

السيد المهندس / رئيس قطاع التنفيذ والمناطق

تحية طيبة.. وبعد،،

بالإحالة إلى مشروع القطار الكهربائي فائق السرعة قطاع (برج العرب - العلمين)
نتشرف بأن نرفق لسيادتكم طيه المقاييس المعدله بعد اعتماد لجنة المفاوضه
للقطاعات الآتية:

المسلسل	اسم الشركة	من المحطة	إلى المحطة	الإتجاه
١	شركة محمد محمود شعبان حمدان	٣٨١+٠٠٠	٣٨٤+٠٠٠	النجيلة

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"



مشروع القطار الكهربائي فائق السرعة قطاع (برج العرب - العميد)
المقايسة التقديرية لبنود الاعمال تنفيذ شركة محمد محمود شعبان القصبى للمقاولات و رصف الطرق
القطاع من المحطة ٣٨١+٠٠٠ إلى ٣٨٤+٠٠٠ بطول ٣ كم اتجاه النجيلة.

رقم البند	بيان الأعمال	الوحدة	الكمية	الفئة	الاجمالي
٣	اعمال الردم اعمال تحميل وتوريد التربة مطابقة للمواصفات وتشغيلها باستخدام الات التسوية بسك لا يزيد عن ٥٠ سم حتى منسوب ٢٠ متر ويسمك لا يزيد عن ٢٥ سم لاستكمال المنسوب التصميمي لتشكيل الجسر والاكتاف (تسوية تحمل كاتيفورنيا لا تقل عن ١٥ %) ورشها بالمياة الاصولية الى نسبة الرطوبة المطلوبة والدمك الجيد بالهراسات للوصول الى اقصى كثافة جافة (95% من الكثافة الجافة القصوى) ويتم التنفيذ طبقا للنسب التصميمية والقطاعات العرضية النموذجية والرسومات التفصيلية المعتمدة والبند بجميع مشتلاته طبقا لاصول الصناعة ومواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف. فى حالة طلب جهاز الاشراف زيادة نسبة الدمك عن ٩٥% بحسب زيادة ١ جنية على زيادة نسبة الدمك لكل ١% . مسافة النقل حتى ٢ كم ويتم احتساب علاوة ١,٤ جنية لكم بالزيادة او النقصان. واختيارات ونقل لموقع العمل حتى مسافة ٢ كم . السعر يشمل قيمة المادة المحجيرة .	م٣	١٤,٠٠٠,٠٠٠	٨٥,٠٠	١,١٩٠,٠٠٠,٠٠٠
١-٣	علاوة مسافة نقل للتربة لمسافة ١٠٣ كم = ١,٤*١٠٣ = ١٤١,٤ جنية	م٣	١١,٢٠٠,٠٠٠	١٤١,٤٠	١,٥٨٣,٦٨٠,٠٠
	علاوة مسافة نقل للرمل لمسافة ٧٧,٥ كم = ١,٤*٧٧,٥ = ١٠٥,٧ جنية	م٣	٢,٨٠٠,٠٠٠	١٠٥,٧٠	٢٩٥,٩٦٠,٠٠
	علاوة تحميل رسوم الكارتة والموازين طبقا للاحة الشركة الوطنية	م٣	١٤,٠٠٠,٠٠٠	١٣,٠٠	١٨٢,٠٠٠,٠٠٠
٤	طبقات الاساس بالمتر المكعب اصال توريد وفرش طبقة تاسيس (prepared Subgrade) من الاحجار الصلبة المترجة ناتج تكسير الكسرات والمطابقة للمواصفات واقصى حجم للحبيبات ١٠٠ مم ولا تزيد نسبة المار من مثقل ٢٠٠ عن ١٢ % والتدرج الوارد بالاشترطات الخاصة بالمشروع لا تقل نسبة تحمل كاتيفورنيا عن ٢٥ % والا يزيد نسبة الفلاد بجهاز لوس الجانوس عن ٣٠ % والا يزيد الامتصاص عن ١٥ % والا يقل معامل المرونة (Ev2) من تجربة لوح التحميل عن ٨٠ ميجاسكال ويتم فردها على طبقتين باستخدام الات التسوية الحديثة على ان لا يزيد سمك الطبقة بعد تمام الدمك عن ٢٥ سم ورشها بالمياة الاصولية للوصول الى نسبة الرطوبة المطلوبة والدمك الجيد بالهراسات للوصول الى اقصى كثافة جافة قصوى (لا يقل عن ٩٥ %) من الكثافة المعملية والفلة تشمل اجراء التجارب المعملية والحقلية ويتم التنفيذ طبقا لاصول الصناعة والرسومات التفصيلية المعتمدة والبند بجميع مشتلاته طبقا للمواصفات الفنية للمشروع وتقرير الاستشاري وتعليمات المهندس المشرف مسافة النقل لا تقا ٢٠ كم - يتم احتساب علاوة ١,٢ جنية لكل ١ كم بالزيادة او النقصان	م٣	١٢,٠٦٠,٠٠٠	٢٧٨,٠٠	٣,٣٥٢,٦٨٠,٠٠٠
	علاوة مسافة النقل لمسافة ١٠٠ كم = ٨٠*١,٢ = ٩٦ جنية	كم	١٢,٠٦٠,٠٠٠	٩٦,٠٠	١,١٥٧,٧٦٠,٠٠٠
	علاوة تحميل رسوم الكارتة والموازين طبقا للاحة الشركة الوطنية	م٣	١٢,٠٦٠,٠٠٠	٢٥,٠٠	٣٠١,٥٠٠,٠٠٠
٣-٤	بالمتر المكعب اصال توريد وفرش طبقة تاسيس من الاحجار الصلبة المترجة ناتج تكسير الكسرات والمطابقة للمواصفات واقصى حجم للحبيبات ما بين ٣١,٥ مم الى ٤٠ مم والا يزيد نسبة المار من مثقل ٢٠٠ عن ٥ % والتدرج الوارد بالاشترطات الخاصة بالمشروع لا تقل نسبة تحمل كاتيفورنيا عن ٨٠ % والا يقل معامل المرونة (Ev2) من تجربة لوح التحميل عن ١٢٠ ميجاسكال والا يزيد نسبة الفلاد بجهاز لوس الجانوس عن ٣٠ % والا يزيد الامتصاص عن ١٥ % ويتم فردها على طبقتين باستخدام الات التسوية الحديثة على ان لا يزيد سمك الطبقة بعد تمام الدمك عن ٢٠ سم ورشها بالمياة الاصولية للوصول الى نسبة الرطوبة المطلوبة والدمك الجيد بالهراسات للوصول الى اقصى كثافة جافة قصوى (لا يقل عن ١٠٠ %) من الكثافة المعملية والفلة تشمل اجراء التجارب المعملية والحقلية ويتم التنفيذ طبقا لاصول الصناعة والرسومات التفصيلية المعتمدة والبند بجميع مشتلاته طبقا للمواصفات الفنية للمشروع وتقرير الاستشاري وتعليمات المهندس المشرف مسافة النقل ٢٠ كم - يتم احتساب علاوة ١,٢ جنية لكل ١ كم بالزيادة او النقصان	م٣	٨,٧٩٠,٠٠٠	٢٩٨,٠٠	٢,٦١٩,٤٢٠,٠٠٠
	علاوة مسافة النقل لمسافة ١٠٠ كم = ٨٠*١,٢ = ٩٦ جنية	كم	٨,٧٩٠,٠٠٠	٩٦,٠٠	٨٤٣,٨٤٠,٠٠٠
	علاوة تحميل رسوم الكارتة والموازين طبقا للاحة الشركة الوطنية	م٣	٨,٧٩٠,٠٠٠	٢٥,٠٠	٢١٩,٧٥٠,٠٠٠
٥	البلاطات الخرسانية بالمتر المصطح اصال توريد وصب خرسانة عادية سمك ١٥ سم لحماية الاكتاف والبيول الجانبية تتكون من ٣ م٠,٨ من دولوميت مترج + ٣ م٠,٤ رمل حرش + ٣٥٠ كجم أسمنت بورتلاندي عادي وازضافة Fiber reinforcement على أن يكون السن نظيف ومغسول والرمل خالي من الشوائب والطفلة والاملاح والمواد الغريبة والبند يشمل تجهيز واستعدادل مناسيب التربة الطبيعية اسفل البلاطة للوصول إلى المناسيب التصميمية على أن تحقق الخرسانة اجهاد لا يقل عن ٢٥٠ كجم / م٢ وتشطيب السطح والتنفيذ طبقا لاصول الصناعة والرسومات التفصيلية المعتمدة والبند بجميع مشتلاته طبقا لمواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف	م٢	٣١,٠٢٧,٨٥٨	٢٦٦,٠٠	٨,٢٥٣,٤١٠,٢٣
	الإجمالي				٢٠,٠٠٠,٠٠٠

يعتمد

مدير عام مشروعات
المنطقة الخامسةمدير مشروع
(هيئة الطرق)

م / مارجريت مجدي

رئيس الادارة المركزية منطقة

غرب الدلتا

(بالاسكندرية / مرسى

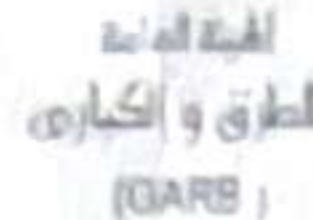
مطروح)

عميد مهندس / هانى

محمد محمود طه



MATERIAL APPROVAL REQUEST



المملكة العربية السعودية
الطرق والكباري
(GARB)



Contractor Company	Mohamed Mahmoud Shaban (ALKASALY)			Designer Company	(SPECTRUM) Engineering Consulting Office						
Issued by Contractor	Name	Sign		Date/Serial Number	Time						
	Mohamed shaban			14-03-2023 (QT 15-1)	1:30						
Received by GARB CONSULTANT	Eng. Mazen Essamy		MAR	C1	C2	C3	DD	MM	YY	HH	MM
				381	EW	CS	15	03	23	01	30

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	

Description of Materials	Fill Layer Total Quantity (75000 m3)		
Location to be Used	From Station (381+000) to Station (383+000)		
Sample only	Yes	Materials Type	Fill layers
Supplier Name	Alsewy , Alharamin	Data Sheet provided	Yes attached
Reference in BoQ		Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP
Prequalification reference		Test Samples Results	
Reference Photos	No/Yes	Other	
Comments by: Eng. Mazen Essamy (SPECTRUM)		Comments by: Eng. Alaa Abd-Allatif (ER)	
1-Quality test Result By Third Party Lab is Approved. 2-This Sample Representative (5000 m3) only.		1- All tests were carried-out by third Party lab COMIBASSAL 2-Results report attached and acceptable with the project specifications. 3-Final approval is subject to above mentioned comments.	

المملكة العربية السعودية
الطرق والكباري
(GARB)

APPROVAL STATUS			
Organisation	Name	Sign	Date
Contractor	Mohamed shaban		
QA/QC *	Eng. Mazen Essamy		
GARB**	Eng. Mohammed Fayad		
Employers Representative	Eng. Alaa Abd-Allatif		2023/3/15

* Designer

** Alignment/Bridges: Culvert only



COMIBASSAL International Controllers

الجمعية التعاونية الانتاجية لأعمال الوزن والمراجعة والخبرة الدولية (كوميبسال)

حاصلة على شهادة الأيزو ISO 9001:2015

Accredited by:

Egyptian General Authority for Petroleum
Under No.: 34/29.11.2011

قطاع التفتيش الداخلي والمعامل

معتمد لدى الهيئة المصرية العامة للبترول
تحت رقم ٢٤ / ٢٩ / ١١٠٢٩ / ٢٠١١

I- Introduction

General Consultant :	SYSTRA
Consultant :	SPECTRUM
Contractor :	شركة القصري للمقاولات
Sample :	FERMA
Station :	St(381+0.00) to st(383+0.00)
Date of Test :	01/03/2023
QC :	646

II- Sample description:

Gravel and sand

III- Required tests

- 1- Grain size analysis and classification
- 2- Modified compaction and optimum moisture content (Proctor test)
- 3- Liquid limit, plastic limit and plasticity index
- 4- California bearing ratio (CBR)

IV- Results

1- Grain size analysis and classification	Grain size analysis	As showed in appendix
	Classification	A-1-a
2- Modified compaction and optimum moisture content (Proctor test)	MDD	2.130
	OMC	6.00%
3- Liquid limit, plastic limit and plasticity index	LL	26.1% ✓
	PL	24.8%
	PI	1.3%
4- California bearing ratio (CBR)	CBR ratio	53%

LAB DIRECTOR

Eng / Eman kandil

Eman



Geotechnical consultant

Dr. Mohamed Mostafa Badry

Fer. Dr. M -





COMIBASSAL International Controllers

الجمعية التعاونية الإنتاجية لأعمال الوزن والمراجعة والخبرة الدولية (كوميباسل)

حاصلة على شهادة الأيزو ISO 9001:2015

Accredited by:

Egyptian General Authority for Petroleum
Under No.: 34/29.11.2011

قطاع التفتيش الداخلي والمعامل

معتمد لدى الهيئة المصرية العامة للبترول
تحت رقم ٢٤ / ٢٩ / ١١٠٢٩ / ٢٠١١

APPENDIX





COMIBASSAL International Controllers

الجمعية التعاونية الإنتاجية لأعمال الوزن والمراجعة والخبرة الدولية (كوميباسال)

حاصلة على شهادة الأيزو ISO 9001:2015

Accredited by:

Egyptian General Authority for Petroleum
Under No.: 34/29.11.2011

قطاع التفتيش الداخلي والمعامل

معتمد لدى الهيئة المصرية العامة للبترول
تحت رقم ٢٠١١/١١٠٢٩/٣٤

SOIL REPORTS FOR ELECTRIC EXPRESS TRAIN PROJECT

Contractor :

شركة القصري للمقاولات

Date of report :

14/03/2023

QC :

646

الإدارة: ٤٠ ش صافية زغلول - الإسكندرية ص - ب ١٥٧

ت: ٤٨٧٠٥٧٣ - ف: ٤٨٦٩٧٩٨ - ٤٨٧٠٦٦٥

40safia zaghloul st ., p.o.Box 157 Alex, Egypt

Tel:4870573 - Fax + Tel : 4869798 - 4870665



القطاع: خلف ٤٩ طريق الحرية - الإسكندرية - مصر
ت: ٣٩٢٠١٧٦ - ٣٩٣١٤٨٢ - ف: ٣٩٠٠٤٧٦

49 EL Horria Ave .-Alex;Egypt

Tel: 3920176 - 3931482 - Fax: 3900476

E-mail :internal-inspection@comibassal.com



COMIBASSAL International Controllers

الجمعية التعاونية الإنتاجية لأعمال الوزن والمراجعة والخبرة الدولية (كوميباسل)

حاصلة على شهادة الأيزو ISO 9001:2015

Accredited by:

Egyptian General Authority for Petroleum
Under No.: 34/29.11.2011

قطاع التفتيش الداخلي والمعامل

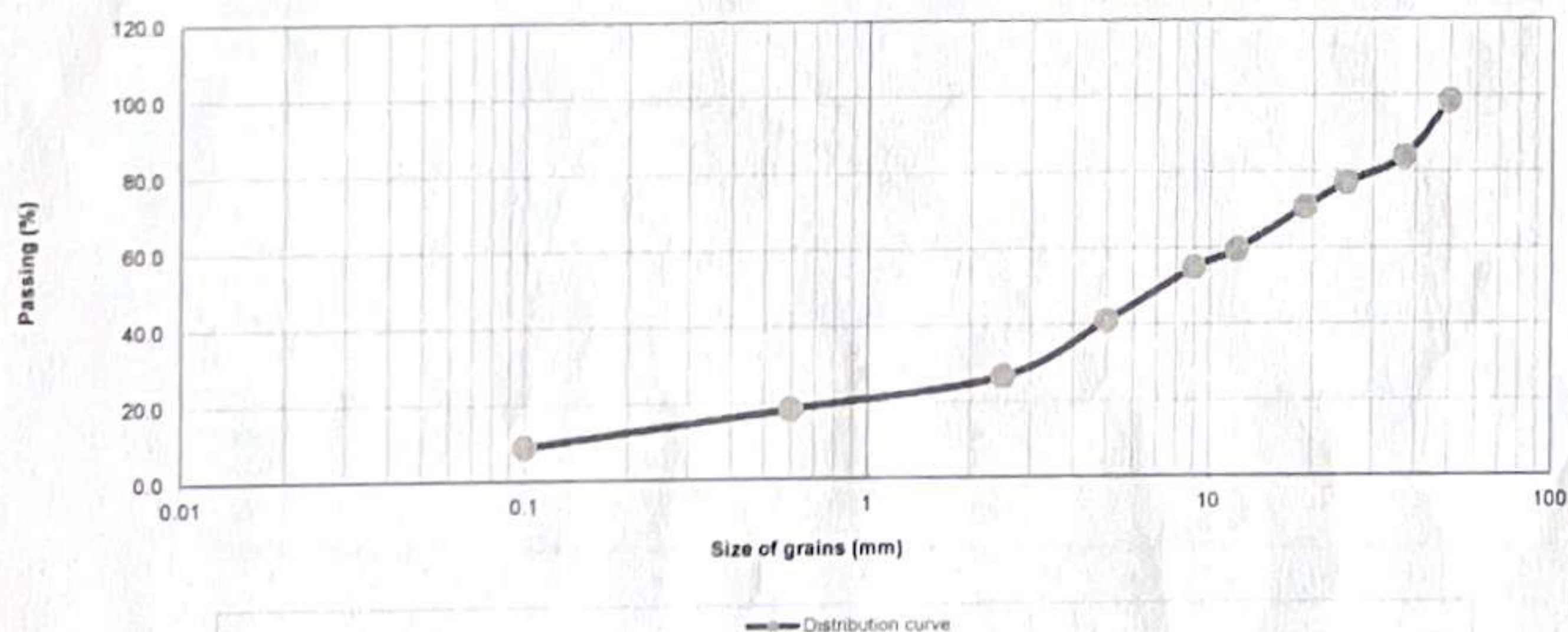
معتمد لدى الهيئة المصرية العامة للبترول
تحت رقم ٢٤ / ٢٩ / ١١٠٢٩

PARTICLE SIZE DISTRIBUTION ANALYSIS ASTM C-136 / AASHTO T27

	WEIGHT RETAINED (gm)	CUMULATIVE WEIGHT RETAINED (gm)	CUMULATIVE PERCENTAGE RETAINED (%)	CUMULATIVE PERCENTAGE PASSING (%)	STANDURD SPECIFICATION LIMITS
2	120.00	120.00	1.51	98.5	
1 1/2	1160.00	1280.00	16.14	83.9	
1	546.00	1826.00	23.03	77.0	
3/4	500.00	2326.00	29.33	70.7	
1/2	885.00	3211.00	40.49	59.5	
3/8	366.00	3577.00	45.11	54.9	
No.4	1103.00	4680.00	59.02	41.0	
No.10	176.00	176.00	35.20	26.6	
No.40	275.00	275.00	55.00	18.4	
No.200	392.00	392.00	78.40	8.9	

Total sample weight = 7930.00 pass No.4 = 3250.0 Total fine aggregates weight = 500 gm
% 41.0

Size analysis distribution curve



Soil classification: A - 1 - a



الإدارة: ٤٠ ش صافية زغلول - الإسكندرية ص - ب ١٥٧

ت: ٤٨٧٠٥٧٣ - ف: ٤٨٦٩٧٩٨ - ٤٨٧٠٦٦٥

40safia zaghloul st., p.o.Box 157 Alex, Egypt

Tel:4870573 - Fax + Tel : 4869798 - 4870665



القطاع: خلف ٤٩ طريق الحرية - الإسكندرية - مصر
ت: ٣٩٢٠١٧٦ - ٣٩٣١٤٨٢ - ف: ٣٩٠٠٤٧٦

49 EL Horria Ave. -Alex;Egypt

Tel: 3920176 - 3931482 - Fax: 3900476

E-mail :internal-inspection@comibassal.com



COMIBASSAL International Controllers

الجمعية التعاونية الإنتاجية لأعمال الوزن والمراجعة والخبرة الدولية (كوميبصل)

حاصلة على شهادة الأيزو ISO 9001:2015

Accredited by:

Egyptian General Authority for Petroleum
Under No.: 34/29.11.2011

قطاع التفتيش الداخلي والمعامل

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

Modified Proctor Test Report ASTM - D 1557

Mould Number :- 2
Volume of mould = 2188 cm³
Weight of mould = 7020 g
G.S = 2.55 g/cm³

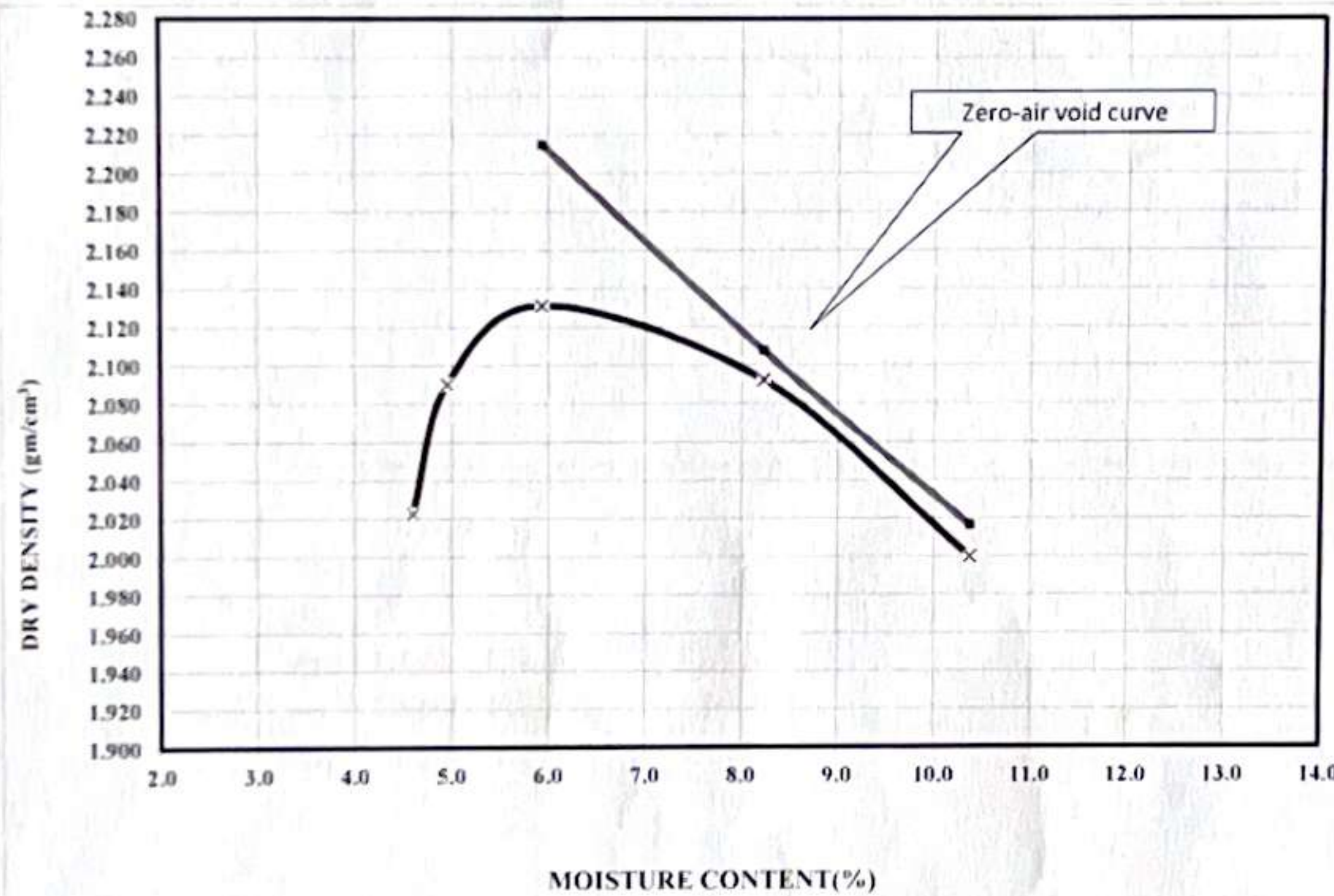
A- Density Calculations :-

	1	2	3	4	5
Weight of wet soil+mould (g)	11650	11820	11960	11975	11850
Weight of mould (g)	7020	7020	7020	7020	7020
Weight of wet soil (g)	4630	4800	4940	4955	4830
Volume of mould (cm ³)	2188	2188	2188	2188	2188
Wet density (g/cm ³)	2.116	2.194	2.258	2.265	2.207
Dry density (g/cm ³)	2.023	2.090	2.131	2.093	2.000
Zero-air Void curve			2.215	2.108	2.016

B- Moisture Calculations :-

Weight of wet soil (g)	250.0	250.0	250.0	250.0	250.0
Weight of dry soil (g)	239.0	238.2	236.0	231.0	226.5
moisture content %	4.6	5.0	5.9	8.2	10.4

C - Dry density-Moisture relationship:-



M.D.D= 2.130 gm/cm³
O.M.C= 6 %



الإدارة، ٤٠ ش صفيية زغلول - الإسكندرية ص - ب ١٥٧

ت: ٤٨٧٠٥٧٣ - ف: ٤٨٦٩٧٩٨ - ٤٨٧٠٦٦٥

40safia zaghloul st ., p.o.Box 157 Alex, Egypt
Tel:4870573 - Fax + Tel : 4869798 - 4870665



القطاع خلف ٤٩ طريق الحرية - الإسكندرية - مصر
ت: ٣٩٢٠١٧٦ - ٣٩٣١٤٨٢ - ف: ٣٩٠٠٤٧٦

49 EL Horria Ave .-Alex;Egypt
Tel: 3920176 - 3931482 - Fax: 3900476
E-mail :internal-inspection@comibassal.com



COMIBASSAL International Controllers

الجمعية التعاونية الانتاجية لأعمال الوزن والمراجعة والخبرة الدولية (كوميباسل)

حاصلة على شهادة الأيزو ISO 9001:2015

Accredited by:

Egyptian General Authority for Petroleum
Under No.: 34/29.11.2011

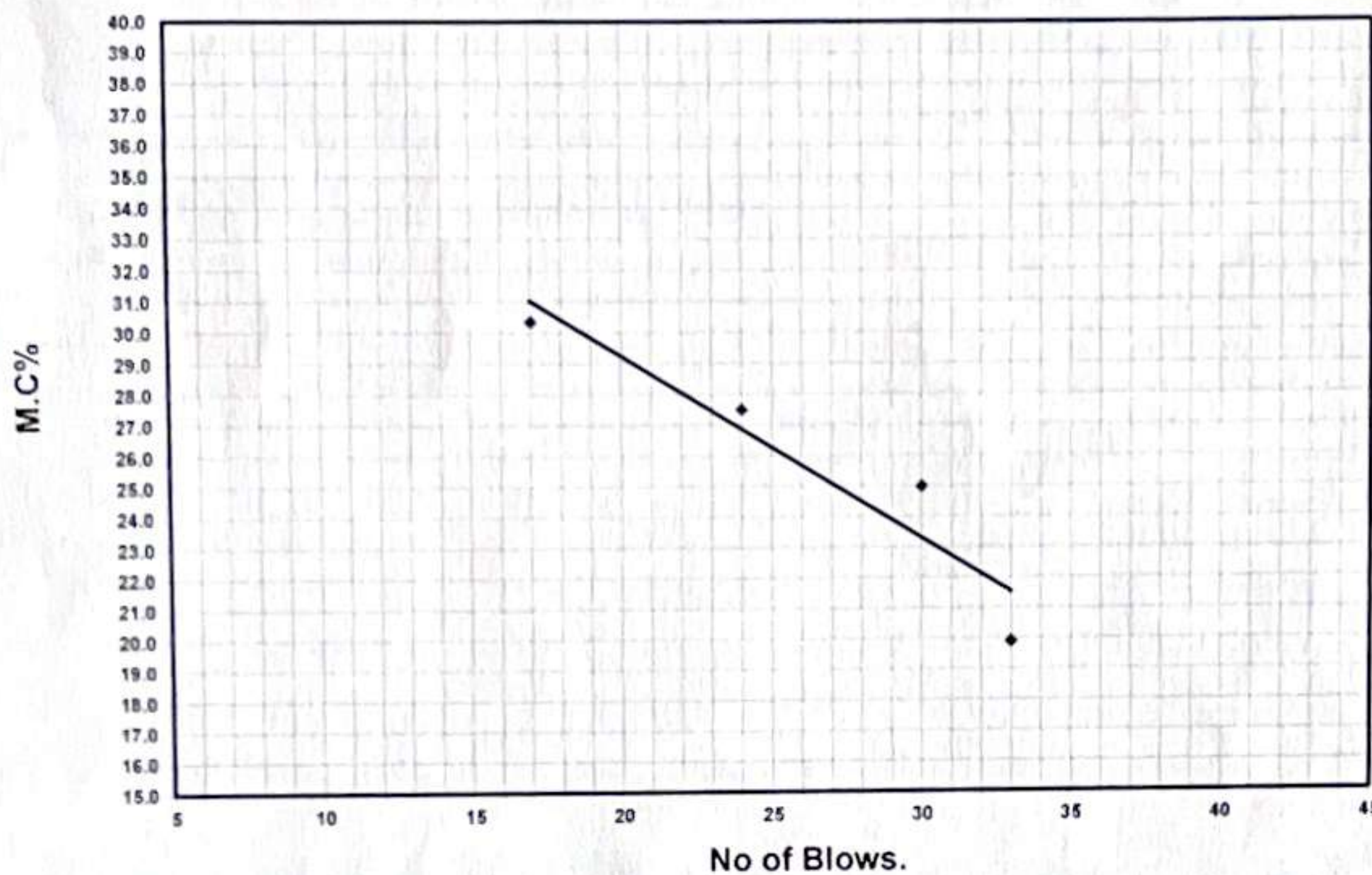
قطاع التفتيش الداخلي والمعامل

معتمد لدى الهيئة المصرية العامة للبترول
تحت رقم ٢٤ / ٢٩ / ١١٠٢٩ / ٢٠١١

Liquid and Plastic Limits Test

ASTM - D 4318

Test No	1	2	3	4	5	6
Type of test	Liquid Limit				Plastic Limit	
NO of B.	33	30	24	17		
Container No	j	c	s	m	F	J
Mass of wet soil (g)	47.00	50.00	51.00	36.50	35.00	30.00
Mass of dry soil (g)	39.20	40.00	40.00	28.00	27.00	25.00
Mass of moisture(g)	7.80	10.00	11.00	8.50	8.00	5.00
Moisture content %	19.90	25.00	27.50	30.36	29.63	20.00



Results:

Liquid Limit (L.L) : 26.1 %.

Plastic Limit (P.L) : 24.8 %.

Plasticity Index (P.I): 1.3 %.



الإدارة، ٤٠ ش صفيّة زغلول - الإسكندرية - مصر

LAP ENG

ت: ٤٨٧٠٥٧٣ - ف: ٤٨٦٩٧٩٨ - ٤٨٧٠٦٦٥

40safia zaghloul st., p.o.Box 157 Alex, Egypt

Tel:4870573 - Fax + Tel : 4869798 - 4870665



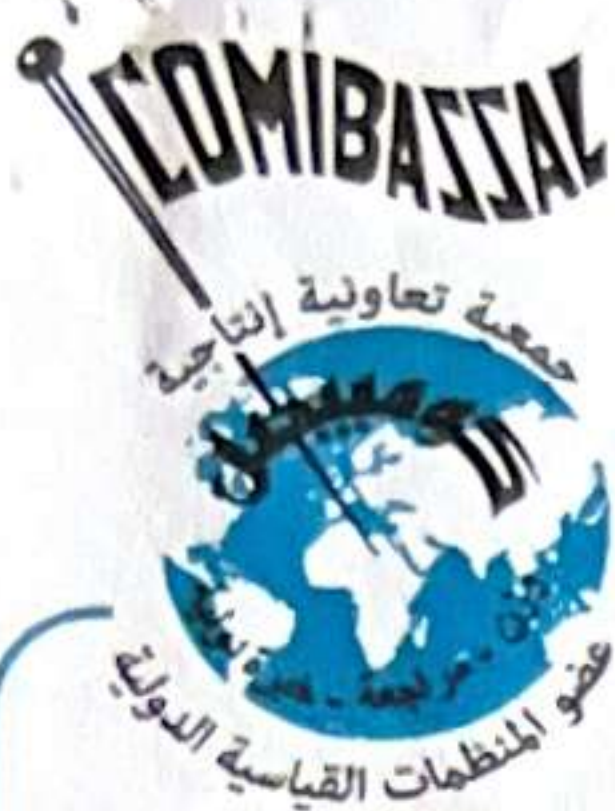
القطاع خلف ٤٩ طريق الحرية - الإسكندرية - مصر

٢٩٠٠٤٧٦ - ٢٩٣١٤٨٢ - ٢٩٤٩٧٩٨

49 EL Horria Ave .-Alex; Egypt

Tel: 3920176 - 3931482 - Fax: 3900476

E-mail :internal-inspection@comibassal.com



COMIBASSAL International Controllers

الجمعية التعاونية الإنتاجية لأعمال الوزن والمراجعة والخبرة الدولية (كوميباسال)

حاصلة على شهادة الأيزو ISO 9001:2015

Accredited by:

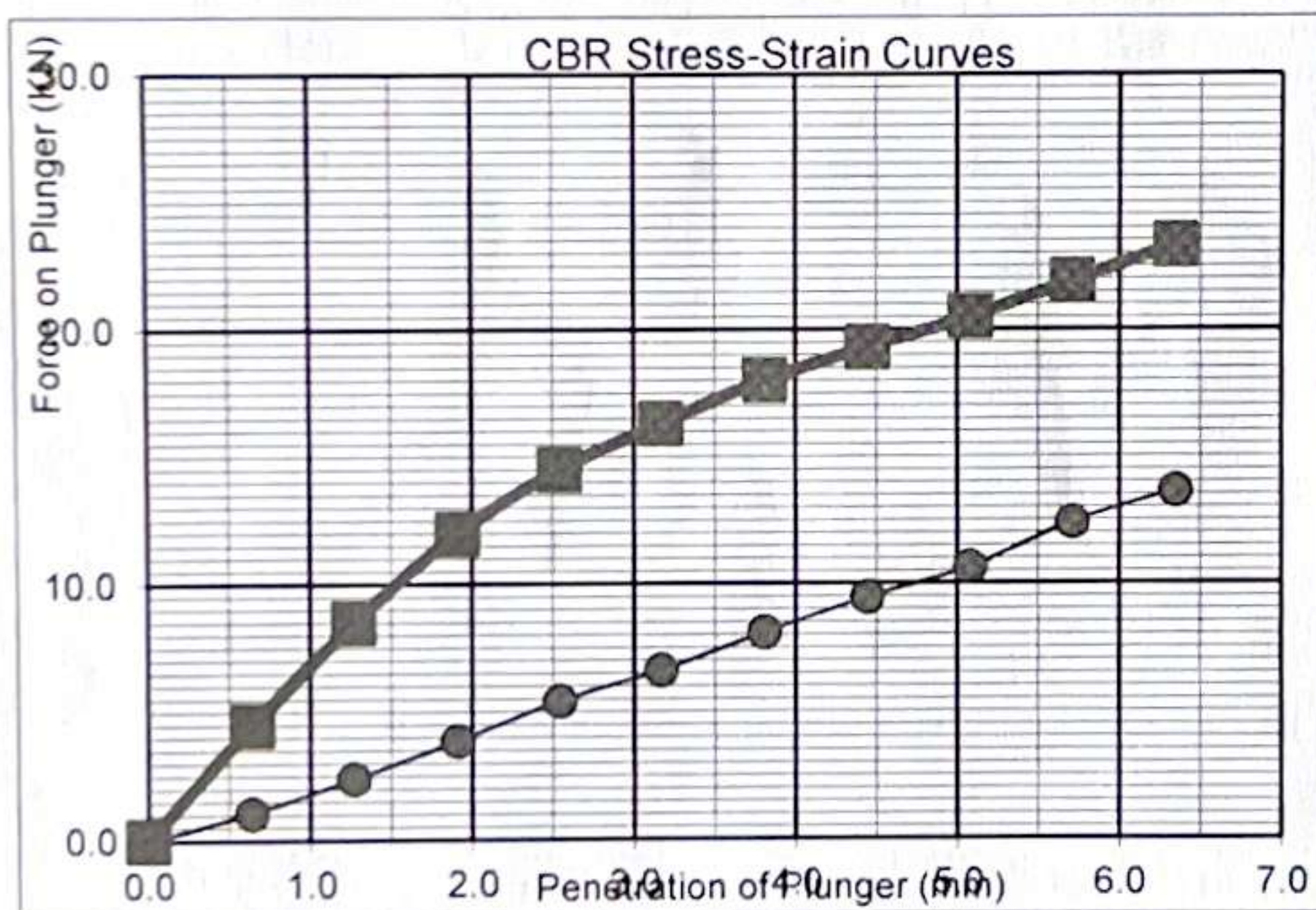
Egyptian General Authority for Petroleum
Under No.: 34/29.11.2011

قطاع التفتيش الداخلي والمعامل

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

Report Of CBR Test - ASTM - D 1883

NO OF BLOWS	56					Swell %		
MOULD NO	1					56		
WT OF MOULD+SOIL	11950				Start	0.00		
WT OF MOULD	7020				End	0.00		
WT OF SOIL	4930				Swell	0.00		
VOLUME OF MOULD	2188							
WET DENSITY	2.253							
	MC before soaking				Weight of Rammer	4.54Kg		
TIN NO	1				MDD	Kg/m3	2.130	
WT OF WET SOIL+TIN	250.00							
WT OF DRY SOIL+TIN	240.1				OMC	%	6.000	
WT OF WATER	9.90							
WT OF TIN	81							
WT OF DRY SOIL	159.1				PROVING RING			
MOISTURE CONTENT	6.2				Div/KN	0.0210		
DRY DENSITY	2.121				Capacity (KN)	50		
Pen	Reading (Div)			Bearing (KN)		CBR		
mm	56			56		standar	56	
0.00	0			0.0		0.0		
0.64	110			1.1		4.5		
1.27	245			2.4		8.5		
1.91	395			3.9		12.0		
2.54	554			5.4		14.5	41	
3.17	675			6.6		16.3		
3.81	825			8.1		18.0		
4.45	965			9.5		19.3		
5.08	1085			10.6		20.5	53	
5.71	1265			12.4		21.9		
6.35	1392			13.6		23.3		



الإدارة، ٤٠ ش صفيية زغلول - الإسكندرية ص - ب ١٥٧

ت: ٤٨٧٠٥٧٣ - ف: ٤٨٦٩٧٩٨ - ٤٨٧٠٦٦٥

40safia zaghloul st., p.o.Box 157 Alex, Egypt

Tel:4870573 - Fax + Tel : 4869798 - 4870665



القطاع خلف ٤٩ طريق الحرية - الإسكندرية - مصر

ت: ٣٩٢٠١٧٦ - ٣٩٣١٤٨٢ - ف: ٣٩٠٠٤٧٦

49 EL Horria Ave. - Alex; Egypt

Tel: 3920176 - 3931482 - Fax: 3900476

E-mail :internal-inspection@comibassal.com



COMIBASSAL International Controllers

الجمعية التعاونية الإنتاجية لأعمال الوزن والمراجعة والخبرة الدولية (كوميباسال)

حاصلة على شهادة الأيزو 9001:2015

Accredited by:

Egyptian General Authority for Petroleum
Under No.: 34/29.11.2011

قطاع التفتيش الداخلي والمعامل

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

Report	:	302 - 2 - Center
Date	:	15/03/2023

CHEMICAL ANALYSIS

General Consultant	:	SYSTRA
Consultant	:	SPECTRUM
Contractor	:	شركة الفصل للمقاولات
Project	:	Electric express train
Sample	:	FERMA
Station	:	ST (381+ 0.00) : (383 + 0.00)
Date of Test	:	1-3-2023

Temperature : 18 °C

Humidity : 50%

ANALYSIS	RESULTS	METHOD REFERENCE
ORGANIG MATTER	NEGATIVE	ASTM D 2974



LAB DIRECTOR
CH/ Mostafa Asker

Mostafa

MATERIAL APPROVAL REQUEST



الهيئة العامة
للطرق و الكباري
(GARB)



الهيئة العامة للإحصاء
مصر



Contractor Company	MOHAMAED SHABAN (AL KASALY)			Designer Company	(SPECTRUM) Engineering Consulting Office						
Issued by Contractor	Name	Sign		Date/Serial Number	Time						
				2023-03-25	08:00						
				(QT 16 - 1)							
Received by GARB CONSULTANT	Eng. Mazen Essamy	Sign	MAR	C1	C2	C3	DD	MM	YY	HH	MM
				381	EW	CS	26	03	23	08	00

CODE-1	S1 to S21	D1 to S3	Kp XXX Note
	Station Reference	Depot Reference	For Kilometer point only Start Km is used
	Work Activity		
	Sub Element of Activity		

Description of Materials	Fill Layer Total Quantity (80000 m ³)		
Location to be Used	Station (381+000 : 383+000)		
Sample only	Yes	Materials Type	Fill layers
Supplier Name	ELSEWY	Data Sheet provided	Yes attached
Reference in BoQ		Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP
Prequalification reference		Test Samples Results	
Reference Photos	No/Yes	Other	
Comments by: Eng. Mazen Essamy		Comments by: Eng. Alaa Abd-Allatif (ER)	
1-Quality test Result By Third Party Lab is Approved.		1- All tests were carried-out by third Party lab (COMIBASSAL)	
2-This Sample Representative (5000 m ³) only.		2-Results report attached and acceptable with the project specifications.	
		3-Final approval is subject to above mentioned comments.	

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor				A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif		30-9-2023	AWC

* Designer

** Alignment/Bridges: Culvert only

COMIBASSAL



COMIBASSAL International Controllers Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egypton Accreditation council (EGAC) under No. 031706/1A

SOIL REPORTS FOR ELECTRIC EXPRESS TRAIN PROJECT

Contractor :

شركة القصري للمقاولات

Date :

30/09/2023

QC :

2012-01

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



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



COMIBASSAL International Controllers

Internal inspection and laboratories sector

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

Accredited by : Egypton Accreditation council (EGAC) under No. 031706/1A

Report NO.	2012-01
Date of report	30-09-2023

I- Introduction

General Consultant :	SYSTRA
Consultant :	SPECTRUM
Contractor :	شركة القصري للمقاولات
Sample :	Upper Embankment.
Station :	ST(381+000) to st(383+000)
Date of Test :	26/03/2023

II- Sample description:

Gravel and sand.

III- Required tests and Results

Required Tests		Results
1- Grain size analysis and classification and Percentage of MATERIALS FINER THAN No. 200 (75 μ m)	Grain size analysis	As showed in appendix
	Classification	A-1-b
	Pass From No.200	13.6%
2- Modified compaction (Proctor test)	MDD	2.103
	OMC	8.4%
3- Liquid limit, plastic limit and plasticity index	LL	27.9%
	PL	25.0%
	PI	2.9%
4- California bearing ratio (CBR)	CBR ratio	37%

IV- Notes

- 1- Samples were brought by : Contractor.
- 2- Samples are responsible from the Person who brought it.
- 3- The results are applying only for the present report.

LAB DIRECTOR

Eng / Eman kandil



Geotechnical consultant

Dr. Mohamed Mostafa Badry

Kilo 23 Alexandria - Cairo Desert Road - Merghem

Tel: 002 03 4704595 - 002 034701191

Email : civdept@comibassal.com

WebSite : www.comibassal.com



49 El Horria Ave. Alex, Egypt

Tel: 002 033920176 - 002 033931482

Fax :002 033900476

Email : internal-inspection@comibassal.com



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egypton Accreditation council (EGAC) under No. 031706/1A

APPENDIX

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



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



COMIBASSAL International Controllers

Internal inspection and laboratories sector

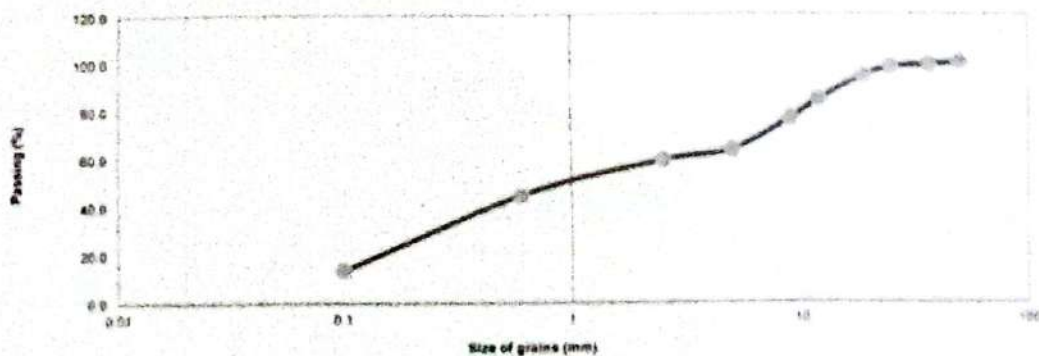
Accredited by : Egypt General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egypt Accreditation council (EGAC) under No. 031706/1A

PARTICLE SIZE DISTRIBUTION ANALYSIS ASTM C-136 / AASHTO T27

	WEIGHT RETAINED	CUMULATIVE WEIGHT	CUMULATIVE PERCENTAGE	CUMULATIVE PERCENTAGE	STANDARD SPECIFICATION
	(gm)	RETAINED (gm)	RETAINED (%)	PASSING (%)	LIMITS
2	0.00	0.00	0.00	100.0	
1 1/2	145.00	145.00	1.45	98.5	
1	91.00	236.00	2.36	97.6	
3/4	364.00	600.00	6.00	94.0	
1/2	976.00	1576.00	15.77	84.2	
3/8	798.00	2374.00	23.75	76.3	
No.4	1312.00	3686.00	36.87 ✓	63.1 ✓	
No.10	69.00	69.00	6.90	58.8	
No.40	298.00	298.00	29.80	44.3 ✓	
No.200	785.00	785.00	78.50 ✓	13.6 ✓	

Total sample weight = 9996.00 pass No 4 = 6310.0 Total fine aggregates weight = 1000 gm
% 63.1

Size analysis distribution curve



Soil classification: A - 1 - b



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



49 El Horria Ave. Alex. Egypt
Tel: 002 033920176 - 002 033911482
Fax: 002 033900476
Email: internal-inspection@comibassal.com



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egypton Accreditation council (EGAC) under No. 031706/1A

Modified Proctor Test Report ASTM - D 1557

Mould Number :- 2
Volume of mould = 2165 cm³
Weight of mould = 5860 g
G.S = 2.72 g/cm³

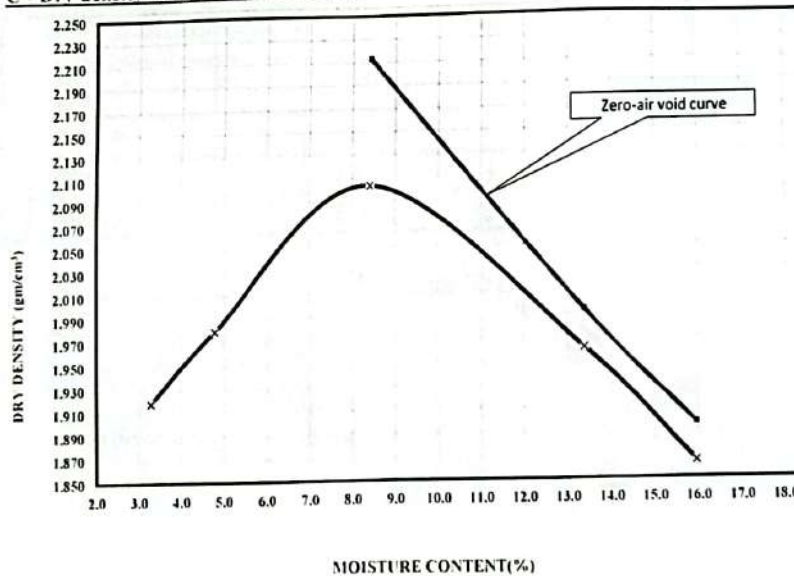
A- Density Calculations :-

	1	2	3	4	5
Weight of wet soil+mould (g)	10150	10350	10797	10674	10540
Weight of mould (g)	5860	5860	5860	5860	5860
Weight of wet soil (g)	4290	4490	4937	4814	4680
Volume of mould (cm ³)	2165	2165	2165	2165	2165
Wet density (g/cm ³)	1.982	2.074	2.280	2.224	2.162
Dry density (g/cm ³)	1.918	1.979	2.103	1.961	1.864
Zero-air Void curve			2.213	1.993	1.897

B- Moisture Calculations :-

Weight of wet soil+container (g)	250.0	250.0	250.0	250.0	250.0
Weight of dry soil+container (g)	243.0	240.0	233.0	224.0	220.0
Weight of container (g)	30.0	31.0	31.0	30.0	32.0
moisture content (%)	3.3	4.8	8.4	13.4	16.0

C - Dry density-Moisture relationship:-



M.D.D= 2.103 gm/cm³
O.M.C= 8.4 %



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



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



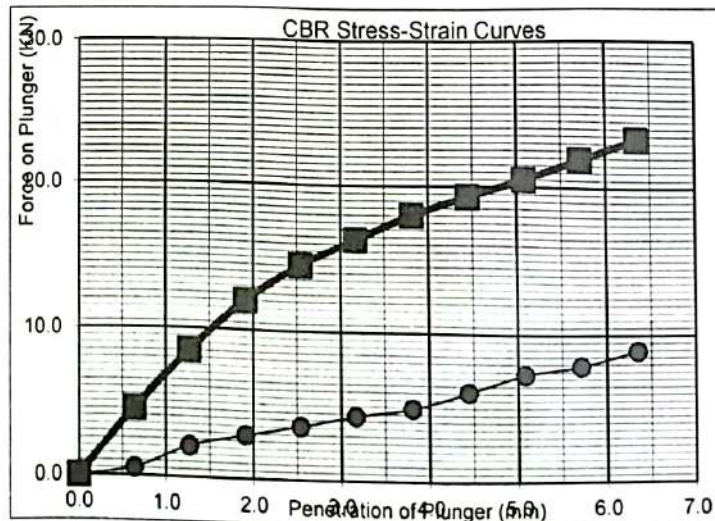
COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egypton Accreditation council (EGAC) under No. 031706/1A

Report Of CBR Test - ASTM - D 1883

NO OF BLOWS	56					
MOULD NO	2					
WT OF MOULD+SOIL	10294					
WT OF MOULD	5394					
WT OF SOIL	4900					
VOLUME OF MOULD	2160					
WET DENSITY	2.269					
MC before soaking		Weight of Rammer		4.54Kg		
TIN NO	1			MDD	Kg/m ³	2.103
WT OF WET SOIL+TIN	250.00			OMC	%	8.400
WT OF DRY SOIL+TIN	237					
WT OF WATER	13.00					
WT OF TIN	81					
WT OF DRY SOIL	156					
MOISTURE CONTENT	8.3					
DRY DENSITY	2.094			Capacity (KN)		50
Pen	Reading (Div)		Bearing (KN)		CBR	
mm	56		56		standar	56
0.00	0		0.0		0.0	
0.64	53		0.5		4.5	
1.27	210		2.1		8.5	
1.91	295		2.9		12.0	
2.54	365		3.6		14.5	27
3.17	442		4.3		16.3	
3.81	502		4.9		18.0	
4.45	620		6.1		19.3	
5.08	745		7.3		20.5	37
5.71	805		7.9		21.9	
6.35	910		8.9		23.3	



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



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



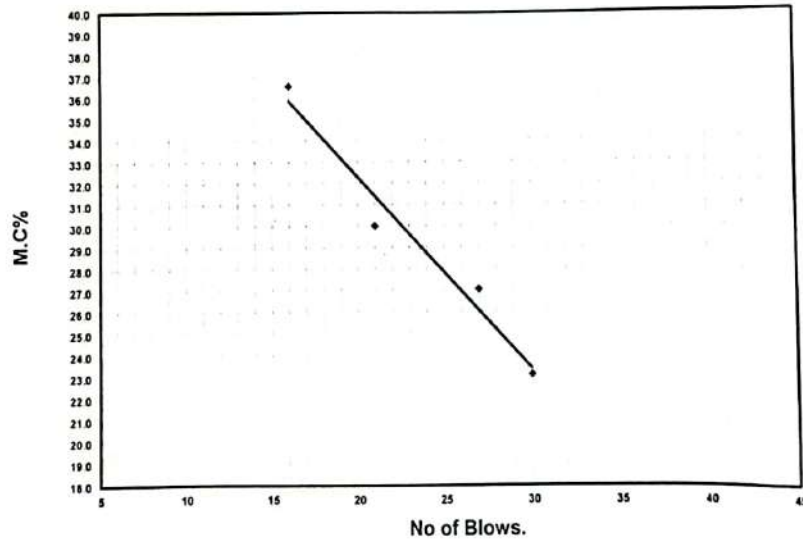
COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egypton Accreditation council (EGAC) under No. 031706/1A

Liquid and Plastic Limits Test ASTM - D 4318

Test No	1	2	3	4	5	6
Type of test	Liquid Limit				Plastic Limit	
NO of B.	30	27	21	16		
Container No	j	c	s	m	F	J
Mass of wet soil +container	54.00	45.00	50.00	52.50	64.00	47.00
Mass of dry soil +container	48.00	40.00	44.00	44.60	56.80	44.00
Mass of container	22.00	21.50	24.00	23.00	30.00	31.00
Mass of moisture	6.00	5.00	6.00	7.90	7.20	3.00
Mass of dry soil	26.00	18.50	20.00	21.60	26.80	13.00
Moisture content	23.08	27.03	30.00	36.57	26.87	23.08



Results:

Liquid Limit (L.L) : 27.9 %
Plastic Limit (P.L) : 25.0 %
Plasticity Index (P.I): 2.9 %



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



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



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egypton Accreditation council (EGAC) under No. 031708/1A

Report :	745 - 1 - Center
Date :	30/09/2023

CHEMICAL ANALYSIS

General Consultant :	SYSTRA
Consultant :	SPECTRUM
Contractor :	شركة القفلى للمقارلات
Project :	Electric express train
Sample :	FERMA
Station :	ST (381 +0.00) : (500 + 382)
Date of Test :	26-3-2023

Temperature : 28 °C

Humidity : 45%

ANALYSIS	RESULTS	TEST METHOD
ORGANIG MATTER	NEGATIVE	ASTM D 2974



LAB DIRECTOR
CH/ Mostafa Asker

Mostafa

Kilo 23 Alexandria - Cairo Desert Road - Merghem
Tel: 002 03 4704395 - 002 034701191
Email : clvdept@comibassal.com
WebSite : www.comibassal.com



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

MATERIAL APPROVAL REQUEST



Contractor Company	MOHAMAED SHABAN (AL KASALY)			Designer Company	(SPECTRUM) Engineering Consulting Office						
Issued by Contractor	Name	Sign		Date/Serial Number	Time						
				2023-03-28	08:00						
				(QT 17 - 1)							
Received by GARB CONSULTANT	Eng. Mazen Essamy	Sign	MAR	C1	C2	C3	DD	MM	YY	HH	MM
				381	EW	CS	29	03	23	08	00

CODE-1	S1 to S21	D1 to S3	Kp XXX Note
	Station Reference	Depot Reference	For Kilometer point only Start Km is used
	Work Activity		
	Sub Element of Activity		

Description of Materials	Fill Layer Total Quantity (85000 m ³)		
Location to be Used	Station (381+000 : 383+000)		
Sample only	Yes	Materials Type	Fill layers
Supplier Name	ELSEWY	Data Sheet provided	Yes attached
Reference in BoQ		Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP
Prequalification reference		Test Samples Results	
Reference Photos	No/Yes	Other	
Comments by: Eng. Mazen Essamy		Comments by: Eng. Alaa Abd-Allatif (ER)	
1-Quality test Result By Third Party Lab is Approved.		1- All tests were carried-out by third Party lab (COMIBASSAL)	
2-This Sample Representative (5000 m ³) only.		2-Results report attached and acceptable with the project specifications.	
		3-Final approval is subject to above mentioned comments.	

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor				A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif		30-9-2023	AWC

* Designer

** Alignment/Bridges: Culvert only



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egypton Accreditation council (EGAC) under No. 031706/1A

SOIL REPORTS FOR ELECTRIC EXPRESS TRAIN PROJECT

Contractor :

شركة القفصلي للمقاولات

Date :

30/09/2023

QC :

2012-02

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



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



COMIBASSAL International Controllers

Internal inspection and laboratories sector

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

Report NO.	2012-02
Date of report	30-09-2023

I- Introduction

General Consultant :	SYSTRA
Consultant :	SPECTRUM
Contractor :	شركة القصري للمقاولات
Sample :	Upper Embankment.
Station :	ST(381+000) to st(383+000)
Date of Test :	29/03/2023

II- Sample description:

Gravel and sand.

III- Required tests and Results

Required Tests		Results
1- Grain size analysis and classification and Percentage of MATERIALS FINER THAN No. 200 (75 μ m)	Grain size analysis	As showed in appendix
	Classification	A-1-b
	Pass From No.200	14.7%
2- Modified compaction (Proctor test)	MDD	2.105
	OMC	8.00%
3- Liquid limit, plastic limit and plasticity index	LL	29.7%
	PL	26.5%
	PI	3.2%
4- California bearing ratio (CBR)	CBR ratio	39%

IV- Notes

- 1- Samples were brought by : Contractor.
- 2- Samples are responsible from the Person who brought it.
- 3- The results are applying only for the present report.

LAB DIRECTOR

Eng / Eman kandil



Geotechnical consultant

For DR. M -
Dr. Mohamed Mostafa Badry

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



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

COMIBASSAL



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egypton Accreditation council (EGAC) under No. 031706/1A

APPENDIX

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



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



COMIBASSAL International Controllers

Internal inspection and laboratories sector

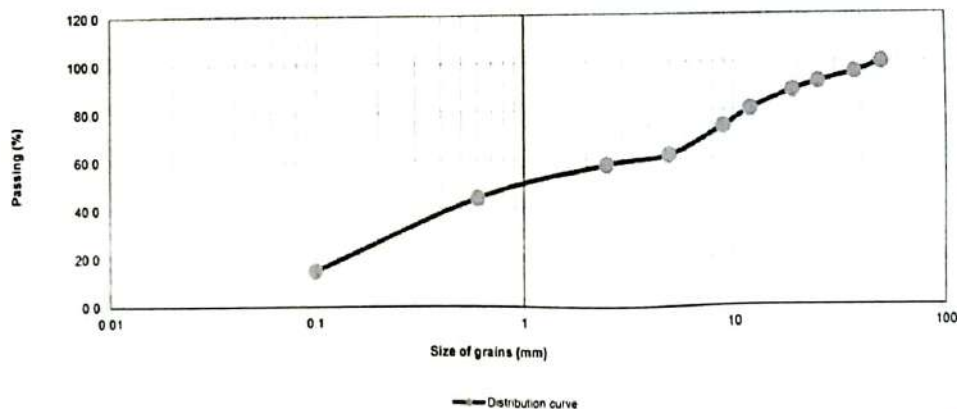
Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egypton Accreditation council (EGAC) under No. 031706/1A

PARTICLE SIZE DISTRIBUTION ANALYSIS ASTM C-136 / AASHTO T27

	WEIGHT RETAINED (gm)	CUMULATIVE WEIGHT RETAINED (gm)	CUMULATIVE PERCENTAGE RETAINED (%)	CUMULATIVE PERCENTAGE PASSING (%)	STANDURD SPECIFICATION LIMITS
2	0.00	0.00	0.00	100.0	
1 1/2	427.00	427.00	4.27	95.7	
1	401.00	828.00	8.28	91.7	
3/4	353.00	1181.00	11.81	88.2	
1/2	769.00	1950.00	19.50	80.5	
3/8	710.00	2660.00	26.60	73.4	
No.4	1200.00	3860.00	38.60	61.4	
No.10	60.00	60.00	6.00	57.7	
No.40	279.00	279.00	27.90	44.3	
No.200	760.00	760.00	76.00	14.7	

Total sample weight = 10000.00 pass No.4= 6140.0 Total fine aggregates weight = 1000 gm
% 61.4

Size analysis distribution curve



Soil classification: A - 1 - b



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



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



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypt General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egypt Accreditation council (EGAC) under No. 031706/1A

Modified Proctor Test Report ASTM - D 1557

Mould Number :- 2
Volume of mould = 2165 cm³
Weight of mould = 5860 g
G.S = 2.72 g/cm³

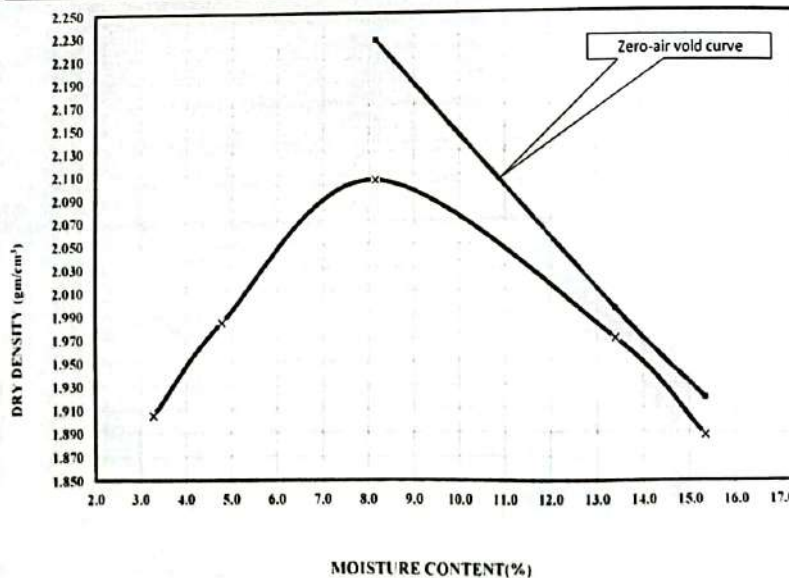
A- Density Calculations :-

	1	2	3	4	5
Weight of wet soil+mould (g)	10120	10361	10789	10692	10574
Weight of mould (g)	5860	5860	5860	5860	5860
Weight of wet soil (g)	4260	4501	4929	4832	4714
Volume of mould (cm ³)	2165	2165	2165	2165	2165
Wet density (g/cm ³)	1.968	2.079	2.277	2.232	2.177
Dry density (g/cm ³)	1.905	1.984	2.105	1.968	1.888
Zero-air Void curve			2.227	1.993	1.919

B- Moisture Calculations :-

Weight of wet soil+container (g)	250.0	250.0	250.0	250.0	250.0
Weight of dry soil+container (g)	243.0	240.0	233.5	224.0	221.0
Weight of container (g)	30.0	31.0	31.0	30.0	32.0
moisture content (%)	3.3	4.8	8.1	13.4	15.3

C - Dry density-Moisture relationship:-



M.D.D= 2.105 gm/cm³
O.M.C= 8.00 %



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



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



COMIBASSAL International Controllers

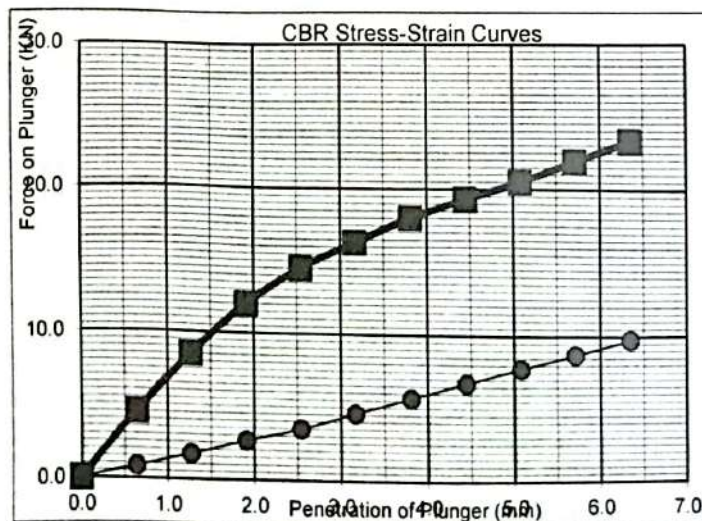
Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egypton Accreditation council (EGAC) under No. 031706/1A

Report Of CBR Test - ASTM - D 1883

NO OF BLOWS	56					
MOULD NO	2					
WT OF MOULD+SOIL	10108					
WT OF MOULD	5207					
WT OF SOIL	4901					
VOLUME OF MOULD	2180					
WET DENSITY	2.248					
MC before soaking		Weight of Rammer		4.54Kg		
TIN NO	1			MDD	Kg/m3	2.105
WT OF WET SOIL+TIN	250.00			OMC	%	8.000
WT OF DRY SOIL+TIN	238					
WT OF WATER	12.00					
WT OF TIN	81					
WT OF DRY SOIL	157					
MOISTURE CONTENT	7.6					
DRY DENSITY	2.089			Capacity (KN)		50

Pen	Reading (Div)	Bearing (KN)	CBR
mm	56	56	standar
0.00	0	0.0	0.0
0.64	85	0.8	4.5
1.27	173	1.7	8.5
1.91	270	2.6	12.0
2.54	355	3.5	14.5
3.17	470	4.6	16.3
3.81	579	5.7	18.0
4.45	690	6.8	19.3
5.08	795	7.8	20.5
5.71	890	8.7	21.9
6.35	996	9.8	23.3



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



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



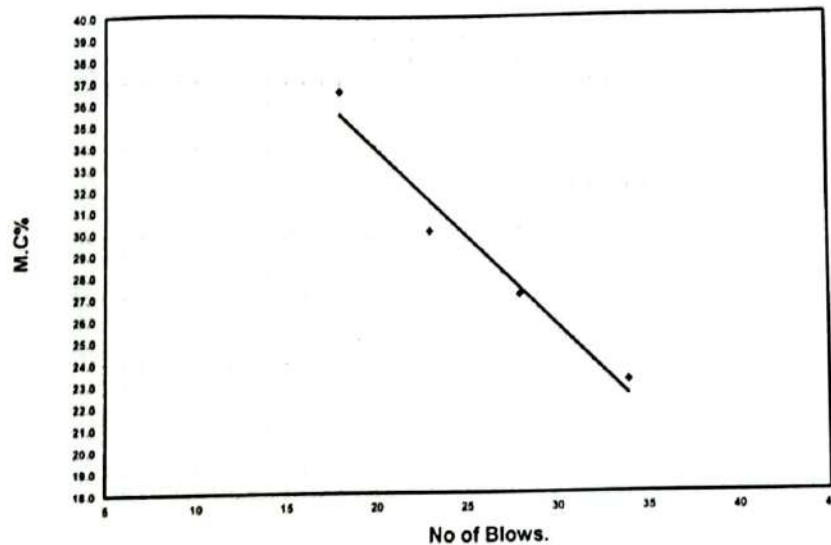
COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypt General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egypt Accreditation council (EGAC) under No. 031708/1A

Liquid and Plastic Limits Test ASTM - D 4318

Test No	1	2	3	4	5	6
Type of test	Liquid Limit				Plastic Limit	
NO of B.	34	28	23	18		
Container No	j	c	s	m	F	J
Mass of wet soil +container	54.00	45.00	50.00	52.50	63.00	35.00
Mass of dry soil +container	48.00	40.00	44.00	44.60	55.00	32.50
Mass of container	22.00	21.50	24.00	23.00	25.00	23.00
Mass of moisture	6.00	5.00	6.00	7.90	8.00	2.50
Mass of dry soil	26.00	18.50	20.00	21.60	30.00	9.50
Moisture content	23.08	27.03	30.00	36.57	26.67	26.32



Results:

Liquid Limit (L.L) : 29.7 %
Plastic Limit (P.L) : 26.5 %
Plasticity Index (P.I): 3.2 %



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



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



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egypton Accreditation council (EGAC) under No. 031706/1A

Report :	745 - 2 - Center
Date :	30/09/2023

CHEMICAL ANALYSIS

General Consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة القصى للمقاولات
Project : Electric express train
Sample : FERMA
Station : ST (381 +0.00) : (500 + 382)
Date of Test : 29-3-2023

Temperature : 28 °C

Humidity : 45%

ANALYSIS	RESULTS	TEST METHOD
ORGANIG MATTER	NEGATIVE	ASTM D 2974



LAB DIRECTOR
CH/ Mostafa Asker

Mostafa

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

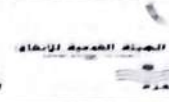


49 El Horria Ave. Alex, Egypt
Tel: 002 033920176 - 002 033931482
Fax :002 033900476
Email : internal-inspection@comibassal.com

MATERIAL APPROVAL REQUEST



الهيئة العامة
للطرق و الكبارى
(GARBU)



Contractor Company	MOHAMAED SHABAN (AL KASALY)		Designer Company	(SPECTRUM) Engineering Consulting Office						
Issued by Contractor	Name	Sign	Date/Serial Number	Time						
			2023-04-07	08:00						
			(QT 18 - 1)							
Received by GARB CONSULTANT	Eng. Mazen Essamy	Sign	C1	C2	C3	DD	MM	YY	HH	MM
			381	EW	CS	08	04	23	08	00

CODE-1	S1 to S21	D1 to S3	Kp XXX Note
	Station Reference	Depot Reference	For Kilometer point only Start Km is used
	Work Activity		
	Sub Element of Activity		

Description of Materials	Fill Layer Total Quantity (90000 m³)		
Location to be Used	Station (381+000 : 383+000)		
Sample only	Yes	Materials Type	Fill layers
Supplier Name	ELSEWY	Data Sheet provided	Yes attached
Reference in BoQ		Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP
Prequalification reference		Test Samples Results	
Reference Photos	No/Yes	Other	
Comments by: Eng. Mazen Essamy		Comments by: Eng. Alaa Abd-Allatif (ER)	
1-Quality test Result By Third Party Lab is Approved. 2-This Sample Representative (5000 m³) only.		1- All tests were carried-out by third Party lab (COMIBASSAL) 2-Results report attached and acceptable with the project specifications. 3-Final approval is subject to above mentioned comments.	

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor				A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif		30-9-2023	AWC

* Designer

** Alignment/Bridges: Culvert only



COMIBASSAL International Controllers

Internal inspection and laboratories sector

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

SOIL REPORTS FOR ELECTRIC EXPRESS TRAIN PROJECT

Contractor :

شركة القصري للمقاولات

Date :

30/09/2023

QC :

2012-03

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



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



COMIBASSAL International Controllers

Internal inspection and laboratories sector

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

Report NO.	2012-03
Date of report	30-09-2023

I- Introduction

General Consultant :	SYSTRA
Consultant :	SPECTRUM
Contractor :	شركة القصري للمقاولات
Sample :	Upper Embankment.
Station :	ST(381+000) to st(383+000)
Date of Test :	08/04/2023

II- Sample description:

Gravel and sand.

III- Required tests and Results

Required Tests		Results
1- Grain size analysis and classification and Percentage of MATERIALS FINER THAN No. 200 (75 μ m)	Grain size analysis	As showed in appendix
	Classification	A-1-b -
	Pass From No.200	14.9%
2- Modified compaction (Proctor test)	MDD	2.100
	OMC	8.4%
3- Liquid limit, plastic limit and plasticity index	LL	27.9%
	PL	24.5%
	PI	3.4%
4- California bearing ratio (CBR)	CBR ratio	38%

IV- Notes

- 1- Samples were brought by : Contractor.
- 2- Samples are responsible from the Person who brought it.
- 3- The results are applying only for the present report.

LAB DIRECTOR

Eng / Eman kandil

Eman



Geotechnical consultant

For Dr. H -
Dr. Mohamed Mostafa Badry

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



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



COMIBASSAL International Controllers

Internal inspection and laboratories sector

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

APPENDIX

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



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



COMIBASSAL International Controllers

Internal inspection and laboratories sector

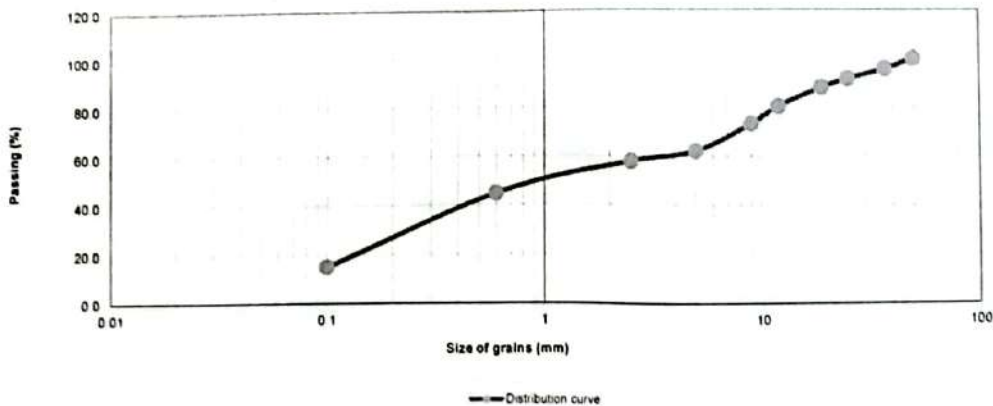
Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egypton Accreditation council (EGAC) under No. 031706/1A

PARTICLE SIZE DISTRIBUTION ANALYSIS ASTM C-136 / AASHTO T27

	WEIGHT RETAINED (gm)	CUMULATIVE WEIGHT RETAINED (gm)	CUMULATIVE PERCENTAGE RETAINED (%)	CUMULATIVE PERCENTAGE PASSING (%)	STANDARD SPECIFICATION LIMITS
2	0.00	0.00	0.00	100.0	
1 1/2	427.00	427.00	4.26	95.7	
1	401.00	828.00	8.26	91.7	
3/4	353.00	1181.00	11.79	88.2	
1/2	769.00	1950.00	19.46	80.5	
3/8	710.00	2660.00	26.55	73.5	
No.4	1119.00	3779.00	37.72	62.3	
No.10	71.00	71.00	7.10	57.9	
No.40	280.00	280.00	28.00	44.8	
No.200	760.00	760.00	76.00	14.9	

Total sample weight = 10019.00 pass No.4= 6240.0 Total fine aggregates weight = 1000 gm
% 62.3

Size analysis distribution curve



Soil classification: A - 1 - b



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



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



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypt General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egypt Accreditation council (EGAC) under No. 031708/1A

Modified Proctor Test Report ASTM - D 1557

Mould Number :- 2
Volume of mould = 2165 cm³
Weight of mould = 5860 g
G.S = 2.72 g/cm³

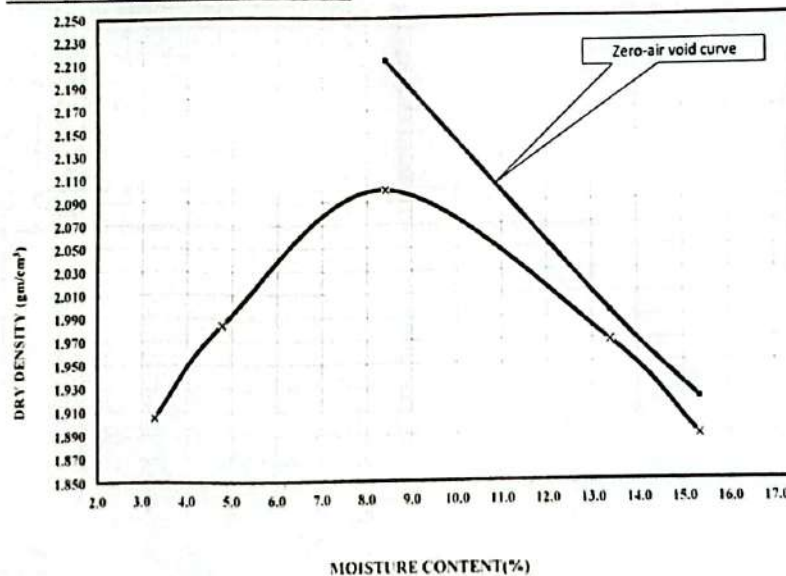
A- Density Calculations :-

	1	2	3	4	5
Weight.of wet soil+mould (g)	10120	10361	10790	10692	10574
Weight.of mould (g)	5860	5860	5860	5860	5860
Weight.of wet soil (g)	4260	4501	4930	4832	4714
Volume of mould (cm ³)	2165	2165	2165	2165	2165
Wet density (g/cm ³)	1.968	2.079	2.277	2.232	2.177
Dry density (g/cm ³)	1.905	1.984	2.100	1.968	1.888
Zero-air Void curve			2.213	1.993	1.919

B- Moisture Calculations :-

Weight.of wet soil+container (g)	250.0	250.0	250.0	250.0	250.0
Weight.of dry soil+container (g)	243.0	240.0	233.0	224.0	221.0
Weight.of container (g)	30.0	31.0	31.0	30.0	32.0
moisture content(%)	3.3	4.8	8.4	13.4	15.3

C - Dry density-Moisture relationship:-



M.D.D= 2.100 g/cm³
O.M.C= 8.40 %



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



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



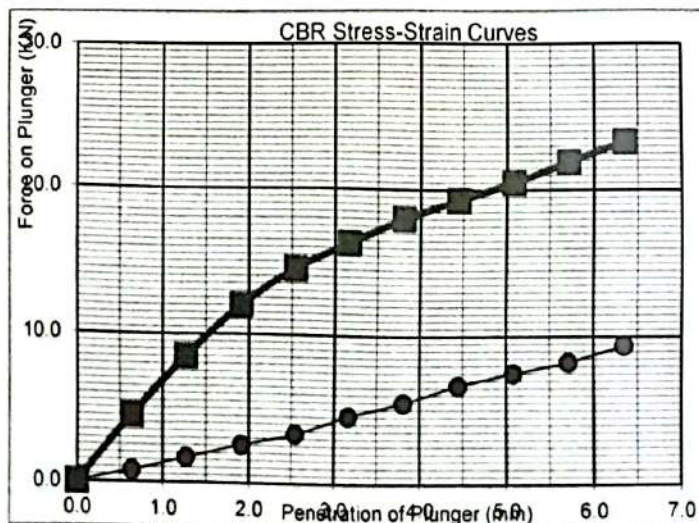
COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egypton Accreditation council (EGAC) under No. 031706/1A

Report Of CBR Test - ASTM - D 1883

NO OF BLOWS	56					
MOULD NO	2					
WT OF MOULD+SOIL	10110					
WT OF MOULD	5207					
WT OF SOIL	4903					
VOLUME OF MOULD	2180					
WET DENSITY	2.249					
MC before soaking		Weight of Rammer		4.54Kg		
TIN NO	1			MDD	Kg/m3	2.100
WT OF WET SOIL+TIN	250.00			OMC	%	8.400
WT OF DRY SOIL+TIN	237					
WT OF WATER	13.00					
WT OF TIN	81					
WT OF DRY SOIL	156					
MOISTURE CONTENT	8.3					
DRY DENSITY	2.076			Capacity (KN)		50
Pen						
Reading (Div)		Bearing (KN)		CBR		
mm	56		56	standar	56	
0.00	0		0.0	0.0		
0.64	80		0.8	4.5		
1.27	170		1.7	8.5		
1.91	260		2.5	12.0		
2.54	340		3.3	14.5	25	
3.17	466		4.6	16.3		
3.81	560		5.5	18.0		
4.45	680		6.7	19.3		
5.08	766		7.5	20.5	38	
5.71	845		8.3	21.9		
6.35	960		9.4	23.3		



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



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



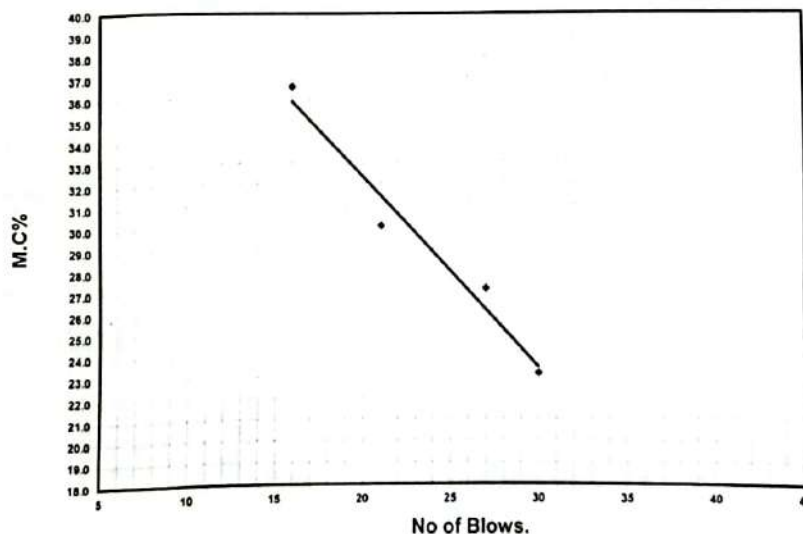
COMIBASSAL International Controllers

Internal inspection and laboratories sector

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

Liquid and Plastic Limits Test ASTM - D 4318

Test No	1	2	3	4	5	6
Type of test	Liquid Limit				Plastic Limit	
NO of B.	30	27	21	16		
Container No	j	c	s	m	F	J
Mass of wet soil +container	54.00	45.00	50.00	52.50	64.00	47.00
Mass of dry soil +container	48.00	40.00	44.00	44.60	56.80	44.10
Mass of container	22.00	21.50	24.00	23.00	30.00	31.00
Mass of moisture	6.00	5.00	6.00	7.90	7.20	2.90
Mass of dry soil	26.00	18.50	20.00	21.60	26.80	13.10
Moisture content	23.08	27.03	30.00	36.57	26.87	22.14



Results:

Liquid Limit (L.L) : 27.9 %
 Plastic Limit (P.L) : 24.5 %
 Plasticity Index (P.I): 3.4 %



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



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



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egypton Accreditation council (EGAC) under No. 031706/1A

Report :	745 - 3 - Center
Date :	30/09/2023

CHEMICAL ANALYSIS

General Consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة القصى للمقاولات
Project : Electric express train
Sample : FERMA
Station : ST (381 +0.00) : (500 + 382)
Date of Test : 8-4-2023

Temperature : 28 °C

Humidity : 45%

ANALYSIS	RESULTS	TEST METHOD
ORGANIG MATTER	NEGATIVE	ASTM D 2974








LAB DIRECTOR
CH/ Mostafa Asker

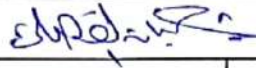

Moustaf

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



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

MATERIAL APPROVAL REQUEST	    	
	الهيئة العامة للطرق والكباري (GARBU) الهيئة العامة للتخطيط العمراني الهيئة العامة للتخطيط العمراني	

Contractor Company	MOHAMAED SHABAN (AL KASALY)		Designer Company	(SPECTRUM) Engineering Consulting Office							
Issued by Contractor	Name	Sign	Date/Serial Number		Time						
	Eng :		2023-05-05 S.G 01-1		08:00						
Received by GARBU CONSULTANT	Eng. Mazen Essamy		MAR	381	EW	CS	06	05	23	08	00

IDDE	S1 to S21	D1 to S3	Kp XXX Note
	Station Reference	Depot Reference	For Kilometer point only Start Km is used
Work Activity			
Sub Element of Activity			

Description of Materials	Fill Layer Total Quantity (5000 m ³)		
Location to be Used	From Station (381+000) to Station (382+500)		
Sample only	Yes	Materials Type	Prepared Sub Grade
Supplier Name	EL BORG	Data Sheet provided	Yes attached
Reference in BoQ		Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP
Prequalification reference		Test Samples Results	
Reference Photos	No/Yes	Other	
Comments by: Eng. Mazen Essamy (SPECTRUM)		Comments by: Eng. Alaa Abd-Allatif (ER)	
1-Quality test Result By Third Party Lab is Approved. 2-This Sample Representative (5000 m ³) only.		1- All tests were carried-out by third Party lab (COMIBASSAL) 2-Results report attached and acceptable with the project specifications. 3-Final approval is subject to above mentioned comments.	

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor				A
QA/QC *	Eng. Mazen Essamy			
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif		28-5-2023	

* Designer

** Alignment/Bridges: Culvert only



COMIBASSAL International Controllers Internal inspection and laboratories sector

Accredited by : Egypt General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egypt Accreditation council (EGAC) under No. 031706/1A

SOIL REPORTS FOR ELECTRIC EXPRESS TRAIN PROJECT

Contractor :

شركة القفصلي للمقاولات

Date of report :

28/05/2023

QC :

1201-1





COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egyptian General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egyptian Accreditation council (EGAC) under No. 031706/1A

I- Introduction

General Consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة القنصل للمقاولات
Sample : Prepared Sub-grade
Station : St(381+000) to st(382+500)
Date of Test : 06/05/2023
QC : 1201-1

II- Sample description:

Crushed stone and sand

III- Required tests

- 1- Grain size analysis and classification
- 2- Modified compaction (Proctor test)
- 3- Liquid limit, plastic limit and plasticity index
- 4- California bearing ratio (CBR)
- 5- Specific gravity (SG)
- 6- Los Angeles test

IV- Results

1- Grain size analysis and classification	Grain size analysis	As showed in appendix
	Classification	A-1-a
2- Modified compaction (Proctor test)	MDD	2.159
	OMC	6.4%
3- Liquid limit, plastic limit and plasticity index	LL	Non plastic
	PL	Non plastic
	PI	Non plastic
4- California bearing ratio (CBR)	CBR ratio	92%
5- Specific gravity (SG), absorption and degradation	S S D	2.573
	Absorption	1.2%
	Degradation	0.2%
6- Los Angeles test	Abrasion ratio	27.0%

LAB DIRECTOR

Eng / Eman kandil



Geotechnical consultant

Dr. Mohamed Mostafa Badry

Kilo 25 Alexandria - Cairo Desert Road - Merghem

Tel: 002 03 4704395 - 002 034701391

Email: info@comibassal.com

Website: www.comibassal.com



49 El Horria Ave. Alex, Egypt

Tel: 002 033920176 - 002 033931482

Fax: 002 033900476

Email: internal-inspection@comibassal.com



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egypton Accreditation council (EGAC) under No. 031706/1A

APPENDIX

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



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



COMIBASSAL International Controllers

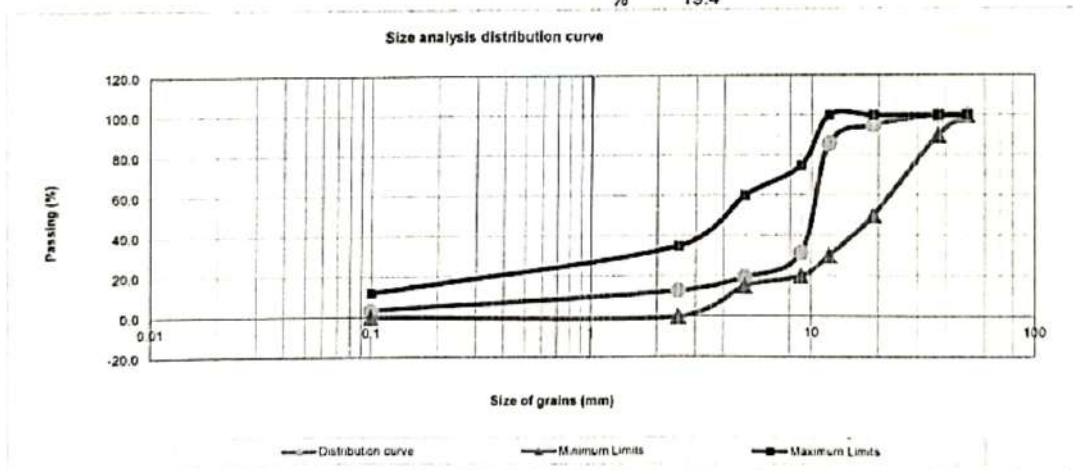
Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egypton Accreditation council (EGAC) under No. 031706/1A

PARTICLE SIZE DISTRIBUTION ANALYSIS ASTM C-136 / AASHTO T27

	WEIGHT RETAINED (gm)	CUMULATIVE WEIGHT RETAINED (gm)	CUMULATIVE PERCENTAGE RETAINED (%)	CUMULATIVE PERCENTAGE PASSING (%)	STANDURD SPECIFICATION LIMITS	
5	0.00	0.00	0.00	100.0	100	100
4	0.00	0.00	0.00	100.0	90	100
3	0.00	0.00	0.00	100.0	75	100
1.5	840.00	840.00	4.92	95.1	50	100
3/4	9280.00	11698.00	68.46	31.5	20	75
3/8	2070.00	13768.00	80.57	19.4	15	60
No.10	170.00	170.00	34.00	12.8	0	35
No.200	410.00	410.00	82.00	3.5	0	12

Total sample weight = 17088.00 pass No.3/8= 3320.0 Total fine aggregates weight = 500 gm
% 19.4



Soil classification: A - 1 - a (Non Plastic)



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



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



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypt General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egypt Accreditation council (EGAC) under No. 031706/1A

Modified Proctor Test Report ASTM - D 1557

Mould Number :- 1
Volume of mould = 2199 cm³
Weight of mould = 7045 g
G.S = 2.55 g/cm³

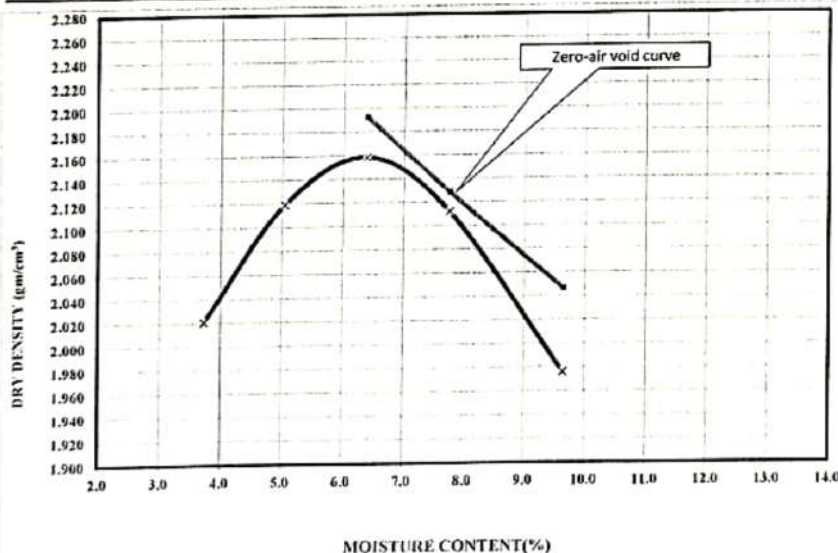
A- Density Calculations :-

	1	2	3	4	5
Weight of wet soil+mould (g)	11655	11940	12095	12050	11810
Weight of mould (g)	7045	7045	7045	7045	7045
Weight of wet soil (g)	4610	4895	5050	5005	4765
Volume of mould (cm ³)	2199	2199	2199	2199	2199
Wet density (g/cm ³)	2.096	2.226	2.296	2.276	2.167
Dry density (g/cm ³)	2.021	2.119	2.159	2.112	1.976
Zero-air Void curve			2.193	2.129	2.046

B- Moisture Calculations :-

Weight of wet soil (g)	250.0	250.0	250.0	250.0	250.0
Weight of dry soil (g)	241.0	238.0	235.0	232.0	228.0
moisture content(%)	3.7	5.0	6.4	7.8	9.6

C - Dry density-Moisture relationship:-



M.D.D= 2.159 gm/cm³
O.M.C= 6.40 %



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



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



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypt General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egypt Accreditation council (EGAC) under No. 031708/1A

Absorption & Specific Gravity for Aggregate AASHTO T85 - ASTM C127

Weight of sample	2500
Weight of saturated - dry surface sample (B)	2524
Weight of saturated sample in water (C)	1543
Weight of dry sample afre heating (A)	2495

Results:-

Saturation surface dry spicific gravity = $B / (B-C)$	2.573
Bulk specific gravity = $A / (B-C)$	2.543
Apparent spicific gravity = $A / (A-C)$	2.621
Asorbtion of water = $(B-A)/A*100$	1.2
Degradation of aggregate = $(2500-A)/ A*100$	0.2



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



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



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egypton Accreditation council (EGAC) under No. 031706/1A

ABRASION AND IMPACT " LOS ANGELES " TEST

(For coarse aggregate)

ASTM- C 131-96 / AASHTO-T-96

Speed	Rotate at 30 to 33 Rpm For 500 Revolution
Trial Grading	A
Intitial Weight (W1) gms	5000
Weight of tested sample (W2) gms Retained on sieve No.12	3650
% abrasion By Weight Passing from Sieve No.12	27.0%



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



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



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egypton Accreditation council (EGAC) under No. 031706/1A

Report :	492 - 1 - Center
Date :	28/05/2023

CHEMICAL ANALYSIS

General Consultant :	SYSTRA
Consultant :	SPECTRUM
Contractor :	شركة القصى للمقاولات
Project :	Electric express train
Sample :	Prepared Sub Grade
Station :	ST (381 +0.00) ; (382 + 500)
Date of Test :	6-5-2023

Temperature : 24 °C

Humidity : 40%

ANALYSIS	RESULTS	TEST METHOD
CHLORIDE	0.0008%	ASTM D 2974
SULPHATE	0.0027%	
ORGANIG MATTER	NEGATIVE	



LAB DIRECTOR
CH/ Mostafa Asker

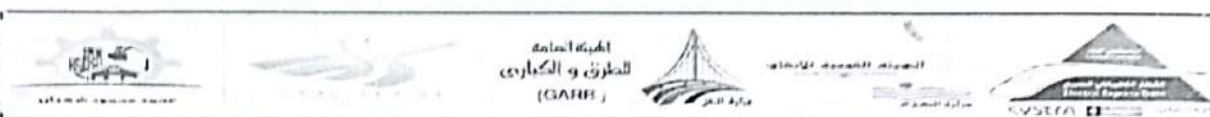
Moustaf

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



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

MATERIAL APPROVAL REQUEST



Contractor Company	MOHAMAED SHABAN (AL KASALY)		Designer Company	(SPECTRUM) Engineering Consulting Office							
Issued by Contractor	Name	Sign	Date/Serial Number		Time						
	Eng :		2023-05-10 GT S.G 02-1		08:00						
Received by GARB CONSULTANT	Eng. Mazen Essamy		MAR	C1	C2	C3	DD	MM	YY	HH	MM
				381	EW	CS	11	05	23	08	00

S1 to S21	D1 to S3	Kp XXX Note
	Station Reference	Depot Reference
For Kilometer point only Start Km is used		
Work Activity		
Sub Element of Activity		

Description of Materials	Fill Layer Total Quantity (10000 m ³)		
Location to be Used	From Station (381+000) to Station (382+500)		
Sample only	Yes	Materials Type	Prepared Sub Grade
Supplier Name	EL BORG	Data Sheet provided	Yes attached
Reference in BoQ		Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP
Prequalification reference		Test Samples Results	
Reference Photos	No/Yes	Other	
Comments by: Eng. Mazen Essamy (SPECTRUM)		Comments by: Eng. Alaa Abd-Allatif (ER)	
1-Quality test Result By Third Party Lab is Approved.		1- All tests were carried-out by third Party lab (COMIBASSAL)	
2-This Sample Representative (5000 m3) only.		2-Results report attached and acceptable with the project specifications.	
		3-Final approval is subject to above mentioned comments.	

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor				A
QA/QC *	Eng. Mazen Essamy			A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif		28-5-2023	Awc

* Designer

** Alignment/Bridges: Culvert only



COMIBASSAL International Controllers Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egypton Accreditation council (EGAC) under No. 031706/1A

SOIL REPORTS FOR ELECTRIC EXPRESS TRAIN PROJECT

Contractor :

شركة القصري للمقاولات

Date of report :

28/05/2023

QC :

1201-2

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



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



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egypton Accreditation council (EGAC) under No. 031706/1A

I- Introduction

General Consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة القصري للمقاولات
Sample : Prepared Sub-grade
Station : St(381+000) to st(382+500)
Date of Test : 11/05/2023
QC : 1201-2

II- Sample description:

Crushed stone and sand

III- Required tests

- 1- Grain size analysis and classification
- 2- Modified compaction (Proctor test)
- 3- Liquid limit, plastic limit and plasticity index
- 4- California bearing ratio (CBR)
- 5- Specific gravity (SG)
- 6- Los Angeles test

IV- Results

1- Grain size analysis and classification	Grain size analysis	As showed in appendix
	Classification	A-1-a
2- Modified compaction (Proctor test)	MDD	2.157
	OMC	6.7%
3- Liquid limit, plastic lim/t and plasticity index	LL	Non plastic
	PL	Non plastic
	PI	Non plastic
4- California bearing ratio (CBR)	CBR ratio	93%
5- Specific gravity (SG), absorption and degradation	S S D	2.577
	Absorption	1.2%
	Degradation	0.2%
6- Los Angeles test	Abrasion ratio	27.8%

LAB DIRECTOR

Eng / Eman kandil



Geotechnical Consultant

Dr. Mohamed Mostafa Badry

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



49 El Horria Ave. Alex, Egypt
Tel: 002 033920176 - 002 033931482
Fax : 002 033900476

Email : internal-inspection@comibassal.com



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egyptian General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egyptian Accreditation council (EGAC) under No. 031706/IA

APPENDIX

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



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



COMIBASSAL International Controllers

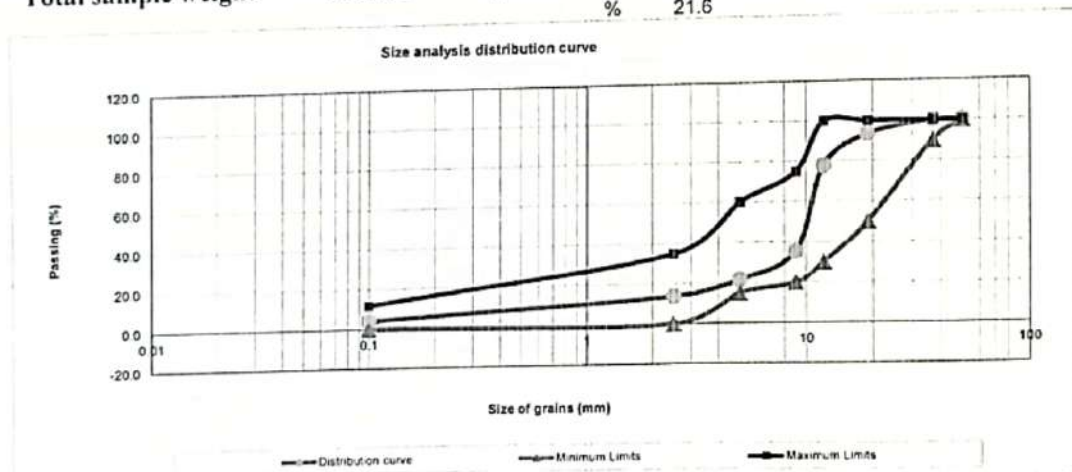
Internal inspection and laboratories sector

Accredited by : Egypt General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egypt Accreditation council (EGAC) under No. 031706/1A

PARTICLE SIZE DISTRIBUTION ANALYSIS ASTM C-136 / AASHTO T27

	WEIGHT RETAINED	CUMULATIVE WEIGHT RETAINED (gm)	CUMULATIVE PERCENTAGE RETAINED (%)	CUMULATIVE PERCENTAGE PASSING (%)	STANDARD SPECIFICATION LIMITS	
5	0.00	0.00	0.00	100.0	100	100
4	0.00	0.00	0.00	100.0	90	100
3	0.00	0.00	0.00	100.0	75	100
1.5	650.00	650.00	6.50	93.5	50	100
3/4	4210.00	6438.00	64.39	35.6	20	75
3/8	1400.00	7838.00	78.40	21.6	15	60
No.10	180.00	180.00	36.00	13.8	0	35
No.200	405.00	405.00	81.00	4.1	0	12

Total sample weight = 9998.00 pass No.3/8= 2160.0 Total fine aggregates weight = 500 gm
% 21.6



Soil classification: A - 1 - a (Non Plastic)



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



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



COMIBASSAL International Controllers

Internal inspection and laboratories sector

Accredited by : Egyption General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egyption Accreditation council (EGAC) under No. 031706/1A

Modified Proctor Test Report

ASTM - D 1557

Mould Number :- 1
Volume of mould = 2199 cm³
Weight of mould = 7045 g
G.S = 2.55 g/cm³

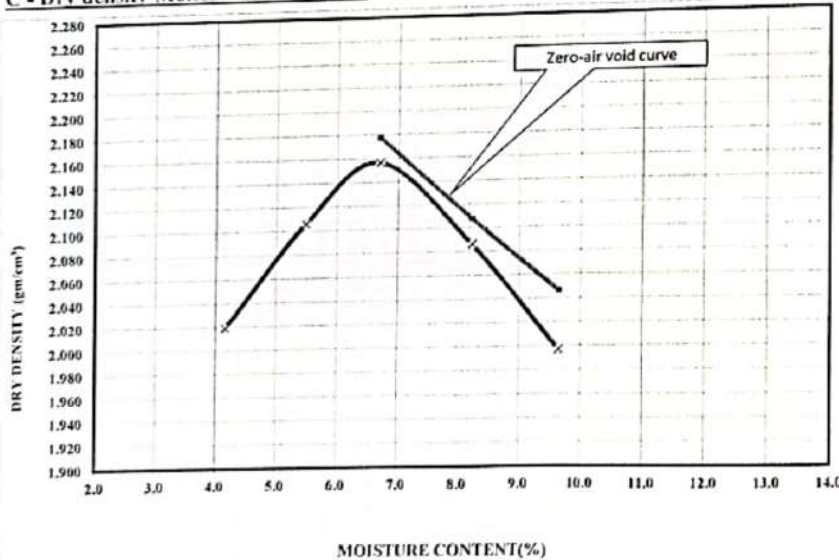
A- Density Calculations :-

	1	2	3	4	5
Weight.of wet soil+mould (g)	11670	11930	12105	12010	11860
Weight.of mould (g)	7045	7045	7045	7045	7045
Weight.of wet soil (g)	4625	4885	5060	4965	4815
Volume of mould (cm ³)	2199	2199	2199	2199	2199
Wet density (g/cm ³)	2.103	2.221	2.301	2.258	2.190
Dry density (g/cm ³)	2.019	2.106	2.157	2.086	1.997
Zero-air Void curve			2.178	2.108	2.046

B- Moisture Calculations :-

	250.0	250.0	250.0	250.0	250.0
Weight.of wet soil (g)	250.0	237.0	234.3	231.0	228.0
Weight.of dry soil (g)	4.2	5.5	6.7	8.2	9.6
moisture content(%)					

C - Dry density-Moisture relationship:-



M.D.D= 2.157 gm/cm³
O.M.C= 6.70 %



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



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



COMIBASSAL International Controllers Internal inspection and laboratories sector

Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egypton Accreditation council (EGAC) under No. 031706/1A

Absorption & Specific Gravity for Aggregate AASHTO T85 - ASTM C127

Weight of sample	2500
Weight of saturated - dry surface sample (B)	2525
Weight of saturated sample in water (C)	1545
Weight of dry sample after heating (A)	2496

Results:-

Saturation surface dry specific gravity = $B / (B-C)$	2.577
Bulk specific gravity = $A / (B-C)$	2.547
Apparent specific gravity = $A / (A-C)$	2.625
Absorption of water = $(B-A)/A*100$	1.2
Degradation of aggregate = $(2500-A)/A*100$	0.2



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



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