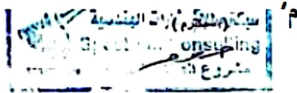


مشروع القطار الكهربائي السريع القطاع الخامس				
تنفيذ شركة الذهبى للمقاولات				
من الكم 637+952 الي 643+863				
بيان اعمال توضيحي لمستخلص جاري (1) عقد (2024/2023/305)				
العقد	قيمة العقد	المستخلص	كميات حفر تربة عادية	كميات الردم
(2024/2023/305)	عشرون مليون	جاري 1	-	64385.00
كميات تم حصرها			-	68243.18
اجمالي كميات تم حصرها			0.00	68243.18
كميات تم صرفها			-	64385.00
اجمالي كميات تم صرفها			0.00	64385.00
المتبقى من الكمية			0.00	3858.18
الكمية التي تم ترحيلها من العقد (2024/2023/306)			-	10074.44

استشاري اسبكتروم /



استشاري المساحة مكتب برليانت /



مهندس الشركة المنفذة /





وزارة النقل
الهيئة العامة للطرق والكبارى المنطقة
الثامنة بقتا

3/9/2024

من بداية الاعمال حتى تاريخ

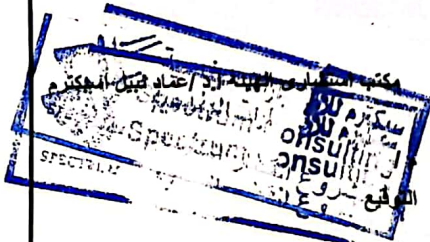
بيان الاعمال بالمستخلص رقم : (1) جارى

بيان اعمال توضيحي لمستخلص جاري (1) عقد (2024/2023/305) لبند رقم (1-3)

العقد رقم : (2024 / 2023 / 305) / (2024/2023/306)

تنفيذ شركة	تنفيذ شركة الذهبى للمقاولات
رقم البند وبيانه: (1-3)	اعمال تحميل وتوريد ونقل اترية مطابقة للمواصفات وتشغيلها باستخدام آلات التسوية بسمك لا يزيد عن 50 سم- حتى منسوب - (2- متر) اسفل منسوب الفرمة و بسمك لايزيد عن 25سم اعلي من منسوب (-2 متر) من منسوب الفرمة لاستكمال المنسوب التصميمى لتشكيل الجسر والاكتاف (نسبة تحمل كاليفورنيا حتى 20%) ورشها بالمياه الاصولية للوصول الى نسبة الرطوبة المطلوبة والدمك الجيد بالهراسات للوصول الى أقصى كثافة جافة (95% من الكثافة الجافة القصوى) ويتم التنفيذ طبقاً للمناسيب التصميمية والقطاعات العرضية النموذجية والرسومات التفصيلية المعتمدة والبند بجميع مشتلاته طبقاً لأصول الصناعة ومواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف.

الكمية بالمقايضة	256,000.00	مقدار العمل السابق	269,694.06
اجمالى كميات اعمال البند			
بيان الأعمال بالمقايضة	الموقع الكيلو مترى		الاجمالى م3
	من	الى	
أعمال الردم	638+280	639+120	115833.70 م3
	639+580	639+960	64244.11 م3
	640+360	640+760	23689.06 م3
	641+000	641+880	89542.09 م3
	642+220	642+480	16076.26 م3
	642+720	643+220	18182.57 م3
	643+280	643+560	10369.42 م3
الاجمالى			
اجمالى ما تم تنفيذه حتى تاريخه للعقد			
اجمالى كميات المرحلة من عقد (2024/2023/306)			
اجمالى الكمية المنفذة خلال المدة			
اجمالى الكمية المدرجة بالمستخلص السابق			
اجمالى الكمية المدرجة بالمستخلص الحالى			



Station	Fill Area	Fill Volume	layer	Cum Fill Volume
642+860.00	26.15	0.00	FILL LAYER (-1.00)	6796.28
642+880.00	28.26	544.15		
642+900.00	25.8	540.65		
642+920.00	25.18	509.81		
642+940.00	18.93	441.09		
642+960.00	17.34	362.64		
642+980.00	12.94	302.76		
643+000.00	16.68	296.17		
643+020.00	32.03	487.02		
643+040.00	46.21	782.38		
643+060.00	50.41	966.17		
643+080.00	36.06	864.66		
643+100.00	33.82	698.78		
643+100.00	8.74	0.00	FILL LAYER (-2.00)	5598.88
643+120.00	55.54	642.80		
643+140.00	68.52	1,240.57		
643+160.00	67.87	1,363.88		
643+180.00	52.19	1,200.60		
643+200.00	28.93	811.20		
643+220.00	5.05	339.83		
643+280.00	17.68	0.00	FILL LAYER (-0.25)	4274.04
643+300.00	33.7	513.83		
643+320.00	59.21	929.08		
643+340.00	47.06	1,062.66		
643+360.00	35.7	827.60		
643+380.00	23.2	589.01		
643+400.00	11.99	351.86		
643+400.00	3.39	0.00	FILL LAYER (-0.75)	6,095.38
643+420.00	9.15	125.39		
643+440.00	36.86	460.14		
643+460.00	49.52	863.85		
643+480.00	41.38	909.08		
643+500.00	49.25	906.39		
643+520.00	52.31	1,015.65		
643+540.00	47.17	994.77		
643+560.00	34.85	820.11		
الإجمالي			337,937.21	

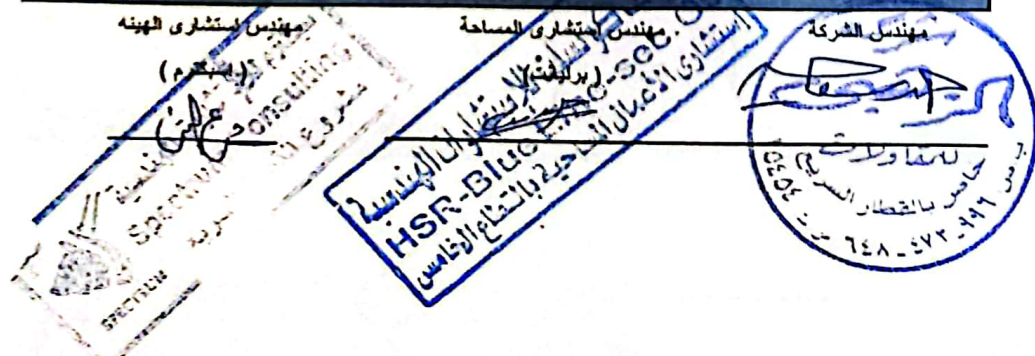


Station	Fill Area	Fill Volume	layer	Cum Fill Volume
641+780.00	50.12	0	FILL LAYER (-0.25)	4034.92
641+800.00	56.82	1,069.38		
641+820.00	57.93	1,147.49		
641+840.00	44.32	1,022.57		
641+860.00	13.63	579.54		
641+880.00	7.96	215.94		
642+220.00	38.11	0.00	LAYER (FERMA)	16076.26
642+240.00	39.77	778.81		
642+260.00	41.67	814.42		
642+280.00	47.68	893.57		
642+300.00	47.13	948.11		
642+320.00	50.88	980.11		
642+340.00	64.17	1,150.56		
642+360.00	68.09	1,322.58		
642+380.00	66.97	1,350.57		
642+400.00	75.89	1,428.61		
642+420.00	79	1,548.94		
642+440.00	78.73	1,577.36		
642+460.00	81.67	1,604.01		
642+480.00	86.19	1,678.61		
642+720.00	31.84	0.00	FILL LAYER (-0.75)	5787.41
642+740.00	45.94	777.81		
642+760.00	55.26	1,012.02		
642+780.00	48.48	1,037.45		
642+800.00	40.54	890.21		
642+820.00	35.18	757.19		
642+840.00	32.69	678.69		
642+860.00	30.71	634.04		

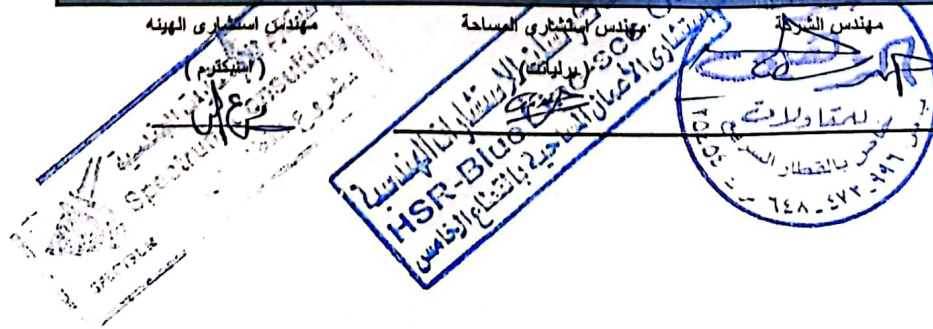


[illegible]

Station	Fill Area	Fill Volume	layer	Cum Fill Volume
639+780.00	171.68	0.00	FILL LAYER (-1.5)	25540.50
639+800.00	165.39	3,370.68		
639+820.00	159.79	3,251.76		
639+840.00	157.12	3,169.08		
639+860.00	163.93	3,210.47		
639+880.00	166.58	3,305.12		
639+900.00	161.1	3,276.84		
639+920.00	151.22	3,123.18		
639+940.00	132.12	2,833.37		
639+940.00	118.78	0.00	FILL LAYER (-2.00)	2078.04
639+960.00	89.02	2,078.04		
640+360.00	27.04	0.00	FILL LAYER (-1.75)	5750.76
640+380.00	51.27	783.10		
640+400.00	58.41	1,096.78		
640+420.00	49.38	1,077.93		
640+440.00	55.27	1,046.55		
640+460.00	39.05	943.18		
640+480.00	41.28	803.22		
640+480.00	54.24	0.00	FILL LAYER (-1.25)	17938.30
640+500.00	75.74	1,299.83		
640+520.00	72.12	1,478.66		
640+540.00	60.75	1,328.71		
640+560.00	59.69	1,204.42		
640+580.00	52.02	1,117.15		
640+600.00	49.16	1,011.83		
640+620.00	50.14	993.01		
640+640.00	59.87	1,100.06		
640+660.00	57.49	1,173.56		
640+680.00	74.5	1,319.90		
640+700.00	71.18	1,456.79		
640+720.00	70.76	1,419.44		
640+740.00	73.88	1,446.46		
640+760.00	84.97	1,588.48		



Station	Fill Area	Fill Volume	layer	Cum Fill Volume
638+700.00	158.12	0.00	FILL LAYER (-1.00)	88866.78
638+720.00	166.12	3,242.36		
638+740.00	171.17	3,372.89		
638+760.00	174.3	3454.7		
638+780.00	176.64	3509.43		
638+800.00	167.87	3445.07		
638+820.00	178.08	3459.48		
638+840.00	215.3	3933.78		
638+860.00	223.76	4390.52		
638+880.00	219.49	4432.43		
638+900.00	217.39	4,368.76		
638+920.00	215.44	4,328.29		
638+940.00	261.63	4,770.65		
638+960.00	275.02	5,366.43		
638+980.00	280.75	5,557.65		
639+000.00	287.96	5,687.08		
639+020.00	274.81	5,627.71		
639+040.00	249.48	5,242.92		
639+060.00	250.95	5,004.33		
639+080.00	238.95	4,899.06		
639+100.00	238.37	4,773.24		
639+100.00	151.58	0.00	FILL LAYER (-4.00)	3122.97
639+120.00	160.71	3,122.97	FILL LAYER (-3.50)	3035.28
639+580.00	148.14	0.00		
639+600.00	155.39	3,035.28	FILL LAYER (-2.50)	33590.29
639+600.00	185.82	0.00		
639+620.00	192.95	3,787.71		
639+640.00	199.88	3,928.34		
639+660.00	211.44	4,113.23		
639+680.00	207.47	4,189.15		
639+700.00	197.15	4,046.20		
639+720.00	184.92	3,820.64		
639+740.00	167.33	3,522.45		
639+760.00	153.34	3,206.66		
639+780.00	144.25	2,975.91		



 الهيئة القومية للإنفاق  وزارة النقل  مصلحة الطرق والمواصلات  BC				
مشروع القطار الكهربائي السريع				
حصر كميات الردم مستخلص جاري (1) لعقد (2024/2023/305) شركة الذهبى (952+637-643+863) مشروع القطار السريع القطاع الخامس (قوص /ارمنت)				
رقم العقد	(2024/2023/305)/(2024/2023/305)			
تنفيذ شركة :	الذهبي للمقاولات			
اجمالى حصر الاعمال حتى تاريخ 27/8/2024				
بند رقم (1-3): اعمال تحميل وتوريد ونقل اترية مطابقة للمواصفات وتشغيلها باستخدام آلات التسوية.....الخ				
Station	Fill Area	Fill Volume	layer	Cum Fill Volume
638+280.00	31.82	0	FILL LAYER (-1.75)	4397.73
638+300.00	54.33	861.58		
638+320.00	57.43	1117.62		
638+340.00	60.48	1179.08		
638+360.00	15.32	758		
638+380.00	15.53	308.51		
638+400.00	1.76	172.94		
638+400.00	5.21	0	FILL LAYER (-1.5)	19446.22
638+420.00	28.82	340.31		
638+440.00	40.38	692		
638+460.00	57.61	979.95		
638+480.00	46.09	1037		
638+500.00	25.39	714.8		
638+520.00	26.31	517.05		
638+540.00	46.17	724.84		
638+560.00	59.9	1060.7		
638+580.00	56.69	1165.91		
638+600.00	56.25	1129.46		
638+620.00	81.53	1,377.87		
638+640.00	106.58	1,881.14		
638+660.00	126.89	2,334.68		
638+680.00	138.32	2,652.07		
638+700.00	145.53	2,838.44		

مهندس استشارى الهبله

مهندس استشارى المساحة

مهندس الشركة



مركز الترجمة العربية

Electric Express Train – HSR From Qiongs to Anman

$$ST: 644 \div 400 \quad E = 492410.088 \quad N = 2862759.57$$

Soil Embankment (Upper Embankment 0.0 M)

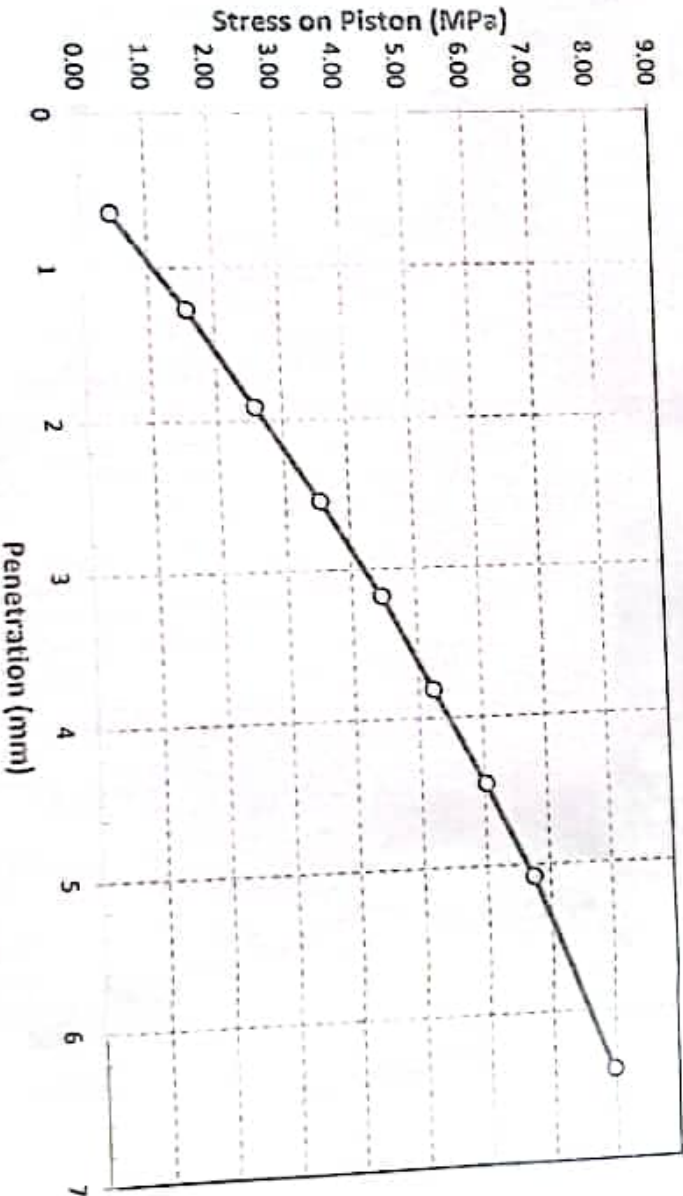
31/12/2023

04/1/2024

: 10-19

Load Penetration Curve of CBR Test

ASTM D-1883



Signature / *J. A. Mandy*



Author's address: Department of Mathematics, University of Illinois at Chicago, Chicago, IL 60607-7141, USA.

11

IAS
ACCREDITED
INSTITUTE

Company Name : شركة الذهبى
Project : Electric Express Train – HSR From Qous To Armant
Location : ST:641+400 E= 492410,088 N=2862759,57
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 26/4/2024
Reporting Date : 30/4/2024
Reporting No. : 10-20

Dear Gentleman,

Attached here with the delivered on 26 / 4 / 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 /



Consultant Eng : Abderrahman Ahmed

3 El Malek El Afdal Street
Zamalek, Cairo
Tel& Fax 2736723 2736703



3 شارع الملك الافضل
الزمالك - القاهرة
تليفون - فاكس : 2736723 2736703

CEL
Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

Company Name : شركة الذهبي
Project : Electric Express Train – HSR From Qous To Armant
Location : ST:641+400 E= 492410,088 N=2862759,57
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 26/4/2024
Reporting Date : 30/4/2024
Reporting No. : 10-20

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	91.0
37.5	1.5	85.3
25	1	80.6
19	¾	74.9
12.50	½	70.1
9.50	3/8	62.3
4.75	4	55.4
2.00	10	39.2
0.425	40	18.6

Signature / 
مكتب معامل الاستشارات الهندسية
مشروعات ، الاقصر
رقم الترخيص الرئيسي 219 991.437
الإدارة الرئيسية 3 شارع الملك الأفضل - الزمالك - القاهرة

3 El Malek E Ahdal Street
Zamalek, Cairo
Tel. Fax : 23363001 - 23363003



ش.ع. الملك الأفضل
الزمالك - القاهرة
تليفون : ٢٣٣٦٣٠٠١ - ٢٣٣٦٣٠٠٣

Company Name : شركة الذهبى
Project : Electric Express Train – HSR From Qous To Armant
Location : ST:641+400 E= 492410,088 N=2862759,57
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 26/4/2024
Reporting Date : 30/4/2024
Reporting No. : 10-20

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)	8.1

Signature /.....



3 El Malek El Afdal Street
Zamalek, Cairo
Tel & Fax: 27367211 - 27363993



٢ شارع الملك الافضل
الزمالك - القاهرة
هاتف : ٢٧٣٦٧٢١١ - ٢٧٣٦٣٩٩٣

Company Name : شركة الذهبى
Project : Electric Express Train – HSR From Qous To Armant
Location : ST:641+400 E= 492410,088 N=2862759,57
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 26/4/2024
Reporting Date : 30/4/2024
Reporting No. : 10-20

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

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

Signature /
مكتب معامل الاستشارات الهندسية
شروعات ، الاقصر
رقم الترخيص المبرسي 219 991 437
المركز الرئيسى : 3 شارع الملك الافضل - الزمالة - القاهرة

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



ش الملك الافضل
الزمالة - القاهرة
الهاتف - فاكس : ٢٧٣٦٧٢٣ - ٢٧٣٦٣٠٩٣

Company Name : شركة الذهبي
Project : Electric Express Train – HSR From Qous To Armant
Location : ST:641+400 E= 492410,088 N=2862759,57
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 26/4/2024
Reporting Date : 30/4/2024
Reporting No. : 10-20

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).	39.2	Max 50 %	-----	-----
0.425 mm (No. 40).	18.6	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	8.1	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



3 El Malek El Afdal Street
Zamalek, Cairo
Tel & Fax: 27369720 - 27369093



٢ شارع الملك الافضل
الزمالك - القاهرة
هاتف : ٢٧٣٦٩٧٢٠ - ٢٧٣٦٩٠٩٣

Company Name : شركة الذهبى
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 30 / 04 /2024
Soil type : Middle Embankment
Location : ST From 643+740 To 643+840
Level : - 1.5 M
Report No. : 173

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	643+760	1489.9	2.27	6.3	2.14	95.5%	Comply
2	643+780	1575.2	2.31	6.8	2.16	96.6%	Comply
3	643+800	1490.6	2.25	6.3	2.12	94.6%	Comply
4	643+820	1348.3	2.33	6.3	2.19	97.9%	Comply

Degree of compaction based on proctor test dated At

Max. dry density = 2.24 gm/cm³

At optimum moisture content = 5.8 %

Signature:  Consultant Eng : Abderrahman Ahmed

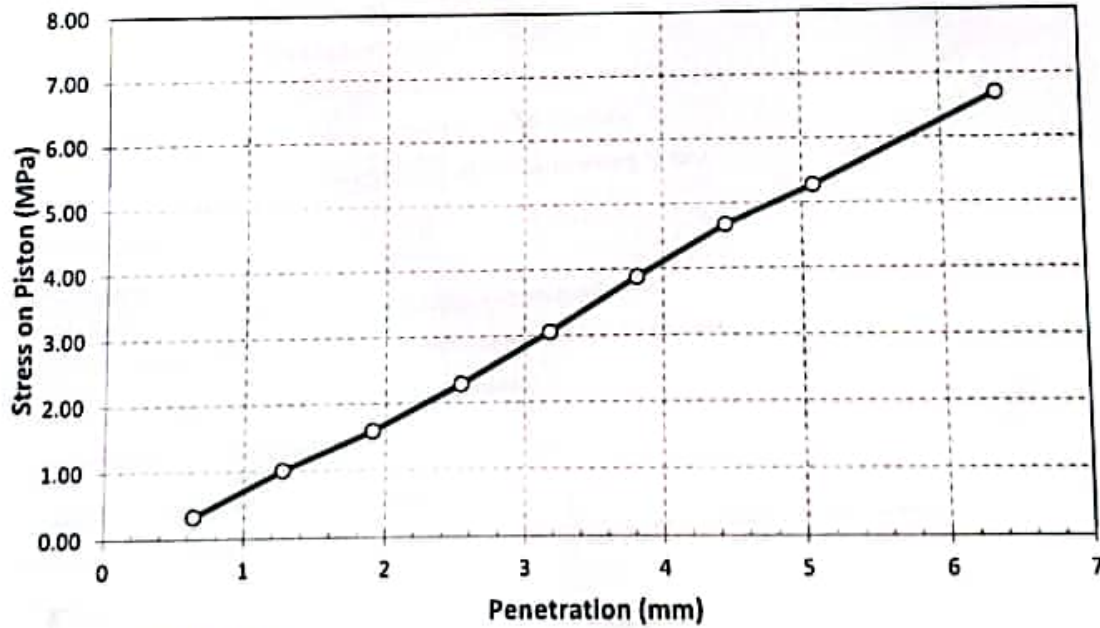
3 El Matek E. Ajdai Street
Zamalek, Cairo
Tel & Fax : 27367211 - 27367003



ش. المعك الاعضا
الرمالك القاهرة
تليفون : ٢٧٣٦٧٢١١ - ٢٧٣٦٧٠٠٣

Company Name : شركة الذهبي
Project : Electric Express Train – HSR From Qous To Armant
Location : ST:641+400 E= 492410,088 N=2862759,57
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 26/4/2024
Reporting Date : 30/4/2024
Reporting No. : 10-20

Load Penetration Curve of CBR Test
ASTM D-1883



CEL
Signature: [Handwritten Signature]
المركز الرئيسي 3 شارع الملك الافضل - القاهرة
الهاتف: 011 437 1111

3 El Malek E Afdal Street
Zamalek, Cairo
Tel: Fax: 011 437 1111 011 437 1111



3 شارع الملك الافضل
الزمالك القاهرة
الهاتف: 011 437 1111 فاكس: 011 437 1111

Company Name : شركة الذهبى
Project : Electric Express Train – HSR From Qous To Armant
Location : ST:641+400 E= 492410,088 N=2862759,57
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 26/4/2024
Reporting Date : 30/4/2024
Reporting No. : 10-20

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

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.33
1.27	0.050	1.01
1.91	0.075	1.60
2.54	0.100	2.28
3.18	0.125	3.06
3.81	0.150	3.88
4.45	0.175	4.68
5.08	0.200	5.27
6.35	0.250	6.69

CBR Result	Stress (Mpa)		CBR 100 %
	St. Value	Sample results	
At 0.2 inch (5.08 mm) penetration	10.3	5.27	51.2 %

Notes:

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

Signature /


م. محمد المالك
مهندس استشاري
رقم الترخيص المهنى 219 991 437
الزمالك - القاهرة
3 شارع الملك الإيفر - الزمالك - القاهرة

3 El Malek E Ahal Street
Zamalek, Giza
Tel & Fax 2199723 21993000



3 شارع الملك الإيفر
الزمالك - القاهرة
تليفون : فاكس : ٢١٩٩٧٢٣١ ٢١٩٩٣٠٠٠

Project : Electric Express Train – HSR From Qous To Armant
Consultant : Spectrum Engineering Consultants (مكتب د / عماد نبيل)
Company Name : شركة الذهبى
Testing Date : 08 / 05 /2024
Soil type : Upeer Embankment
Location : ST From 643+280 643+400 (120m)
Level : - 0.75 M
Report No. : 182

**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	643+300	1570.5	2.33	5.8	2.20	98.2%	Comply
2	643+325	1777.4	2.28	5.3	2.17	96.7%	Comply
3	643+350	1430.8	2.31	5.3	2.20	98.1%	Comply
4	643+375	1650.0	2.28	6.3	2.14	95.6%	Comply
5	643+397	1423.3	2.28	6.4	2.14	95.7%	Comply

Degree of compaction based on proctor test dated At
Max. dry density = 2.24 gm/cm³
At optimum moisture content = 5.8 %

Consultant Eng .

Name : *أحمد عبد الرحمن*

Sign / *[Signature]*

Laboratory Eng.

Name : *محمد عبد الله*
Sign / *[Signature]*

3 El Malek El Afdal Street
Zamalek, Cairo
Tel & Fax : 27367223 - 27363093



3 شارع الملك الافضل
الزمالك القاهرة
تليفون : ٢٧٣٦٧٢٢٣ - ٢٧٣٦٣٠٩٣

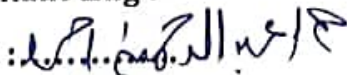
Project : Electric Express Train – HSR From Qous To Armant
Consultant : Spectrum Engineering Consultants (مكتب د / عماد نبيل)
Company Name : شركة الذهبى
Testing Date : 09 / 05 / 2024
Soil type : Middle Embankment
Location : ST From 640+460 To 640+760 (300m)
Level : - 2 M
Report No. : 186

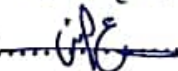
Compaction test by using Sand – Cone Test Method
ASTM D- 1556

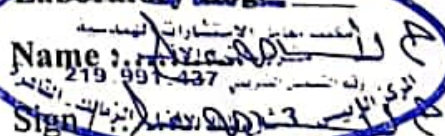
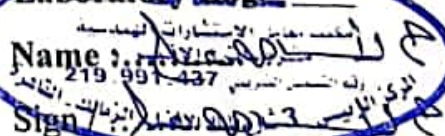
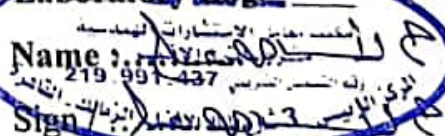
Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	640+480	1411.0	2.30	6.3	2.16	96.6%	Comply
2	640+520	1681.5	2.27	6.1	2.14	95.4%	Comply
3	640+570	1578.8	2.31	5.8	2.19	97.7%	Comply
4	640+610	1487.0	2.32	6.3	2.19	97.6%	Comply
5	640+650	1602.7	2.29	6.3	2.16	96.2%	Comply
6	640+700	1466.4	2.29	5.3	2.17	97.0%	Comply
7	640+750	1493.2	2.30	6.4	2.16	96.6%	Comply

Degree of compaction based on proctor test dated At
Max. dry density = 2.24 gm/cm³
At optimum moisture content = 5.8 %

Consultant Eng .

Name : 

Sign / 

Laboratory Eng.

Name : 
219 991 437
Sign / 

3 El Malek El Aldal Street
Zamalek, Cairo
Tel & Fax : 27367231 - 27363063



ش.م.م. الملك الامين
الرمك القاهره
تليفون : فاكس : 27367231 - 27363063

Project : Electric Express Train – HSR From Qous To Armant
Consultant : Spectrum Engineering Consultants (مكتب د / عماد نبيل)
Company Name : شركة الذهبى
Testing Date : 14 / 05 /2024
Soil type : Middle Embankment
Location : ST From 642+740 To 642+860 (120 m)
Level : - 1.0 M
Report No. : 189

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	642+760	1493.2	2.33	5.8	2.20	97.0%	Comply
2	642+780	1547.9	2.33	6.1	2.20	96.9%	Comply
3	642+800	1463.0	2.32	6.3	2.19	96.3%	Comply
4	642+820	1537.0	2.35	6.1	2.21	97.5%	Comply
5	642+840	1469.9	2.35	6.3	2.21	97.4%	Comply
6	642+850	1669.9	2.31	6.4	2.18	95.8%	Comply

Degree of compaction based on proctor test dated At

Max. dry density = 2.27 gm/cm³

At optimum moisture content = 6 %

Consultant Eng .

Name *د. محمد السيد*

Sign /....

Laboratory Eng

Name *د. محمد السيد*
Sign /....

3 El Malek El Afdal Street
Zamalek, Gairo
Tel & Fax: 27367231 - 27363003



٣ شارع الملك الأفدال
الزمالك القاهرة
هاتف وفاكس : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٠٣

Project : Electric Express Train – HSR From Qous To Armant
Consultant : Spectrum Engineering Consultants (مكتب د / عماد نبيل)
Company Name : شركة الذهبى
Location : ST:641+400 E= 492410,088 N=2862759,57
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 07/05/2024
Reporting Date : 11/5/2024
Reporting No. : 10-21

Dear Gentleman,

Attached here with the delivered on 07 / 05 / 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

Consultant Eng .

Name : 

Sign / 

Laboratory Eng.

Name : 

Sign / 

مكتب معامل الاستشارات الهندسية
رقم التسجيل 219 991 437
المركز الرئيسى 3 شارع الملك الافضل - الزمالك - القاهرة

3 El Malek El Afdal Street
Zamalek, Cairo
Tel & Fax 27367291 27363693



ش الملك الافضل
الزمالك، القاهرة
تليفون ٢٧٣٦٧٢٩١ ٢٧٣٦٣٦٩٣

CEL
Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

Project : Electric Express Train – HSR From Qous To Armant
Consultant : Spectrum Engineering Consultants (مكتب د / عماد نبيل)
Company Name : شركة الذهبي
Location : ST:641+400 E= 492410,088 N=2862759,57
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 07/05/2024
Reporting Date : 11/5/2024
Reporting No. : 10-21

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	92.3
37.5	1.5	88.1
25	1	78.4
19	¾	70.7
12.50	½	68.1
9.50	3/8	63.3
4.75	4	54.1
2.00	10	34.7
0.425	40	14.4

Signature /



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Zamalek, Cairo
Tel & Fax: 27367231 - 27367093



شركة الملك الافضل
الزمالك - القاهرة
تليفون - فاكس : 27367231 - 27367093

Project : Electric Express Train – HSR From Qous To Armant
Consultant : Spectrum Engineering Consultants (مكتب د / عماد نبيل)
Company Name : شركة الذهبي
Location : ST:641+400 E= 492410,088 N=2862759,57
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 07/05/2024
Reporting Date : 11/5/2024
Reporting No. : 10-21

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)	5.5

Signature /.....



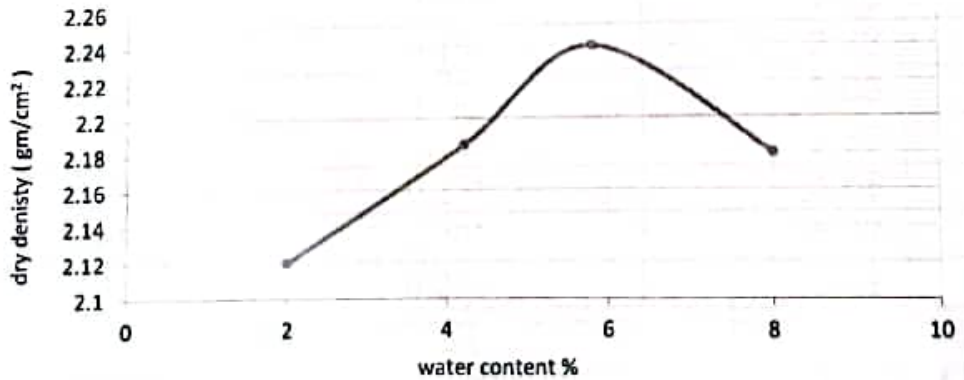
3 El Malek El Afdal Street
Zamalek, Cairo
Te & Fax : 27367231 - 27363093



٢ عن الملك الافضل
الزمالك - القاهرة
تليفون - فاكس : 27367231 - 27363093

Company Name : شركة الذهبى
Project : Electric Express Train – HSR From Qous To Armant
Location : ST:641+400 E= 492410,088 N=2862759,57
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 26/4/2024
Reporting Date : 30/4/2024
Reporting No. : 10-20

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



- Max dry density (gm/cm³) : 2.24
- Optimum moisture content % : 5.8 %

Signature / 

مكتب معامل الاستشارات الهندسية
مشاريع و الأقسام
رقم الترخيص المهنى 191 437
المركز الرئيسى 3 شارع الملك الأفندى - الهرم - القاهرة

3 El Maek El Ahdal Street
Zakaria - Cairo
Tel&Fax 2736722 2736350



الملك الأفندى
الهرم - القاهرة
تليفون - فاكس 2736722 2736350

Project : Electric Express Train – HSR From Qous To Armant
Consultant : Spectrum Engineering Consultants (مكتب د / عماد نبيل)
Company Name : شركة الذهبي
Location : ST:641+400 E= 492410,088 N=2862759,57
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 07/05/2024
Reporting Date : 11/5/2024
Reporting No. : 10-21

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).	34.7	Max 50 %	-----	-----
0.425 mm (No. 40).	14.4	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	5.5	Max 15 %	Max 15 %	Max 15 %
Liquid Limit	23.74	-----	-----	-----
Plasticity index	3.9	Max 6 %	Max 6 %	Max 10 %

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

Signature /



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Zarvalex, Cairo
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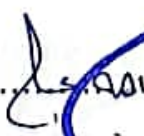


الزكرى الويليس
الزعمالك - القاهرة
تليفون - فاكس 27367231 - 27363093

Project : Electric Express Train – HSR From Qous To Armant
Consultant : Spectrum Engineering Consultants (مكتب د / عماد نبيل)
Company Name : شركة الذهبى
Location : ST:641+400 E= 492410,088 N=2862759,57
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 07/05/2024
Reporting Date : 11/5/2024
Reporting No. : 10-21

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

Test	Results (%)
Liquid Limit	23.74
Plastic Limit	19.84
Plasticity Index	3.9

Signature / ...  

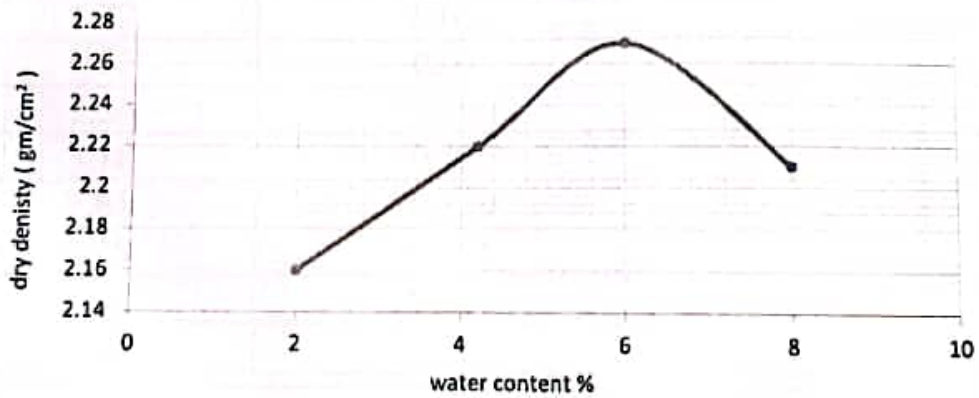
3 El Malek El Afdal Street
Zamalek, Cairo
Tel & Fax : 27367231 - 27363003



٢ ش الملك الافضل
الزمالك - القاهرة
هاتف - فاكس : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٠٣

Project : Electric Express Train – HSR From Qous To Armant
Consultant : Spectrum Engineering Consultants (مكتب د / عماد نبيل)
Company Name : شركة الذهبي
Location : ST:641+400 E= 492410,088 N=2862759,57
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 07/05/2024
Reporting Date : 11/5/2024
Reporting No. : 10-21

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



- Max dry density (gm/cm³) : 2.27
- Optimum moisture content % : 6 %

Signature /



3 E Malek E Aldal Street
Zamalek, Cairo
Tel & Fax : 27367231 - 27363693



ش.ع. الملك الأفندي
الزمالة - القاهرة
تليفون : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٦٩٣

Project : Electric Express Train – HSR From Qous To Armant
Consultant : Spectrum Engineering Consultants (مكتب د / عماد نبيل)
Company Name : شركة الذهبى
Location : ST:641+400 E= 492410,088 N=2862759,57
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 07/05/2024
Reporting Date : 11/5/2024
Reporting No. : 10-21

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

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.36
1.27	0.050	1.32
1.91	0.075	2.31
2.54	0.100	3.32
3.18	0.125	4.34
3.81	0.150	5.17
4.45	0.175	5.88
5.08	0.200	6.25
6.35	0.250	6.69

CBR Result	Stress (Mpa)		CBR 100 %
At 0.2 inch (5.08 mm) penetration	St. Value	Sample results	60.7 %
	10.3	6.25	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of = 2.27 (gm /cm³)
At = 6 % optimum water content.
- 3- Surcharge load 4.50 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature / ..

3 El Malek E. Afifat Street
Zamalek, Cairo
Tel, Fax: 22457231 22459683



ش.ع. الملك الافيفات
الزمالك - القاهرة
الهاتف - الفاكس : ٢٢٤٥٧٢٣١ - ٢٢٤٥٩٦٨٣

Project : Electric Express Train – HSR From Qous To Armant
Consultant : Spectrum Engineering Consultants (مكتب د / عماد نبيل)
Company Name : شركة الذهبى
Location : ST:641+400 E= 492410,088 N=2862759,57
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 07/05/2024
Reporting Date : 11/5/2024
Reporting No. : 10-21

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)	5.5

Signature /.....



3 El Malek El Afdal Street
Zamalek, Cairo
Tel & Fax 27367231 - 27363693



٢ شارع الملك الافضل
الزمالك - القاهرة
تليفون : فاكس : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٦٩٣

CEL

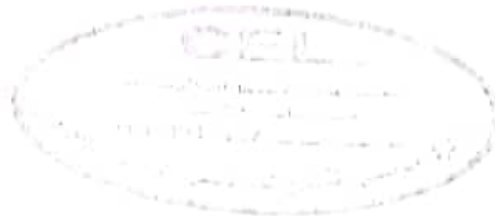
Consulting Engineering Bureau & Laboratories
مكتب محامل الاستشارات الهندسية

Company Name : شركة الذهبى
Project : Electric Express Train – HSR From Qous To Arman
Location : ST:641+400 E= 492410,088 N=2862759,57
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 31/12/2023
Reporting Date : 04/1/2024
Reporting No. : 10-19

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	95.1
37.5	1.5	91.9
25	1	80.7
19	¾	72.2
12.50	½	64.1
9.50	3/8	45.8
4.75	4	34.6
2.00	10	27.5
0.425	40	15.6

Signature / ...



Machine: F 60 L Steel
Machine: 1000
Date: 04/01/2024



CEL

Consulting Engineering Bureau & Laboratories
مكتب استشارات الهندسة

Company Name : شركة القذافي
Project : Electric Express Train – HSR From Qous To Arman
Location : ST:641+400 E= 492410,088 N=2862759,57
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 31/12/2023
Reporting Date : 04/1/2024
Reporting No. : 10-19

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 /.....

Consultant Eng : Abderrahman Ahmed



CEL Logo & Global Stamp

CEL Logo & Global Stamp

CEL Logo & Global Stamp



Project : Electric Express Train – HSR From Qous To Armant
Consultant : Spectrum Engineering Consultants (مكتب د / عماد نبيل)
Company Name : شركة الذهبى
Testing Date : 05 / 05 /2024
Soil type : Middle Embankment
Location : ST From 638+620 To 638+720 (100 m)
Level : - 4 M
Report No. : 176

**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	638+640	1625.3	2.31	5	2.20	98.7%	Comply
2	638+660	1550.7	2.34	5.3	2.22	99.5%	Comply
3	638+680	1546.6	2.27	5.5	2.15	96.5%	Comply
4	638+700	1654.8	2.27	6	2.14	96.0%	Comply

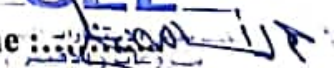
Degree of compaction based on proctor test dated At
Max. dry density = 2.23 gm/cm³
At optimum moisture content = 5.8 %

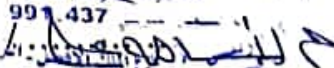
Consultant Eng .

Name : احمد الطمدى احمد

Sign / 

Laboratory Eng.

Name : 

Sign / 

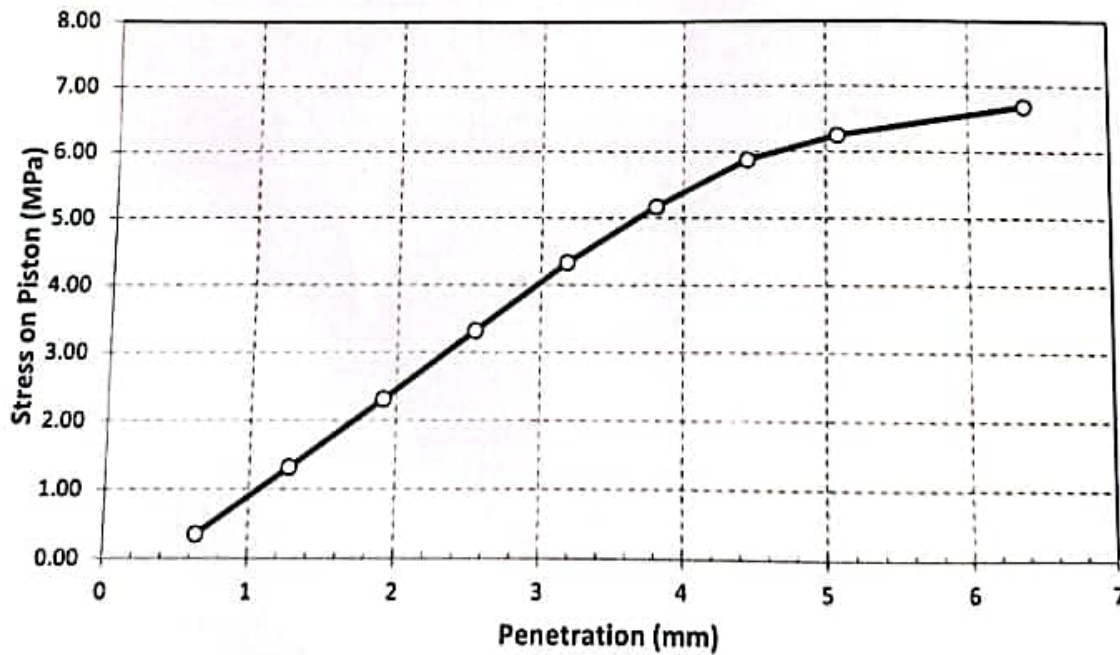
3 El Malek El Aldal Street
Zamalek, Cairo
Tel& Fax : 27367231 - 27369093



ش.م.م. الملك الامتثال
الرمالك القاهرة
تليفون : ٢٧٣٦٧٢٣١ - ٢٧٣٦٩٠٩٣

Project : Electric Express Train – HSR From Qous To Armant
Consultant : Spectrum Engineering Consultants (مكتب د / عماد نبيل)
Company Name : شركة الذهبي
Location : ST:641+400 E= 492410,088 N=2862759,57
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 07/05/2024
Reporting Date : 11/5/2024
Reporting No. : 10-21

Load Penetration Curve of CBR Test
ASTM D-1883



Signature / ...



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Zamalek, Cairo
Tel & Fax : 27367231 - 27363000



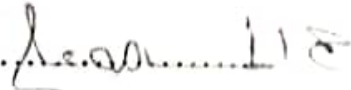
د. ش. الملك الافضل
الزمالك القاهرة
تليفون : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٠٠

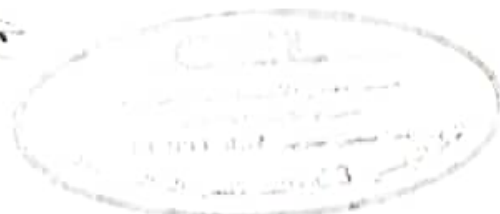
Company Name : شركة الذهبى
 Project : Electric Express Train -- HSR From Qous To Arman
 Location : ST:641-400 E= 492410,088 N=2862759,57
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 31/12/2023
 Reporting Date : 04/1/2024
 Reporting No. : 10-19

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).	27.5	Max 50 %	-----	-----
0.425 mm (No. 40).	15.6	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	9.1	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 / ... 



As Made For Client Copy
 04/01/2024
 10-19



CEL

Consulting Engineering Bureau & Laboratories
مكتب محاسن الاستشارات والاختبارات

Company Name : شركة الدخيلي
Project : Electric Express Train -- HSR From Qous To Armanat
Location : ST:641+400 E= 492410,088 N=2862759,57
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 31/12/2023
Reporting Date : 04/1/2024
Reporting No. : 10-19

**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 /.....



Mr. Mohamed El-Sayed
Z. El-Sayed
01111111111



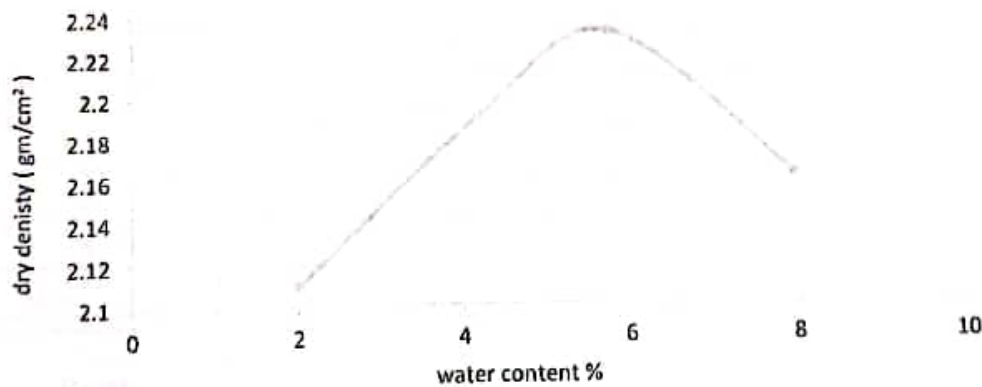
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CEL

Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

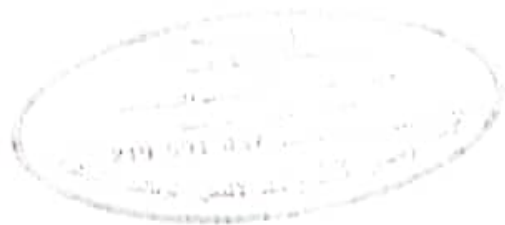
Company Name : شركة الذهبى
Project : Electric Express Train - HSR From Qous To Arman
Location : ST:641+400 E= 492410,088 N=2862759,57
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 31/12/2023
Reporting Date : 04/1/2024
Reporting No. : 10-19

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



- Max dry density (gm/cm³) : 2.23
- Optimum moisture content % : 5.8 %

Signature / ...



Company Name : شركة الذمعي
 Project : Electric Express Train – HSR From Qons To Arment
 Location : ST:641+400 E= 492410,088 N=2862759,57
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 31/12/2023
 Reporting Date : 04/1/2024
 Reporting No. : 10-19

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	1.58
1.91	0.075	2.58
2.54	0.100	3.55
3.18	0.125	4.47
3.81	0.150	5.23
4.45	0.175	6.03
5.08	0.200	6.74
6.35	0.250	7.97

CBR Result	Stress (Mpa)		CBR 100 %
At 0.2 inch (5.08 mm) penetration	St. Value	Sample results	65.4 %
	10.3	3.55	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of = 2.23 (gm /cm³)
At = 5.8 % optimum water content.
- 3- Surcharge load 4.50 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature /

Company Name : شركة النجاشي
Project : Electric Express Train - HSR From Qous To Armani
Testing Date : 19 / 02 / 2024
Soil type : Middle Embankment
Location : ST From 642+740 To 642+860
Level : - 1.75 M
Report No. : 167

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	642+760	1616.7	2.32	6.4	2.18	97.6%	Comply
2	642+800	1591.7	2.26	6.4	2.13	95.4%	Comply
3	642+832	1623.6	2.28	6.4	2.14	96.0%	Comply
4	642+857	1519.4	2.30	6.4	2.16	97.1%	Comply

Degree of compaction based on proctor test dated At

Max. dry density = 2.21 gm/cm³

At optimum moisture content = 6.4 %

Signature / 

Consultant Eng : Abderrahman Ahmed



3 El Malek El Aziz Street
Zamalek, Cairo
Tel Fax 2736723- 27367603



إلى مكتب الاختصاص
الزمالك، القاهرة
تلفون 2736723- 27367603

Project : Electric Express Train – HSR From Qous To Armant
Consultant : Spectrum Engineering Consultants (مكتب د / عماد نبيل)
Company Name : شركة الذهبى
Testing Date : 05 / 05 /2024
Soil type : Upper Embankment
Location : ST From 642+740 TO 642+840 (100 m)
Level : - 1.25 M
Report No. : 175

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	642+760	1278.1	2.32	5.5	2.20	99.1%	Comply
2	642+780	1550.7	2.31	5.4	2.19	98.6%	Comply
3	642+800	1626.7	2.27	5	2.17	97.5%	Comply
4	642+820	1628.1	2.26	5.5	2.15	96.7%	Comply

Degree of compaction based on proctor test dated At
Max. dry density = 2.22 gm/cm³
At optimum moisture content = 5.8 %

Consultant Eng .

Name : *أ.م.ع. أحمد السيد*

Sign / *أ.م.ع. أحمد السيد*

Laboratory Eng.

Name : *أ.م.ع. أحمد السيد*

Sign / *أ.م.ع. أحمد السيد*

3 El Malek El Ahdal Street
Zamalek, Cairo
Te & Fax 27367231 27363693



ش.م.ع. الملك أحمد
الرمات القاهرة
تليفون - فاكس : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٦٩٣

Project : Electric Express Train – HSR From Qous To Armant
Consultant : Spectrum Engineering Consultants (مكتب د / عماد نبيل)
Company Name : شركة الذهبي
Location : ST: 639+000 E=32°54'25.6" N=25°53'59.1"
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 13/05/2024
Reporting Date : 17/05/2024
Reporting No. : 08-19

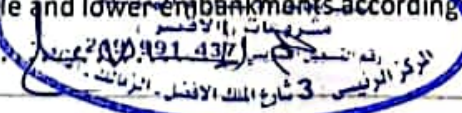
Test Results of California Bearing Ratio on Base Materials
ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.28
1.27	0.050	1.17
1.91	0.075	1.94
2.54	0.100	2.65
3.18	0.125	3.47
3.81	0.150	4.11
4.45	0.175	4.82
5.08	0.200	5.46
6.35	0.250	6.42

CBR Result	Stress (Mpa)		CBR 100 %
At 0.2 inch (5.08 mm) penetration	St. Value	Sample results	53.0 %
	10.3	5.46	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of = 2.26 (gm /cm³)
At = 6 % optimum water content.
- 3- Surcharge load 4.50 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature / ... 

3 E. Malek E. Abdel Strem
Zamalek, Cairo
Tel & Fax: 27367231 - 27363093



ش. الهندسة الافضل
الزمالك القاهرة
الهاتف : 27367231 - 27363093

Project : Electric Express Train – HSR From Qous To Armant
Consultant : Spectrum Engineering Consultants (مكتب د / عماد نبيل)
Company Name : شركة الذهبي
Location : ST: 639+000 E=32°54'25.6" N=25°53'59.1"
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 13/05/2024
Reporting Date : 17/05/2024
Reporting No. : 08-19

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).	47.8	Max 50 %	-----	-----
0.425 mm (No. 40).	18.9	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	12.1	Max 15 %	Max 15 %	Max 15 %
Liquid Limit	0	-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

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

Signature /



3 El Malek El Afdal Street
Zamalek, Cairo.
Tel & Fax 2736702 2736709



ش.م.م. المعمل المركزي
الزمالك - القاهرة
تليفون : ٢٧٣٦٧٠٢ - ٢٧٣٦٧٠٩

Project : Electric Express Train – HSR From Qous To Armant
Consultant : Spectrum Engineering Consultants (مكتب د / عماد نبيل)
Company Name : شركة الذهبى
Location : ST: 639+000 E=32°54'25.6" N=25°53'59.1"
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 13/05/2024
Reporting Date : 17/05/2024
Reporting No. : 08-19

**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:

مكتب معامل الاستشارات الهندسية
مشروعات ، الاقنيم
رقم الترخيص: 219 991 437
المركز الرئيسى 3 شارع الملك الافضل - البردكت - الجناح

3 El Malek El Ahdal Street
Zamalek, Cairo
Tel & Fax: 21967211 21969093



ش.ع. الملك الافضل
الزمالك - القاهرة
تليفون : 21967211 - 21969093

CEL
Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

Project : Electric Express Train – HSR From Qous To Armant
Consultant : Spectrum Engineering Consultants (مكتب د / عماد نبيل)
Company Name : شركة الذهبي
Location : ST: 639+000 E=32°54'25.6" N=25°53'59.1"
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 13/05/2024
Reporting Date : 17/05/2024
Reporting No. : 08-19

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)	12.1

Signature / ...

مكتب معامل الاستشارات الهندسية
مشروعات , الاقصر
رقم الترخيص المصري 219.991.437
المركز الرئيسي 3 شارع الملك الافضل - الزمالة - القاهرة

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



شركة العماد الهندسية
الزمالك - القاهرة
تليفون - فاكس : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣

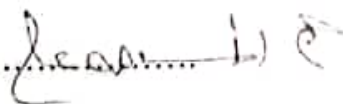


Consulting Engineering Bureau & Laboratories
مكتب محامل الاستشارات الهندسية

Company Name : شركة الذهبية
Project : Electric Express Train – HSR From Qous To Arman
Location : ST:641+400 E= 492410,088 N=2862759,57
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 31/12/2023
Reporting Date : 04/1/2024
Reporting No. : 10-19

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)	9.1

Signature /...



Mr. Maher E. Elhachem
Manager - QP
Tel: 0111 444 4444



Mr. Mohamed Elhachem
Manager - QP
Tel: 0111 444 4444

CEL

Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

Project : Electric Express Train – HSR From Qous To Armant
Consultant : Spectrum Engineering Consultants (مكتب د / عماد نبيل)
Company Name : شركة الذهبي
Location : ST: 639+000 E=32°54'25.6" N=25°53'59.1"
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 13/05/2024
Reporting Date : 17/05/2024
Reporting No. : 08-19

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	97.9
37.5	1.5	90.5
25	1	80.5
19	¾	73.9
12.50	½	69.9
9.50	3/8	64.2
4.75	4	52.5
2.00	10	47.8
0.425	40	18.9

Signature



3 El Marek El Afdal Street
Zamalek, Cairo
Tel & Fax: 27367531 - 27363693



شركة الملك الافضل
الزمالك - القاهرة
تليفون - فاكس : 27367531 - 27363693

Company Name : شركة الذهبى
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 24 / 04 /2024
Soil type : Middle Embankment
Location : ST From 638+620 To 638+700
Level : - 4.5 M
Report No. : 171

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	638+640	1475.0	2.27	6.4	2.13	96.0%	Comply
2	638+685	1561.1	2.26	6.4	2.12	95.5%	Comply
3	638+685	1719.4	2.31	6.4	2.18	98.0%	Comply

Degree of compaction based on proctor test dated At

Max. dry density = 2.22 gm/cm³

At optimum moisture content = 6.4 %

Signature /



Consultant Eng : Abderrahman Ahmed

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



3 شارع الملك الافضل
الزمالة - القاهرة
هاتف : 27367231 - 27367093

Project : Electric Express Train – HSR From Qous To Armant
Consultant : Spectrum Engineering Consultants (مكتب د / عماد نبيل)
Company Name : شركة الذهبى
Testing Date : 22 / 05 /2024
Soil type : Upper Embankment
Location : ST From 643+280 To 643+400 (120 m)
Level : - 0.5 M
Report No. : 193

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	643+300	1677.9	2.33	6.3	2.19	97.0%	Comply
2	643+320	1513.1	2.33	6.4	2.19	96.8%	Comply
3	643+340	1692.4	2.28	6.1	2.15	95.3%	Comply
4	643+360	1665.5	2.34	5.8	2.21	97.8%	Comply
5	643+380	1589.7	2.27	5.8	2.15	95.0%	Comply

Max. dry density = 2.26 gm/cm³

At optimum moisture content = 6.2 %

Consultant Eng .

Name :

Sign /

Laboratory Eng.

Name :

Sign :

3 El Malek E Akhal Street
Zamalek, Cairo
Tel& Fax : 27367771 - 27367993



3 شارع الملك احماد
الزمالك القاهرة
تليفون - فاكس : 27367771 - 27367993

Project : Electric Express Train – HSR From Qous To Armant
Consultant : Spectrum Engineering Consultants (مكتب د / عماد نبيل)
Company Name : شركة الذهبى
Location : ST: 639+000 E=32°54'25.6" N=25°53'59.1"
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 13/05/2024
Reporting Date : 17/05/2024
Reporting No. : 08-19

Dear Gentleman,

Attached here with the delivered on 13 / 05 / 2024

This sample is representative for 5.000 M³

Materials test

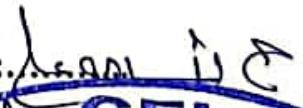
1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883

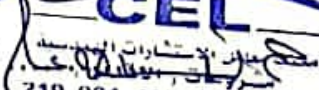
Consultant Eng .

Name :.....

Sign / 

Laboratory Eng.

Name : 

Sign / 

المركز الرئيسي 3 شارع الملك الافضل - الزمالك - القاهرة
719-991-437
إدارة المختبر المركزي

3 El Malek El Afdal Street
Zamalek, Cairo
Tel & Fax 27367521 - 27363093



إش الملك الافضل
الزمالك القاهرة
تليفون - فاكس ٢٧٣٦٧٥٢١ - ٢٧٣٦٣٠٩٣

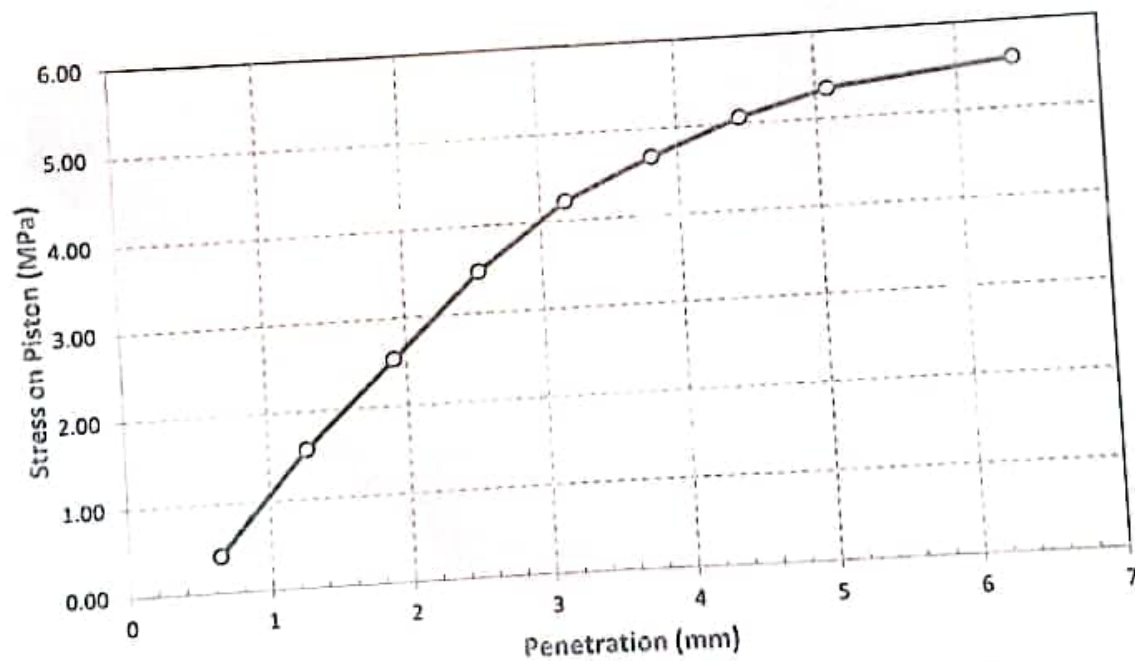
CEL

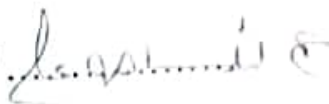
Consulting Engineering Bureau & Laboratories

مكتب استشارات الهندسة ومختبرات

Company Name : شركة الذهبى
Project : Electric Express Train - HSR From Qous To Arment
Location : ST: 639+000 E=32°54'25.6" N=25°53'59.1"
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 09/12/2023
Reporting Date : 13/12/2023
Reporting No. : 08-15

Load Penetration Curve of CBR Test ASTM D-1883



Signature / 



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ACCREDITED
Testing Laboratory

CEL

Consulting Engineering Bureau & Laboratories
مكتب محامل الاستشارات الهندسية

Company Name : شركة الذهبي
Project : Electric Express Train - HSR From Qous To Arment
Location : ST: 639+000 E=32°54'25.6" N=25°53'59.1"
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 09/12/2023
Reporting Date : 13/12/2023
Reporting No. : 08-15

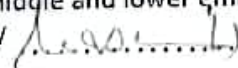
Test Results of California Bearing Ratio on Base Materials ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.41
1.27	0.050	1.57
1.91	0.075	2.54
2.54	0.100	3.47
3.18	0.125	4.22
3.81	0.150	4.68
4.45	0.175	5.07
5.08	0.200	5.35
6.35	0.250	5.58

CBR Result	Stress (Mpa)		CBR 100 %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	50.3%
	6.90	3.47	

Notes:

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

Signature / 

Signature of Alpha Name

Signature Name

Signature Name



CEL

Consulting Engineering Bureau & Laboratories
مكتب استشارات الهندسة ومختبرات

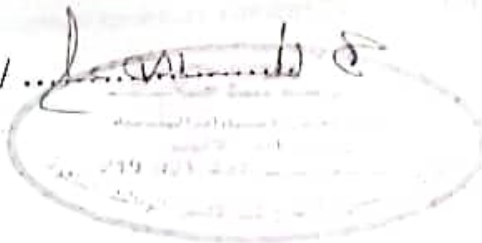
Company Name : شركة الذهبى
Project : Electric Express Train - HSR From Qous To Arman
Location : ST: 639+000 E=32°54'25.6" N=25°53'59.1"
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 09/12/2023
Reporting Date : 13/12/2023
Reporting No. : 08-15

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).	47.7	Max 50 %	-----	-----
0.425 mm (No. 40).	28.8	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	10.0	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 /



Dr. Maher El-Azab
Laboratory Manager
Tel: 0111 423 4233



CEL

Consulting Engineering Bureau & Laboratories
مكتب دراسات الاستشارات الهندسية

Company Name : شركة الذهبى
Project : Electric Express Train – HSR From Qous To Armanat
Location : ST: 639+000 E=32°54'25.6" N=25°53'59.1"
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 09/12/2023
Reporting Date : 13/12/2023
Reporting No. : 08-15

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)	10.0

Signature /.....



Lab. Manager / Abdul Samad
The Lab. Address :
Lab. Phone : 011 2222 2222



CEL

Consulting Engineering Bureau & Laboratories

مكتب معامل الاستشارات الهندسية

Company Name : شركة الذهبى
Project : Electric Express Train – HSR From Qous To Armanat
Location : ST: 639+000 E=32°54'25.6" N=25°53'59.1"
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 09/12/2023
Reporting Date : 13/12/2023
Reporting No. : 08-15

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	97.5
37.5	1.5	92.7
25	1	84.2
19	¾	82.8
12.50	½	71.3
9.50	3/8	62.6
4.75	4	47.9
2.00	10	43.0
0.425	40	28.8

Signature / ...



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Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

Company Name : شركة الذهبي
Project : Electric Express Train – HSR From Qous To Arment
Location : ST: 639+000 E=32°54'25.6" N=25°53'59.1"
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 09/12/2023
Reporting Date : 13/12/2023
Reporting No. : 08-15

Dear Gentleman,

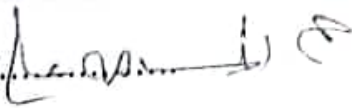
Attached here with the delivered on 9 / 12 / 2023

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 /



Consultant Eng : Abderrahman Ahmed



24, Quai F. Aude Street
Zamalek, Cairo
Tel: 0020 2 3399000



Company Name : شركة الذهبى
Project : Electric Express Train – HSR From Qous To Armant
Location : ST: 639+000 E=32°54'25.6" N=25°53'59.1"
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 26/4/2024
Reporting Date : 30/04/2024
Reporting No. : 08-16

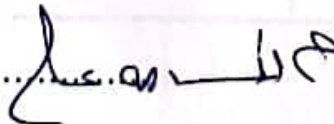
Dear Gentleman,

Attached here with the delivered on 26 / 4 / 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 /.....  Consultant Eng : Abderrahman Ahmed



3 El Malek El Aldal Street
Zamalek, Cairo
Tel & Fax : 27367631 - 27363693



أش الملك فيصل
الزمالك القاهرة
تلفون : فاكس : 27367631 - 27363693

Project : Electric Express Train – HSR From Qous To Armant
Consultant : Spectrum Engineering Consultants (مكتب د / عماد نبيل)
Company Name : شركة الذهبى
Testing Date : 11 / 05 / 2024
Soil type : Middle Embankment
Location : ST From 639+580 639+780 (200m)
Level : - 3.5 M
Report No. : 180

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

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Molsture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	639+620	1536.3	2.24	5.3	2.13	95.5%	Comply
2	639+665	1430.1	2.27	5.3	2.15	96.5%	Comply
3	639+700	1588.4	2.30	6.4	2.16	96.8%	Comply
4	639+730	1505.5	2.27	6.4	2.13	95.5%	Comply
5	639+775	1491.8	2.24	5.3	2.13	95.5%	Comply

Degree of compaction based on proctor test dated At

Max. dry density = 2.23 gm/cm³

At optimum molsture content = 6.4 %

Consultant Eng .

Name / ...

Sign / ...

Laboratory Eng.

Name : ...

Sign / ...

1-E. Malek E. Abdel Street
Zarqalet, Cairo
Tel & Fax : 27367131 / 27363093



ش. الملك الأفضل
الزمالك - القاهرة
تليفون - فاكس : 27367131 / 27363093

CEL
Consulting Engineering Bureau & Laboratories
مكتب معامال الاستشارات الهندسية

Company Name : شركة الذهبى
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 27 / 4 / 2024
Soil type : Middle Embankment
Location : ST From 643+460 To 643+560
Level : - 1.75 M
Report No. : 172

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	643+485	1484.6	2.26	5.8	2.14	96.7%	Comply
2	643+510	1461.7	2.33	5.8	2.20	99.8%	Comply
3	643+530	1489.3	2.34	5.8	2.21	99.9%	Comply
4	643+555	1528.2	2.29	5.8	2.16	98.0%	Comply

Degree of compaction based on proctor test dated At

Max. dry density = 2.21 gm/cm³

At optimum moisture content = 6.4 %



Signature / Consultant Eng : Abderrahman Ahmed

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



3 شارع الملك الاكبر
الزمالك - القاهرة
تليفون : ٢٧٣٦٧٢٣١ - ٢٧٣٦٧٠٩٣

Company Name : شركة الذهبي
Project : Electric Express Train – HSR From Qous To Armant
Location : ST: 639+000 E=32°54'25.6" N=25°53'59.1"
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 26/4/2024
Reporting Date : 30/04/2024
Reporting No. : 08-16

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	91.0
37.5	1.5	82.1
25	1	74.5
19	¾	71.6
12.50	½	62.7
9.50	3/8	61.4
4.75	4	57.4
2.00	10	42.6
0.425	40	24.5

Signature /.....



3 El Malek El Afrial Street
Zakaria, Cairo
Tel & Fax: 2736723 - 27363003

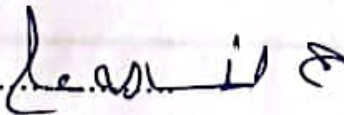


الشيخ مالك الأفريال
البريد الإلكتروني: cel@cel.com.eg
الهاتف: 2736723 - 27363003

Company Name : شركة الذهبى
Project : Electric Express Train – HSR From Qous To Armant
Location : ST: 639+000 E=32°54'25.6" N=25°53'59.1"
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 26/4/2024
Reporting Date : 30/04/2024
Reporting No. : 08-16

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)	11.2

Signature /....



3 El Malek El Aldal Street
Zewail, Cairo
Tel & Fax: 2736723 / 2736903



أشرف المالك الأستاذ
البريد الإلكتروني: cel@cel.com.eg
الهاتف: 2736723 / 2736903

Company Name : شركة الذهبى
Project : Electric Express Train – HSR From Qous To Armant
Location : ST: 639+000 E=32°54'25.6" N=25°53'59.1"
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 26/4/2024
Reporting Date : 30/04/2024
Reporting No. : 08-16

Soil Classification

TEST	Results (%)	Limits according Projects Specs		
		(A-1-a)	(A-1-b)	(A-2-4)
• Group Classification	(A-1-a)			
2.00 mm (No.10).	42.6	Max 50 %	-----	-----
0.425 mm (No. 40).	24.5	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	11.2	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 / ...



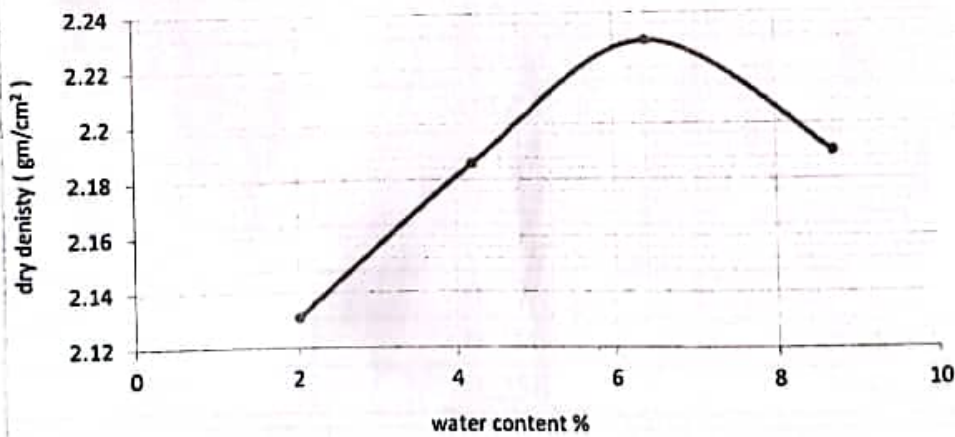
3 El Malek E Afital Street
Zamalek, Cairo
Tel/Fax: 27367511 - 27363693



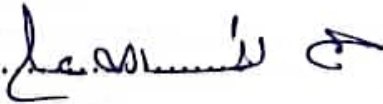
أبو مالك الأفندي
المركز القادري
للمختبرات والدراسات

Company Name : شركة الذهبى
Project : Electric Express Train – HSR From Qous To Armant
Location : ST: 639+000 E=32°54'25.6" N=25°53'59.1"
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 26/4/2024
Reporting Date : 30/04/2024
Reporting No. : 08-16

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



- Max dry density (gm/cm³) : 2.23
- Optimum moisture content % : 6.4 %

Signature / ... 



3 El Malek El Afridi Street
Zamalek, Cairo
Tel & Fax: 21997231 21963963



اشرف امالک الافرىدى
الزمالك، القاهرة
هاتف - فاكس : ٢١٩٩٧٢٣١ - ٢١٩٦٣٩٦٣

Company Name : شركة الذهبى
Project : Electric Express Train – HSR From Qous To Armant
Location : ST: 639+000 E=32°54'25.6" N=25°53'59.1"
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 26/4/2024
Reporting Date : 30/04/2024
Reporting No. : 08-16

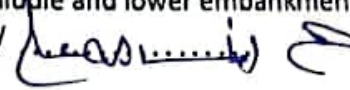
Test Results of California Bearing Ratio on Base Materials
ASTM D 1883

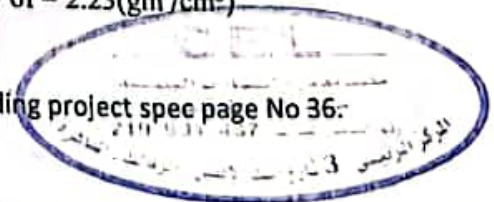
penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.34
1.27	0.050	0.99
1.91	0.075	1.52
2.54	0.100	2.31
3.18	0.125	2.94
3.81	0.150	3.65
4.45	0.175	4.36
5.08	0.200	4.98
6.35	0.250	5.59

CBR Result	Stress (Mpa)		CBR 100 %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	48.4%
	10.3	4.98	

Notes:

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

Signature / 



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



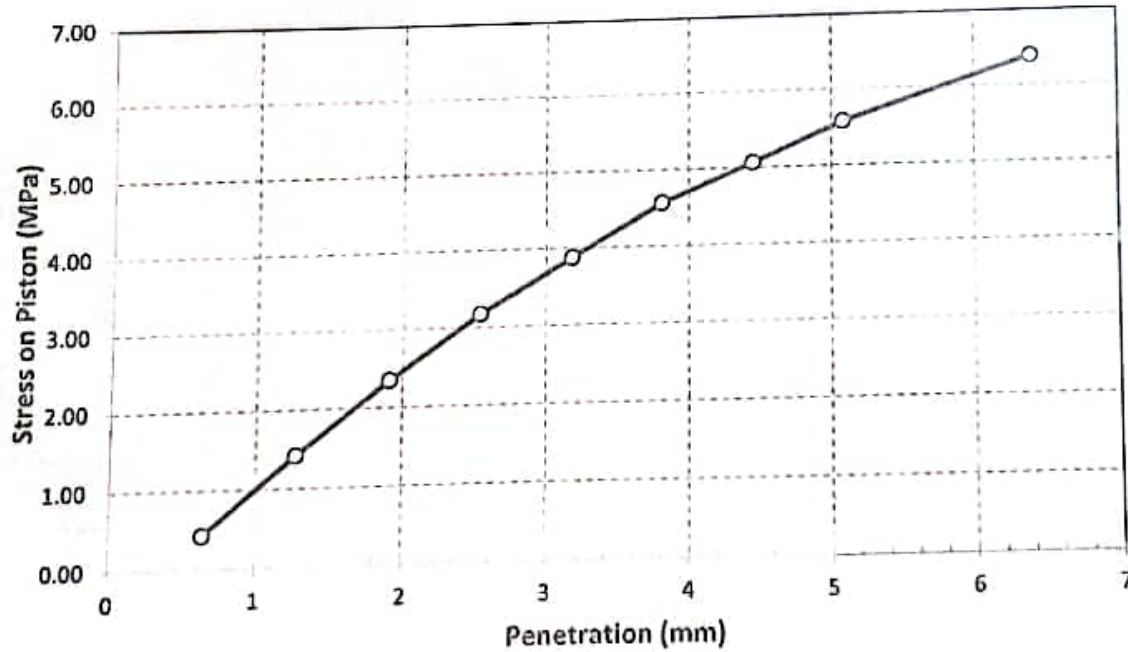
أش. الملك الأفدال
الزمالك، القاهرة
هاتف وفاكس: ٢٧٣٦٧٢٣١ - ٢٧٣٦٩٠٩٣

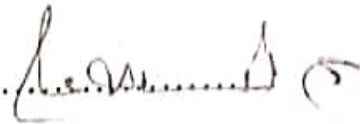
CEL

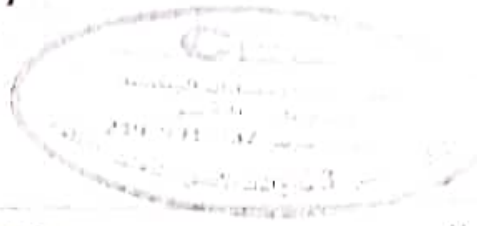
Consulting Engineering Bureau & Laboratories
مكتب استشارات الهندسة

Company Name : شركة الأهلي
Project : Electric Express Train – HSR From Qous To Arman
Location : ST: 643+000 N= 25.8667200, E= 32.9242360
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 04/01/2024
Reporting Date : 08/01/2024
Reporting No. : 07-3

Load Penetration Curve of CBR Test ASTM D-1883



Signature / 



CEL
219-111-1111
219-111-1111

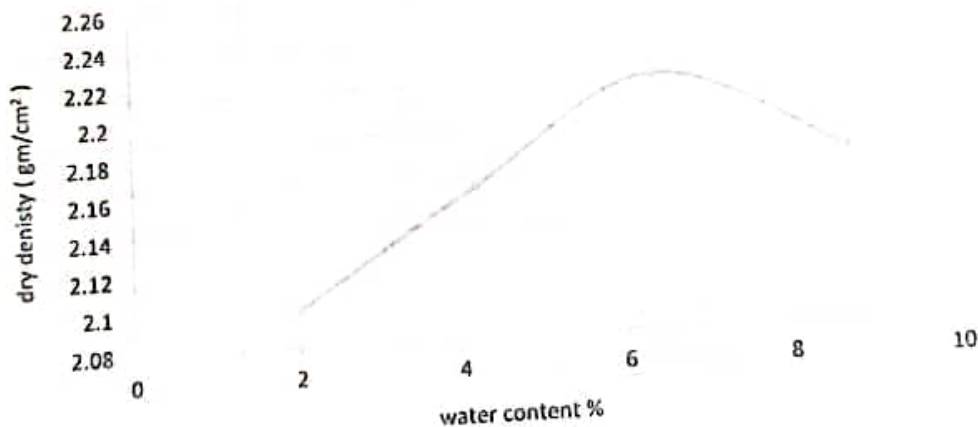


CEL

Consulting Engineering Bureau & Laboratories
مكتب استشارات الهندسة

Company Name : شركة الذهبية
Project : Electric Express Train – HSR From Qous To Arman
Location : ST: 643+000 N= 25.8667200, E= 32.9242360
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 04/01/2024
Reporting Date : 08/01/2024
Reporting No. : 07-3

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



- Max dry density (gm/cm³) : 2.21
- Optimum moisture content % : 6.4 %

Signature /



Company Name : شركة الأهلي
Project : Electric Express Train - HSR From Qous To Arman
Location : ST: 643+000 N= 25.8667200, E= 32.9242360
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 04/01/2024
Reporting Date : 08/01/2024
Reporting No. : 07-3

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

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.43
1.27	0.050	1.42
1.91	0.075	2.35
2.54	0.100	3.17
3.18	0.125	3.88
3.81	0.150	4.56
4.45	0.175	5.07
5.08	0.200	5.58
6.35	0.250	6.39

CBR Result	Stress (Mpa)		CBR 100 %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	45.9 %
	6.90	3.17	

Notes:

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

Signature / ...

Company Name : شركة المأهلي
 Project : Electric Express Train - HSR From Qous To Arman
 Location : ST: 643+000 N= 25.8667200, E= 32.9242360
 Type of sample : Soil Embankment (Upper Embankment 0.0 M)
 Delivery Date : 04/01/2024
 Reporting Date : 08/01/2024
 Reporting No. : 07-3

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	93.1
37.5	1.5	85.6
25	1	80.1
19	3/4	71.6
12.50	1/2	51.2
9.50	3/8	46.4
4.75	4	41.2
2.00	10	40.0
0.425	40	20.4

Signature /

[Handwritten Signature]



CEL

Consulting Engineering Bureau & Laboratories
مكتب استشارات الهندسة

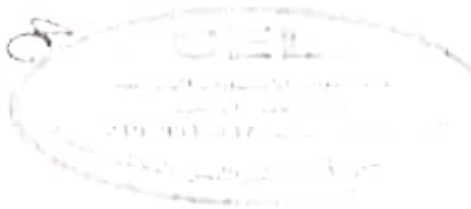
Company Name : شركة الذهبى
Project : Electric Express Train - HSR From Qous To Arment
Location : ST: 643+000 N= 25.8667200, E= 32.9242360
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 04/01/2024
Reporting Date : 08/01/2024
Reporting No. : 07-3

Soil Classification

TEST	Results (%)	Limits according Projects Specs		
		(A-1-a)	(A-1-b)	(A-2-4)
• Group Classification	(A-1-a)			
2.00 mm (No.10).	41.3	Max 50 %	-----	-----
0.425 mm (No. 40).	20.4	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	10.4	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 : **CEL**
 Project : **Electric Express Train - HSR From Gous To Arram**
 Location : **ST. 643+000 N= 25.8667200, E= 32.9242360**
 Type of sample : **Soil Embankment (Upper Embankment 0.0 M)**
 Delivery Date : **04/01/2024**
 Reporting Date : **08/01/2024**
 Reporting No. : **07-3**

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

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

Signature /... *[Handwritten Signature]*





Consulting Engineering Bureau & Laboratories
مكتب استشارات ومختبرات الهندسة المدنية

Company Name : شركة الأهلي
Project : Electric Express Train - HSR from Qous To Arman
Location : ST: 643+000 N= 25.8667200, E= 32.9242360
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 04/01/2024
Reporting Date : 08/01/2024
Reporting No. : 07-3

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

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

Signature /...*[Signature]*



CEL

Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

Company Name : شركة الذهبى
Project : Electric Express Train - HSR From Qous To Arman
Location : ST: 643+000 N= 25.8667200, E= 32.9242360
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 04/01/2024
Reporting Date : 08/01/2024
Reporting No. : 07-3

Dear Gentleman,

Attached here with the delivered on 04 / 01 / 2024

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 /

Consultant Eng : Abderrahman Ahmed



Company Name : شركة إلكترو
Project : Electric Express Train -- ISR From Qons To Arman
Location : ST: 643+000 N= 25.8667200, E= 32.9242360
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 04/01/2024
Reporting Date : 08/01/2024
Reporting No. : 07-3

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)	10.4

Signature /... *Le. M. I. E*

