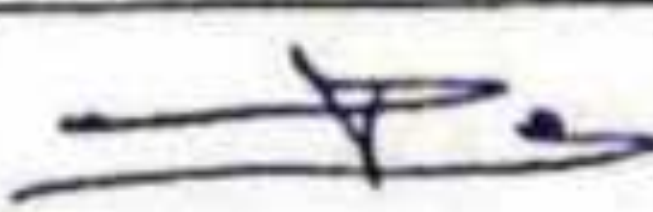
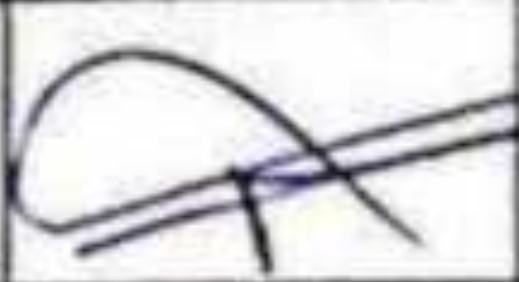
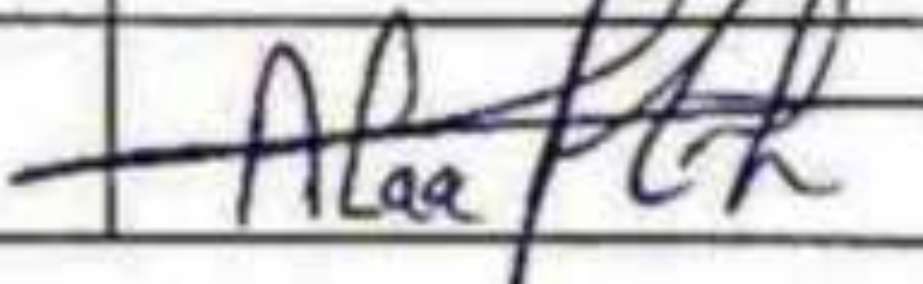


MATERIAL INSPECTION REQUEST			الهيئة العامة للمرور والكباري (GARB)			
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Contractor Company	Al mansuora general contracting		Designer Company	(SPECTRUM) Engineering Consulting Office																
Issued by Contractor	Name	Sign	Date/ Serial Number	Time																
	Eng. Moahmed Ragab		07-08-2023 (M.I.R) (S.B.7)	01:00 PM																
Received by GARB CONSULTANT	Eng. Mazen Essamy		MIR	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>C1</td><td>C2</td><td>C3</td><td>DD</td><td>MM</td><td>YY</td><td>HH</td><td>MM</td> </tr> <tr> <td>371</td><td>EW</td><td>CS</td><td>08</td><td>08</td><td>2023</td><td>3</td><td>00</td> </tr> </table>	C1	C2	C3	DD	MM	YY	HH	MM	371	EW	CS	08	08	2023	3	00
				C1	C2	C3	DD	MM	YY	HH	MM									
371	EW	CS	08	08	2023	3	00													

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	(Prepared subballast 2 Level).		
Location to be Used	St. (371+500) To (372+000)		
MAR Approval No	M.A.R.21	Date	01/05/2023
Supplier Name			
Test Requirement	F.D.T(ASTM D 1556) P.L.T (DIN 18134)	Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP
Reference Photos	Yes / No	Other	Rev UIR-F-(19,18,17,16,15)
Item	Description	Unit	Quantity
1	SAND CONE TEST	NUMBER	50
2			
3			
4			
Comments by: Eng. Mazen Essamy (SPECTRUM)		Comments by: Eng. Alaa Abd-Allatif (ER)	
1-The Compaction Test Result F.D.T. (ASTM D 1556) is Approved. (by third Party Lab.)		1-F.D.T was carried- out (by third Party Lab.) (comibassal international) by material engineer for both contractor and GARB Consultant. 2-Results report attached and acceptable with project specifications. 3-Final approval is subject to above mentioned comments.	

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Ragab		08-08-2023	A
QA/QC *	Eng. Mazen Essamy		15-08-2023	A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif		15-08-2023	AWC

* 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

Report NO. : 1699/01/center
Date : 15/8/2023

Field Detr. Of Density Of Soil In Place Report ASTM - D 1556

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة المنصورة للمقاولات
Project : Electric express train
Sample : Sub ballast (2)
Date of test : 8 - 8 - 2023

Results :

Points NO.	1	2	3	4	5
Description	St (371+510)	St (371+520)	St (371+530)	St (371+540)	St (371+550)
Initial wt. (gm)	11095	10525	10085	9890	9585
Wt. after filling the cone and the hole (gm)	7890	6995	6890	6820	6315
Wt. of wet Sample (gm)	2675	3220	2635	2565	2820
Wt. of sand filling hole (gm)	1745	2070	1735	1610	1810
Wt. of sand filling cone (gm)	1460	1460	1460	1460	1460
Density of standard sand (Ys) (gm/cm ³)	1.50				
Volume of hole (cm ³)	1163.33	1380.00	1157	1073.3	1206.7
Wt. of wet Sample (gm)	200				
Wt. of sample after drying (gm)	191.4	190.5	192	190.5	190.3
Wet Density (Ywet) (gm/cm ³)	2.299	2.333	2.278	2.390	2.337
Moisture ratio (%)	4.5	5.0	4.3	5.0	5.1
Dry Density (Ydry) (gm/cm ³)	2.201	2.223	2.184	2.276	2.224
(Ymax.dry) (gm/cm ³)	2.190				
Compaction Ratio (%)	100	101	100	104	102

Lab director

Eman

Eng : Eman. E. Kandil

Geotechnical consultant

For Dr. M.

Dr. Mohamed Mostafa Badry



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Internal inspection and laboratories sector

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

Report NO. : 1699/02/center
Date : 15/8/2023

Field Detr. Of Density Of Soil In Place Report ASTM - D 1556

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة المنصورة للمقاولات
Project : Electric express train
Sample : Sub ballast (2)
Date of test : 8 - 8 - 2023

Results :

Points NO.	6	7	8	9	10
Description	St (371+560)	St (371+570)	St (371+580)	St (371+590)	St (371+600)
Initial wt. (gm)	6315	8855	7570	9720	6560
Wt. after filling the cone and the hole (gm)	3135	5470	4395	6600	3400
Wt. of wet Sample (gm)	2640	2935	2625	2570	2625
Wt. of sand filling hole (gm)	1720	1925	1715	1660	1700
Wt. of sand filling cone (gm)	1460	1460	1460	1460	1460
Density of standered sand (Ys) (gm/cm ³)	1.50				
Volume of hole (cm ³)	1146.67	1283.33	1143	1106.7	1133.3
Wt. of wet Sample (gm)	200				
Wt. of sample after drying (gm)	191.4	191.5	191	191.8	190.6
Wet Density (Ywet) (gm/cm ³)	2.302	2.287	2.296	2.322	2.316
Moisture ratio (%)	4.5	4.4	5.0	4.3	4.9
Dry Density (Ydry) (gm/cm ³)	2.203	2.190	2.187	2.227	2.207
(Ymax.dry) (gm/cm ³)	2.190				
Compaction Ratio (%)	101	100	100	102	101

Lab director

Eman
Eng : Eman. E. Kandil



Geotechnical consultant

For. Dr. M.
Dr. Mohamed Mostafa Badry

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Report NO. : 1699/03/center
Date : 15/8/2023

Field Detr. Of Density Of Soil In Place Report ASTM - D 1556

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة المنصورة للمقاولات
Project : Electric express train
Sample : Sub ballast (2)
Date of test : 8 - 8 - 2023

Results :

Points NO.	11	12	13	14	15
Description	St (371+610)	St (371+620)	St (371+630)	St (371+640)	St (371+650)
Initial wt. (gm)	10980	7860	9835	6960	8840
Wt. after filling the cone and the hole (gm)	7780	4635	6660	3855	5670
Wt. of wet Sample (gm)	2675	2710	2645	2560	2615
Wt. of sand filling hole (gm)	1740	1765	1715	1645	1710
Wt. of sand filling cone (gm)	1460	1460	1460	1460	1460
Density of standard sand (Ys) (gm/cm ³)	1.50				
Volume of hole (cm ³)	1160.00	1176.67	1143	1096.7	1140.0
Wt. of wet Sample (gm)	200				
Wt. of sample after drying (gm)	190.2	190.5	191	191.8	191.0
Wet Density (Ywet) (gm/cm ³)	2.306	2.303	2.313	2.334	2.294
Moisture ratio (%)	5.2	5.0	4.5	4.3	4.7
Dry Density (Ydry) (gm/cm ³)	2.193	2.194	2.214	2.239	2.191
(Ymax dry) (gm/cm ³)	2.190				
Compaction Ratio (%)	100	100	101	102	100

Lab director

Eman
Eng : Eman. E. Kandil

Geotechnical consultant

For. Dr. M.
Dr. Mohamed Mostafa Badry



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Report NO. : 1699/04/center
Date : 15/8/2023

Field Detr. Of Density Of Soil In Place Report ASTM - D 1556

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة المنصورة للمقاولات
Project : Electric express train
Sample : Sub ballast (2)
Date of test : 8 - 8 - 2023

Results :

Points NO.	16	17	18	19	20
Description	St (371+660)	St (371+670)	St (371+680)	St (371+690)	St (371+700)
Intial wt. (gm)	5770	10765	7660	9615	6590
Wt. after filling the cone and the hole (gm)	2525	7560	4400	6490	3315
Wt. of wet Sample (gm)	2830	2725	2800	2555	2880
Wt. of sand filling hole (gm)	1785	1745	1800	1665	1815
Wt. of sand filling cone (gm)	1460	1460	1460	1460	1460
Density of standered sand (Ys) (gm/cm ³)	1.50				
Volume of hole (cm ³)	1190.00	1163.33	1200	1110.0	1210.0
Wt. of wet Sample (gm)	200				
Wt. of sample after drying (gm)	190.2	191.5	191	191.7	190.6
Wet Density (Ywet) (gm/cm ³)	2.378	2.342	2.333	2.302	2.380
Moisture ratio (%)	5.2	4.4	4.9	4.3	4.9
Dry Density (Ydry) (gm/cm ³)	2.262	2.243	2.224	2.206	2.268
(Ymax.dry) (gm/cm ³)	2.190				
Compaction Ratio (%)	103	102	102	101	104

Lab director

Eman.
Eng : Eman. E. Kandil

Geotechnical consultant

Dr. M.
Dr. Mohamed Mostafa Badry



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COMIBASSAL International Controllers

Internal inspection and laboratories sector

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Accredited by : Egypton Accreditation council (EGAC) under No. 031708/1A

Report NO. : 1699/05/center
Date : 15/8/2023

Field Detr. Of Density Of Soil In Place Report ASTM - D 1556

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة المنصورة للمقاولات
Project : Electric express train
Sample : Sub ballast (2)
Date of test : 8 - 8 - 2023

Results :

Points NO.	21	22	23	24	25
Description	St (371+710)	St (371+720)	St (371+730)	St (371+740)	St (371+750)
Initial wt. (gm)	10780	7785	9310	6190	7850
Wt. after filling the cone and the hole (gm)	7675	4670	6190	3100	4740
Wt. of wet Sample (gm)	2530	2510	2500	2500	2480
Wt. of sand filling hole (gm)	1587	1597	1602	1572	1592
Wt. of sand filling cone (gm)	1518	1518	1518	1518	1518
Density of standard sand (Ys) (gm/cm ³)	1.50				
Volume of hole (cm ³)	1058.00	1064.67	1068	1048.0	1061.3
Wt. of wet Sample (gm)	200				
Wt. of sample after drying (gm)	191.4	190.6	192	190.6	191.8
Wet Density (Ywet) (gm/cm ³)	2.391	2.358	2.341	2.385	2.337
Moisture ratio (%)	4.5	4.9	4.4	4.9	4.3
Dry Density (Ydry) (gm/cm ³)	2.288	2.247	2.241	2.273	2.241
(Ymax.dry) (gm/cm ³)	2.190				
Compaction Ratio (%)	104	103	102	104	102

Lab director

Eman.
Eng : Eman. E. Kandil

Geotechnical consultant

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Internal inspection and laboratories sector

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

Report NO. : 1699/06/center
Date : 15/8/2023

Field Detr. Of Density Of Soil In Place Report ASTM - D 1556

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة المنصورة للمقاولات
Project : Electric express train
Sample : Sub ballast (2)
Date of test : 8 - 8 - 2023

Results :

Points NO.	26	27	28	29	30
Description	St (371+760)	St (371+770)	St (371+780)	St (371+790)	St (371+800)
Initial wt. (gm)	6520	6400	10610	7490	8330
Wt. after filling the cone and the hole (gm)	3400	3280	7490	4380	5180
Wt. of wet Sample (gm)	2450	2470	2500	2520	2560
Wt. of sand filling hole (gm)	1602	1602	1602	1592	1632
Wt. of sand filling cone (gm)	1518	1518	1518	1518	1518
Density of standard sand (Ys) (gm/cm ³)	1.50				
Volume of hole (cm ³)	1068.00	1068.00	1068	1061.3	1088.0
Wt. of wet Sample (gm)	200				
Wt. of sample after drying (gm)	191.4	190.6	192	190.6	190.3
Wet Density (Ywet) (gm/cm ³)	2.294	2.313	2.341	2.374	2.353
Moisture ratio (%)	4.5	4.9	4.4	4.9	5.1
Dry Density (Ydry) (gm/cm ³)	2.195	2.204	2.241	2.263	2.239
(Ymax.dry) (gm/cm ³)	2.190				
Compaction Ratio (%)	100	101	102	103	102

Lab director

Eman.
Eng : Eman. E. Kandil

Geotechnical consultant

For. DR. M.
Dr. Mohamed Mostafa Badry



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Internal inspection and laboratories sector

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Report NO. : 1699/07/center
Date : 15/8/2023

Field Detr. Of Density Of Soil In Place Report ASTM - D 1556

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة المنصورة للمقاولات
Project : Electric express train
Sample : Sub ballast (2)
Date of test : 8 - 8 - 2023

Results :

Points NO.	31	32	33	34	35
Description	St (371+810)	St (371+820)	St (371+830)	St (371+840)	St (371+850)
Initial wt. (gm)	10490	7310	8600	7810	6700
Wt. after filling the cone and the hole (gm)	7330	4170	5450	4660	3570
Wt. of wet Sample (gm)	2520	2490	2505	2580	2470
Wt. of sand filling hole (gm)	1640	1620	1630	1630	1610
Wt. of sand filling cone (gm)	1520	1520	1520	1520	1520
Density of standered sand (Ys) (gm/cm ³)	1.50				
Volume of hole (cm ³)	1093.33	1080.00	1087	1086.7	1073.3
Wt. of wet Sample (gm)	200				
Wt. of sample after drying (gm)	190.2	191.4	191	191.8	190.2
Wet Density (Ywet) (gm/cm ³)	2.305	2.306	2.305	2.374	2.301
Moisture ratio (%)	5.2	4.5	4.9	4.3	5.2
Dry Density (Ydry) (gm/cm ³)	2.192	2.206	2.197	2.277	2.188
(Ymax.dry) (gm/cm ³)	2.190				
Compaction Ratio (%)	100	101	100	104	100

Lab director

Eman
Eng : Eman. E. Kandil

Geotechnical consultant

For. DR. M.
Dr. Mohamed Mostafa Badry



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Report NO. : 1699/08/center
Date : 15/8/2023

Field Detr. Of Density Of Soil In Place Report

ASTM - D 1556

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة المنصورة للمقاولات
Project : Electric express train
Sample : Sub ballast (2)
Date of test : 8 - 8 - 2023

Results :

Points NO.	36	37	38	39	40
Description	St (371+860)	St (371+870)	St (371+880)	St (371+890)	St (371+900)
Initial wt. (gm)	9390	6210	10620	7490	6550
Wt. after filling the cone and the hole (gm)	6230	3110	7490	4350	3390
Wt. of wet Sample (gm)	2500	2460	2530	2490	2510
Wt. of sand filling hole (gm)	1640	1580	1610	1620	1640
Wt. of sand filling cone (gm)	1520	1520	1520	1520	1520
Density of standard sand (Ys) (gm/cm ³)	1.50				
Volume of hole (cm ³)	1093.33	1053.33	1073	1080.0	1093.3
Wt. of wet Sample (gm)	200				
Wt. of sample after drying (gm)	191.4	190.5	191	191.4	191.5
Wet Density (Ywet) (gm/cm ³)	2.287	2.335	2.357	2.306	2.296
Moisture ratio (%)	4.5	5.0	4.8	4.5	4.4
Dry Density (Ydry) (gm/cm ³)	2.188	2.225	2.249	2.206	2.198
(Ymax.dry) (gm/cm ³)	2.190				
Compaction Ratio (%)	100	102	103	101	100

Lab director

Eman

Eng : Eman. E. Kandil



Geotechnical consultant

For Dr. M.

Dr. Mohamed Mostafa Badry

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

Report NO. : 1699/09/center
Date : 15/8/2023

Field Detr. Of Density Of Soil In Place Report ASTM - D 1556

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة المنصورة للمقاولات
Project : Electric express train
Sample : Sub ballast (2)
Date of test : 8 - 8 - 2023

Results :

Points NO.	41	42	43	44	45
Description	St (371+910)	St (371+920)	St (371+930)	St (371+940)	St (371+950)
Initial wt. (gm)	10960	7815	9500	6385	7430
Wt. after filling the cone and the hole (gm)	7740	4590	6245	3150	4305
Wt. of wet Sample (gm)	2600	2680	2710	2650	2550
Wt. of sand filling hole (gm)	1700	1705	1735	1715	1605
Wt. of sand filling cone (gm)	1520	1520	1520	1520	1520
Density of standard sand (γ_s) (gm/cm ³)	1.50				
Volume of hole (cm ³)	1133.33	1136.67	1157	1143.3	1070.0
Wt. of wet Sample (gm)	200				
Wt. of sample after drying (gm)	190.4	191.5	191	191.7	190.5
Wet Density (γ_{wet}) (gm/cm ³)	2.294	2.358	2.343	2.318	2.383
Moisture ratio (%)	5.0	4.4	4.9	4.3	5.0
Dry Density (γ_{dry}) (gm/cm ³)	2.184	2.258	2.233	2.222	2.270
($\gamma_{max, dry}$) (gm/cm ³)	2.190				
Compaction Ratio (%)	100	103	102	101	104

Lab director

Eman
Eng : Eman. E. Kandil



Geotechnical consultant

For. Dr. M.
Dr. Mohamed Mostafa Badry

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Internal inspection and laboratories sector

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

Report NO. : 1699/10/center
Date : 15/8/2023

Field Detr. Of Density Of Soil In Place Report ASTM - D 1556

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة المنصورة للمقاولات
Project : Electric express train
Sample : Sub ballast (2)
Date of test : 8 - 8 - 2023

Results :

Points NO.	46	47	48	49	50
Description	St (371+960)	St (371+970)	St (371+980)	St (371+990)	St (372+000)
Intial wt. (gm)	6710	10230	7120	9400	6260
Wt. after filling the cone and the hole (gm)	3530	7020	4000	6390	3100
Wt. of wet Sample (gm)	2570	2605	2500	2270	2540
Wt. of sand filling hole (gm)	1660	1690	1600	1490	1640
Wt. of sand filling cone (gm)	1520	1520	1520	1520	1520
Density of standered sand (Ys) (gm/cm ³)	1.50				
Volume of hole (cm ³)	1106.67	1126.67	1067	993.3	1093.3
Wt. of wet Sample (gm)	200				
Wt. of sample after drying (gm)	191.4	190.5	192	191.9	190.7
Wet Density (Ywet) (gm/cm ³)	2.322	2.312	2.344	2.285	2.323
Moisture ratio (%)	4.5	5.0	4.4	4.2	4.9
Dry Density (Ydry) (gm/cm ³)	2.222	2.202	2.244	2.193	2.215
(Ymax.dry) (gm/cm ³)	2.190				
Compaction Ratio (%)	101	101	102	100	101

Lab director

Eman
Eng : Eman. E. Kandil



Geotechnical consultant

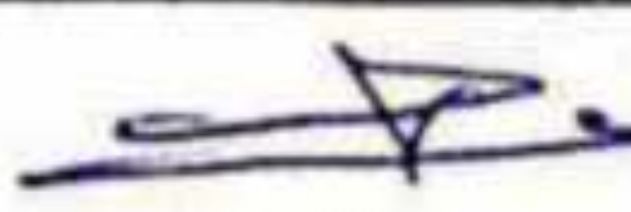
For. Dr. M.
Dr. Mohamed Mostafa Badry

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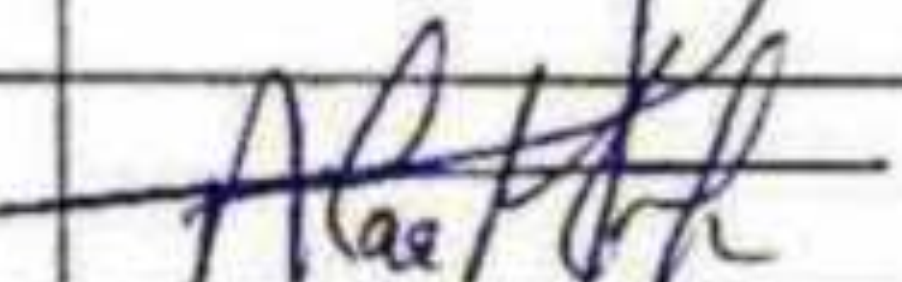
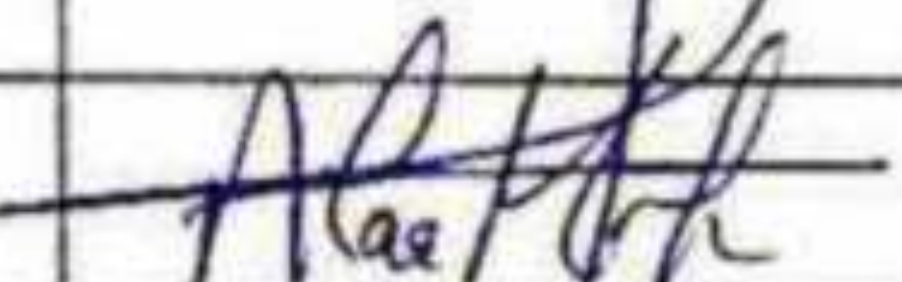
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MATERIAL (INSPECTION) REQUEST	    				

Contractor Company	Al mansuora general contracting		Designer Company	(SPECTRUM) Engineering Consulting Office							
Issued by Contractor	Name	Sign	Date/ Serial Number	Time							
	Eng. Moahmed Ragab		08-08-2023 (M.I.R) (S.B. 8)	01:00 PM							
Received by GARB CONSULTANT	Eng. Mazen Essamy		MIR	G1	C2	C3	DD	MM	YY	HH	MM
				372	EW	CS	09	08	2023	3	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		
CODE - 2	Sub Element of Activity		
CODE - 3			

Description of Materials	(Prepared subballast 2 Level).				
Location to be Used	St. (372+000) To (372+500)				
MAR Approval No	M.A.R.21	Date	01/05/2023		
Supplier Name					
Test Requirement	F.D.T(ASTM D 1556) P.L.T (DIN 18134)	Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP		
Reference Photos	Yes / No	Other	Rev UIR-F-(14,13,12,11,10))		
Item	Description	Unit	Quantity	Arrival Date	Note
1	SAND CONE TEST	NUMBER	50	15/08/2023	
2					
3					
4					
Comments by: Eng. Mazen Essamy (SPECTRUM)			Comments by: Eng. Alaa Abd-Allatif (ER)		
1-The Compaction Test Result F.D.T. (ASTM D 1556) is Approved. (by third Party Lab.)			1-F.D.T was carried- out (by third Party Lab.) (comibassal international) by material engineer for both contractor and GARB Consultant. 2-Results report attached and acceptable with project specifications. 3-Final approval is subject to above mentioned comments.		

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Ragab		09-08-2023	A
QA/QC *	Eng. Mazen Essamy		15-8-2023	A
GARB**	Eng. Mohammed Fayad			
Employers- Representative	Eng. Alaa Abd-Allatif		15-8-2023	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

Report NO. : 1700/01/center
Date : 15/8/2023

Field Detr. Of Density Of Soil In Place Report ASTM - D 1556

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة المنصورة للمقاولات
Project : Electric express train
Sample : Sub ballast (2)
Date of test : 9 - 8 - 2023

Results :

Points NO.	1	2	3	4	5
Description	St (372+010)	St (372+020)	St (372+030)	St (372+040)	St (372+050)
Initial wt. (gm)	10870	7625	9315	6000	7975
Wt. after filling the cone and the hole (gm)	7625	4460	6120	2775	4740
Wt. of wet Sample (gm)	2600	2520	2530	2585	2600
Wt. of sand filling hole (gm)	1708	1628	1658	1688	1698
Wt. of sand filling cone (gm)	1537	1537	1537	1537	1537
Density of standard sand (γ_s) (gm/cm ³)	1.50				
Volume of hole (cm ³)	1138.67	1085.33	1105	1125.3	1132.0
Wt. of wet Sample (gm)	200				
Wt. of sample after drying (gm)	191.2	190.2	191	190.6	191.7
Wet Density (γ_{wet}) (gm/cm ³)	2.283	2.322	2.289	2.297	2.297
Moisture ratio (%)	4.6	5.2	4.5	4.9	4.3
Dry Density (γ_{dry}) (gm/cm ³)	2.183	2.208	2.190	2.189	2.202
($\gamma_{max, dry}$) (gm/cm ³)	2.190				
Compaction Ratio (%)	100	101	100	100	101

Lab director

Eman
Eng : Eman. E. Kandil

Geotechnical consultant

For. Dr. M.
Dr. Mohamed Mostafa Badry



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Report NO. : 1700/02/center
Date : 15/8/2023

Field Detr. Of Density Of Soil In Place Report ASTM - D 1556

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة المنصورة للمقاولات
Project : Electric express train
Sample : Sub ballast (2)
Date of test : 9 - 8 - 2023

Results :

Points NO.	6	7	8	9	10
Description	St (372+060)	St (372+070)	St (372+080)	St (372+090)	St (372+100)
Initial wt. (gm)	6990	6200	10970	7960	9260
Wt. after filling the cone and the hole (gm)	3820	2960	7760	4790	5990
Wt. of wet Sample (gm)	2530	2600	2555	2520	2650
Wt. of sand filling hole (gm)	1633	1703	1673	1633	1733
Wt. of sand filling cone (gm)	1537	1537	1537	1537	1537
Density of standard sand (Ys) (gm/cm ³)	1.50				
Volume of hole (cm ³)	1088.67	1135.33	1115	1088.7	1155.3
Wt. of wet Sample (gm)	200				
Wt. of sample after drying (gm)	191.4	191	191	190.6	191.3
Wet Density (Ywet) (gm/cm ³)	2.324	2.290	2.291	2.315	2.294
Moisture ratio (%)	4.5	4.7	5.0	4.9	4.5
Dry Density (Ydry) (gm/cm ³)	2.224	2.187	2.182	2.206	2.194
(Ymax.dry) (gm/cm ³)	2.190				
Compaction Ratio (%)	102	100	100	101	100

Lab director

Eman.
Eng : Eman. E. Kandil

Geotechnical consultant

For. Dr. H.
Dr. Mohamed Mostafa Badry



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Report NO. : 1700/03/center
Date : 15/8/2023

Field Detr. Of Density Of Soil In Place Report ASTM - D 1556

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة المنصورة للمقاولات
Project : Electric express train
Sample : Sub ballast (2)
Date of test : 9 - 8 - 2023

Results :

Points NO.	11	12	13	14	15
Description	St (372+110)	St (372+120)	St (372+130)	St (372+140)	St (372+150)
Initial wt. (gm)	8130	7300	6500	10530	7320
Wt. after filling the cone and the hole (gm)	4890	4110	3350	7320	4140
Wt. of wet Sample (gm)	2590	2525	2520	2560	2555
Wt. of sand filling hole (gm)	1703	1653	1613	1673	1643
Wt. of sand filling cone (gm)	1537	1537	1537	1537	1537
Density of standered sand (Ys) (gm/cm³)	1.50				
Volume of hole (cm³)	1135.33	1102.00	1075	1115.3	1095.3
Wt. of wet Sample (gm)	200				
Wt. of sample after drying (gm)	191.4	190.5	192	191.4	190.6
Wet Density (Ywet) (gm/cm³)	2.281	2.291	2.343	2.295	2.333
Moisture ratio (%)	4.5	5.0	4.4	4.5	4.9
Dry Density (Ydry) (gm/cm³)	2.183	2.182	2.244	2.197	2.223
(Ymax.dry) (gm/cm³)	2.190				
Compaction Ratio (%)	100	100	102	100	102

Lab director

Eman

Eng : Eman. E. Kandil

Geotechnical consultant

For. Dr. M.

Dr. Mohamed Mostafa Badry



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Report NO. : 1700/04/center
Date : 15/8/2023

Field Deter. Of Density Of Soil In Place Report ASTM - D 1556

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة المنصورة للمقاولات
Project : Electric express train
Sample : Sub ballast (2)
Date of test : 9 - 8 - 2023

Results :

Points NO.	16	17	18	19	20
Description	St (372+160)	St (372+170)	St (372+180)	St (372+190)	St (372+200)
Initial wt. (gm)	10650	7345	8710	8950	9300
Wt. after filling the cone and the hole (gm)	7445	4210	5580	5800	6125
Wt. of wet Sample (gm)	2590	2500	2495	2510	2530
Wt. of sand filling hole (gm)	1668	1598	1593	1613	1638
Wt. of sand filling cone (gm)	1537	1537	1537	1537	1537
Density of standard sand (Ys) (gm/cm ³)	1.50				
Volume of hole (cm ³)	1112.00	1065.33	1062	1075.3	1092.0
Wt. of wet Sample (gm)	200				
Wt. of sample after drying (gm)	190.6	191.4	190	191.5	190.4
Wet Density (Ywet) (gm/cm ³)	2.329	2.347	2.349	2.334	2.317
Moisture ratio (%)	4.9	4.5	5.2	4.4	5.0
Dry Density (Ydry) (gm/cm ³)	2.220	2.246	2.234	2.235	2.206
(Ymax.dry) (gm/cm ³)	2.190				
Compaction Ratio (%)	101	103	102	102	101

Lab director

Eman

Eng : Eman. E. Kandil

Geotechnical consultant

For. Dr. H.

Dr. Mohamed Mostafa Badry



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Report NO. : 1700/05/center
Date : 15/8/2023

Field Detr. Of Density Of Soil In Place Report ASTM - D 1556

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة المنصورة للمقاولات
Project : Electric express train
Sample : Sub ballast (2)
Date of test : 9 - 8 - 2023

Results :

Points NO.	21	22	23	24	25
Description	St (372+210)	St (372+220)	St (372+230)	St (372+240)	St (372+250)
Initial wt. (gm)	10620	7440	9730	6530	8800
Wt. after filling the cone and the hole (gm)	7460	4320	6530	3390	5630
Wt. of wet Sample (gm)	2505	2500	2600	2480	2510
Wt. of sand filling hole (gm)	1642	1602	1682	1622	1652
Wt. of sand filling cone (gm)	1518	1518	1518	1518	1518
Density of standard sand (Ys) (gm/cm ³)	1.50				
Volume of hole (cm ³)	1094.67	1068.00	1121	1081.3	1101.3
Wt. of wet Sample (gm)	200				
Wt. of sample after drying (gm)	191.4	190.5	191	192.0	191.8
Wet Density (Ywet) (gm/cm ³)	2.288	2.341	2.319	2.293	2.279
Moisture ratio (%)	4.5	5.0	4.5	4.2	4.3
Dry Density (Ydry) (gm/cm ³)	2.190	2.230	2.219	2.202	2.186
(Ymax.dry) (gm/cm ³)	2.190				
Compaction Ratio (%)	100	102	101	101	100

Lab director

Eman

Eng : Eman. E. Kandil

Geotechnical consultant

For. Dr. M-

Dr. Mohamed Mostafa Badry



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Report NO. : 1700/06/center
Date : 15/8/2023

Field Detr. Of Density Of Soil In Place Report ASTM - D 1556

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة المنصورة للمقاولات
Project : Electric express train
Sample : Sub ballast (2)
Date of test : 9 - 8 - 2023

Results :

Points NO.	26	27	28	29	30
Description	St (372+260)	St (372+270)	St (372+280)	St (372+290)	St (372+300)
Initial wt. (gm)	10590	7370	9620	6430	7350
Wt. after filling the cone and the hole (gm)	7400	4190	6470	3310	4160
Wt. of wet Sample (gm)	2570	2550	2500	2495	2580
Wt. of sand filling hole (gm)	1672	1662	1632	1602	1672
Wt. of sand filling cone (gm)	1518	1518	1518	1518	1518
Density of standered sand (Ys) (gm/cm ³)	1.50				
Volume of hole (cm ³)	1114.67	1108.00	1088	1068.0	1114.7
Wt. of wet Sample (gm)	200				
Wt. of sample after drying (gm)	190.2	191.4	191	191.5	190.6
Wet Density (Ywet) (gm/cm ³)	2.306	2.301	2.298	2.336	2.315
Moisture ratio (%)	5.2	4.5	5.0	4.4	4.9
Dry Density (Ydry) (gm/cm ³)	2.193	2.202	2.189	2.237	2.206
(Ymax.dry) (gm/cm ³)	2.190				
Compaction Ratio (%)	100	101	100	102	101

Lab director

Eman

Eng : Eman. E. Kandil

Geotechnical consultant

For Dr. H.

Dr. Mohamed Mostafa Badry



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Report NO. : 1700/07/center
Date : 15/8/2023

Field Detr. Of Density Of Soil In Place Report

ASTM - D 1556

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة المنصورة للمقاولات
Project : Electric express train
Sample : Sub ballast (2)
Date of test : 9 - 8 - 2023

Results :

Points NO.	31	32	33	34	35
Description	St (372+310)	St (372+320)	St (372+330)	St (372+340)	St (372+350)
Initial wt. (gm)	10970	7740	9020	8260	7550
Wt. after filling the cone and the hole (gm)	7790	4610	5850	5100	4360
Wt. of wet Sample (gm)	2570	2520	2540	2600	2555
Wt. of sand filling hole (gm)	1662	1612	1652	1642	1672
Wt. of sand filling cone (gm)	1518	1518	1518	1518	1518
Density of standard sand (Ys) (gm/cm ³)	1.50				
Volume of hole (cm ³)	1108.00	1074.67	1101	1094.7	1114.7
Wt. of wet Sample (gm)	200				
Wt. of sample after drying (gm)	191.4	190.4	192	190.5	191.8
Wet Density (Ywet) (gm/cm ³)	2.319	2.345	2.306	2.375	2.292
Moisture ratio (%)	4.5	5.0	4.4	5.0	4.3
Dry Density (Ydry) (gm/cm ³)	2.220	2.232	2.209	2.262	2.198
(Ymax.dry) (gm/cm ³)	2.190				
Compaction Ratio (%)	101	102	101	103	100

Lab director

Eman

Eng : Eman. E. Kandil



Geotechnical consultant

For Dr. M.

Dr. Mohamed Mostafa Badry

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Report NO. : 1700/08/center
Date : 15/8/2023

Field Detr. Of Density Of Soil In Place Report ASTM - D 1556

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة المنصورة للمقاولات
Project : Electric express train
Sample : Sub ballast (2)
Date of test : 9 - 8 - 2023

Results :

Points NO.	36	37	38	39	40
Description	St (372+360)	St (372+370)	St (372+380)	St (372+390)	St (372+400)
Initial wt. (gm)	10790	7560	6700	8410	6350
Wt. after filling the cone and the hole (gm)	7660	4430	3540	5260	3190
Wt. of wet Sample (gm)	2490	2500	2505	2480	2530
Wt. of sand filling hole (gm)	1612	1612	1642	1632	1642
Wt. of sand filling cone (gm)	1518	1518	1518	1518	1518
Density of standered sand (Ys) (gm/cm ³)	1.50				
Volume of hole (cm ³)	1074.67	1074.67	1095	1088.0	1094.7
Wt. of wet Sample (gm)	200				
Wt. of sample after drying (gm)	190.2	191.4	191	191.4	190.8
Wet Density (Ywet) (gm/cm ³)	2.317	2.326	2.288	2.279	2.311
Moisture ratio (%)	5.2	4.5	4.9	4.5	4.8
Dry Density (Ydry) (gm/cm ³)	2.203	2.226	2.181	2.181	2.205
(Ymax.dry) (gm/cm ³)	2.190				
Compaction Ratio (%)	101	102	100	100	101

Lab director

Eman

Eng : Eman. E. Kandil

Geotechnical consultant

For. Dr. H -

Dr. Mohamed Mostafa Badry



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Report NO. : 1700/09/center
Date : 15/8/2023

Field Detr. Of Density Of Soil In Place Report ASTM - D 1556

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة المنصورة للمقاولات
Project : Electric express train
Sample : Sub ballast (2)
Date of test : 9 - 8 - 2023

Results :

Points NO.	41	42	43	44	45
Description	St (372+410)	St (372+420)	St (372+430)	St (372+440)	St (372+450)
Intial wt. (gm)	10240	7090	8700	9610	6400
Wt.after filling the cone and the hole (gm)	7150	4020	5595	6520	3310
Wt. of wet Sample (gm)	2510	2530	2560	2490	2495
Wt. of sand filling hole (gm)	1630	1610	1645	1630	1630
Wt. of sand filling cone (gm)	1460	1460	1460	1460	1460
Density of standered sand (Ys) (gm/cm ³)	1.50				
Volume of hole (cm ³)	1086.67	1073.33	1097	1086.7	1086.7
Wt. of wet Sample (gm)	200				
Wt. of sample after drying (gm)	191.4	190.5	191	190.6	191.2
Wet Density (Ywet) (gm/cm ³)	2.310	2.357	2.334	2.291	2.296
Moisture ratio (%)	4.5	5.0	4.5	4.9	4.6
Dry Density (Ydry) (gm/cm ³)	2.210	2.245	2.234	2.184	2.195
(Ymax.dry) (gm/cm ³)	2.190				
Compaction Ratio (%)	101	103	102	100	100

Lab director

Eman

Eng : Eman. E. Kandil

Geotechnical consultant

For Dr. M -

Dr. Mohamed Mostafa Badry



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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. : 1700/10/center
Date : 15/8/2023

Field Detr. Of Density Of Soil In Place Report ASTM - D 1556

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة المنصورة للمقاولات
Project : Electric express train
Sample : Sub ballast (2)
Date of test : 9 - 8 - 2023

Results :

Points NO.	46	47	48	49	50
Description	St (372+460)	St (372+470)	St (372+480)	St (372+490)	St (372+500)
Intial wt. (gm)	10800	7520	7855	9705	6530
Wt.after filling the cone and the hole (gm)	7640	4410	4700	6630	3405
Wt. of wet Sample (gm)	2600	2550	2640	2500	2550
Wt. of sand filling hole (gm)	1700	1650	1695	1615	1665
Wt. of sand filling cone (gm)	1460	1460	1460	1460	1460
Density of standered sand (Ys) (gm/cm ³)	1.50				
Volume of hole (cm ³)	1133.33	1100.00	1130	1076.7	1110.0
Wt. of wet Sample (gm)	200				
Wt. of sample after drying (gm)	190.4	191.5	190	191.4	190.6
Wet Density (Ywet) (gm/cm ³)	2.294	2.318	2.336	2.322	2.297
Moisture ratio (%)	5.0	4.4	5.1	4.5	4.9
Dry Density (Ydry) (gm/cm ³)	2.184	2.220	2.223	2.222	2.189
(Ymax.dry) (gm/cm ³)	2.190				
Compaction Ratio (%)	100	101	102	101	100

Lab director

Eman
Eng : Eman. E. Kandil

Geotechnical consultant

For. Dr. M.
Dr. Mohamed Mostafa Badry



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MATERIAL INSPECTION REQUEST					
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Contractor Company	Al mansuora general contracting			Designer Company	(SPECTRUM) Engineering Consulting Office						
Issued by Contractor	Name	Sign	Date/ Serial Number	Time							
	Eng. Moahmed Ragab		12-08-2023 (M.I.R) (5.8.9)	01:00 PM							
Received by GARB CONSULTANT	Eng. Mazen Essamy		MIR	C1	C2	C3	DD	MM	YY	HH	M
				372	EW	CS	13	08	2023	3	0

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	(Prepared subballast 2 Level).				
Location to be Used	St. (372+500) To (373+000)				
MAR Approval No	M.A.R.21		Date	01/05/2023	
Supplier Name					
Test Requirement	F.D.T(ASTM D 1556) P.L.T (DIN 18134)	Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP		
Reference Photos	Yes / No	Other	Rev UIR-F-(7,8,9)		
Item	Description	Unit	Quantity	Arrival Date	Note
1	SAND CONE TEST	NUMBER	50	16/08/2023	
2					
3					
4					

Comments by: Eng. Mazen Essamy (SPECTRUM) 1-The Compaction Test Result F.D.T. (ASTM D 1556) is Approved. (by third Party Lab.)	Comments by: Eng. Alaa Abd-Allatif (ER) 1-F.D.T was carried- out (by third Party Lab.) (comibassal international) by material engineer for both contractor and GARB Consultant. 2-Results report attached and acceptable with project specifications. 3-Final approval is subject to above mentioned comments.
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APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Ragab		13-08-2023	A
QA/QC *	Eng. Mazen Essamy		16-08-2023	A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif		16-08-2023	AWC

* Designer

** Alignment / Bridges: Culvert Only



COMIBASSAL International Controllers

Internal inspection and laboratories sector

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Accredited by : Egypton Accreditation council (EGAC) under No. 031708/1A

Report NO. : 1727/1/center
Date : 16/8/2023

Field Deter. Of Density Of Soil In Place Report ASTM - D 1556

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة المنصورة للمقاولات
Project : Electric express train
Sample : Sub ballast (2)
Date of test : 13 - 8 - 2023

Results :

Points NO.	1	2	3	4	5
Description	St (372+510)	St (372+520)	St (372+530)	St (372+540)	St (372+550)
Initial wt. (gm)	11140	10855	10410	10145	6930
Wt. after filling the cone and the hole (gm)	8030	7685	7305	6930	3875
Wt. of wet Sample (gm)	2535	2685	2640	2725	2540
Wt. of sand filling hole (gm)	1650	1710	1645	1755	1595
Wt. of sand filling cone (gm)	1460	1460	1460	1460	1460
Density of standered sand (Ys) (gm/cm ³)	1.50				
Volume of hole (cm ³)	1100.00	1140.00	1097	1170.0	1063.3
Wt. of wet Sample (gm)	200				
Wt. of sample after drying (gm)	191.2	191.5	190	190.6	191.1
Wet Density (Ywet) (gm/cm ³)	2.305	2.355	2.407	2.329	2.389
Moisture ratio (%)	4.6	4.4	5.1	4.9	4.7
Dry Density (Ydry) (gm/cm ³)	2.203	2.255	2.291	2.220	2.282
(Ymax.dry) (gm/cm ³)	2.190				
Compaction Ratio (%)	101	103	105	101	104

Lab director

Eman

Eng : Eman. E. Kandil

Geotechnical consultant

For Dr. H.

Dr. Mohamed Mostafa Badry



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Report NO. : 1727/2/center
Date : 16/8/2023

Field Detr. Of Density Of Soil In Place Report ASTM - D 1556

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة المنصورة للمقاولات
Project : Electric express train
Sample : Sub ballast (2)
Date of test : 13 - 8 - 2023

Results :

Points NO.	6	7	8	9	10
Description	St (372+560)	St (372+570)	St (372+580)	St (372+590)	St (372+600)
Intial wt. (gm)	9815	9530	9150	8755	7820
Wt. after filling the cone and the hole (gm)	6700	6415	6050	5580	4735
Wt. of wet Sample (gm)	2555	2575	2580	2635	2570
Wt. of sand filling hole (gm)	1655	1655	1640	1715	1625
Wt. of sand filling cone (gm)	1460	1460	1460	1460	1460
Density of standered sand (Ys) (gm/cm ³)	1.50				
Volume of hole (cm ³)	1103.33	1103.33	1093	1143.3	1083.3
Wt. of wet Sample (gm)	200				
Wt. of sample after drying (gm)	190.6	191.4	191	191.5	190.6
Wet Density (Ywet) (gm/cm ³)	2.316	2.334	2.360	2.305	2.372
Moisture ratio (%)	4.9	4.5	5.0	4.4	4.9
Dry Density (Ydry) (gm/cm ³)	2.207	2.233	2.248	2.207	2.261
(Ymax.dry) (gm/cm ³)	2.190				
Compaction Ratio (%)	101	102	103	101	103

Lab director

Eman
Eng : Eman. E. Kandil



Geotechnical consultant

For. Dr. H.
Dr. Mohamed Mostafa Badry

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Report NO. : 1727/3/center
Date : 16/8/2023

Field Detr. Of Density Of Soil In Place Report ASTM - D 1556

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة المنصورة للمقاولات
Project : Electric express train
Sample : Sub ballast (2)
Date of test : 13 - 8 - 2023

Results :

Points NO.	11	12	13	14	15	16	17
Description	St (372+610)	St (372+620)	St (372+630)	St (372+640)	St (372+650)	St (372+660)	St (372+670)
Initial wt. (gm)	10870	7710	9955	6815	8760	5600	7335
Wt. after filling the cone and the hole (gm)	7710	4575	6815	3700	5600	2475	4210
Wt. of wet Sample (gm)	2680	2575	2660	2585	2730	2640	2695
Wt. of sand filling hole (gm)	1700	1675	1680	1655	1700	1665	1665
Wt. of sand filling cone (gm)	1460	1460	1460	1460	1460	1460	1460
Density of standard sand (γ_s) (gm/cm ³)	1.50						
Volume of hole (cm ³)	1133.33	1116.67	1120	1103.3	1133.3	1110.0	1110.0
Wt. of wet Sample (gm)	200						
Wt. of sample after drying (gm)	191.4	190.5	191	191.5	190.6	190.5	189.9
Wet Density (γ_{wet}) (gm/cm ³)	2.365	2.306	2.375	2.343	2.409	2.378	2.428
Moisture ratio (%)	4.5	5.0	5.0	4.4	4.9	5.0	5.3
Dry Density (γ_{dry}) (gm/cm ³)	2.263	2.196	2.262	2.243	2.296	2.265	2.305
($\gamma_{max, dry}$) (gm/cm ³)	2.190						
Compaction Ratio (%)	103	100	103	102	105	103	105

Lab director

Eman
Eng : Eman. E. Kandil

Geotechnical consultant

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Dr. Mohamed Mostafa Badry



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Report NO. : 1727/4/center
Date : 16/8/2023

Field Detr. Of Density Of Soil In Place Report ASTM - D 1556

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة المنصورة للمقاولات
Project : Electric express train
Sample : Sub ballast (2)
Date of test : 13 - 8 - 2023

Results :

Points NO.	18	19	20	21	22
Description	St (372+680)	St (372+690)	St (372+700)	St (372+710)	St (372+720)
Initial wt. (gm)	11190	8050	8800	8020	11430
Wt. after filling the cone and the hole (gm)	8050	4830	5660	4790	8180
Wt. of wet Sample (gm)	2540	2620	2530	2600	2650
Wt. of sand filling hole (gm)	1622	1702	1622	1712	1732
Wt. of sand filling cone (gm)	1518	1518	1518	1518	1518
Density of standered sand (Ys) (gm/cm ³)	1.50				
Volume of hole (cm ³)	1081.33	1134.67	1081	1141.3	1154.7
Wt. of wet Sample (gm)	200				
Wt. of sample after drying (gm)	191.5	190.3	191	192.0	191.6
Wet Density (Ywet) (gm/cm ³)	2.349	2.309	2.340	2.278	2.295
Moisture ratio (%)	4.4	5.1	4.5	4.2	4.4
Dry Density (Ydry) (gm/cm ³)	2.249	2.197	2.239	2.187	2.199
(Ymax.dry) (gm/cm ³)	2.190				
Compaction Ratio (%)	103	100	102	100	100

Lab director

Eman
Eng : Eman. E. Kandil

Geotechnical consultant

For. Dr. M.
Dr. Mohamed Mostafa Badry



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Report NO. : 1727/5/center
Date : 16/8/2023

Field Detr. Of Density Of Soil In Place Report ASTM - D 1556

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة المنصورة للمقاولات
Project : Electric express train
Sample : Sub ballast (2)
Date of test : 13 - 8 - 2023

Results :

Points NO.	23	24	25	26	27
Description	St (372+730)	St (372+740)	St (372+750)	St (372+760)	St (372+770)
Intial wt. (gm)	8060	9810	6455	7850	10040
Wt. after filling the cone and the hole (gm)	4900	6605	3210	4655	6885
Wt. of wet Sample (gm)	2530	2590	2640	2630	2530
Wt. of sand filling hole (gm)	1642	1687	1727	1677	1637
Wt. of sand filling cone (gm)	1518	1518	1518	1518	1518
Density of standered sand (Ys) (gm/cm ³)	1.50				
Volume of hole (cm ³)	1094.67	1124.67	1151	1118.0	1091.3
Wt. of wet Sample (gm)	200				
Wt. of sample after drying (gm)	190.6	191.4	191	191.2	190.3
Wet Density (Ywet) (gm/cm ³)	2.311	2.303	2.293	2.352	2.318
Moisture ratio (%)	4.9	4.5	5.0	4.6	5.1
Dry Density (Ydry) (gm/cm ³)	2.203	2.204	2.184	2.249	2.206
(Ymax.dry) (gm/cm ³)	2.190				
Compaction Ratio (%)	101	101	100	103	101

Lab director

Eman

Eng : Eman. E. Kandil

Geotechnical consultant

For. Dr. M.

Dr. Mohamed Mostafa Badry



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Report NO. : 1727/6/center
Date : 16/8/2023

Field Detr. Of Density Of Soil In Place Report ASTM - D 1556

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة المنصورة للمقاولات
Project : Electric express train
Sample : Sub ballast (2)
Date of test : 13 - 8 - 2023

Results :

Points NO.	28	29	30	31	32	33
Description	St (372+780)	St (372+790)	St (372+800)	St (372+810)	St (372+820)	St (372+830)
Initial wt. (gm)	8950	11330	8040	9850	6610	6450
Wt. after filling the cone and the hole (gm)	5790	8140	4950	6710	3490	3360
Wt. of wet Sample (gm)	2630	2660	2530	2580	2540	2510
Wt. of sand filling hole (gm)	1700	1730	1630	1680	1660	1630
Wt. of sand filling cone (gm)	1460	1460	1460	1460	1460	1460
Density of standard sand (Ys) (gm/cm ³)	1.50					
Volume of hole (cm ³)	1133.33	1153.33	1087	1120.0	1106.7	1086.7
Wt. of wet Sample (gm)	200					
Wt. of sample after drying (gm)	190.2	191.4	192	190.2	191.6	190.8
Wet Density (Ywet) (gm/cm ³)	2.321	2.306	2.328	2.304	2.295	2.310
Moisture ratio (%)	5.2	4.5	4.3	5.2	4.4	4.8
Dry Density (Ydry) (gm/cm ³)	2.207	2.207	2.233	2.191	2.199	2.204
(Ymax.dry) (gm/cm ³)	2.190					
Compaction Ratio (%)	101	101	102	100	100	101

Lab director

Eman
Eng : Eman. E. Kandil

Geotechnical consultant

For. Dr. M.
Dr. Mohamed Mostafa Badry



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Internal inspection and laboratories sector

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

Report NO. : 17277/center
Date : 16/8/2023

Field Deter. Of Density Of Soil In Place Report ASTM - D 1556

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة المنصورة للمقاولات
Project : Electric express train
Sample : Sub ballast (2)
Date of test : 13 - 8 - 2023

Results :

Points NO.	34	35	36	37	38
Description	St (372+840)	St (372+850)	St (372+860)	St (372+870)	St (372+880)
Initial wt. (gm)	10430	7020	9240	8930	8400
Wt. after filling the cone and the hole (gm)	7260	3840	6110	5790	5200
Wt. of wet Sample (gm)	2500	2530	2470	2440	2550
Wt. of sand filling hole (gm)	1633	1643	1593	1603	1663
Wt. of sand filling cone (gm)	1537	1537	1537	1537	1537
Density of standard sand (Ys) (gm/cm ³)	1.50				
Volume of hole (cm ³)	1088.67	1095.33	1062	1068.7	1108.7
Wt. of wet Sample (gm)	200				
Wt. of sample after drying (gm)	191.5	192	191	191.2	190.3
Wet Density (Ywet) (gm/cm ³)	2.296	2.310	2.326	2.283	2.300
Moisture ratio (%)	4.4	4.2	5.0	4.6	5.1
Dry Density (Ydry) (gm/cm ³)	2.199	2.217	2.215	2.183	2.189
(Ymax.dry) (gm/cm ³)	2.190				
Compaction Ratio (%)	100	101	101	100	100

Lab director

Eman
Eng : Eman. E. Kandil



Geotechnical consultant

For Dr. M.
Dr. Mohamed Mostafa Badry

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Report NO. : 1727/8/center
Date : 16/8/2023

Field Detr. Of Density Of Soil In Place Report ASTM - D 1556

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة المنصورة للمقاولات
Project : Electric express train
Sample : Sub ballast (2)
Date of test : 13 - 8 - 2023

Results :

Points NO.	39	40	41	42	43
Description	St (372+890)	St (372+900)	St (372+910)	St (372+920)	St (372+930)
Initial wt. (gm)	10740	7520	9670	9600	9130
Wt. after filling the cone and the hole (gm)	7600	4320	6530	6450	5980
Wt. of wet Sample (gm)	2480	2560	2460	2470	2490
Wt. of sand filling hole (gm)	1603	1663	1603	1613	1613
Wt. of sand filling cone (gm)	1537	1537	1537	1537	1537
Density of standard sand (γ_s) (gm/cm ³)	1.50				
Volume of hole (cm ³)	1068.67	1108.67	1069	1075.3	1075.3
Wt. of wet Sample (gm)	200				
Wt. of sample after drying (gm)	191.2	190.6	191	190.5	191.5
Wet Density (γ_{wet}) (gm/cm ³)	2.321	2.309	2.302	2.297	2.316
Moisture ratio (%)	4.6	4.9	4.5	5.0	4.4
Dry Density (γ_{dry}) (gm/cm ³)	2.219	2.201	2.203	2.188	2.217
($\gamma_{max, dry}$) (gm/cm ³)	2.190				
Compaction Ratio (%)	101	100	101	100	101

Lab director

Eman

Eng : Eman. E. Kandil

Geotechnical consultant

For Dr. M -

Dr. Mohamed Mostafa Badry



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Report NO. : 1727/9/center
Date : 16/8/2023

Field Detr. Of Density Of Soil In Place Report ASTM - D 1556

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة المنصورة للمقاولات
Project : Electric express train
Sample : Sub ballast (2)
Date of test : 13 - 8 - 2023

Results :

Points NO.	44	45	46	47	48	49	50
Description	St (372+940)	St (372+950)	St (372+960)	St (372+970)	St (372+980)	St (372+990)	St (373+000)
Initial wt. (gm)	10600	7370	10940	7650	9980	6580	7020
Wt. after filling the cone and the hole (gm)	7450	4200	7750	4480	6790	3460	3900
Wt. of wet Sample (gm)	2480	2520	2550	2490	2510	2450	2470
Wt. of sand filling hole (gm)	1613	1633	1653	1633	1653	1583	1583
Wt. of sand filling cone (gm)	1537	1537	1537	1537	1537	1537	1537
Density of standard sand (Y _s) (gm/cm ³)	1.50						
Volume of hole (cm ³)	1075.33	1088.67	1102	1088.7	1102.0	1055.3	1055.3
Wt. of wet Sample (gm)	200						
Wt. of sample after drying (gm)	190.2	191.4	191	191.4	191.7	190.3	191.2
Wet Density (Y _{wet}) (gm/cm ³)	2.306	2.315	2.314	2.287	2.278	2.322	2.340
Moisture ratio (%)	5.2	4.5	5.0	4.5	4.3	5.1	4.6
Dry Density (Y _{dry}) (gm/cm ³)	2.193	2.215	2.204	2.189	2.183	2.209	2.238
(Y _{max.dry}) (gm/cm ³)	2.190						
Compaction Ratio (%)	100	101	101	100	100	101	102

Lab director

Eman
Eng : Eman. E. Kandil



Geotechnical consultant

For. Dr. M.
Dr. Mohamed Mostafa Badry

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Fax : 002 033900476
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MATERIAL APPROVAL REQUEST							
----------------------------------	--	--	--	--	--	--	--

Contractor Company	Al-Masa General Contracting Company		Designer Company	(SPECTRUM) Engineering Consulting Office																
Issued by Contractor	Name	Sign	Date/Serial Number	Time																
	Eng. Mohamed Ragab		30-04-2023 (M.A.R.21)	1:30																
Received by GARB CONSULTANT	Eng. Mazen Essamy		MAR	<table border="1"> <tr> <th>C1</th> <th>C2</th> <th>C3</th> <th>DD</th> <th>MM</th> <th>YY</th> <th>HH</th> <th>MM</th> </tr> <tr> <td>371</td> <td>EW</td> <td>CS</td> <td>1</td> <td>05</td> <td>23</td> <td>01</td> <td>30</td> </tr> </table>	C1	C2	C3	DD	MM	YY	HH	MM	371	EW	CS	1	05	23	01	30
				C1	C2	C3	DD	MM	YY	HH	MM									
371	EW	CS	1	05	23	01	30													

CODE - 2	51 to 521 Station Reference	D1 to 53 Depot Reference	Kp XXX Note For Kilometer point only Start Km is used
CODE - 3	Work Activity		
	Sub Element of Activity		

Description of Materials	Sub-Ballast Total Quantity (5000 m3)		
Location to be Used	From Station (371+500) to Station (373+000)		
Sample only	Yes	Materials Type	Sub-Ballast
Supplier Name		Data Sheet provided	
Reference in BoQ	(3-1)	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 international) 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	Eng. Mohamed Ragab		01-05-2023	A
QA/QC *	Eng. Mazen Essamy		16-08-2023	A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif		16-08-2023	AWC

* Designer
** Alignment/Bridges: Culvert only



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Internal inspection and laboratories sector

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SOIL REPORTS FOR ELECTRIC EXPRESS TRAIN PROJECT

Contractor :

شركة المنصورة للمقاولات

Date of report :

16/08/2023

QC :

1732

Kilo 23 Alexandria - Cairo Desert Road - Merghem

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Email: clidept@comibassal.com

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

Report no.	1732
Date of report	16/08/2023

I- Introduction

General Consultant :	SYSTRA
Consultant :	SPECTRUM
Contractor :	شركة المنصورة للمقاولات
Sample :	Sub-ballast layer
Station :	St(371+500) to st(373+000)
Date of Test :	01/05/2023

II- Sample description:

Crushed stone and sand

III- Required tests and Results:

Required Tests		Results
1- Grain size analysis and classification	Grain size analysis	As showed in appendix
	Classification	A-1-a
2- Modified compaction (Proctor test)	MDD	2.190
	OMC	7.4%
3- Liquid limit, plastic limit and plasticity index	LL	Non plastic
	PL	Non plastic
	PI	Non plastic
4- California bearing ratio (CBR)	CBR ratio	98%
5- Specific gravity (SG), absorption and degradation.	S S D	2.512
	Absorption	1.7%
	Degradation	0.3%
6- Los Angeles test	Abrasion ratio	25.00%

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

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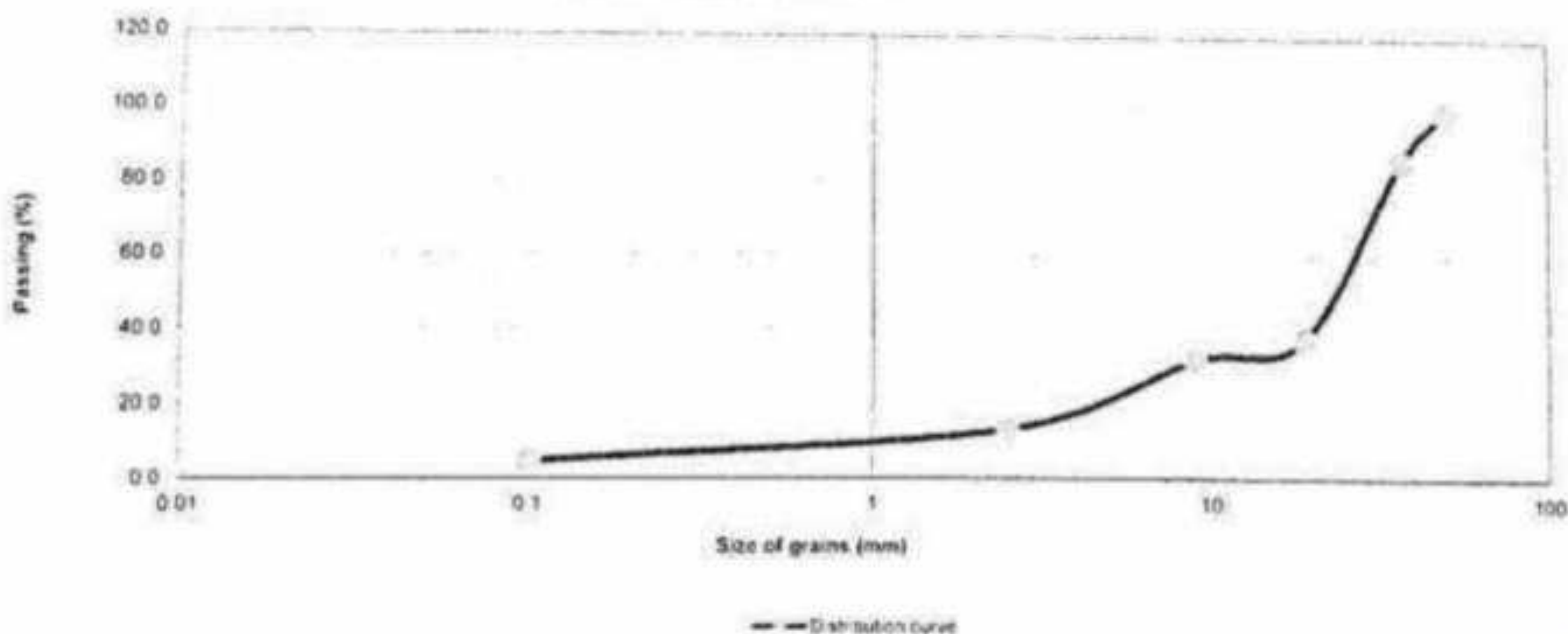
Accredited by : Egypton General Authority for Petroleum under No. 34/29-11-2011
Accredited by : Egypton Accreditation council (EGAC) under No. 031706/1A

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	2041.00	2041.00	13.61	86.4	
1	6215.00	8256.00	55.04	45.0	
3/4	1093.00	9349.00	62.33	37.7	
1/2	598.00	9947.00	66.31	33.7	
3/8	263.00	10210.00	68.07	31.9	
* No.4	881.00	11091.00	73.94	26.1	
No.10	245.00	245.00	49.00	13.3	
No.200	410.00	410.00	82.00	4.7	

Total sample weight = 15000.00 pass No.4= 3909.0 Total fine aggregates weight = 500 gm

Size analysis distribution curve



Soil classification: A - 1 - a - sample is non plastic



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Modified Proctor Test Report ASTM - D 1557

Mould Number :- 3
Volume of mould = 2190 cm³
Weight of mould = 5665 g
G.S = 2.68 g/cm³

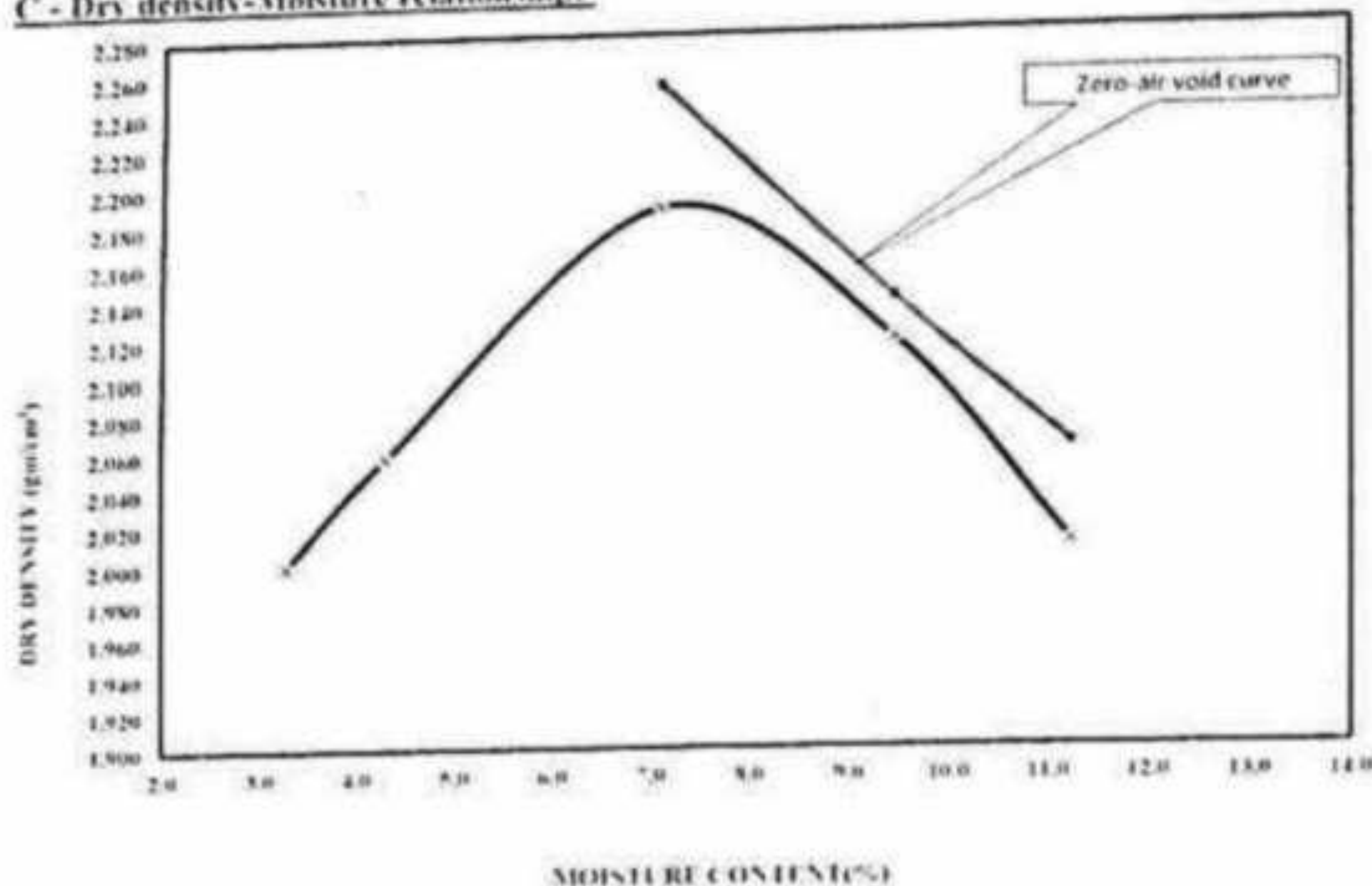
A- Density Calculations :-

	1	2	3	4	5
Weight of wet soil+mould (g)	10190	10365	10798	10742	10560
Weight of mould (g)	5646	5646	5646	5646	5646
Weight of wet soil (g)	4544	4719	5152	5096	4914
Volume of mould (cm ³)	2200	2200	2200	2200	2200
Wet density (g/cm ³)	2.065	2.145	2.342	2.316	2.234
Dry density (g/cm ³)	2.000	2.057	2.187	2.116	2.008
Zero-air Void curve			2.253	2.138	2.060

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	241.0	235.0	231.0	228.0
Weight of container (g)	30.0	31.0	23.0	30.0	32.0
moisture content (%)	3.3	4.3	7.1	9.5	11.2

C - Dry density-Moisture relationship:-



M.D.D= 2.190 gm/cm³
O.M.C= 7.4 %

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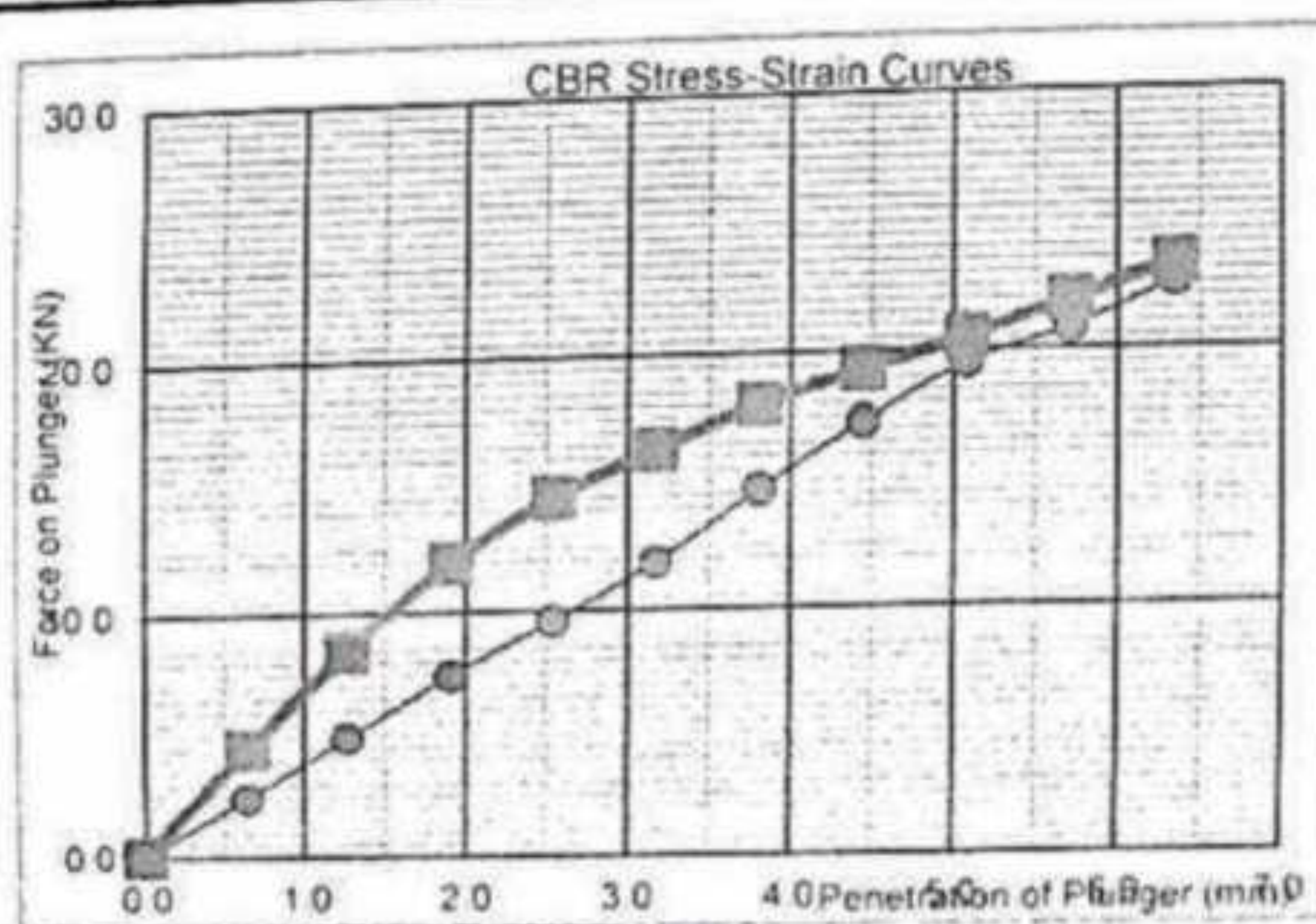
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Report Of CBR Test - ASTM - D 1883

NO OF BLOWS	56						
MOULD NO	1						
WT OF MOULD+SOIL	10230						
WT OF MOULD	5260						
WT OF SOIL	4970						
VOLUME OF MOULD	2124						
WET DENSITY	2.340						
	MC before soaking			Weight of Rammer	4.54Kg		
TIN NO	1			MDD	Kg/m3	2.190	
WT OF WET SOIL+TIN	250.00			OMC	%	7.4	
WT OF DRY SOIL+TIN	236						
WT OF WATER	14.00						
WT OF TIN	35						
WT OF DRY SOIL	201	2.125					
MOISTURE CONTENT	7.0						
DRY DENSITY	2.188						
	97			Bearing (KN)		CBR	
Pen mm	56			56		standar	56
0.00	0			FALSE		0.0	
0.64	250			2.5		4.5	
1.27	502			4.9		8.5	
1.91	760			7.5		12.0	
2.54	980			9.6		14.5	73
3.17	1210			11.9		16.3	
3.81	1498			14.7		18.0	
4.45	1760			17.3		19.3	
5.08	1990			19.5		20.5	98
5.71	2120			20.8		21.9	
6.35	2305			22.6		23.3	



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Absorption & Specific Gravity for Aggregate AASHTO T85 - ASTM C127

Weight of sample	2500
Weight of saturated - dry surface sample (B)	2535
Weight of saturated sample in water (C)	1526
Weight of dry sample aftr heating (A)	2492

Results:-

Saturation surface dry spicific gravity = $B / (B-C)$	2.512
Bulk spicific gravity = $A / (B-C)$	2.470
Apparent spicific gravity = $A / (A-C)$	2.580
Asorbtion of water = $(B-A)/A \times 100$	1.7
Degradation of aggregate = $(2500-A)/ A \times 100$	0.3



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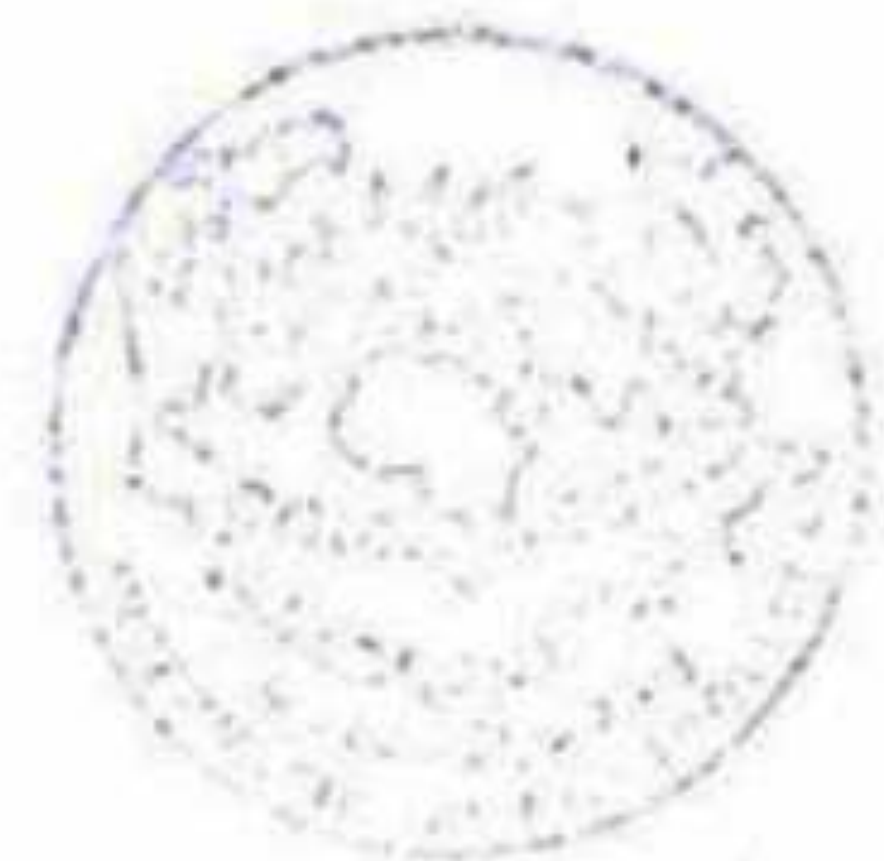
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ABRASION AND IMPACT " LOS ANGELES " TEST

(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	3750
% abrasion By Weight Passing from Sieve No.12	25.0%



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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

Report :	670 - 1 - Center
Date :	16/08/2023

CHEMICAL ANALYSIS

General Consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة المنصورة للمقاولات
Project : Electric express train
Sample : Sub Ballast Layer
Station : ST (371 + 500) : (373 + 0.00)
Date of Test : 1-5-2023

Temperature : 28 °C

Humidity : 45%

ANALYSIS	RESULTS	TEST METHOD
CHLORIDE	0.0078%	ASTM D 2974
SULPHATE	0.0093%	
ORGANIG MATTER	NEGATIVE	



LAB DIRECTOR
CH/ Mostafa Asker

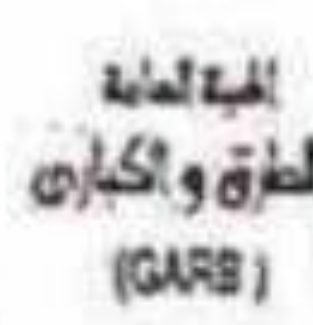
Mostafa

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MATERIAL INSPECTION REQUEST



Contractor Company	Al mansuora general contracting		Designer Company	(SPECTRUM) Engineering Consulting Office																
Issued by Contractor	Name	Sign	Date/ Serial Number	Time																
	Eng. Moahmed Ragab		07-08-2023 (P.L.T.18)	01:00 PM																
Received by GARB CONSULTANT	Eng. Mazen Essamy		PLT	<table border="1"> <tr> <th>C1</th> <th>C2</th> <th>C3</th> <th>DD</th> <th>MM</th> <th>YY</th> <th>HH</th> <th>MM</th> </tr> <tr> <td>371</td> <td>EW</td> <td>CS</td> <td>08</td> <td>08</td> <td>2023</td> <td>3</td> <td>00</td> </tr> </table>	C1	C2	C3	DD	MM	YY	HH	MM	371	EW	CS	08	08	2023	3	00
				C1	C2	C3	DD	MM	YY	HH	MM									
371	EW	CS	08	08	2023	3	00													

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	Prepared sub ballast level 2				
Location to be Used	St. (371+500) To (371+880)				
MAR Approval No	M.A.R.21	Date	01/05/2023		
Supplier Name	ALFARDI				
Test Requirement	P.L.T (DIN 18134)	Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP		
Reference Photos	Yes / No	Other	Rev UIR-F-(15,16,17,18,19)		
Item	Description	Unit	Quantity	Arrival Date	Note
1	PLATE LOAD TEST	NUMBER	15	10/08/2023	
2					
3					
4					
Comments by: Eng. Mazen Essamy (SPECTRUM)			Comments by: Eng. Alaa Abd-Allatif (ER)		
1-The Plate Load Test Result P.L.T.(DIN 18134) is Approved.(by third party)			1-Plate Load Test Was Carried-out By (comibassal international) 2-Results report attached and acceptable with project specifications. 3-Final approval is subject to above mentioned comments.		

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Ragab		08-08-2023	A
QA/QC *	Eng. Mazen Essamy		10-08-2023	A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif		10-08-2023	AWC

* Designer

** Alignment / Bridges: Culvert Only



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

Conclusions:

The present test results which obtained from the plate loading tests of the native soil on Sub-Ballast layer of the electric express train project at location from St(371+525) to St(371+875) km in accordance to the German standard , DIN 18134 are illustrated in table 46.

Table 46 :Test results

Location	Ev1(MN/m ²)	Ev2(MN/m ²)	Ev2/Ev1 ratio
St (371+525) km	190.27	238.99	1.26
St (371+550) km	172.34	206.82	1.20
St (371+575) km	148.15	211.11	1.42
St (371+600) km	159.23	228.80	1.44
St (371+625) km	180.24	239.84	1.33
St (371+650) km	164.23	219.29	1.34
St (371+675) km	177.19	218.99	1.24
St (371+700) km	178.83	211.93	1.19
St (371+725) km	173.54	189.83	1.09
St (371+750) km	172.16	223.99	1.30
St (371+775) km	121.51	242.11	1.99
St (371+800) km	165.07	268.57	1.63
St (371+825) km	163.42	211.71	1.30
St (371+850) km	151.85	215.79	1.42
St (371+875) km	150.96	239.62	1.53

Lab Director

Eng / Eman Kanail

Eman



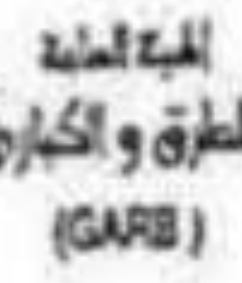
Geotechnical Consultant

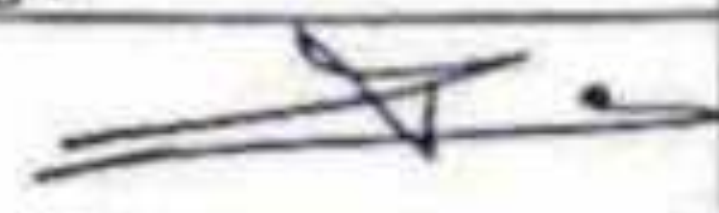
For Dr. *M*
Dr / Mohamed Mostafa Badry

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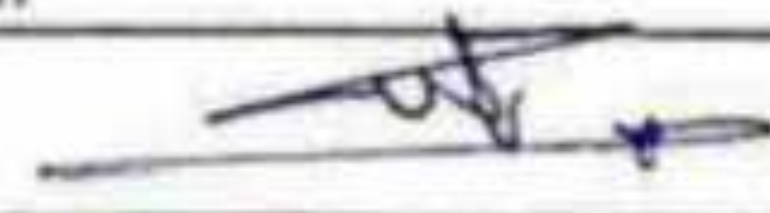
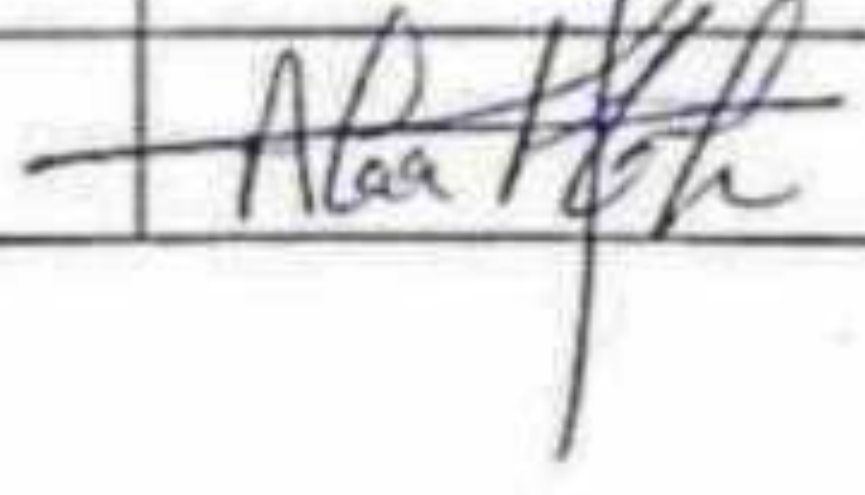
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Fax :002 033900476
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MATERIAL INSPECTION REQUEST						
------------------------------------	---	---	---	---	---	---

Contractor Company	Al mansuora general contracting		Designer Company	(SPECTRUM) Engineering Consulting Office																
Issued by Contractor	Name	Sign	Date/ Serial Number	Time																
	Eng. Moahmed Ragab		08-08-2023 (P.L.T.19)	01:00 PM																
Received by GARB CONSULTANT	Eng. Mazen Essamy		PLT	<table border="1"> <tr> <th>Q1</th> <th>C2</th> <th>C3</th> <th>DD</th> <th>MM</th> <th>YY</th> <th>HH</th> <th>MM</th> </tr> <tr> <td>371</td> <td>EW</td> <td>CS</td> <td>09</td> <td>08</td> <td>2023</td> <td>3</td> <td>00</td> </tr> </table>	Q1	C2	C3	DD	MM	YY	HH	MM	371	EW	CS	09	08	2023	3	00
				Q1	C2	C3	DD	MM	YY	HH	MM									
371	EW	CS	09	08	2023	3	00													

CODE - 2	51 to 521 Station Reference	D1 to 53 Depot Reference	Kp XXX Note For Kilometer point only Start Km is used
CODE - 3	Work Activity		
	Sub Element of Activity		

Description of Materials	Prepared sub ballast level 2				
Location to be Used	St. (371+880) To (372+380)				
MAR Approval No	M.A.R.21	Date	01/05/2023		
Supplier Name	ALFARDI				
Test Requirement	P.L.T (DIN 18134)	Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP		
Reference Photos	Yes / No	Other	Rev UIR-F-(11,12,13,14,15)		
Item	Description	Unit	Quantity	Arrival Date	Note
1	PLATE LOAD TEST	NUMBER	20	15/08/2023	
2					
3					
4					
Comments by: Eng. Mazen Essamy (SPECTRUM)		Comments by: Eng. Alaa Abd-Allatif (ER)			
1-The Plate Load Test Result P.L.T.(DIN 18134) is Approved.(by third party)		1-Plate Load Test Was Carried-out By (comibassal international) 2-Results report attached and acceptable with project specifications. 3-Final approval is subject to above mentioned comments.			

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Ragab		09-08-2023	A
QA/QC *	Eng. Mazen Essamy		15-08-2023	A
GARB**	Eng. Mohammed Fayad			
Employers Representative	Eng. Alaa Abd-Allatif		15-08-2023	AWC

* Designer

** Alignment / Bridges: Culvert Only



COMIBASSAL International Controllers

Internal inspection and laboratories sector

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

Conclusions:

The present test results which obtained from the plate loading tests of the native soil on Sub-Ballast layer of the electric express train project at location from St(371+850) to St(372+125) km in accordance to the German standard , DIN 18134 are illustrated in table 31.

Table 37 :Test results

Location	Ev1(MN/m ²)	Ev2(MN/m ²)	Ev2/Ev1 ratio
St (371+900) km	173.73	227.67	1.31
St (371+925) km	164.89	241.90	1.47
St (371+950) km	173.98	229.80	1.32
St (371+975) km	177.97	263.96	1.48
St (372+000) km	167.62	222.15	1.33
St (372+025) km	158.72	246.66	1.55
St (372+050) km	162.99	221.32	1.36
St (372+075) km	171.62	233.71	1.36
St (372+100) km	171.81	235.22	1.37
St (372+125) km	176.22	240.28	1.36

Lab Director

Eng / Eman Kandil

Geotechnical Consultant

For. Dr. M.
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Conclusions:

The present test results which obtained from the plate loading tests of the native soil on Sub-Ballast layer of the electric express train project at location from St(372+150) to St(372+375) in accordance to the German standard , DIN 18134 are illustrated in table 31 .

Table 31 :Test results

Location	Ev1(MN/m ²)	Ev2(MN/m ²)	Ev2/Ev1 ratio
St (372+150) km	173.14	233.71	1.35
St (372+175) km	163.28	220.56	1.35
St (372+200) km	162.16	235.26	1.45
St (372+225) km	167.03	232.44	1.39
St (372+250) km	166.41	221.55	1.33
St (372+275) km	158.08	217.92	1.38
St (372+300) km	168.80	238.58	1.41
St (372+325) km	161.80	219.82	1.36
St (372+350) km	165.61	231.80	1.40
St (372+375) km	169.03	221.36	1.31

Lab Director *Eman*
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MATERIAL INSPECTION REQUEST						

Contractor Company	Al mansuora general contracting		Designer Company	(SPECTRUM) Engineering Consulting Office							
Issued by Contractor	Name	Sign	Date/ Serial Number	Time							
	Eng. Moahmed Ragab		12-08-2023 (P.L.T.20)	01:00 PM							
Received by GARB CONSULTANT	Eng. Mazen Essamy		PLT								
				C1	C2	C3	DO	MM	YY	HH	MM
				372	EW	CS	13	08	2023	3	00

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	Prepared sub- ballast level 2				
Location to be Used	St. (372+380) To (373+000)				
MAR Approval No	M.A.R.21	Date	01/05/2023		
Supplier Name	ALFARDI				
Test Requirement	P.L.T (DIN 18134)	Specification	EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP		
Reference Photos	Yes / No	Other	Rev UIR-F-(7,8,9,10,11)		
Item	Description	Unit	Quantity	Arrival Date	Note
1	PLATE LOAD TEST	NUMBER	25	15/08/2023	
2					
3					
4					
Comments by: Eng. Mazen Essamy (SPECTRUM)			Comments by: Eng. Alaa Abd-Allatif (ER)		
1-The Plate Load Test Result P.L.T.(DIN 18134) is Approved.(by third party)			1-Plate Load Test Was Carried-out By (comibassal international) 2-Results report attached and acceptable with project specifications. 3-Final approval is subject to above mentioned comments.		

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Mohamed Ragab		13-08-2023	A
QA/QC *	Eng. Mazen Essamy		15-08-2023	A
GARB**	Eng. Mohammed Fayad			
Employers' Representative	Eng. Alaa Abd-Allatif		15-08-2023	AWC

* Designer
** Alignment / Bridges: Culvert Only



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Conclusions:

The present test results which obtained from the plate loading tests of the native soil on Sub-Ballast layer of the electric express train project at location from St(372+400) to St(372+700) km in accordance to the German standard , DIN 18134 are illustrated in table 40.

Table 40 :Test results

Location	Ev1(MN/m ²)	Ev2(MN/m ²)	Ev2/Ev1 ratio
St (372+400) km	203.55	251.17	1.23
St (372+425) km	165.72	236.61	1.43
St (372+450) km	157.48	223.55	1.42
St (372+475) km	168.77	250.97	1.49
St (372+500) km	154.64	223.93	1.45
St (372+525) km	154.59	223.52	1.45
St (372+550) km	154.64	217.08	1.40
St (372+575) km	154.91	220.21	1.42
St (372+600) km	152.46	219.95	1.44
St (372+625) km	163.42	242.07	1.48
St (372+650) km	165.27	234.70	1.42
St (372+675) km	170.52	243.93	1.43
St (372+700) km	161.04	231.67	1.44

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Conclusions:

The present test results which obtained from the plate loading tests of the native soil on Sub-Ballast layer of the electric express train project at location from St(372+725) to St(373.000) km in accordance to the German standard , DIN 18134 are illustrated in table 37 .

Table 37 :Test results

Location	Ev1(MN/m ²)	Ev2(MN/m ²)	Ev2/Ev1 ratio
St(372+725) km	180.22	249.40	1.38
St(372+750) km	172.35	234.44	1.36
St(372+775) km	179.85	245.57	1.37
St(372+800) km	190.93	265.57	1.39
St(372+825) km	166.73	234.74	1.41
St(372+850) km	147.63	213.51	1.45
St(372+875) km	161.93	245.00	1.51
St(372+900) km	159.29	233.67	1.47
St(372+925) km	173.71	236.26	1.36
St(372+950) km	160.56	232.04	1.45
St(372+975) km	167.48	225.39	1.35
St(373+000) km	164.69	226.25	1.37

Lab Director

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