+180 To 671+780
Level : - 1.0 M
Report No. : 165-3

**Compaction test by using Sand - Cone Test Method
ASTM D-1558**

Test #	Station	Test Hole Volume cm ³	Bulk Density gm ³ /cm ³	Moisture Content %	Dry Density (gm ³ /cm ³)	Degree of Compaction (%)	Acceptance
1	671+800	1464	2.19	5.5	2.08	95.3%	Comply
2	671+820	1499	2.22	5.5	2.10	96.8%	Comply
3	671+860	1447	2.16	5.5	2.05	93.8%	Comply
4	671+880	1592	2.24	5.5	2.12	97.3%	Comply
5	671+900	1432	2.27	6.3	2.14	98.1%	Comply
6	671+920	1434	2.25	6	2.12	97.3%	Comply
7	671+940	1572	2.25	5.3	2.14	98.2%	Comply
8	671+960	1523	2.18	5.4	2.07	95.0%	Comply
9	671+800	1648	2.20	5.8	2.08	95.3%	Comply
10	672+040	2059	2.21	5.6	2.09	96.0%	Comply
11	672+060	1993	2.22	6.4	2.08	95.6%	Comply
12	672+080	1523	2.28	5.5	2.11	96.8%	Comply
13	672+100	1545	2.22	5.5	2.10	96.4%	Comply
14	672+120	1522	2.25	5.5	2.13	97.9%	Comply
15	672+140	1804	2.25	5.5	2.13	97.7%	Comply
16	672+160	1691	2.24	6.3	2.11	96.8%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.18 gm/cm³
- At optimum moisture content = 6.4 %

Signature /

[Handwritten Signature]
Consultant Eng : Haitham Mustafa
210 - 591 - 537
011-2487-2071, 2071, 2072, 2073



101 Street 8, Zone 1, Unit
Doha, QATAR
P.O. Box 270001, Doha 16

الشارع 8، المنطقة 1، الوحدة
الدوحة، قطر
ص.ب. 270001، الدوحة 16



Consulting Engineering Bureau & Laboratories
مكتب استشارات الهندسة والاختبارات

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qais To Ahtart
Testing Date : 31/01/2024
Soil type : Upper Embankment
Location : ST From 671+700 To 672+000 - 1.25 متر
Level : - 1.25 M
Report No. : 100-1

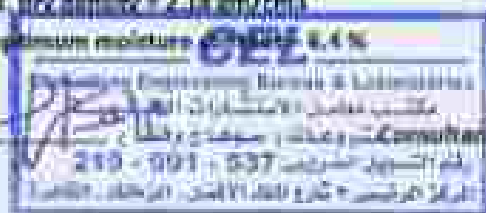
Connection test by using Sand - Core Test Method
ASTM D-1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/cm ³	Moisture Content %	Dry Density (gm/cm ³)	Degree of Compaction (%)	Acceptance
1	671+800	1726	2.27	6	2.15	98.4%	Comply
2	671+820	1711	2.28	5.8	2.16	98.9%	Comply
3	671+860	1561	2.21	6.4	2.08	95.5%	Comply
4	671+880	1516	2.26	5.5	2.14	98.2%	Comply
5	671+900	1395	2.24	6.3	2.11	96.7%	Comply
6	671+920	1581	2.21	6.3	2.08	95.5%	Comply
7	671+940	1515	2.24	6.3	2.11	96.9%	Comply
8	671+960	1618	2.22	6.3	2.09	95.8%	Comply
9	671+980	1696	2.21	6.3	2.08	95.4%	Comply

Degree of compaction based on proctor test dated At:

- Max. dry density = 2.18 gm/cm³
- At optimum moisture = 5.4 %

Signature:



Consultant Eng: Hisham Mustafa

System E- Mail: info@cel.com
Jeddah, KSA
Tel: 011-2630000 (ext. 100)



المكتب
بوكس 100
جدة - المملكة العربية السعودية

نموذج طلب اختبار و استقبال العينات

رقم الوارد	تاريخ التوريد	الوقت	الوقت

1. بيانات الشركة:

اسم الشركة	مبارك الزحني	اسم المشروع	التمديد المزمع
التليفون	٢٤٩ - ٩٥٥٠١٠٠	ملاحظات	

2. فحص العينات:

العينات مصلحة للاختبار () العينات غير مصلحة للاختبار ()
أسباب عدم المصلحية :

3. الاختبارات المطلوبة [تحديد بواسطة الشركة]:

م	تعريف العينات	رقم عينة	العدد	الاسم	الاختبار المطلوب	المواصفة	قوة العينة
1	متر - بجوار التمديد		1	متر - بجوار التمديد	متر - بجوار التمديد	EET	٥١-29
2							
3							
4							
5							

4. تيمم العينات:

اسم العميل	اسم العميل	اسم العميل	اسم العميل
اسم العميل	اسم العميل	اسم العميل	اسم العميل

CEL

Consulting Engineering Services & Laboratories
مكتب محاسن الاستشارات الهندسية

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Armanat
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 20/01/2024
Reporting Date : 24/01/2024
Reporting No. : 01-29

Dear Gentleman,

Attached here with the delivered on 20 / 01 / 2024

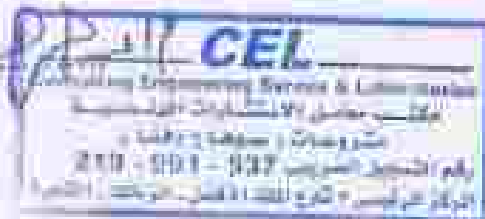
This sample is representative for 5,000 M³

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

Consultant Eng :

Signature :



20140601-0001-0001
Company Code
150101-000001-000001



إدارة المشاريع
قسم الدراسات
مكتب محاسن الاستشارات الهندسية

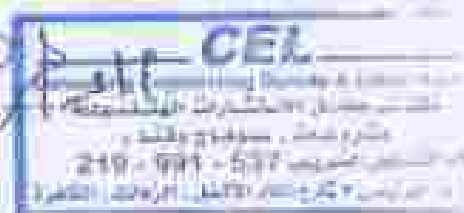


Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Arment
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 20/01/2024
Reporting Date : 24/01/2024
Reporting No. : 01-29

RESULTS OF SIEVE ANALYSIS According to ASTM D-422

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	98.6
37.5	1.5	94.5
25	1	88.7
19	¾	80.6
12.50	½	73.8
9.50	3/8	64.5
4.75	4	55.5
2.00	10	44.1
0.425	40	29.6

Signature:

[illegible]

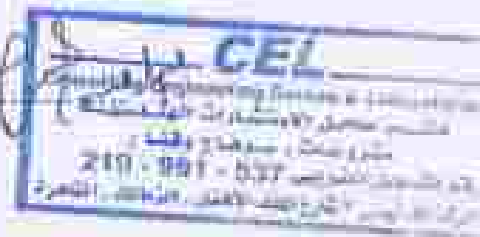
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Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Arman
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 20/01/2024
Reporting Date : 24/01/2024
Reporting No. : 01-29

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ m (No.200)	9.9

Signature

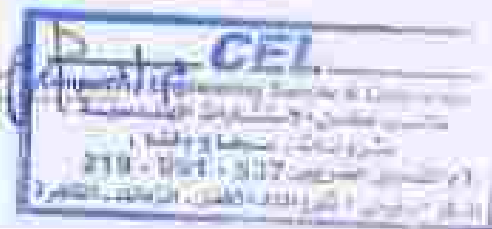


Company Name : شركة عبد الرحمن
 Project : Electric Express Train - HSR From Qous To Arman
 Location : ST: 672+180 E=32.7745621 N= 25.6596723
 Type of sample : Soil Embankment (Upper Embankment 0.0)
 Delivery Date : 20/01/2024
 Reporting Date : 24/01/2024
 Reporting No. : 01-29

**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 /



10 MAA EL-HAY STREET
 DAMIEN, CAIRO
 Tel/Fax: 20022-274000



10 MAA EL-HAY STREET
 DAMIEN, CAIRO
 Tel/Fax: 20022-274000

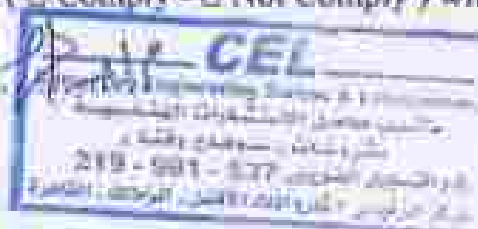
Company Name : شركة عبد الرحمن
 Project : Electric Express Train - HSR From Qous To Armut
 Location : ST: 672+180 E=32.7745621 N=25.6596723
 Type of sample : Soil Embankment (Upper Embankment 0.0)
 Delivery Date : 20/01/2024
 Reporting Date : 24/01/2024
 Reporting No. : 01-29

Soil Classification

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).	44.1	Max 50 %	—	—
0.425 mm (No. 40).	29.6	Max 30 %	Max 50 %	—
0.075 mm (No. 200).	9.9	Max 15 %	Max 15 %	Max 15 %
Liquid Limit	—	—	—	—
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

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

Signature /

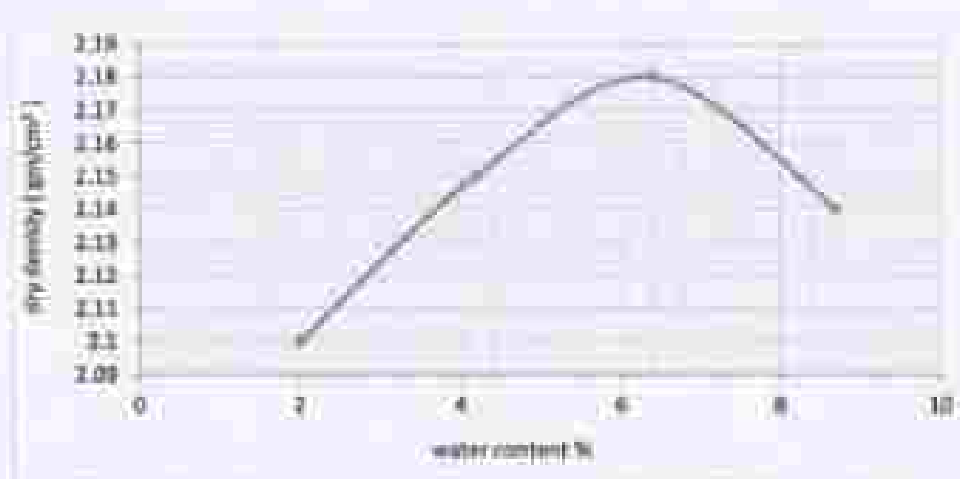




Consulting Engineering Bureau & Laboratories
مكتب استشارات الهندسية

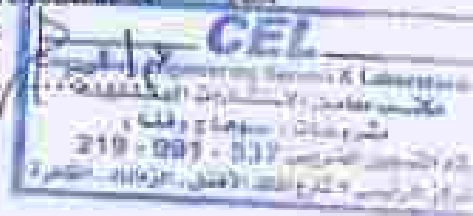
Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Arman
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 20/01/2024
Reporting Date : 24/01/2024
Reporting No. : 01-29

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



- Max dry density (gm/cm³) : 2.18
- Optimum moisture content % : 6.4

Signature /



131 Main St. 1st Floor
Damascus, Syria
Tel: 963-11-2200000 - 2200001



إدارة المشاريع
قسم الهندسة
الهندسة المدنية



Consulting Engineering Bureau & Laboratories
مكتب استشارات الهندسية

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Armanat
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 20/01/2024
Reporting Date : 24/01/2024
Reporting No. : 01-29

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

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.38
1.27	0.050	1.31
1.91	0.075	2.11
2.54	0.100	2.95
3.18	0.125	3.76
3.81	0.150	4.32
4.45	0.175	4.88
5.08	0.200	5.20
6.35	0.250	5.49

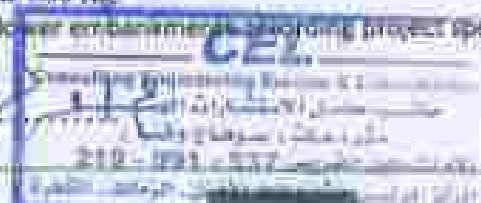
CBR Result	Stress (Mpa)		CBR 100 %
At 0.2 inch (5.08 mm) penetration	St. Value	Sample results	50.5%
	19.3	5.20	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of $\approx 2.18 \text{ (g/cm}^3\text{)}$
At = 0.4 % optimum water content.
- 3- Surcharge load 4.50 Kc.
- 4- CBR > 10 for middle and lower embankment according project spec page No 35.

Signature /

2024/01/24/01/29/0001
Dr. H. A. Al-Sayid
Tel: 011-22222222 - 22222222



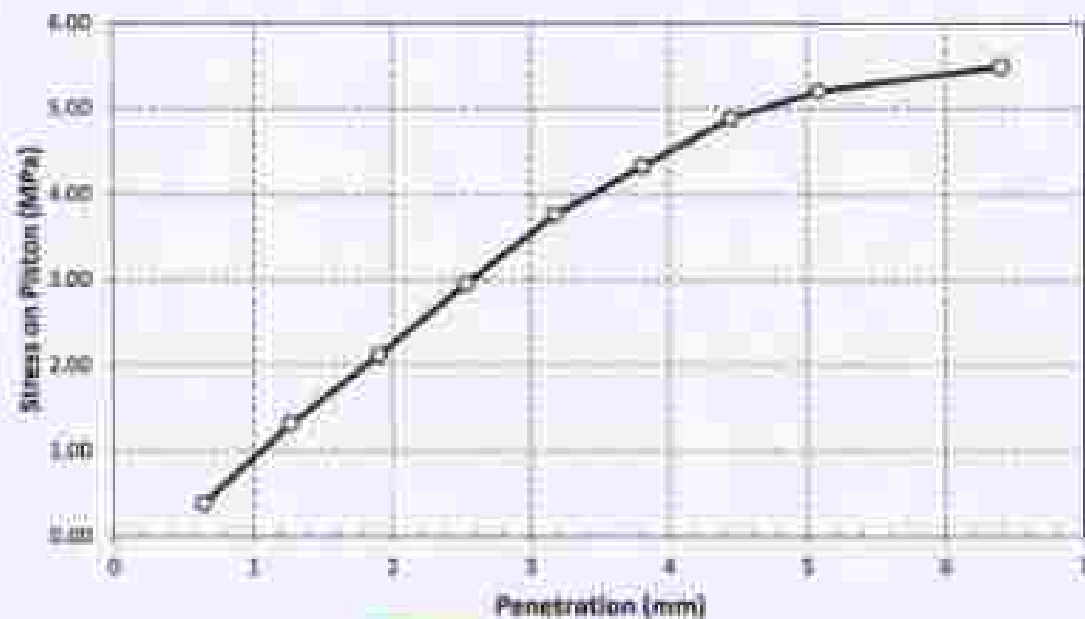
2024/01/24/01/29/0001
Dr. H. A. Al-Sayid
Tel: 011-22222222 - 22222222

CEL

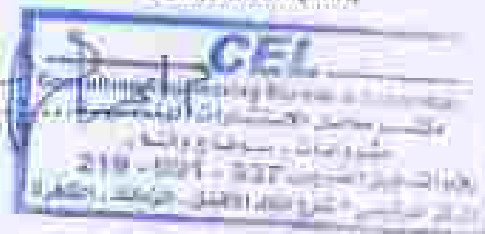
Consulting Engineering Bureau & Laboratories
مكتب استشارات الهندسية

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Armut
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 20/01/2024
Reporting Date : 24/01/2024
Reporting No. : 01-29

Load Penetration Curve of CBR Test ASTM D-1883



Signature



100 Main St. Unit 200
Darien, Conn.
Tel: (781) 251-1000

IAS
ACCREDITED

Dr. Mohamed El-Hadi El-Hadi
Dr. El-Hadi El-Hadi
Dr. El-Hadi El-Hadi



Consulting Engineering Bureau & Laboratories
مكتب محاسن الاستشارات الهندسية

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSB From Qina To Assiut
Testing Date : 31/01/2014
Soil type : Upper Embankment
Location : ST From 672+000 To 672+180-0.75 يشار المعدل
Level : + 0.75 M
Report No. : 106-2

Compaction Test for subsoil Test - 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	672+020	1474	2.28	6.3	2.14	98.3%	Comply
2	672+040	1442	2.27	6.3	2.13	97.8%	Comply
3	672+060	1321	2.29	6.3	2.15	98.7%	Comply
4	672+080	1536	2.23	6.3	2.10	96.2%	Comply
5	672+100	1676	2.27	6.3	2.13	97.8%	Comply
6	672+120	1626	2.28	6.3	2.14	98.2%	Comply
7	672+160	1488	2.24	6.3	2.11	96.8%	Comply

Degree of compaction based on existing test result as

- Max. dry density = **2.15 gm/cm³**
- At optimum moisture content = **6.3 %**

Signature

Handwritten signature and stamp of the consultant engineer.

Consultant Eng : Haltham Mustafa

3000 Main St. Suite 200
Ann Arbor, MI 48106
Tel: 734.769.0000 Fax: 734.769.0001



3000 Main St. Suite 200
Ann Arbor, MI 48106
Tel: 734.769.0000 Fax: 734.769.0001



Consulting Engineering Bureau & Laboratories
مكتب استشارات الهندسية

Company Name : شركة شهاب الرحمن
Project : Electric Express Train - HSE From Qous To Arman
Testing Date : 04/02/2024
Soil type : Upper Embankment
Location : ST from 671+780 To 672+000 مسار السكة
Level : -1.00
Report No. : 109-2

Compaction test by using Sand - Cons Test Method

ASTM D-1556

Test #	Station	Test Hole Volume (m ³)	Bulk Density (gm/ cm ³)	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	671+800	1747	2.25	5.8	2.12	97.4%	Comply
2	671+820	1732	2.25	5.8	2.12	97.5%	Comply
3	671+840	1582	2.21	5.8	2.09	95.8%	Comply
4	671+860	1538	2.23	5.8	2.10	96.5%	Comply
5	671+880	1437	2.21	5.8	2.09	96.1%	Comply
6	671+920	1412	2.23	5.8	2.11	96.8%	Comply
7	671+940	1636	2.21	5.8	2.10	96.4%	Comply
8	671+960	1639	2.19	5.8	2.07	95.6%	Comply
9	671+980	1718	2.18	5.8	2.07	95.1%	Comply

Degree of compaction based on proctor test dated :

- At Max. dry density = 2.18 gm/cm³
- At optimum moisture content = 6.4 %

Signature /  Consultant Eng. : Ibrahim Mostafa

Consulting Engineering Bureau & Laboratories
مكتب استشارات الهندسية
بغداد - العراق
210 - 215 - 217
T: 00964-7806-3241 / 3242 / 3243

100, Nasser St. 10th floor
Zamalek, Cairo
Tel: +963-11-5340000-5340001



إبراهيم مصطفى
مهندس استشاري
مكتب استشارات الهندسية

CEL

Consulting Engineering Research & Laboratories
مكتب دراسات الاستشارات الهندسية

Company Name : شركة عياد الرحمن
Project : Electric Express Train - HSR from Qous To Amman
Testing Date : 01/02/2024
Soil type : Upper Embankment
Location : ST from 671+780 To 672+000
Level : -1.25
Report No. : 107

عين العسل

Compaction test for using sand - Core 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	672+800	1445	2.22	5.8	2.10	98.4%	Comply
2	672+820	1556	2.23	5.3	2.12	97.0%	Comply
3	672+840	1524	2.23	5.3	2.12	97.1%	Comply
4	672+860	1537	2.23	6.4	2.09	95.9%	Comply
5	672+880	1510	2.16	5.8	2.13	97.0%	Comply
6	672+900	1062	2.27	5.8	2.15	98.5%	Comply
7	672+940	1071	2.23	5.3	2.12	97.3%	Comply
8	672+960	1128	2.23	5.8	2.11	96.7%	Comply
9	672+980	1073	2.25	6.4	2.11	96.9%	Comply

Degree of compaction based on proctor test dated :

- At Max. dry density = 2.18 gm/cm³
- At optimum moisture content = 6.4 %

Signature / 

Constant Eng. : Wafar Mustafa

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Tel: +963 11 551 11 11

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INTEGRATED
ASSOCIATES

إدارة المشاريع
مكتب الدراسات
مكتب التصميم

CEL

Consulting Engineering Bureau & Laboratories
مكتب استشارات الهندسة والمختبرات

Company Name : شركة تناد الرخمن
Project : Electric Express Train - HSE from Qass To Amman
Testing Date : 09/02/2018
Soil type : Upper Embankment
Location : ST from 672+000 To 472+180
Level : -0.75
Report No. : 108-Q

Compaction test by using Sand - Cone Test Method

ASTM D- 1555

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	672+000	1520	2.25	5.8	2.13	97.6%	Comply
2	672+070	1558	2.29	6.4	2.07	95.0%	Comply
3	672+110	1298	2.26	5.3	2.15	98.6%	Comply
4	672+140	1416	2.21	5.8	2.08	95.6%	Comply
5	672+170	1260	2.26	5.8	2.14	98.2%	Comply

Degree of compaction based on proctor test dated :

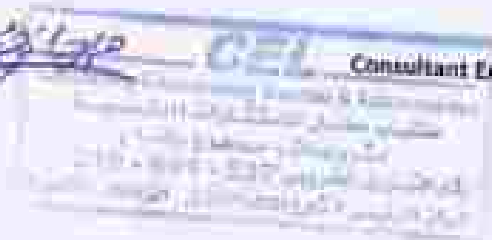
- At Max. dry density = 2.18 gm/cm³
- At optimum moisture content = 6.4 %

Signature /



CEL

Consultant Eng. : Hitham Mustafa



J. E. Maher J. Maher Group
Damascus, Syria
Tel/Fax: 00963-11-2780000

IAS
ACCREDITED
LABORATORY

المختبر
مختبر
مختبر

CEL

Consulting Engineering Bureau & Laboratories
مكتب محاسن الاستشارات الهندسية

Company Name : شركة محاسن
Project : Electric Express Train - HSR Train Gous To Amman
Testing Date : 04/03/2024
Soil type : Upper Embankment
Location : ST from 672+000 To 672+100 بنجر الصفاة
Level : -0.50
Report No. : 308-3

Compaction test by using Sand - Cone Test Method

ASTM D-1556

Test #	Station	Test Hole Volume cm3	Bulk Density gm/ cm3	Moisture Content %	Dry Density (gm/ cm3)	Degree of Compaction (%)	Acceptance
1	672+020	1432	2.28	5.8	2.15	98.8%	Comply
2	672+040	1016	2.24	5.8	2.11	97.0%	Comply
3	672+060	1286	2.29	5.3	2.18	98.9%	Comply
4	672+080	1364	2.25	5.8	2.13	97.7%	Comply
5	672+100	1297	2.28	5.8	2.16	99.1%	Comply
6	672+120	1376	2.29	5.8	2.16	99.1%	Comply
7	672+140	1311	2.19	5.3	2.08	96.6%	Comply
8	672+160	1314	2.22	5.8	2.10	96.4%	Comply

Degree of compaction based on proctor test dated :

- At Max. dry density = 2.38 gm/cm3
- At optimum moisture content = 6.4 %

Signature /



Consultant Eng. : Hilhem Mostafa

CEL Office - HSR Train
Damascus, Syria
Tel/Fax: 011-2221-2222



إدارة الجسر
الشارع ٢٢٢
دمشق - سورية

نموذج طلب اختيار و استقبال العميات

رقم التورد		الوقت	
تاريخ التوردة	22/1/2029		

1. صفات الشريعة

1. بيانات الشركة:			
اسم الشركة	عنوان الشركة	اسم المشروع	القطار الجديد
التيلون	٥٨٩ - ٣٥٠ - ١	ملاطحات	

2. الفهم العميق

الحيات في صناعة الكمبيوتر ()

الميزان صالحة للتقدير

البيان رقم ١٠٤

3. الاختبارات المطلوبة (تحدد بواسطة الشرطة):

م	تعريف العيقات	رقم العينة	العدد	المصدر	الاختبار المطلوب	المواصفة	تاريخ العينة
1	مستوى به جوار المسار		1	مستوى به جوار المسار	مستوى به جوار المسار	EGT	01-30
2							
3							
4							
5							

4. تسليم العميل:

اسم الطالب	م / حمدي شفيق	اسم المعلم	م / أحمد محمد
التوقيع		التوقيع	

CEL

Consulting Engineering Bureau & Laboratories
مكتب دراسات والاستشارات الهندسية

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Armanat
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 22/01/2024
Reporting Date : 26/01/2024
Reporting No. : 01-30

Dear Gentleman,

Attached here with the delivered on 22 / 01 / 2024

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

Consultant Eng :

Signature /



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Ghent, Flanders
Tel/Fax: +32 (0)9 - 237 00 00



أ.م.ع. عبد الرحمن
م.ع. عبد الرحمن
م.ع. عبد الرحمن

CEL

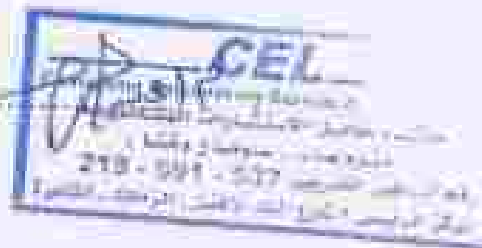
Consulting Engineering Bureau & Laboratories
مكتب دراسات الاستشارات الهندسية

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Armanat
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 22/01/2024
Reporting Date : 26/01/2024
Reporting No. : 01-30

RESULTS OF SIEVE ANALYSIS According to ASTM D-422

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	97.0
37.5	1.5	93.1
25	1	86.4
19	3/4	79.4
12.50	1/2	72.1
9.50	3/8	62.6
4.75	4	53.2
2.00	10	42.8
0.425	40	28.3

Signature /



101 Main St. West Tower
Savannah, Ga.
Tel: Fax: 252-333-0700

IAS
International
Association of
Savannah

Dr. Mohamed Elmaghrabi
Savannah, Ga.
Tel: 252-333-0700

CEL

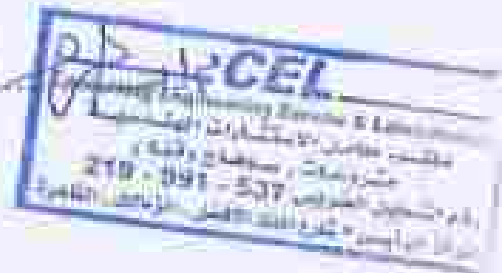
Consulting Engineering Bureau & Laboratories
مكتب استشارات الهندسة

Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Arman
Location : ST: 672+180 E-32.7745621 N- 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 22/01/2024
Reporting Date : 26/01/2024
Reporting No. : 01-30

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ m (No.200)	9.0

Signature /



Dr. Maher El-Masry El-Masry
Engineer, Civil
Tel/Fax: 011-2330000 - 011-2330001



إبراهيم محمد
مهندس
011-2330000 - 011-2330001



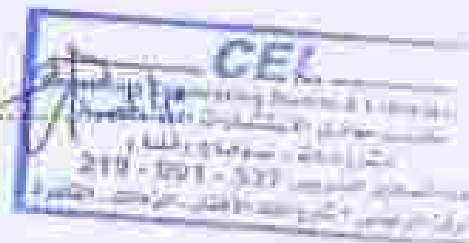
Consulting Engineering Bureau & Laboratories
مكتب استشارات الهندسية

Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Armanat
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 22/01/2024
Reporting Date : 26/01/2024
Reporting No. : 01-30

**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. Mohamed El-Mohamed
General Manager
T: 011 444 4444 F: 011 444 4444



Dr. Mohamed El-Mohamed
General Manager
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Consulting Engineering Bureau & Laboratories
مكتب محاسن الاستشارات والمختبرات

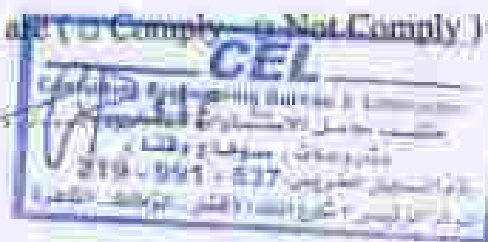
Company Name : شركة عبد الرحمن
Project : Electric Express Train – HSR From Qous To Armanat
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 22/01/2024
Reporting Date : 26/01/2024
Reporting No. : 01-30

Soil Classification

TEST	Results (%)	Limits according Projects Specs		
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-d)
2.00 mm (No.10).	42.8	Max 50 %	—	—
0.425 mm (No. 40).	28.3	Max 30 %	Max 50 %	—
0.075 mm (No. 200).	9.0	Max 15 %	Max 15 %	Max 15 %
Liquid Limit	—	—	—	—
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

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

Signature /



Youssef Elmer Ghar
General Manager
Tel: 011 2242000 - 011 2242001



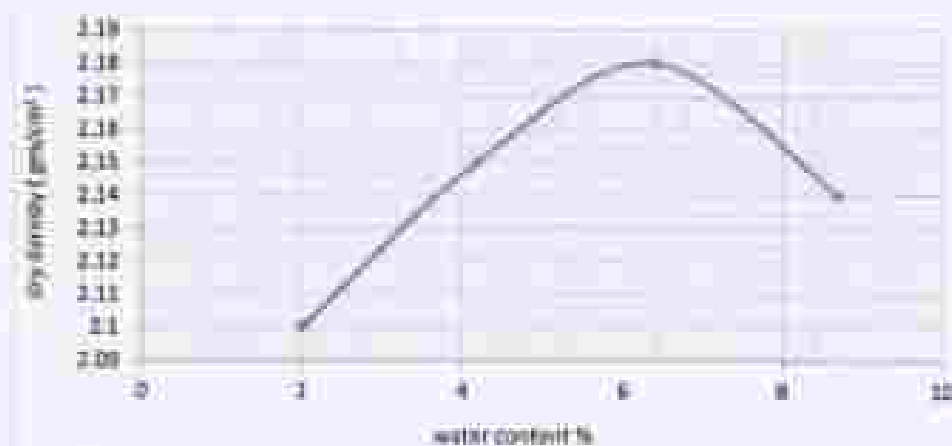
Dr. Youssef Elmer Ghar
General Manager
Tel: 011 2242000 - 011 2242001

CEL

Consulting Engineering Bureau & Laboratories
مكتب استشارات الهندسية

Company Name : شركة عهد الزحدي
Project : Electric Express Train - HSR From Qous To Armanat
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 22/01/2024
Reporting Date : 26/01/2024
Reporting No. : 01-30

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



- Max dry density (gm/cm³) : 2.18
- Optimum moisture content % : 6.4

Signature /



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إدارة المهندسين
الهندسة المدنية
الهندسة الكهربائية



Consulting Engineering Bureau & Laboratories
مكتب استشارات الهندسة

Company Name : شركة هيد الرحمن
Project : Electric Express Train - HSR From Qous To Amant
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 22/01/2024
Reporting Date : 26/01/2024
Reporting No. : 01-30

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

penetration		stress on piston (Mpa)
mm	inch	
0.64	0.025	0.45
1.27	0.050	1.37
1.91	0.075	2.18
2.54	0.100	3.04
3.18	0.125	3.80
3.81	0.150	4.41
4.45	0.175	4.94
5.08	0.200	5.27
6.35	0.250	5.53

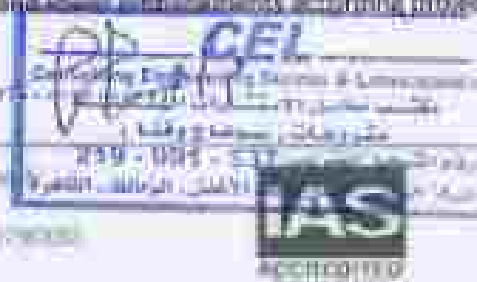
CBR Result:	Stress (Mpa)		CBR 100 %
At 0.2 inch (5.08 mm) penetration	St. Value	Sample results	51.2%
	10.3	5.27	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of $\approx 2.18 \text{ (gm/cm}^3\text{)}$.
At $\approx 6.4 \%$ optimum water content.
- 3- Surcharge load 4.50 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 35.

Signature /

100 MAHMOUD ALI
Director, Civil
Tel: 011 2762211 / 2762212



100 MAHMOUD ALI
Director, Civil
Tel: 011 2762211 / 2762212

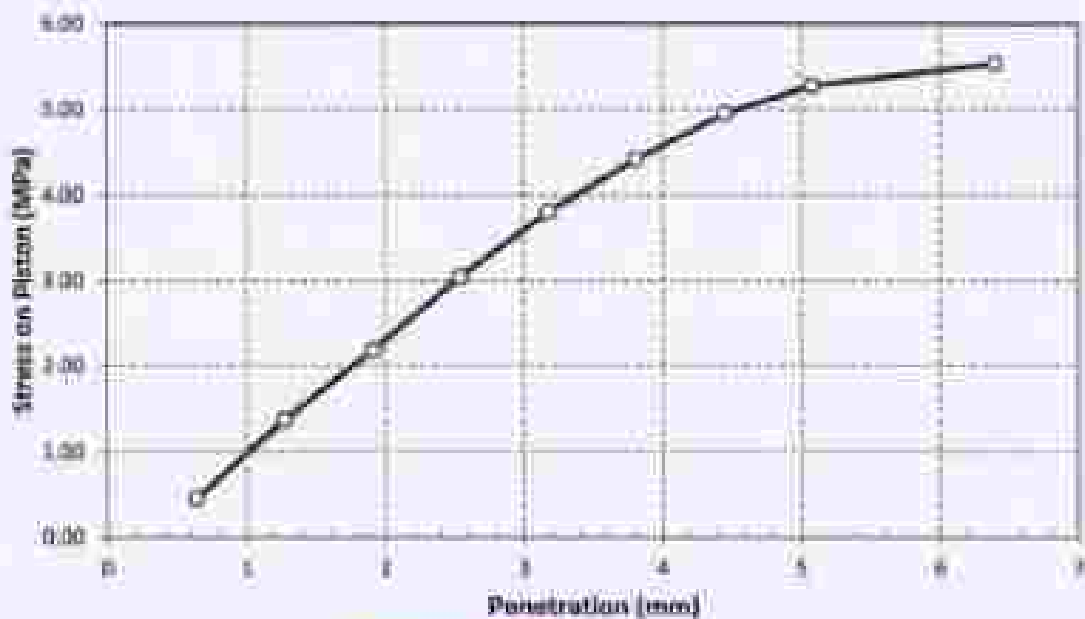
CEL

Consulting Engineering Bureau & Laboratories
مكتب دراسات الاستشارات الهندسية

Company Name : شركة عبد الرحمن
Project : Electric Express Train - HSR From Qous To Arman
Location : ST: 672+180 E=32.7745621 N= 25.6596723
Type of sample : Soil Embankment (Upper Embankment 0.0)
Delivery Date : 22/01/2024
Reporting Date : 26/01/2024
Reporting No. : 01-30

Load Penetration Curve of CBR Test

ASTM D-1883



Signature



T.D. Abdel Rahman Elwan
Director, Civil
Tel/Fax 01152001 - 2000000



إلى السيد المهندس
المهندس عبد الرحمن
مكتب دراسات الاستشارات الهندسية



Consulting Engineering Services & Laboratories
مكاتب استشارات الهندسة والاختبارات

Company Name : شركة عياد الرحمن
Project : Electric Express Train - JBR From Qas To Arman
Testing Date : 06/02/2024
Soil type : Upper Embankment
Location : ST from 671+700 To 672+000
Level : -0.75
Report No. : 111

Compaction test for using Sand - Core Test Method

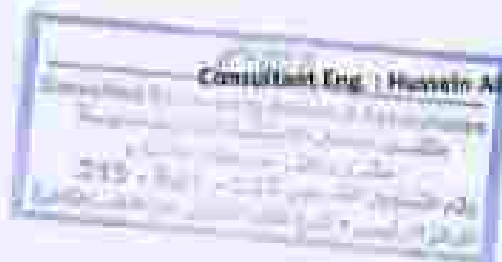
ASTM D-1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
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3	671+840	1645	2.24	6.4	2.10	96.9%	Comply
4	671+860	1389	2.13	5.3	2.12	97.7%	Comply
5	671+900	1660	2.22	5.3	2.11	97.1%	Comply
6	671+920	1577	2.23	6.4	2.10	96.6%	Comply
7	671+940	1570	2.27	5.8	2.14	98.8%	Comply
8	671+960	1613	2.27	5.8	2.14	98.7%	Comply
9	671+980	1508	2.23	5.3	2.11	97.4%	Comply

Degree of compaction based on proctor test dated :

- At Max. dry density = 2.18 gm/cm³
- At optimum moisture content = 6.4%

Signature / 



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مكاتب استشارات
الهندسة والاختبارات
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