

المنطقة الخامسة - (غرب الدلتا)

السيد المهندس / رئيس قطاع التنفيذ والمناطق

تحية طيبة.. وبعد،،

بالإحالة إلى مشروع القطار الكهربائي فائق السرعة قطاع (العلمين - فوكة)
نتشرف بأن نرفق لسيادتكم طيه المقاييس المعدلة للقطاعات الآتية:

المسلسل	اسم الشركة	من المحطة	إلى المحطة	الإتجاه
١	ايجيبت ستون	٤٤٣+٦٠٠	٤٤٤+٦٠٠	إستكمال فوكة

برجاء من سيادتكم التفضل بالأحاطه والتوجيه بالازم

وتفضلوا بقبول فائق الاحترام والتقدير،،

رئيس الإدارة المركزية

(المنطقة الخامسة - غرب الدلتا)

عميد مهندس /
" هاني محمد محمود طه "





مركز الاستشارات الهندسية
للنقل والطرق والمطارات
(خبراء دوليون)
دكتور/ سمير الجبوشي



المقاييس المعدلة لنفوذ الاعمال

عملية :- أعمال الجسر الترابي و الأعمال الصناعية لمشروع القطار الكهربائي المربيع (العين السخنة - مطروح) لتنفيذ اعمال الجسر الترابي قطاع (العامين / فوكة) المسافة من الكم ٤٤٣,٦٠٠ الى الكم ٤٤٤,٦٠٠ بطول ١ كم إستكمال اتجاه فوكة .

عقد رقم : (١٥٧١ / ٢٠٢٢ / ٢٠٢٣) بتاريخ ٢٠٢٣-٠٢-٠٧

تنفيذ :- شركة ايجيبت ستون

رقم البند	بيان الاعمال	الوحدة	الكمية	اللفة	الإجمالي
٣	أعمال الردم				
١.٣	بالمتر المكعب احصال توريد وتشغيل التربة سالمة للردم و مطابقة المواصفات وتشغيل باستادام المعدات بسك لا يزيد عن ٢٠ سم حتى مسوب ٦ متر و بسك لا يزيد عن ٢٥ سم لاستكمال المنسوب التصميمي لتشغيل الجسر والانتكاف (نسبة تعمل كالمقربتها لا تقل عن ١٠%) و رشها بدماء الاسوانية للوصول الى نسبة الرطوبة المطلوبة ودمك الجد بالهرسات للوصول الى قصى كثافة جافة (98%) من كثافة الجافة القصوى) ويتم التنفيذ طبقا للمناسيب التصميمية والقطاعات العرضية التوافقية والرسومات التفصيلية المعتمدة والياد يجمع مشتلاته طبقا لاصول الصناعة ومواصفات الهيئة العامة للطرق والكباري وتعليمات المهندس المشرف.	م ^٣	٣١,٥٧٩,٩٤	٨٥	٢,٦٨٤,٢٩٥
	- مسافة نقل ٢ كم				
	- يتم احصاء عاكس ١٤ اجنيه لكل ١ كم بالزبداء و القفصان				
	- السعر يشمل عمل تشويبات وتخليط والتبيلات ونقل موقع العمل حتى مسافة ٢ كم				
	- السعر يشمل قيمة المادة المحجرة				
	علاوة مسافة النقل ١٢٥ كم				
	علاوة لتحميل رسوم التكلفة والموازين طبقا للاتحاد الشركة الوطنية				
5	البلات الخرسانية				
5-1	بالمتر المصنوع احصال توريد وصب خرسانة عادية بسك ١٥ سم لعماية الانتكاف والمويل الجانبيه تتكون من ٠.٨ م ^٣ من دولوميت من دولوميت مخرج + ٠.٤ م ^٣ رمل حرش + ٣٥٠ كم اسمنت بورتلاندي عادي + فبر على أن يكون السن لتطيف ومضبول والرمل خالي من الشوائب والطفلة والأملاح والمواد الغريبة والياد يشمل تجهيز واستعمال متاسيب التربة الطبيعية اسفل البلاطة للوصول الى المناسيب التصميميه على أن تحقق الخرسانة إجهاد لا يقل عن ٢٥٠ كجم / سم ^٢ وتشطيب السطح والتنفيذ طبقا لاصول الصناعة والرسومات التفصيلية المعتمدة والياد يجمع مشتلاته طبقا لمواصفات الهيئة العامة للطرق والكباري وتعليمات المهندس المشرف .	م ^٢	١٠,٠٠٠,٠٠٠	٣٥٥,٠٠٠	٣,٥٥٠,٠٠٠,٠٠٠
5-2	بالمتر المكعب أعمال توريد وصب خرسانة عادية لقواعد الصليات والمويل الجانبيه تتكون من ٠.٨ م ^٣ من دولوميت مخرج + ٠.٤ م ^٣ رمل حرش والإضافات طبقا لتعليمات الاستشاري (فبر + سبك) على أن يكون السن لتطيف ومضبول والرمل خالي من الشوائب والطفلة والأملاح والمواد الغريبة مع وضع قوم (بالقفصان) بسك ٢ سم (طبقا لتعليمات الاستشاري) والياد يشمل احصال الحفر والشدات وكل ما يلزم لنهو العمل على أن تحقق الخرسانة إجهاد لا يقل عن ٢٥٠ كجم/سم ^٢ وملء الفراصل باليافونين المرمل والتنفيذ طبقا لاصول الصناعة والرسومات التفصيلية المعتمدة والياد يجمع مشتلاته طبقا لمواصفات الهيئة العامة للطرق والكباري وتعليمات المهندس المشرف	م ^٣	٣٢٠,٠٠٠	٢,٢٠٠,٠٠٠	٧٠٤,٠٠٠,٠٠٠
	الإجمالي				١٤,٩٩١,١٨١,٠

(اربعة عشرة مليون و تسعمائة و واحد وتسعون الف و مئة و واحد وثمانون جنيها فقط لاغير)

مدير المشروعات الهندسية

م / محمد حسني فياض

مدير المشروع الهندسية

م / ابراهيم الحناوى

مدير المشروع الاستشاري

م / مصطفى نجم

مدير المشروع الشركة

م / محمد النجار

يعتمد

رئيس الإدارة المركزية

منطقة غرب الدلتا

الاسكندرية - مرسى مطروح

عميد مهندس /

" هانى محمد محمود طه "



RECEIPT of NOTIFICATION - Minimum Notice Period not less than 24 Hours

252-f - 388

The Work described below will be complete and ready for inspection at planned time shown

Contractor Company Egypt Stone Co. for contracting and roads paving		Issued by Contractor Name A.S.		Received by E.R. Date 21/2/23		Station Reference S1 to S21		Work Activity Sub Element of Activity		For Kilometer point only Start Km is used Rp XXX Note	
Designer Company SGAC		Date 21/2/23		Time 10:10 A-		C1 C2 C3 DD MM YY HH MM		C1 C2 C3 DD MM YY HH MM		C1 C2 C3 DD MM YY HH MM	

EXPLANATION OF WORK TO BE INSPECTED		
Description	Element	Item
Layer (-1.50)	MIDDLE Embankment	from St (443+780) to St (444+000)

INSPECTION DETAILS The Following will be ready at the Planned Inspection Time	
Planned Inspection Date	Planned Inspection Time

COMPLIANCE EVIDENCE Must be included as appropriate	
☐ Checklist Attached	☐ Test Results Attached
☐ Calibration Attached	☐ Other as indicated
Drawing Reference ITP Reference M/S Reference	

Comments by:	
Comments by:	Comments by:
Survey	Material

INSPECTION RESULT					
Organisation	Name	Sign	Date	Time	Approval Status
Contractor	M. N. Neom	[Signature]	4-2-2023		A-WCR
QA/QC	[Signature]	[Signature]	4-2-2023		A-WCR
SAR	[Signature]	[Signature]	4-2-2023		A-WCR
Comments by E.R.	Comments by E.R.				
Employer Representative	Comments by E.R.				
Designer Alignment Bridges: Culvert Only					

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EGYPT STONE FOR RIVER & DRAINAGE		رقم التابة :	Electrical Express Train From ELALAMEIN City to FOKA From Station To Station 504+275 394+580										
		منسوب التابة :	شركة (ايجبت ستون للتعمير والتوريدات) قطاع المقاولات										
		منسوب سطح التابة :	القطاع من الكم (+) الي الكم ()										
		حقوق المقطع :	طلب استلام مساحة نظيفة منسوبها ()										
التاريخ :		حقوق المقطع :	FERMA BY -1.50										
Station		LEFT EDGE			PGL	RIGHT EDGE							
		12.00	8.00	4.00	0.00	Slope L		Slope R	0.00	4.00	8.00	12.00	12.19
443+780	قراءة تصحيحية	32.527	32.687	32.847	33.007	-4.00%	35.407	-4.00%	32.687	32.847	32.519		
	قراءة قائمة												
	الفرق												
443+800	قراءة تصحيحية	32.587	32.747	32.907	33.067	-4.00%	35.467	-4.00%	32.907	32.587	32.579		
	قراءة قائمة												
	الفرق												
443+820	قراءة تصحيحية	32.647	32.807	32.967	33.127	-4.00%	35.527	-4.00%	32.967	32.647	32.699		
	قراءة قائمة												
	الفرق												
443+840	قراءة تصحيحية	32.707	32.867	33.027	33.187	-4.00%	35.587	-4.00%	33.027	32.707	32.699		
	قراءة قائمة												
	الفرق												
443+860	قراءة تصحيحية	32.767	32.927	33.087	33.247	-4.00%	35.647	-4.00%	33.087	32.767	32.759		
	قراءة قائمة												
	الفرق												
443+880	قراءة تصحيحية	32.827	32.987	33.147	33.307	-4.00%	35.707	-4.00%	33.147	32.827	32.819		
	قراءة قائمة												
	الفرق												

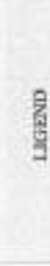


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Station	MAIN ROAD					FERMA BY		-1.50				
	LEFT EDGE					PGL	Slope L	RIGHT EDGE				
	12.00	8.00	4.00	0.00	Slope R			0.00	4.00	8.00	12.00	
443+900	32.837	33.047	33.107	33.167	-4.00%	35.757	-4.00%	33.367	33.207	33.047	32.887	32.879
قراءة تصحيحية												
قراءة قامة												
الفرق												
443+920	32.947	33.107	33.267	33.427	-4.00%	35.827	-4.00%	33.627	33.267	33.107	32.947	32.939
قراءة تصحيحية												
قراءة قامة												
الفرق												
443+940	33.007	33.167	33.327	33.487	-4.00%	35.887	-4.00%	33.487	33.327	33.167	33.007	32.999
قراءة تصحيحية												
قراءة قامة												
الفرق												
443+960	33.066	33.226	33.386	33.546	-4.00%	35.946	-4.00%	33.546	33.386	33.226	33.066	33.058
قراءة تصحيحية												
قراءة قامة												
الفرق												
443+980	33.116	33.276	33.436	33.596	-4.00%	35.996	-4.00%	33.596	33.436	33.276	33.116	33.108
قراءة تصحيحية												
قراءة قامة												
الفرق												
444+000	33.156	33.316	33.476	33.636	-4.00%	36.036	-4.00%	33.636	33.476	33.316	33.156	33.148
قراءة تصحيحية												
قراءة قامة												
الفرق												



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Rev 22

Station	443+780	443+800	443+820	443+840	443+860	443+880	443+900	443+920	443+940	443+960	443+980	444+000
Design	35.407	35.467	35.527	35.587	35.647	35.707	35.767	35.827	35.887	35.946	35.996	36.056
Forma level	34.569	34.567	34.627	34.689	34.747	34.807	34.867	34.927	34.987	35.046	35.096	35.156
RED CUT LEVEL	30.708	30.764	30.832	30.911	30.994	30.959	30.951	31.031	31.124	31.169	31.124	31.268
different	3.80	3.80	3.80	3.78	3.81	3.85	3.02	3.90	3.86	3.88	3.97	3.85
0	34.507	34.567	34.627	34.687	34.747	34.807	34.867	34.927	34.987	35.046	35.096	35.156
0.25	34.257	34.317	34.377	34.437	34.497	34.557	34.617	34.677	34.737	34.796	34.846	34.886
0.5	34.007	34.067	34.127	34.187	34.247	34.307	34.367	34.427	34.487	34.546	34.596	34.636
0.75	33.757	33.817	33.877	33.937	33.997	34.057	34.117	34.177	34.237	34.296	34.346	34.386
1	33.507	33.567	33.627	33.687	33.747	33.807	33.867	33.927	33.987	34.046	34.096	34.136
1.25	33.257	33.317	33.377	33.437	33.497	33.557	33.617	33.677	33.737	33.796	33.846	33.886
1.5	33.007	33.067	33.127	33.187	33.247	33.307	33.367	33.427	33.487	33.546	33.596	33.636
1.75	32.757	32.817	32.877	32.937	32.997	33.057	33.117	33.177	33.237	33.296	33.346	33.386
2	32.507	32.567	32.627	32.687	32.747	32.807	32.867	32.927	32.987	33.046	33.096	33.136
2.5	32.007	32.067	32.127	32.187	32.247	32.307	32.367	32.427	32.487	32.546	32.596	32.636
3	31.507	31.567	31.627	31.687	31.747	31.807	31.867	31.927	31.987	32.046	32.096	32.136
3.5	31.007	31.067	31.127	31.187	31.247	31.307	31.367	31.427	31.487	31.546	31.596	31.636
4												



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COORDINATES AND LEVELS FRO STATION 441+600 TO 444+600										
Station	WL	CATCH L			CENTERLINE			CATCH R		
		N	E		N	E		N	E	WR
443+780.00	15.69	922,522.14	378,875.70		922,537.75	378,877.28		922,549.88	378,878.50	12.19
443+800.00	15.69	922,524.15	378,855.80		922,539.76	378,857.38		922,551.89	378,858.60	12.19
443+820.00	15.69	922,526.16	378,835.90		922,541.77	378,837.48		922,553.90	378,838.70	12.19
443+840.00	15.69	922,528.17	378,816.00		922,543.78	378,817.58		922,555.91	378,818.80	12.19
443+860.00	15.69	922,530.18	378,796.10		922,545.79	378,797.68		922,557.91	378,798.91	12.19
443+880.00	15.69	922,532.19	378,776.21		922,547.80	378,777.78		922,559.92	378,779.01	12.19
443+900.00	15.69	922,534.19	378,756.31		922,549.80	378,757.88		922,561.93	378,759.15	12.19
443+920.00	15.69	922,536.20	378,736.41		922,551.81	378,737.98		922,563.94	378,739.21	12.19
443+940.00	15.69	922,538.21	378,716.51		922,553.82	378,718.09		922,565.95	378,719.31	12.19
443+960.00	15.69	922,540.22	378,696.61		922,555.83	378,698.19		922,567.96	378,699.41	12.19
443+980.00	15.69	922,542.23	378,676.71		922,557.84	378,678.29		922,569.97	378,679.51	12.19
444+000.00	15.69	922,544.24	378,656.81		922,559.85	378,658.39		922,571.98	378,659.61	12.19



Lab Contractor Eng.:-

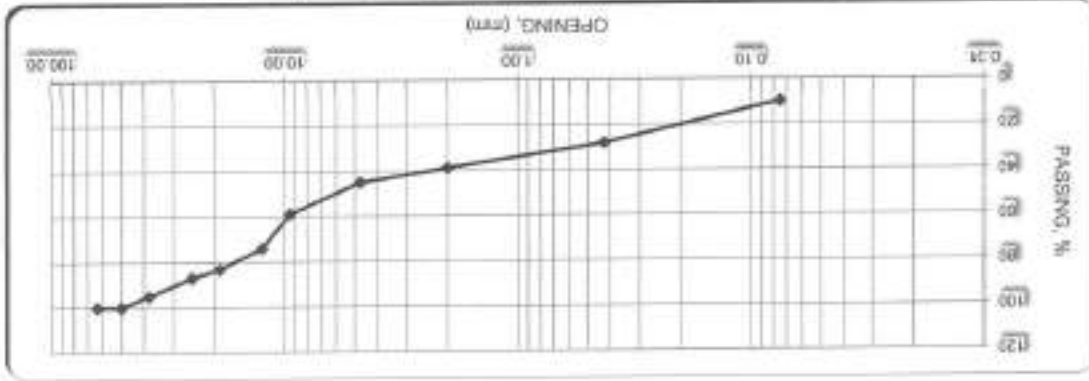


GARP Consultant Engineer's Comments :

SOIL CLASSIFICATION :

A-1-A

Atterberg Limits	LL	0.0	Max. 35	PL	0	PI	0.0	(Max. 10)
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Sieve No.	Opening (mm)	Passing %
No. 20	0.075	10.0
No. 40	0.425	28.2
No. 60	2.00	38.9
No. 100	1.75	45.2
No. 200	0.850	100.0

Source of Tested Material

(ASTM-D-424//AASHTO-T-90-80)

Station Represented :	443+780 to 444+000 (-1.5)	Report Date:	31/01/2023
description:	ترية رملية الخشنة	Sample Date :	31/01/2023
Company:	مكتب سويك للدراسات والبحوث	Sample No:	

مشروع القطر السريع - (الطريق - قنطرة) - قنطرة - قنطرة

SYSTRA



مركز الدراسات والبحوث
للطرق والمواصلات
(جولف)



SYSTRA



مركز الدراسات والبحوث
للجسور والمباني
(مختبر)



مشروع الطريق (الطريق - ف-45) / قسم الجسور والمباني - مكتب سكريس للدراسات والهندسة

Company:

إيجيبت سوليوشن للدراسات والهندسة

Description:

مستوى

443+780 to 444+000

Report Date:

01/02/2023

Sample Date:

31/01/2023

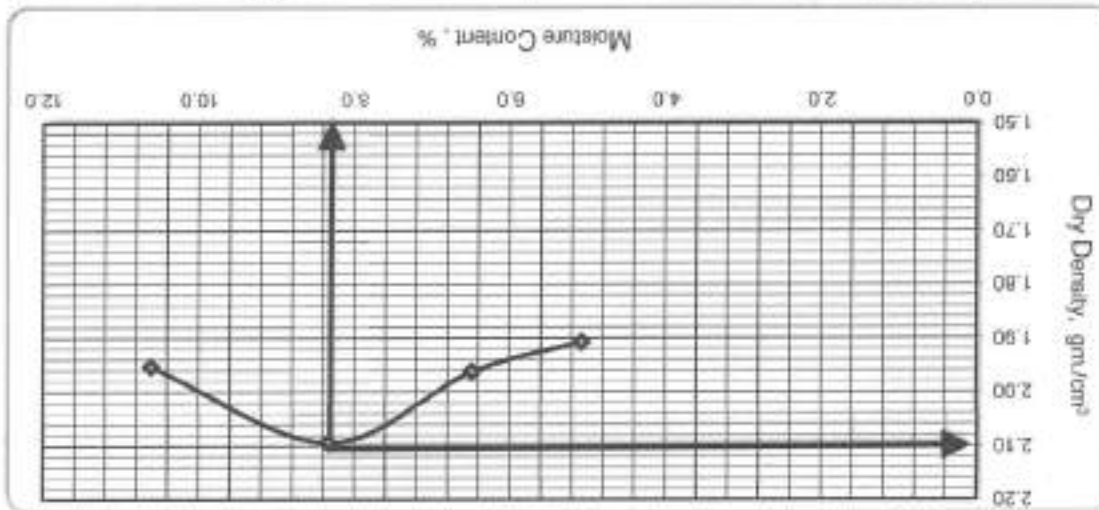
Sample No:

Laboratory Compaction Characteristics (Proctor) of Soil Sample

ASTM D 1557 - Method "C" 6 in. mold, 5 equal layers, each compacted by 56 blows
Using 10 lbf. rammer dropped from 18 in. height. Producing a compactive effort of 56000 ft-lbf/ft³

Weight of PROCTOR Mold, gm	5590	Volume of PROCTOR Mold, cm ³	2120
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Point No.	1	2	3	4	5
Weight of Soil + Mold, gm	9840	10020	10400	10170	
Wet Density, gm/cm ³	2.005	2.390	2.269	2.160	
Weight of Wet Soil Portion, gm	163.5	111.7	113.2	135.5	
Weight after Drying, gm	155.6	104.9	104.5	122.5	
Moisture Content, %	5.1	6.5	8.3	10.6	
Dry Density, gm/cm ³	1.908	1.962	2.094	1.953	



Max Dry Density= 2.094 t/m ³	8.3
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CONSULTANT COMMENTS

Lab Contractor Eng.:-



مقر SYSTRA للهندسة والبناء (القاهرة - الجيزة - 19/955 شارع الجيزة)

Activity : Earth Work

موقع الجدران

Date

03/02/2023

Density and Unit Weight of Soil in Place by the Sand-Cone Method - ASTM D 1556

Company:	مركز استشارات
Description :	جدران ردم المخرية
Station Represented :	443+780 to 444+000
Layer NO:	0.25
Layer Thickness:	0.25
Sample Date :	02/02/2023

Modified Proctor Testing Results

Max Dry Density, gm/cm ³	Optimum Moisture Content, %	Degree of Compaction Required, %	Bulk Density of Specified Sand, gm/cm ³
2.094	8.3	95%	1.410

Compaction Testing Results & Calculations

Stations	1	2	3	4	5	6	7	8
Wt. of Sand before Test, gm	11225	11010	10830	11025	10440	11175	9335	10820
Wt. of Sand After Test, gm	6194	6394	6336	6154	5444	6156	4776	6024
Wt. of Sand in Cone + hole, gm	5031	5216	4454	4871	4996	5019	4559	4596
Wt. of Sand in Cone	2072	2072	2072	2072	2072	2072	2072	2072
Wt. of Sand at hole, gm	2959	3144	2422	2799	2924	2947	2487	2524
Volume of the Hole, cm ³	2099	2230	1718	1985	2074	2090	1764	1790
Wt. of Soil from Hole, gm	4550	4825	3810	4390	4550	4560	3970	3820
Bulk Density of Soil, gm/cm ³	2.168	2.164	2.218	2.211	2.194	2.177	2.251	2.134
Moisture Content, %	8.3	8.1	8.4	8.3	8.3	7.3	8.3	7.3
Dry Density, gm/cm ³	2.002	2.002	2.046	2.042	2.026	2.029	2.078	1.989
Compaction, (%)	95.6%	95.6%	97.7%	97.5%	96.7%	96.9%	99.2%	95.0%

Acceptance Criteria

Comply

Not Comply

CONSULTANT COMMENTS

Lab Contractor Eng.:-



SGAC Consultant Eng.
SGAC Consultant Eng.
SGAC Consultant Eng.

SYSTRA



مركز الاستشارات الهندسية
والهندسة والبناء
(مصر)
1000/1000 شارع النجدي



مشروع الطرق السريع (الطريق - قوس - 45) / شارع الجولفي مكي مكي للاستشارات الهندسية

Activity : Earth Work

تاريخ العمل

Date

03/02/2023

Density and Unit Weight of Soil in Place by the Sand-Cone Method - ASTM D 1556

Company:	النجدي ستون	Layer NO:	
Description :	ترية ردم الممرية	Layer Thickness:	0.25
Station Represented :	443+780 to 444+000	Sample Date :	02/02/2023

Modified Proctor Testing Results

Max. Dry Density, gm/cm ³	2.094	Optimum Moisture Content, %	8.3	Degree of Compaction Required, %	95%	Bulk Density of Specified Sand, gm/cm ³	1.410
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Compaction Testing Results & Calculations

Stations	444+000	Hole No.	9	Wt. of Sand before Test, gm	11245	Wt. of Sand After Test, gm	6274	Wt. of Sand in Cone + hole, gm	4971	Wt. of Sand in Cone	2072	Wt. of Sand at hole, gm	2899	Volume of the Hole, cm ³	2056	Wt. of Soil from Hole, gm	4500	Bulk Density of Soil, gm/cm ³	2.189	Moisture Content, %	8.3	Dry Density, gm/cm ³	2.021	Compaction, (%)	98.5%
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Acceptance Criteria

Comply



Not Comply



CONSULTANT COMMENTS

Lab Contractor Eng.:-

21/2/23



SGAC Consultant Eng.:-



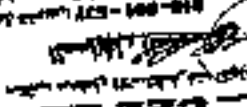
Company Name : Egypt Stone
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matruh
Location : St. (441+600) : (444-600)
Type of sample : Soil Replacement (Embankment)
Delivery Date : 19/01/2023
Reporting Date : 25/01/2023
Reporting No. : 156
Sample No. : 09

Dear Gentleman,
Attached here with the Soil Replacement, delivered on 19/01/2023

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.

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

Signature /

Mohamed El-Sayed
CEL
TEL: 010-527-10000
FAX: 010-527-10000



3 El Shams El Ahsa Street
Zamalek, Cairo.
Tel & Fax : 27367251 - 27367093

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TEL: 010-527-10000
FAX: 010-527-10000

Company Name : Egypt Stone
 Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
 Location : St. (441+600) : (444+600)
 Type of sample : Soil Replacement (Embankment)
 Delivery Date : 19/01/2023
 Reporting Date : 25/01/2023
 Reporting No. : 156
 Sample No. : 09

Results of Sieve Analysis According to ASTM D-422.

Sieve Size (mm)	Passing %
50	100
37.5	92.6
25	84.1
19	76.1
12.50	61.7
9.50	55.3
4.75	46.2
2.36	45.0
2.00	42.1
1.18	40.4
0.600	34.8
0.425	31.8
0.300	26.0
0.150	16.0

CEL
 Signature /
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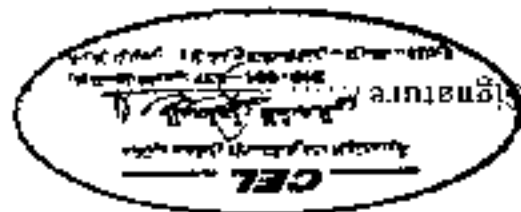


3 El Mamlouk El Asaf Street
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Results of liquid limit and plasticity index
of soils according to ASTM D-4318

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



Company Name : Egypt Stone
 Project : Electric Express Train, from Al Ain Sokhna to Marsa Matruh
 Location : St. (441+600) : (444+600)
 Type of sample : Soil Replacement (Embankment)
 Delivery Date : 19/01/2023
 Reporting Date : 25/01/2023
 Reporting No. : 156
 Sample No. : 09

Soil Classification According to Project Specs (Embankment)

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

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

CEL
 Egyptian Consulting Engineering Bureau & Laboratories
 Signature: *[Signature]*
 Date: 25/01/2023
 Place: El-Dokki, Giza, Egypt

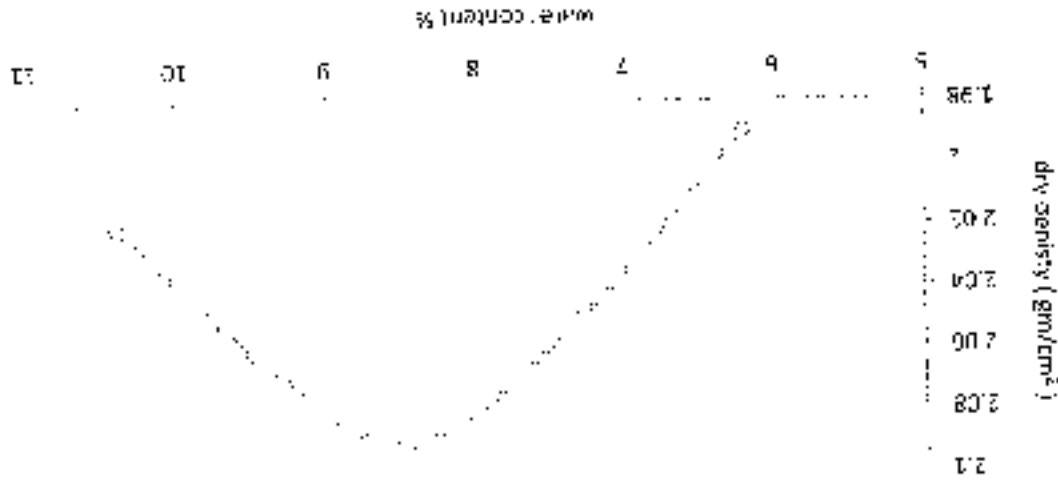


Zagazig, Cairo.
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إدارة الأعمال
 29، الدقي - الجيزة
 27367241 - 27363093
 www.cel-egypt.com

Company Name : Egypt Stone
 Project : Electric Express Train, from Al Ain Sokhna to Marsa Matruh
 Location : St. (441+600) : (444+600)
 Type of sample : Soil Replacement (Embankment)
 Delivery Date : 19/01/2023
 Reporting Date : 25/01/2023
 Reporting No. : 156
 Sample No. : 09

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



- Max dry density (gm/cm³) : 2.09
- Optimum moisture content % : 8.4

Signature /
CEL



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 Zouhieh, Cairo
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Company : Egypt Stone

Project : Electric Express Train, Al Ain Sokhna to Marsa Matruh Priority Sector (6)
 - Alamein to Foka
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 (443+520 to 444+000)
Test Date : 06/02/2023
Report Date : 07/02/2023
Type of soil : A-1-a
Test level : Middle Embankment
Report No : 597.801

Dear Gentleman,

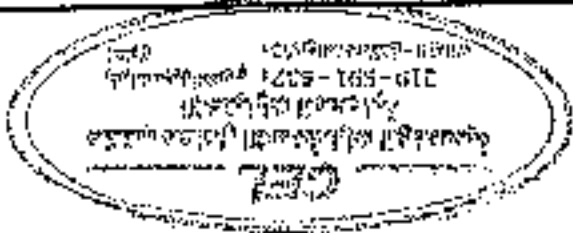
According to the above mentioned subject the test performed as follows:-

Apparatus

1. Loading plates consists of two plates with 600 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 fixed the dial gauges
5. Hydraulic jack with pump to transfer reactive loads to the loading plates
6. Dial indicator measuring device with scale capacity 700 Bar (Ennerco)
7. Reaction loading system by roller compactor with weight approximately 15 ton
8. Calibration certificates are attached

Test Procedure

1. Clean the ground on test area to the required level with undisturbed soil
2. install loading plates 600 mm and 300 mm diameter, hydraulic jack and 3 dial gauges
3. Prior to starting the test apply preloading about 30 seconds.
4. The strain gauge and the dial gauge shall be set to zero
5. For a 600 mm loading plate, the limit values are 2.5 kg/cm²
6. The load shall be applied 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 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 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

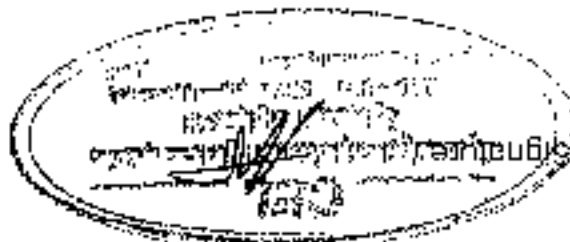
Report

- Type of layer : Middle Embankment
- Job requirement : $E_{v2} > 400 \text{ Kg/cm}^2$ (40 MPa).

Item	Descriptions
- Type of bedding material below the plate	Natural Soil
- Weather condition	Partly Sunny
- Plate Diameter (mm)	600
- date of measurement	06/02/2023
- 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	From	To	First Cycle E_{v1} (kg/cm ²)	Second Cycle E_{v2} (kg/cm ²)	E_{v2}/E_{v1} Ratio
1	443+520	443+600	443+600	957	1800	1.9
2	443+600	443+700	443+700	879	1607	1.8
3	443+700	443+800	443+800	1324	1957	1.5
4	443+800	443+800	443+800	1047	2250	2.2
5	443+900	444+000	444+000	978	1406	1.4



Company Name : Egypt Stone company
Project : Electric Express Train, from Al Ain Station to Marsa Matruh (Priority Sector (B) - Alameda in Fomen
Test Date : 06/02/2023
Report date : 07/02/2023
Location : Station 443+700 to 443+800
Test No. : 03

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

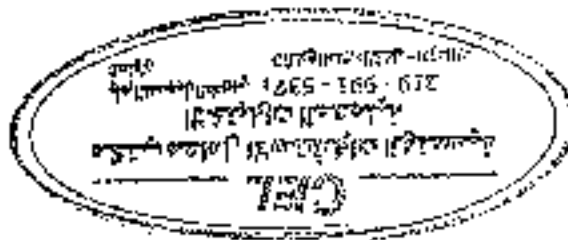
Loading	Stress	Kg/cm ²	Dial 1		Dial 2		Dial 3		Average
			Settlement	mm	Settlement	mm	Settlement	mm	
0	0.00	0.00	0.00	20.00	0.00	20.00	0.00	20.00	0.00
1	0.42	19.75	0.25	19.79	0.21	19.82	0.18	19.70	0.21
2	0.83	19.56	0.44	19.61	0.39	19.70	0.30	19.58	0.38
3	1.25	19.44	0.68	19.45	0.55	19.58	0.47	19.44	0.63
4	1.67	19.38	0.92	19.30	0.70	19.42	0.68	19.29	0.84
5	2.08	19.30	0.70	19.22	0.78	19.29	0.77	19.23	0.75
6	2.50	19.18	0.82	19.11	0.89	19.12	0.88	19.12	0.86

Unloading Stage (1)

Loading	Stress	Kg/cm ²	Dial 1		Dial 2		Dial 3		Average
			Settlement	mm	Settlement	mm	Settlement	mm	
0	0.00	19.40	0.51	19.40	0.60	19.45	0.65	19.45	0.65
1	0.62	19.18	0.77	19.15	0.85	19.19	0.85	19.19	0.82
2	1.25	19.23	0.72	19.20	0.80	19.19	0.81	19.19	0.78
3	1.87	19.22	0.51	19.40	0.60	19.45	0.65	19.45	0.65

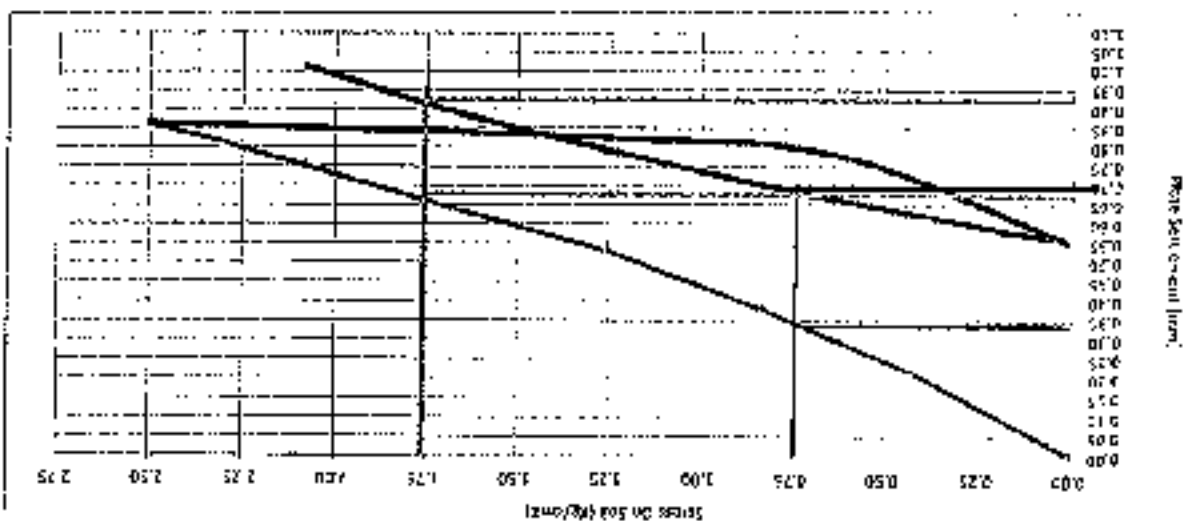
Loading Stage (2)

Loading	Stress	Kg/cm ²	Dial 1		Dial 2		Dial 3		Average
			Settlement	mm	Settlement	mm	Settlement	mm	
0	0.42	19.41	0.58	19.35	0.65	19.37	0.63	19.37	0.62
1	0.83	19.30	0.70	19.30	0.70	19.30	0.70	19.30	0.70
2	1.25	19.18	0.82	19.22	0.78	19.23	0.77	19.23	0.78
3	1.67	19.05	0.85	19.15	0.85	19.13	0.87	19.13	0.89
4	2.08	18.89	1.11	19.05	0.94	19.02	0.88	19.02	1.01



Company Name : Egypt Stone company
Project : Elmaghrby Express Train, from Al Ain Sokhna to Marsa Matruh Priority Sector (a) - Alamein to Felix
Test Date : 06/02/2023
Report date : 07/02/2023
Location : Station 443+700 to 443+800
Test No. : 03

Nonrepetitive Static Plate Load Tests of Soils DIN 18134



Loading (t)	1	2	3	4	5	6
Stress (kg/cm²)	0.00	0.42	0.83	1.25	1.67	2.08
Stress (kg/cm²)	0.00	0.42	0.83	1.25	1.67	2.08
Settlement (mm)	0.00	0.21	0.38	0.53	0.64	0.78

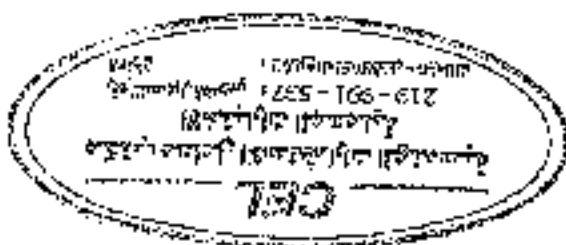
$E_{v2} (kg/cm^2) = 10.75 \cdot D_{50} / \Delta S$	1324
$\Delta S (mm) = 0.67$	
$E_{v2} (mm) = 0.67$	
$\Delta S = 0.34$	

Loading (t)	1	2	3	4	5
Stress (kg/cm²)	0.01	0.42	0.83	1.25	1.67
Stress (kg/cm²)	0.01	0.42	0.83	1.25	1.67
Settlement (mm)	0.05	0.62	0.79	0.89	1.01

$E_{v2} (kg/cm^2) = 10.75 \cdot D_{50} / \Delta S$	1957
$\Delta S (mm) = 0.60$	
$E_{v2} (mm) = 0.60$	
$\Delta S = 0.23$	

ΔS = Maximum of deformation during II & loading stage
E_{v2} = Modulus of deformation during the loading stage
D = Plate diameter (mm)

ΔS = The difference between 0.5 and 0.7 from the maximum reading (mm) (kg/cm²)
ΔS = difference in settlements corresponding to 0.5 and 0.7 from the maximum loading (mm)



Company Name : Egypt Stone company
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matruh Priority Section (5) – Almaghar to Foka
Test Date : 06/02/2023
Report date : 07/02/2023
Location : Station 443+800 to 443+900
Test No. : 04

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

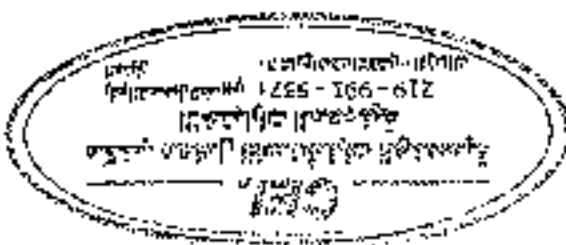
Loading	Stress	Kg/cm ²	Dial 1		Dial 2		Dial 3		Average
			Settlement	mm	Settlement	mm	Settlement	mm	
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	20.00	0.00
1	0.42	19.69	0.31	19.72	0.28	19.81	0.19	19.81	0.26
2	0.83	19.55	0.47	19.60	0.40	19.68	0.32	19.68	0.40
3	1.25	19.51	0.69	19.41	0.59	19.50	0.50	19.50	0.59
4	1.67	19.15	0.85	19.22	0.78	19.32	0.68	19.32	0.77
5	2.08	19.09	0.97	19.09	0.92	19.20	0.80	19.20	0.90
6	2.50	18.88	1.12	18.93	1.07	19.12	0.98	19.12	1.02

Unloading Stage (1)

Loading	Stress	Kg/cm ²	Dial 1		Dial 2		Dial 3		Average
			Settlement	mm	Settlement	mm	Settlement	mm	
1	2.50	18.88	1.12	18.93	1.07	19.12	0.98	19.12	1.02
2	1.25	18.91	1.09	18.98	1.02	19.15	0.85	19.15	0.99
3	0.825	18.55	1.01	19.04	0.96	19.19	0.81	19.19	0.93
4	0.01	19.24	0.76	19.27	0.73	19.45	0.65	19.45	0.68

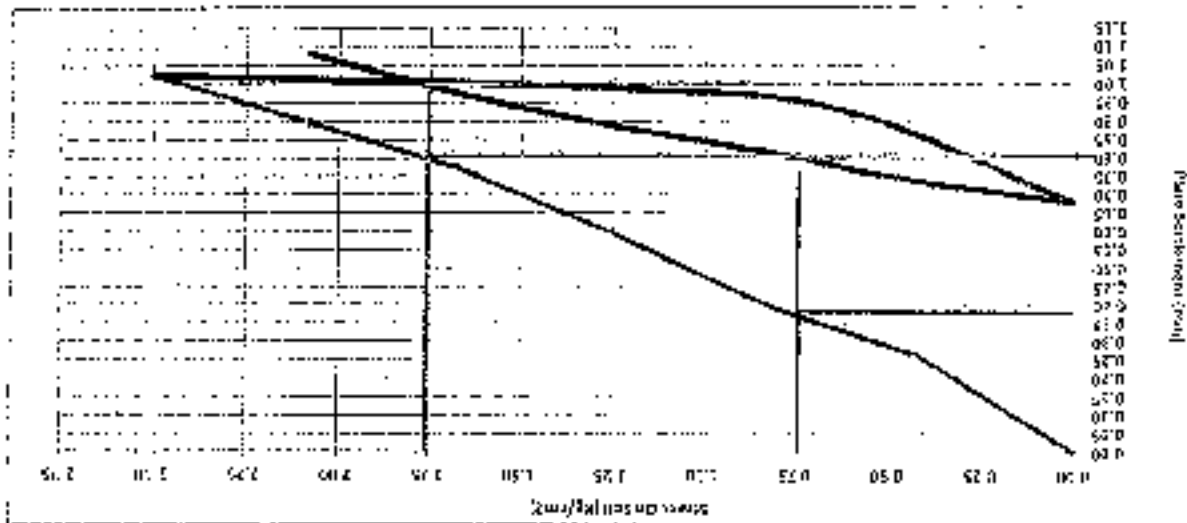
Loading Stage (2)

Loading	Stress	Kg/cm ²	Dial 1		Dial 2		Dial 3		Average
			Settlement	mm	Settlement	mm	Settlement	mm	
0	0.42	19.29	0.60	19.23	0.77	19.37	0.63	19.37	0.73
1	0.83	19.12	0.88	19.14	0.86	19.30	0.70	19.30	0.81
2	1.25	19.08	0.94	19.05	0.95	19.29	0.77	19.29	0.89
3	1.67	19.00	1.00	18.95	1.05	19.13	0.87	19.13	0.97
4	2.08	18.89	1.11	18.84	1.16	19.02	0.98	19.02	1.08



Company Name : Egypt Stone company
Project : Electric Express Train, from Af Ain Sukhna to Marsa Matruh Priority Sector (B) - Asanshi to Foka
Test Date : 06/02/2023
Report Date : 07/02/2023
Location : Station 443+800 to 443+500
Test No. : 04

Nonrepertive Static Plate Load Tests of Soils DIN 18134



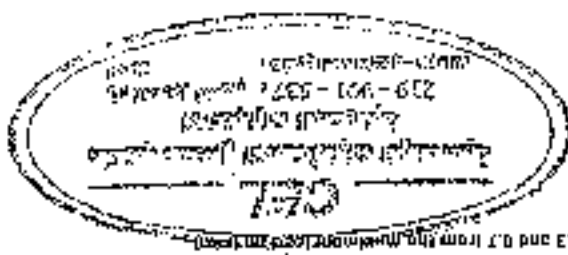
Unloading (1)	Stress (kg/cm²)	Settlement (mm)
0	0.00	0.75
1	0.25	0.70
2	0.42	0.65
3	0.63	0.60
4	1.25	0.55
5	1.67	0.50
6	2.08	0.45
	2.50	0.40
	2.75	0.35

Loading (2)	Stress (kg/cm²)	Settlement (mm)
0	0.00	0.00
1	0.25	0.05
2	0.42	0.10
3	0.63	0.15
4	1.25	0.20
5	1.67	0.25
6	2.08	0.30
	2.50	0.35
	2.75	0.40

EVZEV1 = 2.2

Unloading (1)	Stress (kg/cm²)	Settlement (mm)
1	0.25	0.05
2	0.42	0.10
3	0.63	0.15
4	1.25	0.20
5	1.67	0.25
6	2.08	0.30
	2.50	0.35
	2.75	0.40

EVZEV1 = Maximum of deformation during the loading stage
EVZEV2 = Maximum of deformation during the unloading stage
EVZEV3 = Static settlement (mm)
EVZEV4 = Average difference between EVZEV1 and EVZEV2 from the minimum loading (mm)
EVZEV5 = Distance in settlement corresponding to EVZEV1 and EVZEV2 from the minimum loading (mm)



Company Name : Egypt Stone company
Project : Electric Express Trail, from Al Ain Sokhna to Marsa Matruh Pivally Sector (5) - Ain Helwan to Foka
Test Date : 06/02/2023
report date : 07/02/2023
Location : Station 443+900 to 444+800
Test No. : 05

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Data sheet

Loading Stage (1)

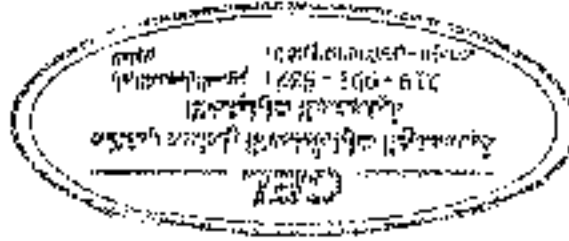
Loading	Stress	Kg/cm ²	Dial 1		Dial 2		Dial 3		Average
			Settlement	mm	Settlement	mm	Settlement	mm	
0	0.00	20.00	0.00	20.00	0.00	20.00	0.00	20.00	0.00
1	0.42	19.76	0.24	19.76	0.24	19.76	0.26	19.74	0.25
2	0.83	19.55	0.45	19.67	0.38	19.42	0.58	19.42	0.47
3	1.25	19.51	0.69	19.41	0.59	19.21	0.79	19.05	0.59
4	1.67	19.15	0.85	19.22	0.78	19.05	0.91	19.05	0.85
5	2.08	19.00	1.00	19.06	0.92	18.83	1.17	18.83	1.03
6	2.50	18.78	1.22	18.93	1.07	18.63	1.37	18.63	1.22

Unloading Stage (1)

Loading	Stress	Kg/cm ²	Dial 1		Dial 2		Dial 3		Average
			Settlement	mm	Settlement	mm	Settlement	mm	
1	2.50	18.78	1.22	18.53	1.07	18.63	1.37	18.63	1.22
2	1.25	18.51	1.18	18.48	1.02	18.66	1.34	18.66	1.18
3	0.825	18.40	1.10	18.04	0.96	18.77	1.23	18.77	1.10
4	0.01	19.30	0.70	19.25	0.75	19.22	0.78	19.22	0.74

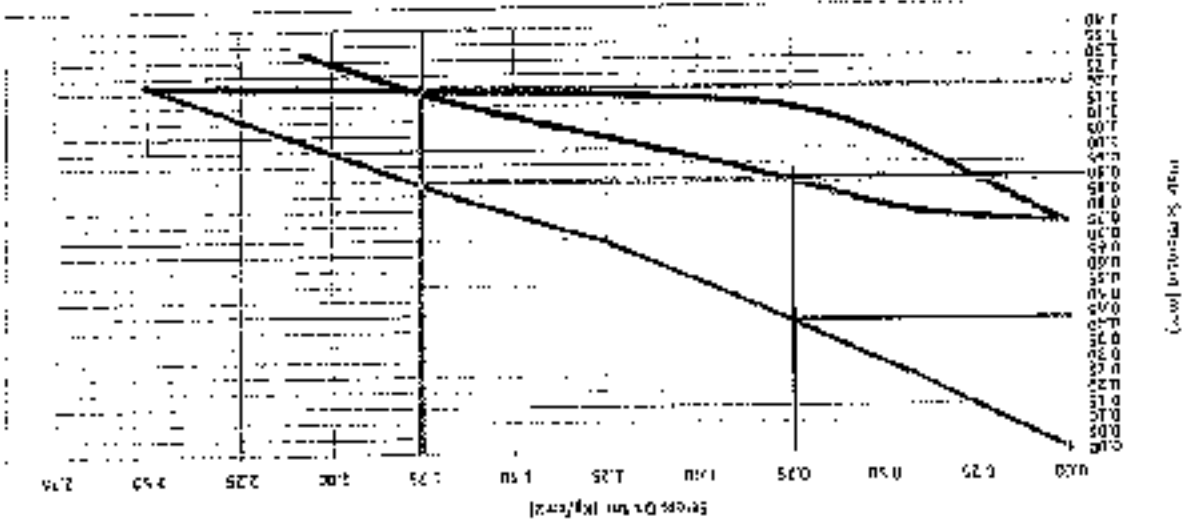
Loading Stage (2)

Loading	Stress	Kg/cm ²	Dial 1		Dial 2		Dial 3		Average
			Settlement	mm	Settlement	mm	Settlement	mm	
0	0.42	19.25	0.75	19.21	0.79	19.18	0.92	19.18	0.79
1	0.83	19.12	0.88	19.05	0.95	19.08	0.97	19.08	0.92
2	1.25	18.59	1.01	18.98	1.02	18.91	1.09	18.91	1.04
3	1.67	18.87	1.13	18.88	1.12	18.77	1.23	18.77	1.16
4	2.08	18.65	1.35	18.76	1.24	18.62	1.38	18.62	1.32



Company Name : Egypt Stone company
Project : Electric Express Train from Al Ain Sokhna to Marsa Matruh Priority Sector (B) - Alamein to Foke
Test Date : 06/02/2023
Report date : 07/02/2023
Location : Station 443+900 to 444+000
Test No. : 05

Nonpenetrative Static Load Tests of Soils DIN 18134



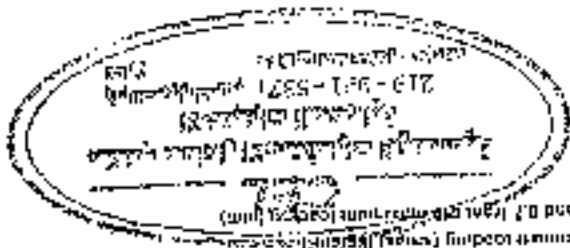
Loading (%)	Stage (kg)	Stress (kg/cm²)	Settlement (mm)
0	0	0.00	0.00
1	186.92	0.42	0.25
2	2345.6	0.47	0.25
3	3572.5	0.69	0.25
4	4719.4	1.67	1.03
5	5878.1	2.08	1.23
6	7065	2.50	1.23

Loading (%)	Stage (kg)	Stress (kg/cm²)	Settlement (mm)
0	0	0.00	0.00
1	186.92	0.42	0.25
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3	3572.5	0.69	0.25
4	4719.4	1.67	1.03
5	5878.1	2.08	1.23
6	7065	2.50	1.23

$$E_{v2}/E_{v1} = 1.4$$

Unloading (%)	Stage (kg)	Stress (kg/cm²)	Settlement (mm)
1	7065	2.50	1.32
2	5878.1	2.08	1.10
3	4719.4	1.67	1.10
4	3572.5	1.32	0.74

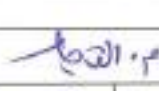
Fig 1: Maximum of deformation during the loading stage
Fig 2: Maximum of deformation during the loading stage
Fig 3: Difference in settlement corresponding to 0.5 and 0.7 times the maximum loading (Average Settlement (mm))



UNIVERSAL INSPECTION REQUEST				
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RECEIPT of NOTIFICATION - Minimum Notice Period not less than 24 Hours ES2 - F - 389

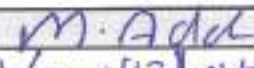
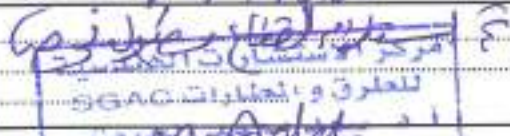
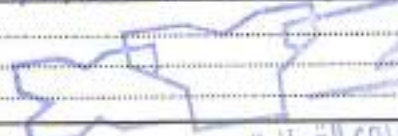
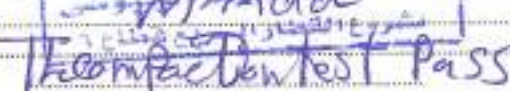
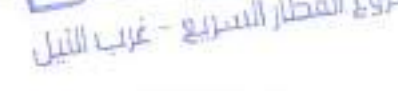
The Work described below will be complete and ready for inspection at planned time shown

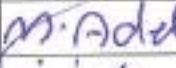
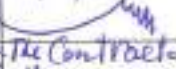
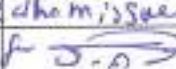
Contractor Company	Egypt Stone CO. for contracting and roads paving		Designer Company*	SGAC							
Issued by Contractor	Name	Sign	Date	Time							
			2/2/2023	10:20 AM							
Received by ER	NAME	Sign	UIR	C1	C2	C3	DD	MM	YY	HH	MM
				lp 444	S.W	C.S	4	2	23	1	10
CODE - 1	S1 to S21 Station Reference		D1 to S3 Depot Reference	Kp XXX Note For Kilometer point only Start Km is used							
CODE - 2	Work Activity										
CODE - 3	Sub Element of Activity										

EXPLANATION OF WORK TO BE INSPECTED		
Description	Element	Item
Layer (-1.25)	UPPER Embankment	from St (444+000) to St (444+300)

INSPECTION DETAILS The Following will be ready at the Planned Inspection Time	
Planned Inspection Date	Planned Inspection Time

COMPLIANCE EVIDENCE Must be Included as appropriate			
Checklist Attached ☐	Test Results Attached ☐	Calibration Attached ☐	Other as indicated ☐
Drawing Reference	ITP Reference	MS Reference	

Comments by: 	Comments by: 
Civil: 	Survey: 
Material: 	

INSPECTION RESULT						Approval Status	Please Tick If
Organisation	Name	Sign	Date	Time	A-AWC-R	Not Attend	
Contractor	M. Adel		2/2/23	09:00	A		
QA/QC*	M. Adel		4/2/23	1:00	A		
GRS**	M. Adel		4/2/23	2:00	A		
Comments by ER	at works are done under the Contractor's responsibility. The test results under the Contractor's responsibility are issued. The Contractor must submit final quality and safety report.						
Employers Representative	A.S				AUC		

Rev 22

Station	444+340	444+260	444+210	444+300
Design	36.187	36.197	36.207	36.217
Finish level	35.287	35.297	35.307	35.317
BED CUT LEVEL	31.957	31.972	31.985	31.999
different	3.33	3.33	3.32	3.41
0	35.287	35.287	35.307	35.317
0.25	35.037	35.047	35.057	35.067
0.5	34.787	34.797	34.807	34.817
0.75	34.537	34.547	34.557	34.567
1	34.287	34.297	34.307	34.317
1.25	34.037	34.047	34.057	34.067
1.5	33.787	33.797	33.807	33.817
1.75	33.537	33.547	33.557	33.567
2	33.287	33.297	33.307	33.317
2.5	32.787	32.797	32.807	32.817
3	32.287	32.297	32.307	32.317
3.5				
4				
4.5				

2013

K.A



Rev 22



الجمهورية العربية السورية
الوزارة العامة للتخطيط والتنمية الاقتصادية
Ministry of Planning and Economic Development



الجمهورية العربية السورية
الوزارة العامة للمياه
Ministry of Water Resources



الجمهورية العربية السورية
الوزارة العامة للمياه
Ministry of Water Resources

Station	444+000	444+020	444+040	444+060	444+080	444+100	444+120	444+140	444+160	444+180	444+200	444+220
Design	36.036	36.066	36.086	36.097	36.107	36.117	36.127	36.137	36.147	36.157	36.167	36.177
Feetma level	35.136	35.166	35.186	35.197	35.207	35.217	35.227	35.237	35.247	35.257	35.267	35.277
BED CUT LEVEL	31.284	31.826	31.99	32.033	32.08	31.959	32.008	31.963	32.026	31.911	31.983	31.955
different	3.85	3.34	3.20	3.16	3.18	3.25	3.22	3.27	3.22	3.35	3.28	3.31
0	35.136	35.166	35.186	35.197	35.207	35.217	35.227	35.237	35.247	35.257	35.267	35.277
0.25	34.836	34.916	34.936	34.947	34.957	34.967	34.977	34.987	34.997	35.007	35.017	35.027
0.5	34.636	34.666	34.686	34.697	34.707	34.717	34.727	34.737	34.747	34.757	34.767	34.777
0.75	34.386	34.416	34.436	34.447	34.457	34.467	34.477	34.487	34.497	34.507	34.517	34.527
1	34.136	34.166	34.186	34.197	34.207	34.217	34.227	34.237	34.247	34.257	34.267	34.277
1.25	33.886	33.916	33.936	33.947	33.957	33.967	33.977	33.987	33.997	34.007	34.017	34.027
1.5	33.636	33.666	33.686	33.697	33.707	33.717	33.727	33.737	33.747	33.757	33.767	33.777
1.75	33.386	33.416	33.436	33.447	33.457	33.467	33.477	33.487	33.497	33.507	33.517	33.527
2	33.136	33.166	33.186	33.197	33.207	33.217	33.227	33.237	33.247	33.257	33.267	33.277
2.5	32.886	32.916	32.936	32.947	32.957	32.967	32.977	32.987	32.997	33.007	33.017	33.027
3	32.636	32.666	32.686	32.697	32.707	32.717	32.727	32.737	32.747	32.757	32.767	32.777
3.5	32.386	32.416	32.436	32.447	32.457	32.467	32.477	32.487	32.497	32.507	32.517	32.527
4	32.136	32.166	32.186	32.197	32.207	32.217	32.227	32.237	32.247	32.257	32.267	32.277
4.5	31.886	31.916	31.936	31.947	31.957	31.967	31.977	31.987	31.997	32.007	32.017	32.027



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Rev 22

COORDINATES AND LEVELS FRO STATION 441+600 TO 444+600

Station	W/L	CATCH L		CENTERLINE		CATCH R		W/R
		N	E	N	E	N	E	
444+000	15.32	922,544.61	378,656.85	922,559.85	378,658.39	922,571.61	378,659.58	11.82
444+020	15.32	922,546.62	378,636.95	922,561.86	378,638.49	922,573.62	378,639.68	11.82
444+040	15.32	922,548.63	378,617.05	922,563.87	378,618.59	922,575.63	378,619.78	11.82
444+060	15.32	922,550.64	378,597.15	922,565.88	378,598.69	922,577.64	378,599.88	11.82
444+080	15.32	922,552.64	378,577.25	922,567.89	378,578.79	922,579.65	378,579.98	11.82
444+100	15.32	922,554.65	378,557.36	922,569.90	378,558.89	922,581.66	378,560.08	11.82
444+120	15.32	922,556.66	378,537.46	922,571.90	378,539.00	922,583.67	378,540.18	11.82
444+140	15.32	922,558.67	378,517.56	922,573.91	378,519.10	922,585.67	378,520.28	11.82
444+160	15.32	922,560.68	378,497.66	922,575.92	378,499.20	922,587.68	378,500.39	11.82
444+180	15.32	922,562.69	378,477.76	922,577.93	378,479.30	922,589.69	378,480.49	11.82
444+200	15.32	922,564.70	378,457.86	922,579.94	378,459.40	922,591.70	378,460.59	11.82
444+220	15.32	922,566.71	378,437.96	922,581.95	378,439.50	922,593.71	378,440.69	11.82
444+240	15.32	922,568.72	378,418.06	922,583.96	378,419.60	922,595.72	378,420.79	11.82
444+260	15.32	922,570.73	378,398.17	922,585.97	378,399.70	922,597.73	378,400.89	11.82
444+280	15.32	922,572.74	378,378.27	922,587.98	378,379.81	922,599.74	378,380.99	11.82
444+300	15.32	922,574.74	378,358.37	922,589.99	378,359.91	922,601.75	378,361.09	11.82

مشرقية القطار السريع بحرية النيل

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SYSTRA



مركز الاستشارات الهندسية
للمنقل والطرق
(خبراء دوليين)
دكتور/ سعد الجبوشي



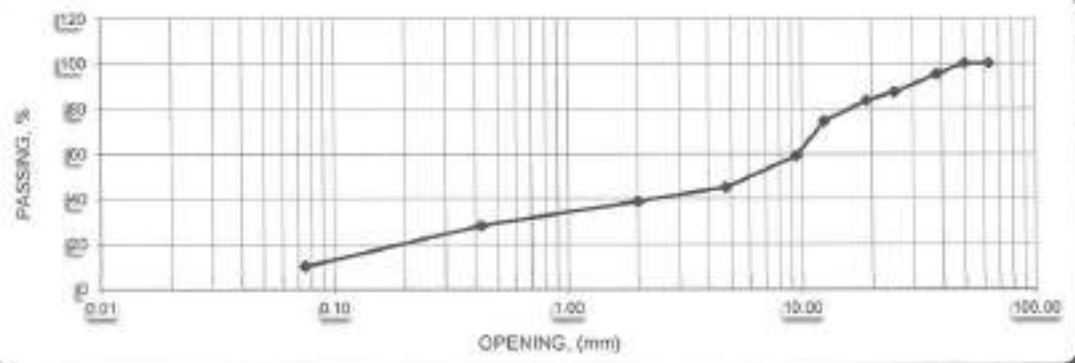
مشروع القطر السريع (العلمين - فوكه) قطاع د / سعد الجبوشي مكتب سجاك للاستشارات الهندسية

Company:	ايجيبت ستون للتعبدين و التوريدات	Sample No:	
description:	تربة ردم المصرية	Sample Date :	31/01/2023
Station Represented :	444+000 to 444+300 (-1.25)	Report Date:	31/01/2023

(ASTM:D-424 / AASHTO:T-90-80)

Source of Tested Material

Sieve No.	2.5 in.	2.0 in.	1.5 in.	1.0 in.	3/4 in.	1/2 in.	3/8 in.	No.4	No.10	No.40	No.200
Opening (mm)	63.50	50.00	38.00	25.00	19.00	12.50	9.50	4.75	2.00	0.425	0.075
Passing, %	100.0	100.0	95.1	87.2	83.4	74.2	59.1	45.2	38.9	28.2	10.0



Atterberg Limits

L.L.

0.0

Max. 35

P.L.

0

P.L.

0.0

(Max. 10)

SOIL CLASSIFICATION :

A - 1 - A

GARP Consultant Engineer's Comments :

Lab Contractor Eng.:-



SYSTRA



مركز الاستشارات الهندسية
للنقل والطرق والمطرق
(خبراء دوليون)
دكتور/ محمد الجيوشى



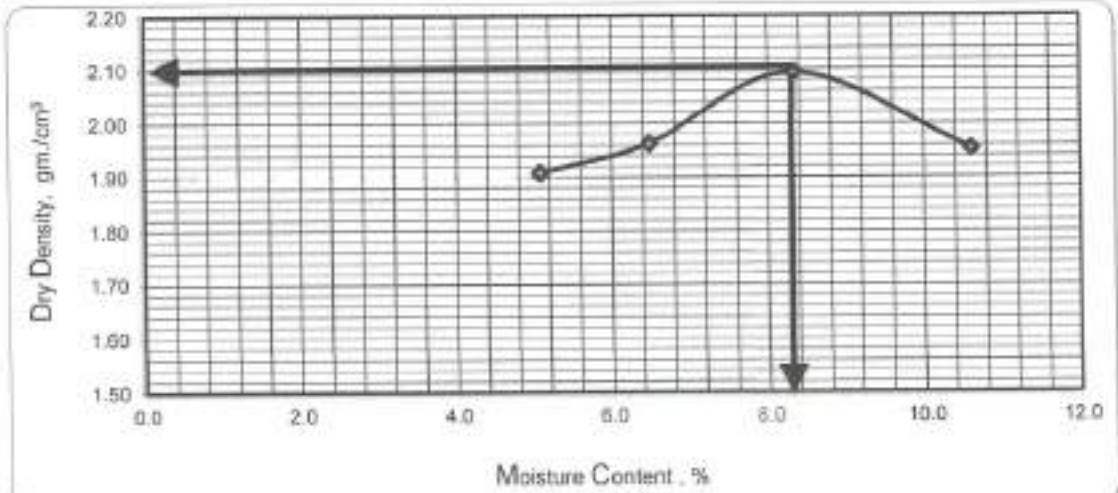
مشروع القطار السريع (العلمين - فوكه) قطاع د / سعد الجيوشى مكتب سجاك للاستشارات الهندسية

Company:	إيجيبت ستون للتعبدين والتوريدات	Sample No:	
Description :	مشون	Sample Date :	31/01/2023
ation Represente	444+000 to 444+300	Report Date:	01/02/2023

Laboratory Compaction Characteristics (Proctor) of Soil Sample

ASTM D 1557 - Method "C" 6 in. mold, 5 equal layers, each compacted by 56 blows
Using 10 lbf. rammer dropped from 18 in. high, Producing a compactive effort of 56000 ft-lbf/ft³

Weight of PROCTOR Mould, gm	5590	Volume of PROCTOR Mould, cm ³		2120	
Point No.	1	2	3	4	5
Weight of Soil + Mould, gm	9840	10020	10400	10170	
Wet Density, gm/cm ³	2.005	2.090	2.269	2.160	
Weight of Wet Soil Portion, gm	163.5	111.7	113.2	135.5	
Weight after Drying, gm	155.6	104.9	104.5	122.5	
Moisture Content, %	5.1	6.5	8.3	10.6	
Dry Density, gm/cm ³	1.908	1.962	2.094	1.953	



Max. Dry Density= 2.094 t/m ³	8.3
--	-----

CONSULTANT COMMENTS

Lab Contractor Eng.:-



مركز الاستشارات الهندسية
للنقل والطرق والمطرق
د. سعد محمد الجيوشى
مشروع القطار السريع قطاع د

SYSTRA



مركز الاستشارات الهندسية
للطرق والمطارات والموانئ
(شركة مصرية)
دكتور/ سعد الجيوشي



مشروع القطار السريع (العلمين - فوكه) قطاع د / سعد الجيوشي مكتب سجاك للاستشارات الهندسية

Activity : Earth Work

نتائج اختبارات المعمل

Date 03/02/2023

Density and Unit Weight of Soil in Place by the Sand-Cone Method – ASTM D 1556

Company:	ايجيبت ستون	Layer NO:	
Description :	تربة ردم المصرية	Layer Thickness:	0.25
Station Represented :	444+000 to 444+300	Sample Date :	02/02/2023

Modified Proctor Testing Results

Max. Dry Density, gm/cm ³	Optimum Moisture Content, %	Degree of Compaction Required, %	Bulk Density of Specified Sand, gm/cm ³
2.094	8.3	95%	1.410

Compaction Testing Results & Calculations

Stations	444+025	444+050	444+075	444+100	444+125	444+150	444+175	444+200
Hole No.	1	2	3	4	5	6	7	8
Wt. of Sand before Test, gm	11235	11620	10820	11035	10450	11165	9325	10630
Wt. of Sand After Test, gm	6184	6384	6346	6144	5434	6166	4786	6014
Wt. of Sand in Cone + hole, gm	5051	5236	4474	4891	5016	4999	4539	4616
Wt. of Sand in Cone	2072	2072	2072	2072	2072	2072	2072	2072
Wt. of Sand at hole, gm	2979	3164	2402	2819	2944	2927	2467	2544
Volume of the Hole, cm ³	2113	2244	1704	1999	2088	2076	1750	1804
Wt. of Soil from Hole, gm	4580	4855	3780	4420	4580	4520	3810	3850
Bulk Density of Soil, gm/cm ³	2.168	2.164	2.219	2.211	2.194	2.177	2.178	2.134
Moisture Content, %	8.2	8.0	8.3	8.2	8.2	7.2	8.2	7.2
Dry Density, gm/cm ³	2.003	2.003	2.049	2.043	2.027	2.031	2.013	1.991
Compaction, (%)	95.7%	95.6%	97.8%	97.6%	96.8%	97.0%	96.1%	95.0%

Acceptance Criteria

Comply



Not Comply



CONSULTANT COMMENTS

Lab Contractor Eng.:-

SGAC Consultant Eng.:-



مركز الاستشارات الهندسية
للطرق والمطارات والموانئ
د. سعد الجيوشي
مشروع القطار السريع (العلمين - فوكه)
SGAC Consultant Eng.:-

SYSTRA



مركز الاستشارات الهندسية
للمطرق والطرق والممرات
(خبراء دوليون)
دكتور / سعد الجبوشي



مشروع القطار السريع (العامين - فوكه) قطاع د / سعد الجبوشي مكتب سجاك للاستشارات الهندسية

Activity : Earth Work

نتائج اختبارات المعمل

Date 03/02/2023

Density and Unit Weight of Soil in Place by the Sand-Cone Method – ASTM D 1556

Company:	ايجيبت ستون	Layer NO:	
Description :	تربة ردم المصرية	Layer Thickness:	0.25
Station Represented :	444+000 to 444+300	Sample Date :	02/02/2023

Modified Proctor Testing Results

Max. Dry Density, gm/cm ³	Optimum Moisture Content, %	Degree of Compaction Required, %	Bulk Density of Specified Sand, gm/cm ³
2.094	8.3	95%	1.410

Compaction Testing Results & Calculations

Stations	444+225	444+250	444+275	444+300				
Hole No.	1	2	3	4				
Wt. of Sand before Test, gm	11235	11620	10820	11035				
Wt. of Sand After Test, gm	6184	6384	6346	6144				
Wt. of Sand in Cone + hole, gm	5051	5236	4474	4891				
Wt. of Sand in Cone	2072	2072	2072	2072				
Wt. of Sand at hole, gm	2979	3164	2402	2819				
Volume of the Hole, cm ³	2113	2244	1704	1999				
Wt. of Soil from Hole, gm	4580	4855	3780	4420				
Bulk Density of Soil, gm/cm ³	2.168	2.164	2.219	2.211				
Moisture Content, %	8.1	7.9	8.2	8.1				
Dry Density, gm/cm ³	2.005	2.005	2.051	2.045				
Compaction, (%)	95.7%	95.7%	97.9%	97.6%				

Acceptance Criteria

Comply



Not Comply



CONSULTANT COMMENTS

Lab Contractor Eng.:-



مركز الاستشارات الهندسية
للمطرق والطرق والممرات
د. ا. سعد الجبوشي
SGAC Consultant Eng.:-
مشروع القطار السريع قطاع ٦



Consulting Engineering Bureau & Laboratories

مكتب معامل الاستشارات الهندسية

Company Name : Egypt Stone
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Location : St. (441+600) : (444+600)
Type of sample : Soil Replacement (Embankment)
Delivery Date : 19/01/2023
Reporting Date : 25/01/2023
Reporting No. : 156
Sample No. : 09

Dear Gentleman,

Attached here with the Soil Replacement delivered on 19/01/2023

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.

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

Signature /



3 El Melek El Ahdal Street
Zamalek, Cairo.
Tel. & Fax : 27367231 - 27363403

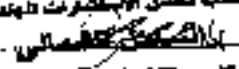


ش.م.ع. الملك الأفضل
الزمالك - القاهرة
تليفون : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٤٣
www.cel-egypt.com

Company Name : Egypt Stone
 Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
 Location : St. (441+600) : (444+600)
 Type of sample : Soil Replacement (Embankment)
 Delivery Date : 19/01/2023
 Reporting Date : 25/01/2023
 Reporting No. : 156
 Sample No. : 09

Results of Sieve Analysis According to ASTM D-422.

Sieve Size (mm)	Passing %
50	100
37.5	92.6
25	84.1
19	76.1
12.50	61.7
9.50	55.3
4.75	46.2
2.36	45.0
2.00	42.1
1.18	40.4
0.600	34.8
0.425	31.8
0.300	26.0
0.150	16.0

Signature / 
 ٢٠٢٣ - ٢٠٢٤ - ٢٠٢٥
 ٢٠٢٦ - ٢٠٢٧ - ٢٠٢٨
 ٢٠٢٩ - ٢٠٣٠ - ٢٠٣١

Company Name : Egypt Stone
 Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
 Location : St. (441+600) : (444+600)
 Type of sample : Soil Replacement (Embankment)
 Delivery Date : 19/01/2023
 Reporting Date : 25/01/2023
 Reporting No. : 156
 Sample No. : 09

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

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

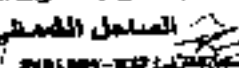


Company Name : Egypt Stone
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matruh
Location : St. (441+600) : (444+600)
Type of sample : Soil Replacement (Embankment)
Delivery Date : 19/01/2023
Reporting Date : 25/01/2023
Reporting No. : 156
Sample No. : 09

Soil Classification According to Project Specs (Embankment)

TEST	Results (%)	Limits according Projects Specs	
		(A-1-a)	(A-1-b)
Group Classification	(A-1-b)	(A-1-a)	(A-1-b)
2.00 mm (No. 10).	42.1	Max 50 %	-----
0.425 mm (No. 40).	31.8	Max 30 %	Max 50 %
0.075 mm (No. 200).	12.9	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No. 40)			
Liquid Limit	NP	-----	-----
Plasticity index	NP	Max 6 %	Max 6 %

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


 مكتب معامل الاستشارات الهندسية
 المعامل المتميز
 Signature: 
 2018-2023
 ١٠ شارع ٢٠٠٠ - ٢٠١٠ - ٢٠٢٠

تلفون + فاكس : ٧٧٦٦٧٦٦ - ٧٧٦٦٦٩٧
www.raf-egypti.com

RECEIPT of NOTIFICATION - Minimum Notice Period not less than 24 Hours

ES2-F-393

The Work described below will be complete and ready for inspection at planned time shown

Contractor Company	Egypt Stone CO. for contracting and roads paving			Designer Company*	SGAC						
Issued by Contractor	Name	Sign	Date	Time							
	م. م. النجار		04/02/2023								
Received by ER	A.S	[Signature]	[Stamp]	C1	C2	C3	DD	MM	YY	HH	MM
				Kp 444	E.W	C.S	6	2	2023	1	00
CODE - 1	S1 to S21 Station Reference			D1 to S3 Deputy Reference			Kp XXX Note For Kilometer point only Start Km is used				
CODE - 2	Work Activity										
CODE - 3	Sub Element of Activity										

EXPLANATION OF WORK TO BE INSPECTED

Description	Element	Item
Layer (-1.25)	MIDDLE Embankment	from St (444+300) to St (444+600)

INSPECTION DETAILS The Following will be ready at the Planned Inspection Time

Planned Inspection Date	Planned Inspection Time

COMPLIANCE EVIDENCE Must be included as appropriate

Checklist Attached ☐	Test Results Attached ☐	Calibration Attached ☐	Other as indicated ☐
Drawing Reference	ITP Reference	MS Reference	

Comments by: م. م. النجار Civil: [Signature] Material: [Signature]	Comments by: [Signature] Survey: [Signature] [Stamp: Surveying Engineers Association]
--	---

INSPECTION RESULT					Approval Status	Please Tick if
Organisation	Name	Sign	Date	Time	A-AWC-R	Not Attend
Contractor	م. م. النجار	[Signature]	4/2/2023	11:00	A	
QAVC*	Kamal	[Signature]	6/2/2023	12:00	A	
GARS**	M. Negm	[Signature]	6/2/2023	1:00	A	
Comments by ER	all works are done under the contractor's responsibility. If any results are not satisfactory, the contractor is responsible for the work.					
Employers Representative	A.S	[Signature]			Arc	

* Designer

** Alignment: Bridges: Culvert Only

Rev 22

Station	MAIN ROAD					lower	FERMA BY	-1.25	RIGHT EDGE					
	LEFT EDGE								PGL	RIGHT EDGE				
	15.32	12.00	8.00	4.00	0.00					Slope L	Slope R	0.00	4.00	8.00
قراءة لاصحجية														
قراءة قامة														
الرق														
444+440	33.524	33.657	33.817	33.977	34.137	-4.00%	36.207	-4.00%	34.137	33.977	33.817	33.664		
قراءة لاصحجية														
قراءة قامة														
الرق														
444+460	33.534	33.667	33.827	33.987	34.147	-4.00%	36.297	-4.00%	34.147	33.987	33.827	33.674		
قراءة لاصحجية														
قراءة قامة														
الرق														
444+480	33.544	33.677	33.837	33.997	34.157	-4.00%	36.307	-4.00%	34.157	33.997	33.837	33.684		
قراءة لاصحجية														
قراءة قامة														
الرق														
444+500	33.554	33.687	33.847	34.007	34.167	-4.00%	36.317	-4.00%	34.167	34.007	33.847	33.694		
قراءة لاصحجية														
قراءة قامة														
الرق														
444+520	33.564	33.697	33.857	34.017	34.177	-4.00%	36.327	-4.00%	34.177	34.017	33.857	33.704		
قراءة لاصحجية														
قراءة قامة														
الرق														
444+540	33.574	33.707	33.867	34.027	34.187	-4.00%	36.337	-4.00%	34.187	34.027	33.867	33.714		
قراءة لاصحجية														
قراءة قامة														
الرق														
444+560	33.584	33.717	33.877	34.037	34.197	-4.00%	36.347	-4.00%	34.197	34.037	33.877	33.724		
قراءة لاصحجية														
قراءة قامة														
الرق														
444+580	33.594	33.727	33.887	34.047	34.207	-4.00%	36.357	-4.00%	34.207	34.047	33.887	33.734		
قراءة لاصحجية														
قراءة قامة														
الرق														
444+600	33.604	33.737	33.897	34.057	34.217	-4.00%	36.367	-4.00%	34.217	34.057	33.897	33.744		
قراءة لاصحجية														



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Pen 22

Station	MAIN ROAD					lower	FERMA BY		-1.25			
	LEFT EDGE					PGL	RIGHT EDGE					
	15.32	12.00	8.00	4.00	0.00		Slope L	Slope R	0.00	4.00	8.00	11.82
طراصة قائمة												
الطريق												

١٣٤١

حيدر
K.A



Rev 22

Station	444+300	444+320	444+340	444+360	444+380	444+400	444+420	444+440	444+460	444+480	444+500	444+520	444+540	444+560	444+580	444+600
Design	36.217	36.227	36.237	36.247	36.257	36.267	36.277	36.287	36.297	36.307	36.317	36.327	36.337	36.347	36.357	36.367
Existing level	35.317	35.327	35.337	35.347	35.357	35.367	35.377	35.387	35.397	35.407	35.417	35.427	35.437	35.447	35.457	35.467
FIELD CUT LEVEL	31.909	31.234	30.984	30.829	31.947	32.045	32.073	31.798	31.889	31.045	31.563	32.136	32.058	32.692	32.044	32.094
difference	3.41	4.09	4.35	4.52	3.41	3.32	3.30	3.39	3.51	3.36	3.45	3.29	3.38	3.36	3.42	3.40
0	35.317	35.327	35.337	35.347	35.357	35.367	35.377	35.387	35.397	35.407	35.417	35.427	35.437	35.447	35.457	35.467
0.25	35.067	35.077	35.087	35.097	35.107	35.117	35.127	35.137	35.147	35.157	35.167	35.177	35.187	35.197	35.207	35.217
0.5	34.817	34.827	34.837	34.847	34.857	34.867	34.877	34.887	34.897	34.907	34.917	34.927	34.937	34.947	34.957	34.967
0.75	34.567	34.577	34.587	34.597	34.607	34.617	34.627	34.637	34.647	34.657	34.667	34.677	34.687	34.697	34.707	34.717
1	34.317	34.327	34.337	34.347	34.357	34.367	34.377	34.387	34.397	34.407	34.417	34.427	34.437	34.447	34.457	34.467
1.25	34.067	34.077	34.087	34.097	34.107	34.117	34.127	34.137	34.147	34.157	34.167	34.177	34.187	34.197	34.207	34.217
1.5	33.817	33.827	33.837	33.847	33.857	33.867	33.877	33.887	33.897	33.907	33.917	33.927	33.937	33.947	33.957	33.967
1.75	33.567	33.577	33.587	33.597	33.607	33.617	33.627	33.637	33.647	33.657	33.667	33.677	33.687	33.697	33.707	33.717
2	33.317	33.327	33.337	33.347	33.357	33.367	33.377	33.387	33.397	33.407	33.417	33.427	33.437	33.447	33.457	33.467
2.5	32.817	32.827	32.837	32.847	32.857	32.867	32.877	32.887	32.897	32.907	32.917	32.927	32.937	32.947	32.957	32.967
3	32.317	32.327	32.337	32.347	32.357	32.367	32.377	32.387	32.397	32.407	32.417	32.427	32.437	32.447	32.457	32.467
3.5	31.827	31.837	31.847													
4	31.327	31.337	31.347													
4.5	30.827															

2013

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Rev 22

COORDINATES AND LEVELS FRO STATION 441+600 TO 444+600

Station	WL	CATCH L		CENTERLINE		CATCH R		WR
		N	E	N	E	N	E	
444+300	15.32	922,574.74	378,358.37	922,589.99	378,359.91	922,601.75	378,361.09	11.82
444+320	15.32	922,576.75	378,338.47	922,592.00	378,340.01	922,603.76	378,341.19	11.82
444+340	15.32	922,578.76	378,318.57	922,594.01	378,320.11	922,605.77	378,321.30	11.82
444+360	15.32	922,580.77	378,298.67	922,596.01	378,300.21	922,607.77	378,301.40	11.82
444+380	15.32	922,582.78	378,278.77	922,598.02	378,280.31	922,609.78	378,281.50	11.82
444+400	15.32	922,584.79	378,258.87	922,600.03	378,260.41	922,611.79	378,261.60	11.82
444+420	15.32	922,586.80	378,238.97	922,602.04	378,240.51	922,613.80	378,241.70	11.82
444+440	15.32	922,588.81	378,219.08	922,604.05	378,220.61	922,615.81	378,221.80	11.82
444+460	15.32	922,590.82	378,199.18	922,606.06	378,200.72	922,617.82	378,201.90	11.82
444+480	15.32	922,592.83	378,179.28	922,608.07	378,180.82	922,619.83	378,182.00	11.82
444+500	15.32	922,594.84	378,159.38	922,610.08	378,160.92	922,621.84	378,162.11	11.82
444+520	15.32	922,596.84	378,139.48	922,612.09	378,141.02	922,623.85	378,142.21	11.82
444+540	15.32	922,598.85	378,119.58	922,614.10	378,121.12	922,625.86	378,122.31	11.82
444+560	15.32	922,600.86	378,099.68	922,616.11	378,101.22	922,627.87	378,102.41	11.82
444+580	15.32	922,602.87	378,079.78	922,618.11	378,081.32	922,629.87	378,082.51	11.82
444+600	15.32	922,604.88	378,059.88	922,620.12	378,061.42	922,631.88	378,062.61	11.82



Handwritten signature and initials 'K.A'.



SYSTRA



مركز الاستشارات الهندسية
للتنقل والطرق والمطارات
(خريادبولين)
دكتور / سعد الجبوشي



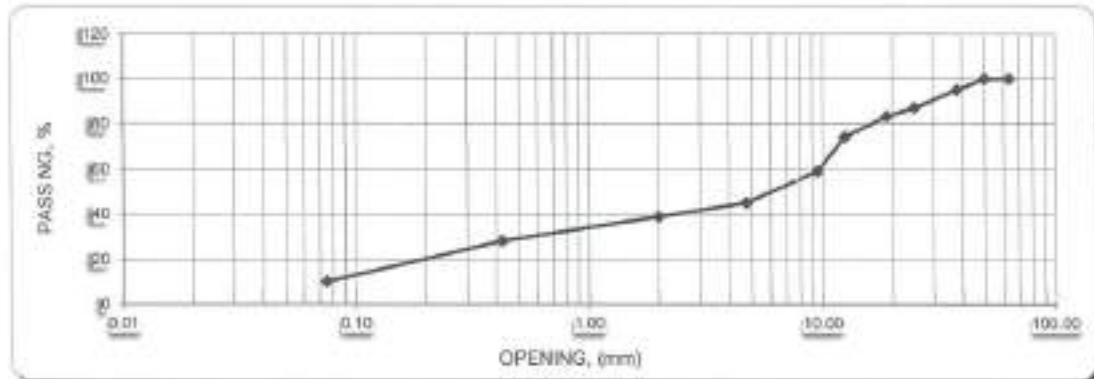
مشروع القطار السريع (العلمين - فوكة) قطاع د / سعد الجبوشي مكتب سجاك للاستشارات الهندسية

Company:	ابجيت ستون للتعبدين و التوريدات	Sample No:	
description:	ترية ردم المصرية	Sample Date :	02/02/2023
Station Represented :	444+300 to 444+600 (-1.25)	Report Date:	02/02/2023

(ASTM-D-424 / / AASHTO :T-90-80)

Source of Tested Material	
---------------------------	--

Sieve No.	2.5 in.	2.0 in.	1.5 in.	1.0 in.	3/4 in.	1/2 in.	3/8 in.	No.4	No.10	No.40	No.200
Opening (mm)	63.50	50.00	38.00	25.00	19.00	12.50	9.50	4.75	2.00	0.425	0.075
Passing, %	100.0	100.0	95.1	87.2	83.4	74.2	59.1	45.2	38.9	28.2	10.0



Atterberg Limits	L.L.	0.0	Max. 35	P.L.	0	P.I.	0.0	(Max. 10)
------------------	------	-----	---------	------	---	------	-----	-----------

SOIL CLASSIFICATION :

A - 1 - A

GARP Consultant Engineer's Comments :

.....

.....

Lab Contractor Eng.:-



مركز الاستشارات الهندسية
للطرق والمطارات
SGAC Consultant Eng.:-
مشروع القطار السريع قطاع ٦

SYSTRA



مركز الاستشارات الهندسية
للمنشاءات والطرق
(أحمد دويكات)
دكتور/ محمد الجيوشي



مشروع القطار السريع (العلمين - فوكه) قطاع د / سعد الجيوشي مكتب سجاك للاستشارات الهندسية

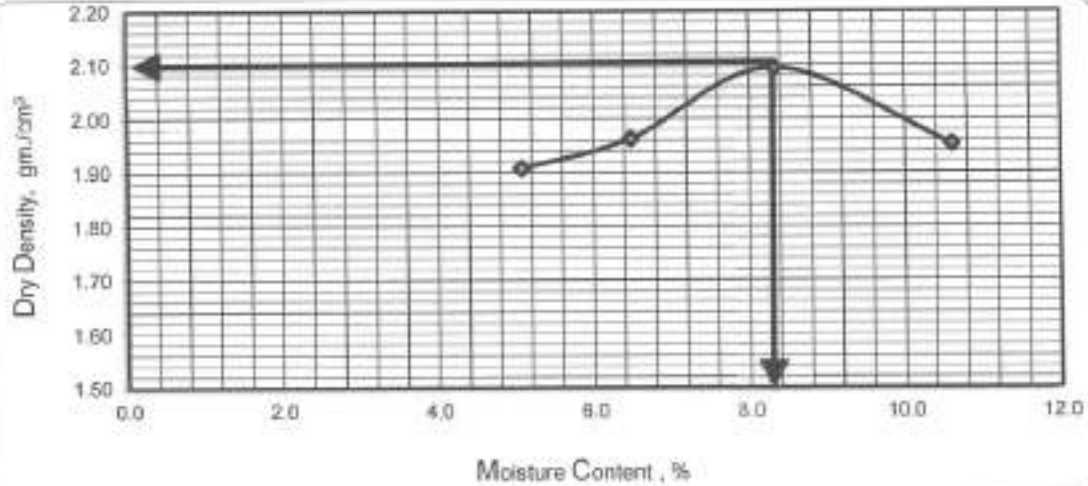
Company:	إيجيبت ستون للتعمدين والتوريدات	Sample No:	
Description :	مشون	Sample Date :	02/02/2023
ation Represente	444+300 to 444+600	Report Date:	03/02/2023

Laboratory Compaction Characteristics (Proctor) of Soil Sample

ASTM D 1557 - Method "C" 5 in. mold, 5 equal layers, each compacted by 56 blows

Using 10 lbf. rammer dropped from 18 in. height, Producing a compactive effort of 56000 ft-lbf/ft³

Weight of PROCTOR Mould, gm	5590	Volume of PROCTOR Mould, cm ³			2120
Point No.	1	2	3	4	5
Weight of Soil + Mould, gm	9840	10020	10400	10170	
Wet Density, gm/cm ³	2.005	2.090	2.269	2.160	
Weight of Wet Soil Portion, gm	163.5	111.7	113.2	135.5	
Weight after Drying, gm	155.6	104.9	104.5	122.5	
Moisture Content, %	5.1	6.5	8.3	10.6	
Dry Density, gm/cm ³	1.908	1.962	2.094	1.953	



Max. Dry Density= 2.094 t/m³

8.3

CONSULTANT COMMENTS

Lab Contractor Eng.:-



مركز الاستشارات الهندسية
للطرق والمباني
SGAC Consultant Eng.:-
د. د. سعد الجيوشي
مشروع القطار السريع قطاع ٦

SYSTRA



مركز الاستشارات الهندسية
للتنقل والطرق والممرات
(خزانة دولارات)
دكتور محمد الجبوشي



مشروع القطر السريع (العلمين - فوكه) قطاع د / سعد الجبوشي مكتب سجاك للاستشارات الهندسية

Activity : Earth Work

نتائج اختبارات المعمل

Date 05/02/2023

Density and Unit Weight of Soil in Place by the Sand-Cone Method – ASTM D 1556

Company:	الهيبت ستون	Layer NO:	
Description :	تربة ردم المصرية	Layer Thickness:	0.25
Station Represented :	444+300 to 444+600	Sample Date :	04/02/2023

Modified Proctor Testing Results

Max. Dry Density, gm/cm ³	Optimum Moisture Content, %	Degree of Compaction Required, %	Bulk Density of Specified Sand, gm/cm ³
2.094	8.3	95%	1.410

Compaction Testing Results & Calculations

Stations	444+325	444+350	444+375	444+400	444+425	444+450	444+475	444+500
Hole No.	1	2	3	4	5	6	7	8
Wt. of Sand before Test, gm	11255	11640	10800	11055	10470	11145	10140	10650
Wt. of Sand After Test, gm	6164	6364	6366	6124	5414	6186	5641	6034
Wt. of Sand in Cone + hole, gm	5091	5276	4434	4931	5056	4959	4499	4616
Wt. of Sand in Cone	2072	2072	2072	2072	2072	2072	2072	2072
Wt. of Sand at hole, gm	3019	3204	2362	2859	2984	2887	2427	2544
Volume of the Hole, cm ³	2141	2272	1675	2028	2116	2048	1721	1804
Wt. of Soil from Hole, gm	4620	4895	3740	4460	4620	4480	3770	3890
Bulk Density of Soil, gm/cm ³	2.158	2.154	2.233	2.200	2.183	2.188	2.190	2.156
Moisture Content, %	8.2	8.0	8.3	8.2	8.2	7.2	8.2	7.2
Dry Density, gm/cm ³	1.994	1.995	2.061	2.033	2.018	2.041	2.024	2.011
Compaction, (%)	95.2%	95.2%	98.4%	97.1%	96.3%	97.4%	96.6%	96.0%

Acceptance Criteria

Comply



Not Comply



CONSULTANT COMMENTS

Lab Contractor Eng.:-



مركز الاستشارات الهندسية
للتنقل والطرق والممرات
د. د. سعد الجبوشي
SGAC Consultant Eng.:-
مشروع القطر السريع قطاع ٦

SYSTRA



مركز الاستشارات الهندسية
للتنقل والطرق والمطارات
إدارة دولي
دكتور/ محمد الجيوشي



مشروع القطار السريع (العلمين - فوكة) قطاع د / سعد الجيوشي مكتب سجاك للاستشارات الهندسية

Activity : Earth Work

نتائج اختبارات المعمل

Date 05/02/2023

Density and Unit Weight of Soil in Place by the Sand-Cone Method – ASTM D 1556

Company:	أيجيبت ستون	Layer NO:	
Description :	تربة ردم المصرية	Layer Thickness:	0.25
Station Represented :	444+300 to 444+600	Sample Date :	04/02/2023

Modified Proctor Testing Results

Max. Dry Density, gm/cm ³	Optimum Moisture Content, %	Degree of Compaction Required, %	Bulk Density of Specified Sand, gm/cm ³
2.094	8.3	95%	1.410

Compaction Testing Results & Calculations

Stations	444+525	444+550	444+575	444+600				
Hole No.	1	2	3	4				
Wt. of Sand before Test, gm	11255	11640	10800	11055				
Wt. of Sand After Test, gm	6164	6384	6366	6124				
Wt. of Sand in Cone + hole, gm	5091	5276	4434	4931				
Wt. of Sand in Cone	2072	2072	2072	2072				
Wt. of Sand at hole, gm	3019	3204	2362	2859				
Volume of the Hole, cm ³	2141	2272	1675	2028				
Wt. of Soil from Hole, gm	4620	4895	3740	4460				
Bulk Density of Soil, gm/cm ³	2.158	2.154	2.233	2.200				
Moisture Content, %	8.1	7.9	8.2	8.1				
Dry Density, gm/cm ³	1.996	1.996	2.063	2.035				
Compaction, (%)	95.3%	95.3%	98.5%	97.1%				

Acceptance Criteria

Comply



Not Comply



CONSULTANT COMMENTS

Lab Contractor Eng.:-



مركز الاستشارات الهندسية
للتنقل والطرق والمطارات
إدارة دولي
دكتور/ محمد الجيوشي
مشروع القطار السريع
SGAC Consultant Eng.



Consulting Engineering Bureau & Laboratories

مكتب معامل الاستشارات الهندسية

Company Name : Egypt Stone
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Location : St. (441+600) : (444+600)
Type of sample : Soil Replacement (Embankment)
Delivery Date : 19/01/2023
Reporting Date : 25/01/2023
Reporting No. : 157
Sample No. : 10

Dear Gentleman,

Attached here with the Soil Replacement delivered on 19/01/2023

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.

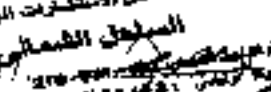
Note: The sample was brought by the client to our laboratory and the laboratory is not responsible for the way it is taken



Company Name : Egypt Stone
 Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
 Location : St. (441+600) : (444+600)
 Type of sample : Soil Replacement (Embankment)
 Delivery Date : 19/01/2023
 Reporting Date : 25/01/2023
 Reporting No. : 157
 Sample No. : 10

Results of Sieve Analysis According to ASTM D-422.

Sieve Size (mm)	Passing %
50	100
37.5	98.1
25	85.6
19	76.9
12.50	62.6
9.50	54.8
4.75	47.8
2.36	45.0
2.00	43.4
1.18	40.5
0.600	32.2
0.425	28.2
0.300	21.7
0.150	15.0

Signature: 
 المهندس / محمد عبد الله عبد الله
 27367231 - 27363093

Company Name : Egypt Stone
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh
Location : St. (441+600) : (444+600)
Type of sample : Soil Replacement (Embankment)
Delivery Date : 19/01/2023
Reporting Date : 25/01/2023
Reporting No. : 157
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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)	12.4





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

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





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Soil Classification According to Project Specs (Embankment)

TEST	Results (%)	Limits according Projects Specs	
		(A-1-a)	(A-1-b)
Group Classification	(A-1-a)	(A-1-a)	(A-1-b)
2.00 mm (No.10).	43.4	Max 50 %	-----
0.425 mm (No. 40).	28.2	Max 30 %	Max 50 %
0.075 mm (No. 200).	12.4	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)			
Liquid Limit	NP	-----	-----
Plasticity index	NP	Max 6 %	Max 6 %

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

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د. ش. السيد الألفيل

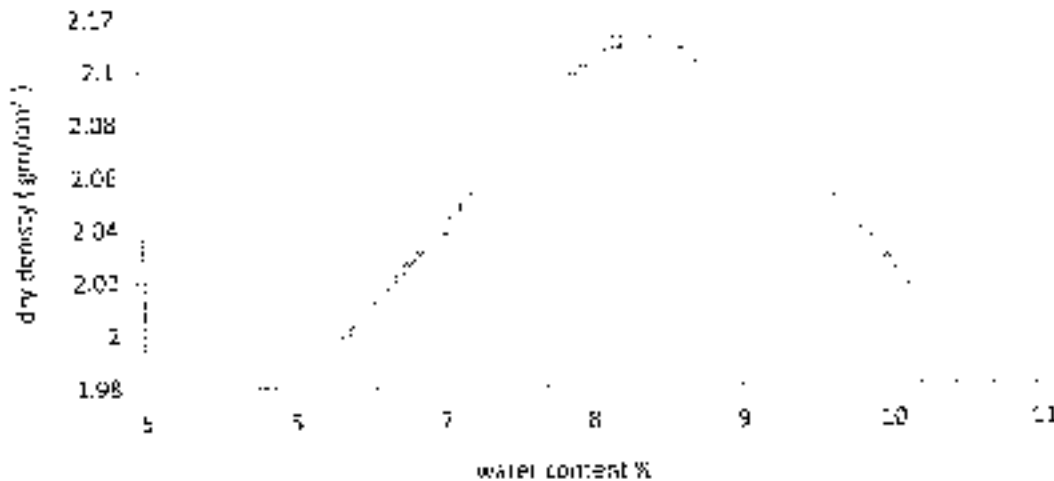
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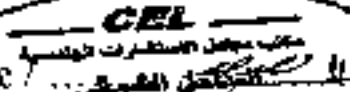
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Moisture – Density relation of soil
Test result (Modified proctor test)
ASTM D-1557



- Max dry density (gm/cm³) : 2.11
- Optimum moisture content % : 8.2

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ب.ع. ١٩٩٩ - ١٩٩٩ - ١٩٩٩
ج.ع. ١٩٩٩ - ١٩٩٩ - ١٩٩٩

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

penetration		stress on piston (Mpa)
mm	inch	
0.64	0.025	1.52
1.27	0.050	1.75
1.91	0.075	1.92
2.54	0.100	2.19
3.18	0.125	2.37
3.81	0.150	2.53
4.45	0.175	2.66
5.08	0.200	2.78
5.71	0.225	3.03
6.35	0.250	3.17

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	31.8
	6.90	2.19	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of $2.11 \text{ (gm/cm}^3\text{)}$

~~At 3.3% Optiplexen water content.~~

Supra 2500, 1994, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679,

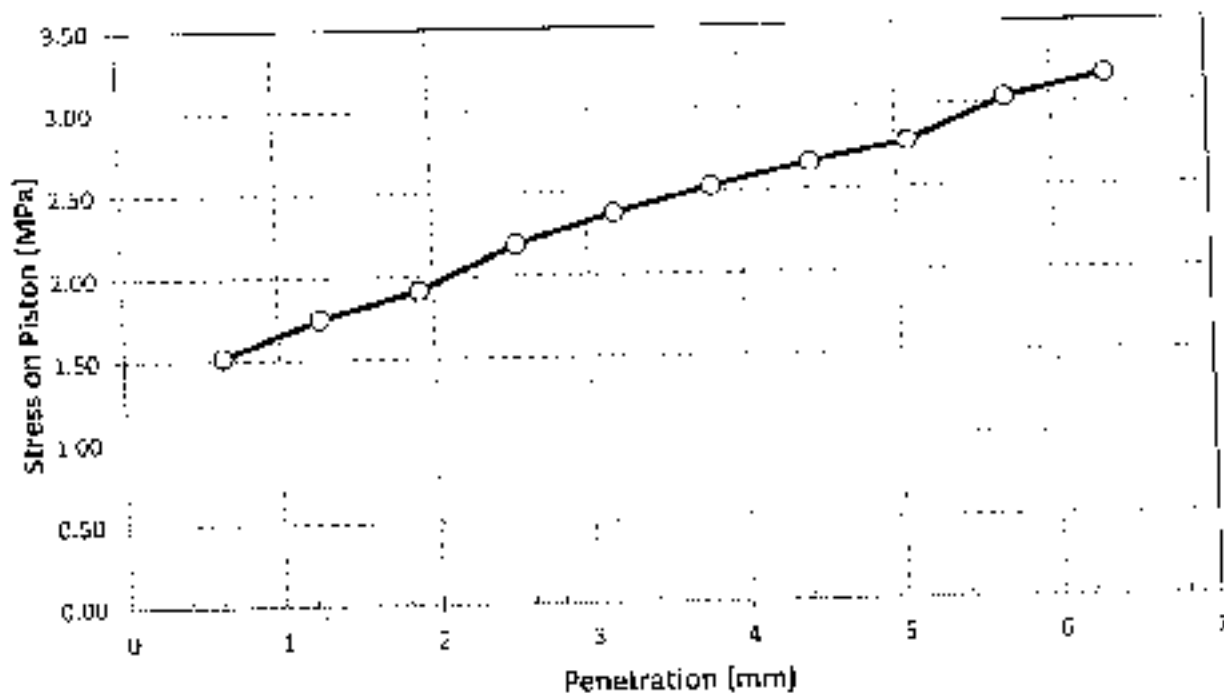
Signature / ...

إلى: **مديرية الشؤون الصحية - مستشفى الملك فيصل التخصصي**

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Load Penetration Curve of CBR Test

ASTM D-1883



Signature / 
 مهندس محمد عبد الحليم
 رقم ترخيص المهندسين: 637 - 2009 - 2009
 مكتب معامل الاستشارات الهندسية - القاهرة