

## السيد المهندس / رئيس قطاع التنفيذ والمناطق

تحية طيبة وبعد ...

بالاحالة الى مشروع القطار الكهربائي فائق السرعة قطاع (برج العرب - العلمين)  
نتشرف بان نرفق لسيادتكم طيه المقاييس المعدلة بعد اعتماد لجنة المفاوضة للقطاعات الاتية :-

| م | اسم الشركة             | من المحطة | الى المحطة | اتجاه     |
|---|------------------------|-----------|------------|-----------|
| ١ | شركة المهندسين للتعمير | ٣٨٤+٠.٠٧  | ٣٨٥+٠.٠٧   | سیدی کریر |

برجاء من سيادتكم التفضل بالاحاطة والتوجيه باللازم

وتفضلوا بقبول فائق الاحترام ،،،،

رئيس الادارة المركزية  
منطقة غرب الدلتا  
(بالاسكندرية / مرسى مطروح)  
عقيد مهندس / هانى محمود طه



**مشروع القطار الكهربائي فائق السرعة قطاع (برج العرب-العلمين)**  
**المقايسة التقديرية لبنود الأعمال شركة المهندسين للتعمير**  
**القطاع من المحطة 384+007 إلى 385+007 اتجاه سيدي كبر**

| رقم البند | بيان الأعمال                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | الوحدة | الكمية   | الفئة  | الاجمالي  |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|----------|--------|-----------|
| 3         | إعمال الردم                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |        |          |        |           |
| 3-1       | بالمتر المكعب اعمال توريد وتشغيل اترية صالحة للردم و مطابقة للمواصفات والتشغيل باستخدام المعدات بسمك لا يزيد عن 50 سم حتى منسوب 2 متر و بسمك لا يزيد عن 25 سم لاستكمال المنسوب التصميمي لتشكيل الجسر والاكتاف (نسبة تحمل كاليفورنيا لا تقل عن 15%) و رشها بالمياه الاصولية للوصول الى نسبة الرطوبة المطلوبة والدمك الجيد بالهراسات للوصول الى أقصى كثافة جافة (95 % من الكثافة الجافة القصوى) ويتم التنفيذ طبقا للمناسيب التصميمية والقطاعات العرضية النموذجية والرسومات التفصيلية المعتمدة والبند بجميع مشتعلاته طبقا لاصول الصناعة ومواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف.<br>- مسافة النقل 2 كم<br>- يتم احتساب علاوة 1.4 جنيه لكل 1 كم بالزيادة او النقصان<br>- السعر يشمل عمل تشوينات وتخليط واختبارات ونقل لموقع العمل حتى مسافة 2 كم<br>- السعر يشمل قيمة المادة المحجربة | م3     | 23172.62 | 85     | 1,969,672 |
|           | علاوة مسافة نقل للتربة لمسافة 114 كم = 1.4*112 = 156.80 جنيه                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | م3     | 18538.09 | 156.80 | 2,906,773 |
|           | علاوة مسافة نقل للرمل لمسافة 82.5 كم = 1.4*80.5 = 112.7 جنيه                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | م3     | 4634.52  | 112.70 | 522,311   |
|           | علاوة تحصيل رسوم الكارثة والموازين طبقا للائحة الشركة الوطنية                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | م3     | 23172.62 | 13     | 301,244   |

5,700,000

الاجمالي

مدير مشروعات الهيئة

م/محمد حسني قياض

مدير المشروع الهيئة

م / مارجريش مجدي زاهر

مدير المشروع الاستشاري



مدير المشروع المقاول

م / احسن بكري حسن



رئيس الادارة المركزية  
منطقة غرب الدلتا

الاسكندرية - منسى مطروح

عقيد مهندس /

" هانى محمد محمود طه "

# MATERIAL INSPECTION REQUEST



| Contractor Company            | Project                                                                                  | Designer Company                            |
|-------------------------------|------------------------------------------------------------------------------------------|---------------------------------------------|
| El-Mohandsin For Construction | Electrical Express Train<br>( Borg Alarab - Alamein )<br>From St. 325+393 To St. 394+600 | (SPECTRUM) Engineering Consulting<br>Office |

| Issued by Contractor | Name                     | Sign | Date / Serial no.  | Time    |
|----------------------|--------------------------|------|--------------------|---------|
|                      | Eng. Mohamed Abdel-Gawad |      | 13/04/2023         | 9:00 AM |
|                      |                          |      | M.I.R. FDT ( D-3 ) |         |

| Received by GARB Consultant | Eng. Mazen Essamy | SNA | C1  | C2 | C3 | D0 | MM | YY   | HH | MM |
|-----------------------------|-------------------|-----|-----|----|----|----|----|------|----|----|
|                             |                   |     | 384 | EW | CS | 15 | 4  | 2023 | 9  | 00 |

| CODE-1<br>S1 to S21<br>Station Reference | CODE-1<br>D1 to S3 Depot Reference | CODE-1<br>Kp xxx Note<br>For Kilometer point only | CODE-2<br>Work Activity | CODE-3<br>Sub Element of Activity |
|------------------------------------------|------------------------------------|---------------------------------------------------|-------------------------|-----------------------------------|
|------------------------------------------|------------------------------------|---------------------------------------------------|-------------------------|-----------------------------------|

Description of Materials Diesel Fill Layer ( T.O.E. )

Location to be Used From St. **0+260** To St. **0+460**

UIR Approval No IR ( 5 ) Date 12/04/2023

MAR Approval No M.A.R. QT ( II ) M.A.R. QT ( II-1 ) Date 06/02/2023

Supplier Name El-Sewy

Test Requirement F.D.T.(ASTM D 1556) Specification EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP

Reference Photos No / Yes Other Previous FDT ( D-2 )

| Item | Description    | Unit | Quantity | Arrival Date | Note |
|------|----------------|------|----------|--------------|------|
| 1    | Sand cone test | No.  | 8        | 15/4/2023    |      |
| 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.) COMIBASSAL.

Comments by Eng. Alaa Abd-Allatief ( ER ):

1-F.D.T was carried-out (by third Party Lab.) . CMIBASSAL  
2-Results report attached and acceptable with project specifications.  
3-Final approval is subject to above mentioned comments.

## APPROVAL STATUS

| Organisation             | Name                    | Sign | Designation | Date      | A-AWC-R |
|--------------------------|-------------------------|------|-------------|-----------|---------|
| Contractor               | Eng.Mohamed Abdel-Gawad |      |             | 15/4/2023 | A       |
| QA/QC                    | Eng.Mazen Essamy        |      |             |           | A       |
| GARB*                    | Eng.Margaret Magdy      |      |             |           |         |
| Employers Representative | Eng.Alaa Abd-Allatief   |      |             | 27-8-2023 | Awc     |

\* Alignment/Bridges: Culvert only

File: MIR - Material Inspection Request Rev 0822-1.docx

A= Approved; AWC= Approved with Comments; R= Rejected





# 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. : 1803 /10/center  
Date : 27/8/2023

### Field Detr. Of Density Of Soil In Place Report

#### ASTM - D 1556

General consultant : SYSTRA  
Consultant : SPECTRUM  
Contractor : شركة المهندسين للتعمير  
Project : Diesel  
Sample : Upper Embankment - Ferma  
Date of test : 15-4-2023

#### Results :

| Points NO.                                            | 1           | 2              | 3              | 4              |
|-------------------------------------------------------|-------------|----------------|----------------|----------------|
| Description                                           | St(000+275) | St ( 000+300 ) | St ( 000+325 ) | St ( 000+350 ) |
| Intial wt. (gm)                                       | 9850        | 6730           | 10760          | 7550           |
| Wt. after filling the cone and the hole (gm)          | 6730        | 3610           | 7550           | 4410           |
| Wt. of wet Sample (gm)                                | 2490        | 2450           | 2540           | 2520           |
| Wt. of sand filling hole (gm)                         | 1680        | 1680           | 1770           | 1700           |
| Wt. of sand filling cone (gm)                         | 1440        | 1440           | 1440           | 1440           |
| Density of standarder sand (Ys) (gm/cm <sup>3</sup> ) | 1.50        |                |                |                |
| Volume of hole (cm <sup>3</sup> )                     | 1120.00     | 1120.00        | 1180           | 1133.3         |
| Wt. of wet Sample (gm)                                | 200         |                |                |                |
| Wt. of sample after drying (gm)                       | 190         | 188            | 189            | 187.0          |
| Wet Density (Ywet) (gm/cm <sup>3</sup> )              | 2.223       | 2.188          | 2.153          | 2.224          |
| Moisture ratio (%)                                    | 5.3         | 6.4            | 5.8            | 7.0            |
| Dry Density (Ydry) (gm/cm <sup>3</sup> )              | 2.112       | 2.056          | 2.034          | 2.079          |
| (Ymax dry) (gm/cm <sup>3</sup> )                      | 2.128       |                |                |                |
| Compaction Ratio (%)                                  | 99          | 97             | 96             | 98             |

Lab director

Geotechnical consultant

Eng. Eman. E. Kandil

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

Report NO. : 1803 /11/center  
Date : 27/8/2023

### Field Detr. Of Density Of Soil In Place Report

#### ASTM - D 1556

General consultant : SYSTRA  
Consultant : SPECTRUM  
Contractor : شركة المهندسين للتعمير  
Project : Diesel  
Sample : Upper Embankment - Ferma  
Date of test : 15-4-2023

#### Results :

| Points NO.                                            | 1           | 2              | 3              | 4              |
|-------------------------------------------------------|-------------|----------------|----------------|----------------|
| Description                                           | St(000+375) | St ( 000+400 ) | St ( 000+425 ) | St ( 000+450 ) |
| Initial wt. (gm)                                      | 9730        | 6590           | 9520           | 6360           |
| Wt. after filling the cone and the hole (gm)          | 6590        | 3430           | 6360           | 3220           |
| Wt. of wet Sample (gm)                                | 2440        | 2500           | 2530           | 2460           |
| Wt. of sand filling hole (gm)                         | 1700        | 1720           | 1720           | 1700           |
| Wt. of sand filling cone (gm)                         | 1440        | 1440           | 1440           | 1440           |
| Density of standard sand (Ys) (gm/cm <sup>3</sup> )   | 1.50        |                |                |                |
| Volume of hole (cm <sup>3</sup> )                     | 1133.33     | 1146.67        | 1147           | 1133.3         |
| Wt. of wet Sample (gm)                                | 200         |                |                |                |
| Wt. of sample after drying (gm)                       | 189.4       | 189            | 188            | 186.2          |
| Wet Density (Y <sub>wet</sub> ) (gm/cm <sup>3</sup> ) | 2.153       | 2.180          | 2.206          | 2.171          |
| Moisture ratio (%)                                    | 5.6         | 5.8            | 6.2            | 7.4            |
| Dry Density (Y <sub>dry</sub> ) (gm/cm <sup>3</sup> ) | 2.039       | 2.060          | 2.078          | 2.021          |
| Y <sub>max dry</sub> (gm/cm <sup>3</sup> )            | 2.128       |                |                |                |
| Compaction Ratio (%)                                  | 96          | 97             | 98             | 95             |

Lab director

Eng. Eman. E. Kandil

Geotechnical consultant

Dr. Mohamed Mostafa Badry

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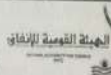
Tel: 002 033920176 - 002 033931482

Fax : 002 033900476

Email : internal-inspection@comibassal.com



# MATERIAL INSPECTION REQUEST



|                               |                                                                                          |                                             |
|-------------------------------|------------------------------------------------------------------------------------------|---------------------------------------------|
| Contractor Company            | Project                                                                                  | Designer Company                            |
| El-Mohandsin For Construction | Electrical Express Train<br>( Borg Alarab - Alamein )<br>From St. 325+393 To St. 394+600 | (SPECTRUM) Engineering Consulting<br>Office |

|                             |                                  |                                    |                                                       |                 |          |          |         |            |         |          |
|-----------------------------|----------------------------------|------------------------------------|-------------------------------------------------------|-----------------|----------|----------|---------|------------|---------|----------|
| Issued by Contractor        | Name<br>Eng. Mohamed Abdel-Gawad | Sign<br><i>Mohamed Abdel-Gawad</i> | Date / Serial no.<br>12/04/2023<br>M.L.R. FDT ( D-1 ) | Time<br>9:00 AM |          |          |         |            |         |          |
| Received by GARB Consultant | Eng. Mazen Essamy                | SNA<br><i>[Signature]</i>          | C1<br>384                                             | C2<br>EW        | C3<br>CS | DD<br>13 | MM<br>4 | YY<br>2023 | HH<br>9 | MM<br>00 |

|                                          |                                    |                                                   |                         |                                   |
|------------------------------------------|------------------------------------|---------------------------------------------------|-------------------------|-----------------------------------|
| CODE-1<br>S1 to S21<br>Station Reference | CODE-1<br>D1 to S3 Depot Reference | CODE-1<br>Kp xxx Note<br>For Kilometer point only | CODE-2<br>Work Activity | CODE-3<br>Sub Element of Activity |
|------------------------------------------|------------------------------------|---------------------------------------------------|-------------------------|-----------------------------------|

|                          |                                        |               |                                                                                        |       |            |
|--------------------------|----------------------------------------|---------------|----------------------------------------------------------------------------------------|-------|------------|
| Description of Materials | Diesel Fill Layer ( T.O.E. )           |               |                                                                                        |       |            |
| Location to be Used      | From St.                               | 0+200         | To St.                                                                                 | 0+260 |            |
| UIR Approval No          | IR ( 3-1 )                             |               |                                                                                        | Date  | 11/04/2023 |
| MAR Approval No          | M.A.R. QT ( 11 )<br>M.A.R. QT ( 11-1 ) |               |                                                                                        | Date  | 06/02/2023 |
| Supplier Name            | El-Sewy                                |               |                                                                                        |       |            |
| Test Requirement         | F.D.T (ASTM D 1556)                    | Specification | EARTHWORK SPECIFICATIONS &<br>TESTING REPORT (CG21-41.2)<br>VERSION 2 BY CIVECON GROUP |       |            |
| Reference Photos         | No / Yes                               | Other         | Previous IR ( 2 )                                                                      |       |            |

| Item | Description    | Unit | Quantity | Arrival Date | Note |
|------|----------------|------|----------|--------------|------|
| 1    | Sand cone test | No.  | 2        | 13/4/2023    |      |
| 2    |                |      |          |              |      |
| 3    |                |      |          |              |      |
| 4    |                |      |          |              |      |

|                                                                                                    |                                                                                                                                                                                                 |
|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Comments by Eng. Mazen Essamy (SPECTRUM) :                                                         | Comments by Eng. Alaa Abd-Allatief ( ER ):                                                                                                                                                      |
| 1-The Compaction Test Result F.D.T. (ASTM D 1556) is Approved.<br>(by third Party Lab.) COMIBASSAL | 1-F.D.T was carried- out (by third Party Lab.) . CMIBASSAL<br>2-Results report attached and acceptable with project specifications.<br>3-Final approval is subject to above mentioned comments. |

## APPROVAL STATUS

| Organisation             | Name                     | Sign               | Designation | Date      | A-AWC-R |
|--------------------------|--------------------------|--------------------|-------------|-----------|---------|
| Contractor Engineer      | Eng. Mohamed Abdel-Gawad | <i>[Signature]</i> |             | 13/4/2023 | A       |
| QA/QC                    | Eng. Mazen Essamy        | <i>[Signature]</i> |             |           | A       |
| GARB*                    | Eng. Margaret Magdy      |                    |             |           |         |
| Employers Representative | Eng. Alaa Abd-Allatief   | <i>[Signature]</i> |             | 15-4-2023 | Awc     |

\* Alignment/Bridges: Culvert only

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A= Approved; AWC= Approved with Comments; R= Rejected



# 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. : 1803/9/center  
Date : 27/8/2023

### Field Detr. Of Density Of Soil In Place Report

#### ASTM - D 1556

General consultant : SYSTRA  
Consultant : SPECTRUM  
Contractor : شركة المهندسين للتعمير  
Project : Diesel  
Sample : Upper Embankment - Ferma  
Date of test : 15-4-2023

#### Results :

| Points NO.                                           | 1            | 2            |
|------------------------------------------------------|--------------|--------------|
| Description                                          | St (000+225) | St (000+250) |
| Intial wt. (gm)                                      | 11230        | 8100         |
| Wt after filling the cone and the hole (gm)          | 8100         | 4970         |
| Wt. of wet Sample (gm)                               | 2530         | 2470         |
| Wt. of sand filling hole (gm)                        | 1690         | 1690         |
| Wt. of sand filling cone (gm)                        | 1440         | 1440         |
| Density of standered sand (γs) (gm/cm <sup>3</sup> ) | 1.50         |              |
| Volume of hole (cm <sup>3</sup> )                    | 1126.67      | 1126.67      |
| Wt. of wet Sample (gm)                               | 200          |              |
| Wt. of sample after drying (gm)                      | 189          | 188          |
| Wet Density (γwet) (gm/cm <sup>3</sup> )             | 2.246        | 2.192        |
| Moisture ratio (%)                                   | 5.8          | 6.4          |
| Dry Density (γdry) (gm/cm <sup>3</sup> )             | 2.122        | 2.061        |
| γmax dry (gm/cm <sup>3</sup> )                       | 2.128        |              |
| Compaction Ratio (%)                                 | 100          | 97           |

Lab director

*Eman*

Eng : Eman. E. Kandil



Geotechnical consultant

*For. Dr. M.*

Dr. Mohamed Mostafa Badry

Kilo 23 Alexandria - Cairo Desert Road - Mergem

Tel: 002 03 4704595 - 002 034701191

Email : civdept@comibassal.com

WebSite : www.comibassal.com



49 El Horria Ave. Alex, Egypt

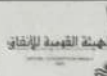
Tel: 002 033920176 - 002 033931482

Fax : 002 033900476

Email : internal-inspection@comibassal.com



# MATERIAL INSPECTION REQUEST



| Contractor Company            | Project                                                                                  | Designer Company                            |
|-------------------------------|------------------------------------------------------------------------------------------|---------------------------------------------|
| El-Mohandsin For Construction | Electrical Express Train<br>( Borg Alarab - Alamein )<br>From St. 325+393 To St. 394+600 | (SPECTRUM) Engineering Consulting<br>Office |

| Issued by<br>Contractor | Name                        | Sign | Date / Serial no.                 | Time    |
|-------------------------|-----------------------------|------|-----------------------------------|---------|
|                         | Eng.<br>Mohamed Abdel-Gawad |      | 04/06/2023<br>M.I.R. FDT ( D-21 ) | 9:00 AM |

| Received by GARB<br>Consultant | Eng.<br>Mazen Essamy | SNA | C1  | C2 | C3 | DD | MM | YY   | HH | MM |
|--------------------------------|----------------------|-----|-----|----|----|----|----|------|----|----|
|                                |                      |     | 384 | EW | CS | 5  | 6  | 2023 | 9  | 00 |

| CODE-1<br>S1 to S21<br>Station Reference | CODE-1<br>D1 to S3 Depot Reference | CODE-1<br>Kp xxx Note<br>For Kilometer point only | CODE-2<br>Work Activity | CODE-3<br>Sub Element of Activity |
|------------------------------------------|------------------------------------|---------------------------------------------------|-------------------------|-----------------------------------|
|------------------------------------------|------------------------------------|---------------------------------------------------|-------------------------|-----------------------------------|

|                          |                              |               |                                                                                        |            |  |
|--------------------------|------------------------------|---------------|----------------------------------------------------------------------------------------|------------|--|
| Description of Materials | Diesel Fill Layer ( T.O.E. ) |               |                                                                                        |            |  |
| Location to be Used      | From St.                     | 0+680         | To St.                                                                                 | 0+800      |  |
| UIR Approval No          | IR ( 23-1 )                  |               | Date                                                                                   | 03/06/2023 |  |
| MAR Approval No          | M.A.R. QT ( 13 )             |               | Date                                                                                   | 14/05/2023 |  |
| Supplier Name            | El-Sewy                      |               |                                                                                        |            |  |
| Test Requirement         | F.D.T(ASTM D 1556)           | Specification | EARTHWORK SPECIFICATIONS &<br>TESTING REPORT (CG21-41.2)<br>VERSION 2 BY CIVECON GROUP |            |  |
| Reference Photos         | No / Yes                     | Other         | Previous M.I.R. FDT ( D-20 )                                                           |            |  |

| Item | Description    | Unit | Quantity | Arrival Date | Note |
|------|----------------|------|----------|--------------|------|
| 1    | Sand cone test | No.  | 5        | 5/6/2023     |      |
| 2    |                |      |          |              |      |
| 3    |                |      |          |              |      |
| 4    |                |      |          |              |      |

| Comments by Eng. Mazen Essamy (SPECTRUM) :                                                         | Comments by Eng. Alaa Abd-Allatief ( ER ):                                                                                                                                                         |
|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1-The Compaction Test Result F.D.T. (ASTM D 1556) is Approved.<br>(by third Party Lab.) COMIBASSAL | 1-F.D.T was carried- out (by third Party Lab.) . CMIBASSAL<br>2-Results report attached and acceptable with project<br>specifications.<br>3-Final approval is subject to above mentioned comments. |

## APPROVAL STATUS

| Organisation                | Name                    | Sign | Designation | Date     | A-AWC-R |
|-----------------------------|-------------------------|------|-------------|----------|---------|
| Contractor<br>Engineer      | Eng.Mohamed Abdel-Gawad |      |             | 5/6/2023 | A       |
| QA/QC                       | Eng.Mazen Essamy        |      |             |          | A       |
| GARB*                       | Eng.Margaret Magdy      |      |             |          |         |
| Employers<br>Representative | Eng.Alaa Abd-Allatief   |      | 278         | 2023     | AWC     |

\* Alignment/Bridges: Culvert only

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A= Approved; AWC= Approved with Comments; R= Rejected





## 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 : 1378 /05/center  
Date : 11/6/2023

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

General consultant : SYSTRA  
Consultant : SPECTRUM  
Contractor : شركة المهندسين للتعمير  
Project : Electric express train  
Sample : Ferma ( Diesel )  
Date of test : 5- 6 - 2023

#### Results :

| Points NO.                                           | 1            | 2            |
|------------------------------------------------------|--------------|--------------|
| Description                                          | St ( 0+700 ) | St ( 0+725 ) |
| Intial wt. (gm)                                      | 11180        | 7860         |
| Wt. after filling the cone and the hole (gm)         | 7960         | 4530         |
| Wt. of wet Sample (gm)                               | 2460         | 2550         |
| Wt. of sand filling hole (gm)                        | 1683         | 1793         |
| Wt. of sand filling cone (gm)                        | 1537         | 1537         |
| Density of standered sand (Ys) (gm/cm <sup>3</sup> ) | 1.50         |              |
| Volume of hole (cm <sup>3</sup> )                    | 1122.00      | 1195.33      |
| Wt. of wet Sample (gm)                               | 200          |              |
| Wt. of sample after drying (gm)                      | 190.4        | 190.7        |
| Wet Density (Ywet) (gm/cm <sup>3</sup> )             | 2.193        | 2.133        |
| Moisture ratio (%)                                   | 5.0          | 4.9          |
| Dry Density (Ydry) (gm/cm <sup>3</sup> )             | 2.087        | 2.034        |
| (Ymax.dry) (gm/cm <sup>3</sup> )                     | 2.128        |              |
| Compaction Ratio (%)                                 | 98           | 96           |

Lab director

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

Report NO. : 1803/15/center  
Date : 27/8/2023

### Field Detr. Of Density Of Soil In Place Report

#### ASTM - D 1556

General consultant :

Consultant :

Contractor :

Project :

Sample :

Date of Re test :

SYSTRA

SPECTRUM

شركة المهندسين للتعمير

Diesel

Upper Embankment - Ferma

5-6-2023

#### Results :

| Points NO.                                           | 1             | 2             | 3              |
|------------------------------------------------------|---------------|---------------|----------------|
| Description                                          | St (0.00+750) | St (0.00+775) | St (0.00 +800) |
| Intial wt. (gm)                                      | 10750         | 7720          | 8555           |
| Wt. after filling the cone and the hole (gm)         | 7620          | 4580          | 5310           |
| Wt. of wet Sample (gm)                               | 2580          | 2615          | 2630           |
| Wt. of sand filling hole (gm)                        | 1690          | 1700          | 1805           |
| Wt. of sand filling cone (gm)                        | 1440          | 1440          | 1440           |
| Density of standered sand (Ys) (gm/cm <sup>3</sup> ) | 1.50          |               |                |
| Volume of hole (cm <sup>3</sup> )                    | 1127          | 1133          | 1203           |
| Wt. of wet Sample (gm)                               | 200           |               |                |
| Wt. of sample after drying (gm)                      | 185           | 187           | 188            |
| Wet Density (Ywet) (gm/cm <sup>3</sup> )             | 2.290         | 2.307         | 2.186          |
| Moisture ratio (%)                                   | 8.1           | 7.0           | 6.4            |
| Dry Density (Ydry) (gm/cm <sup>3</sup> )             | 2.118         | 2.157         | 2.054          |
| (Ymax.dry) (gm/cm <sup>3</sup> )                     | 2.128         |               |                |
| Compaction Ratio (%)                                 | 100           | 101           | 97             |

Lab director

Eng : Eman. E. Kandil

Geotechnical consultant

Dr. Mohamed Mostafa Badry



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# MATERIAL INSPECTION REQUEST



| Contractor Company            | Project                                                                                | Designer Company                            |
|-------------------------------|----------------------------------------------------------------------------------------|---------------------------------------------|
| El-Mohandsin For Construction | Electrical Express Train<br>(Borg Alarab - Alamein)<br>From St. 325+393 To St. 394+600 | (SPECTRUM) Engineering Consulting<br>Office |

| Issued by<br>Contractor | Name                        | Sign | Date / Serial no.                   | Time     |
|-------------------------|-----------------------------|------|-------------------------------------|----------|
|                         | Eng.<br>Mohamed Abdel-Gawad |      | 07/06/2023<br>M.L.R. FDT ( D-SG-8 ) | 11:00 AM |

| Received by GARB<br>Consultant | Eng.<br>Mazen Essamy | SNA | C1 | C2 | C3 | DD | MM   | YY | HH | MM |
|--------------------------------|----------------------|-----|----|----|----|----|------|----|----|----|
|                                |                      | 384 | EW | CS | 8  | 6  | 2023 | 11 | 00 |    |

| CODE-1<br>S1 to S21<br>Station Reference | CODE-1<br>D1 to S3 Depot Reference | CODE-1<br>Kp xxx Note<br>For Kilometer point only | CODE-2<br>Work Activity | CODE-3<br>Sub Element of Activity |
|------------------------------------------|------------------------------------|---------------------------------------------------|-------------------------|-----------------------------------|
|------------------------------------------|------------------------------------|---------------------------------------------------|-------------------------|-----------------------------------|

Description of Materials Diesel 2nd Prepared Subgrade Layer ( -0.40 m DL )

Location to be Used From St. **0+680** To St. **0+720**

UIR Approval No IR ( SG-7 ) Date 07/06/2023

MAR Approval No M.A.R. QT ( 14 ) Date 23/05/2023

Supplier Name Al-Alamia

Test Requirement F.D.T(ASTM D 1556) Specification EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP

Reference Photos No / Yes Other Previous M.L.R. FDT ( D-SG-6 )

| Item | Description    | Unit | Quantity | Arrival Date | Note |
|------|----------------|------|----------|--------------|------|
| 1    | Sand cone test | No.  | 5        | 8/6/2023     |      |
| 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.) COMIBASSAL

Comments by Eng. Alaa Abd-Allatief ( ER ):

1-F.D.T was carried- out (by third Party Lab.) . CMIBASSAL

2-Results report attached and acceptable with project specifications.

3-Final approval is subject to above mentioned comments.

## APPROVAL STATUS

| Organisation             | Name                     | Sign | Designation | Date      | A-AWC-R |
|--------------------------|--------------------------|------|-------------|-----------|---------|
| Contractor               | Eng. Mohamed Abdel-Gawad |      |             | 8/6/2023  | A       |
| QA/QC                    | Eng. Mazen Essamy        |      |             |           | A       |
| GARB*                    | Eng. Margaret Magdy      |      |             |           |         |
| Employers Representative | Eng. Alaa Abd-Allatief   |      |             | 27-8-2023 | AWC     |

\* Alignment/Bridges: Culvert only

File: MIR - Material Inspection Request Rev 0822-1.docx

A= Approved, AWC= Approved with Comments; R= Rejected



# 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. : 1803 /12/center  
Date : 27/8/2023

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

General consultant : SYSTRA  
Consultant : SPECTRUM  
Contractor : شركة المهندسين للتعمير  
Project : Diesel  
Sample : Prepared Subgrade(2)  
Date of test : 8-6-2023

#### Results :

| Points NO.                                           | 1                | 2                | 3                | 4                | 5                |
|------------------------------------------------------|------------------|------------------|------------------|------------------|------------------|
| Description                                          | St( 0.00 + 690 ) | St( 0.00 + 700 ) | St( 0.00 + 710 ) | St( 0.00 + 720 ) | St( 0.00 + 730 ) |
| Intial wt. (gm)                                      | 10950            | 7815             | 9900             | 6790             | 10570            |
| Wt.after filling the cone and the hole (gm)          | 7815             | 4705             | 6790             | 3655             | 7445             |
| Wt. of wet Sample (gm)                               | 2575             | 2610             | 2715             | 2680             | 2655             |
| Wt. of sand filling hole (gm)                        | 1725             | 1700             | 1700             | 1725             | 1715             |
| Wt. of sand filling cone (gm)                        | 1410             | 1410             | 1410             | 1410             | 1410             |
| Density of standered sand (Ys) (gm/cm <sup>3</sup> ) | 1.50             |                  |                  |                  |                  |
| Volume of hole (cm <sup>3</sup> )                    | 1150.00          | 1133.33          | 1133             | 1150.0           | 1143.3           |
| Wt.of wet Sample (gm)                                | 200              |                  |                  |                  |                  |
| Wt.of sample after drying (gm)                       | 191              | 191.5            | 191              | 192.5            | 191.4            |
| Wet Density (Ywet) (gm/cm <sup>3</sup> )             | 2.239            | 2.303            | 2.396            | 2.330            | 2.322            |
| Moisture ratio (%)                                   | 4.7              | 4.4              | 4.7              | 3.9              | 4.5              |
| Dry Density (Ydry) (gm/cm <sup>3</sup> )             | 2.138            | 2.205            | 2.288            | 2.243            | 2.222            |
| (Ymax.dry) (gm/cm <sup>3</sup> )                     | 2.177            |                  |                  |                  |                  |
| Compaction Ratio (%)                                 | 98               | 101              | 105              | 103              | 102              |

Lab director

Eng : Eman. E. Kandil

Geotechnical consultant

Dr. Mohamed Mostafa Badry



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# MATERIAL INSPECTION REQUEST



|                                          |                                    |                                                                                          |                         |                                             |                                   |    |    |      |    |    |
|------------------------------------------|------------------------------------|------------------------------------------------------------------------------------------|-------------------------|---------------------------------------------|-----------------------------------|----|----|------|----|----|
| Contractor Company                       |                                    | Project                                                                                  |                         | Designer Company                            |                                   |    |    |      |    |    |
| El-Mohandsin For Construction            |                                    | Electrical Express Train<br>( Borg Alarab - Alameia )<br>From St. 325+393 To St. 394+600 |                         | (SPECTRUM) Engineering Consulting<br>Office |                                   |    |    |      |    |    |
| Issued by<br>Contractor                  | Name                               | Sign                                                                                     | Date / Serial no.       | Time                                        |                                   |    |    |      |    |    |
|                                          | Eng.<br>Mohamed Abdel-Gawad        |                                                                                          | 14/05/2023              | 10:00 AM                                    |                                   |    |    |      |    |    |
| Received by GARB<br>Consultant           | Eng.<br>Mazen Essamy               | SNA                                                                                      | MLR, FDT ( D-SG-2 )     |                                             |                                   |    |    |      |    |    |
|                                          |                                    |                                                                                          | C1                      | C2                                          | C3                                | DD | MM | YY   | HH | MM |
|                                          |                                    |                                                                                          | 384                     | EW                                          | CS                                | 15 | 5  | 2023 | 10 | 00 |
| CODE-1<br>S1 to S21<br>Station Reference | CODE-1<br>D1 to S3 Depot Reference | CODE-1<br>Kp xxx Note<br>For Kilometer point only                                        | CODE-2<br>Work Activity |                                             | CODE-3<br>Sub Element of Activity |    |    |      |    |    |

|                          |                                                   |               |                                                                                        |       |            |
|--------------------------|---------------------------------------------------|---------------|----------------------------------------------------------------------------------------|-------|------------|
| Description of Materials | Diesel 2nd Prepared Subgrade Layer ( -0.40 m DL ) |               |                                                                                        |       |            |
| Location to be Used      | From St.                                          | 0+200         | To St.                                                                                 | 0+460 |            |
| UIR Approval No          | IR ( SG-2 )                                       |               |                                                                                        | Date  | 13/05/2023 |
| MAR Approval No          | M.A.R. QT ( 7 )<br>M.A.R. QT ( 7-1 )              |               |                                                                                        |       | 27/11/2023 |
| Supplier Name            | Al-Alamia                                         |               |                                                                                        |       |            |
| Test Requirement         | F.D.T(ASTM D 1556)                                | Specification | EARTHWORK SPECIFICATIONS &<br>TESTING REPORT (CG21-41.2)<br>VERSION 2 BY CIVECON GROUP |       |            |
| Reference Photos         | No / Yes                                          | Other         | Previous FDT ( D-SG-1 )                                                                |       |            |

| Item | Description    | Unit | Quantity | Arrival Date | Note |
|------|----------------|------|----------|--------------|------|
| 1    | Sand cone test | No.  | 26       | 15/5/2023    |      |
| 2    |                |      |          |              |      |
| 3    |                |      |          |              |      |
| 4    |                |      |          |              |      |

|                                                                                                    |                                                                                                                                                                                                    |
|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Comments by Eng. Mazen Essamy (SPECTRUM) :                                                         | Comments by Eng. Alaa Abd-Allatief ( ER ):                                                                                                                                                         |
| 1-The Compaction Test Result F.D.T. (ASTM D 1556) is Approved.<br>(by third Party Lab.) COMIBASSAL | 1-F.D.T was carried- out (by third Party Lab.) . CMIBASSAL<br>2-Results report attached and acceptable with project<br>specifications.<br>3-Final approval is subject to above mentioned comments. |

| APPROVAL STATUS             |                         |      |             |           |         |
|-----------------------------|-------------------------|------|-------------|-----------|---------|
| Organisation                | Name                    | Sign | Designation | Date      | A-AWC-R |
| Contractor<br>Engineer      | Eng.Mohamed Abdel-Gawad |      |             | 15/5/2023 | A       |
| QA/QC                       | Eng.Mazen Essamy        |      |             |           | A       |
| GARB*                       | Eng.Margaret Magdy      |      |             |           |         |
| Employers<br>Representative | Eng.Alaa Abd-Allatief   |      |             |           |         |

\* Alignment/Bridges: Culvert only

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A= Approved; AWC= Approved with Comments; R= Rejected



# 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. : 1032 /03/center  
Date : 24/5/2023

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

General consultant : SYSTRA  
Consultant : SPECTRUM  
Contractor : شركة المهندسين للتعمير  
Project : Diesel  
Sample : Prepared Sub grade (2)  
Date of test : 14- 5- 2023  
Results :

| Points NO.                                           | 1            | 2          | 3            | 4           | 5            |
|------------------------------------------------------|--------------|------------|--------------|-------------|--------------|
| Description                                          | St ( 0+200 ) | St (0+210) | St ( 0+220 ) | St ( 0+230) | St ( 0+240 ) |
| Intial wt. (gm)                                      | 11150        | 7785       | 9480         | 8365        | 7300         |
| Wt. after filling the cone and the hole (gm)         | 7920         | 4485       | 6300         | 5130        | 4050         |
| Wt. of wet Sample from hole (gm)                     | 2530         | 2745       | 2530         | 2540        | 2600         |
| Wt. of sand filling hole (gm)                        | 1710         | 1780       | 1660         | 1715        | 1730         |
| Wt. of sand filling cone (gm)                        | 1520         | 1520       | 1520         | 1520        | 1520         |
| Density of standared sand (Ys) (gm/cm <sup>3</sup> ) | 1.50         |            |              |             |              |
| Volume of hole (cm <sup>3</sup> )                    | 1140.00      | 1186.67    | 1107         | 1143.3      | 1153.3       |
| Wt. of wet Sample (gm)                               | 200          |            |              |             |              |
| Wt. of dry sample (gm)                               | 193          | 192.5      | 193          | 192.2       | 193.5        |
| Wet Density (Ywet) (gm/cm <sup>3</sup> )             | 2.219        | 2.313      | 2.286        | 2.222       | 2.254        |
| Moisture ratio (%)                                   | 3.6          | 3.9        | 3.6          | 4.1         | 3.4          |
| Dry Density (Ydry) (gm/cm <sup>3</sup> )             | 2.142        | 2.226      | 2.206        | 2.135       | 2.181        |
| (Ymax.dry) (gm/cm <sup>3</sup> )                     | 2.160        |            |              |             |              |
| Compaction Ratio (%)                                 | 99           | 103        | 102          | 99          | 101          |

Lab director

Eng : Eman. E. Kandil

Geotechnical consultant

Dr. Mohamed Mostafa Badry

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## 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. : 1032 /04/center  
Date : 24/6/2023

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

General consultant : SYSTRA  
Consultant : SPECTRUM  
Contractor : شركة المهندسين للتعمير  
Project : Diesel  
Sample : Prepared Sub grade (2)  
Date of test : 14- 5- 2023

#### Results :

| Points NO.                                   | 6            | 7          | 8            | 9           | 10           |
|----------------------------------------------|--------------|------------|--------------|-------------|--------------|
| Description                                  | St ( 0+250 ) | St (0+260) | St ( 0+270 ) | St ( 0+280) | St ( 0+290 ) |
| Intial wt. (gm)                              | 6275         | 10690      | 7550         | 8515        | 6890         |
| Wt. after filling the cone and the hole (gm) | 3070         | 7550       | 4325         | 5250        | 3600         |
| Wt. of wet Sample from hole (gm)             | 2500         | 2510       | 2540         | 2680        | 2575         |
| Wt. of sand filling hole (gm)                | 1685         | 1620       | 1705         | 1745        | 1770         |
| Wt. of sand filling cone (gm)                | 1520         | 1520       | 1520         | 1520        | 1520         |
| Density of standared sand (Ys) (gm/cm³)      | 1.50         |            |              |             |              |
| Volume of hole (cm³)                         | 1123.33      | 1080.00    | 1137         | 1163.3      | 1180.0       |
| Wt. of wet Sample (gm)                       | 200          |            |              |             |              |
| Wt. of dry sample (gm)                       | 193.5        | 191.6      | 193          | 193.2       | 193.8        |
| Wet Density (Ywet) (gm/cm³)                  | 2.226        | 2.324      | 2.235        | 2.304       | 2.182        |
| Moisture ratio (%)                           | 3.4          | 4.4        | 3.5          | 3.5         | 3.2          |
| Dry Density (Ydry) (gm/cm³)                  | 2.153        | 2.226      | 2.159        | 2.225       | 2.115        |
| (Ymax.dry) (gm/cm³)                          | 2.160        |            |              |             |              |
| Compaction Ratio (%)                         | 100          | 103        | 100          | 103         | 98           |

Lab director

Eng : Eman. E. Kandil

Geotechnical consultant

Dr. Mohamed Mostafa Badry



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# COMIBASSAL International Controllers

## Internal inspection and laboratories sector

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

Report NO. : 1032 /05/center  
Date : 24/5/2023

### Field Deter. Of Density Of Soil In Place Report

#### ASTM - D 1556

General consultant :

Consultant :

Contractor :

Project :

Sample :

Date of test :

Results :

SYSTRA

SPECTRUM

شركة المهندسين للتعمير

Diesel

Prepared Sub grade (2)

14-5-2023

| Points NO.                                          | 11           | 12           | 13           | 14           | 15           |
|-----------------------------------------------------|--------------|--------------|--------------|--------------|--------------|
| Description                                         | St ( 0+300 ) | St ( 0+310 ) | St ( 0+320 ) | St ( 0+330 ) | St ( 0+340 ) |
| Initial wt. (gm)                                    | 11440        | 8200         | 6840         | 8690         | 7310         |
| Wt. after filling the cone and the hole (gm)        | 8240         | 5000         | 3620         | 5500         | 4120         |
| Wt. of wet Sample from hole (gm)                    | 2520         | 2590         | 2535         | 2520         | 2490         |
| Wt. of sand filling hole (gm)                       | 1680         | 1680         | 1700         | 1670         | 1670         |
| Wt. of sand filling cone (gm)                       | 1520         | 1520         | 1520         | 1520         | 1520         |
| Density of standard sand (Ys) (gm/cm <sup>3</sup> ) | 1.50         |              |              |              |              |
| Volume of hole (cm <sup>3</sup> )                   | 1120.00      | 1120.00      | 1133         | 1113.3       | 1113.3       |
| Wt. of wet Sample (gm)                              | 200          |              |              |              |              |
| Wt. of dry sample (gm)                              | 192.6        | 192.6        | 193          | 192.4        | 193.8        |
| Wet Density (Ywet) (gm/cm <sup>3</sup> )            | 2.250        | 2.313        | 2.237        | 2.263        | 2.237        |
| Moisture ratio (%)                                  | 3.8          | 3.8          | 3.6          | 4.0          | 3.2          |
| Dry Density (Ydry) (gm/cm <sup>3</sup> )            | 2.167        | 2.227        | 2.158        | 2.177        | 2.167        |
| (Ymax.dry) (gm/cm <sup>3</sup> )                    | 2.160        |              |              |              |              |
| Compaction Ratio (%)                                | 100          | 103          | 100          | 101          | 100          |

Lab director

Eng : Eman. E. Kandil

Geotechnical consultant

Dr. Mohamed Mostafa Badry



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Fax : 002 033900476

Email : internal-inspection@comibassal.com

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# 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. : 1032 /06/center  
Date : 24/5/2023

### Field Deter. Of Density Of Soil In Place Report

#### ASTM - D 1556

General consultant :  
Consultant : SYSTRA  
Contractor :  
Project : شركة المهندسين للتعمير  
Sample : Diesel  
Date of test : Prepared Sub grade (2)  
Results : 14- 5- 2023

| Points NO.                                          | 16           | 17         | 18           | 19          | 20           |
|-----------------------------------------------------|--------------|------------|--------------|-------------|--------------|
| Description                                         | St ( 0+350 ) | St (0+360) | St ( 0+370 ) | St ( 0+380) | St ( 0+390 ) |
| Intial wt. (gm)                                     | 9570         | 11140      | 8200         | 6660        | 9755         |
| Wt.after filling the cone and the hole (gm)         | 6520         | 8060       | 5200         | 3640        | 6670         |
| Wt. of wet Sample from hole (gm)                    | 2535         | 2500       | 2450         | 2510        | 2530         |
| Wt. of sand filling hole (gm)                       | 1680         | 1710       | 1630         | 1650        | 1715         |
| Wt. of sand filling cone (gm)                       | 1370         | 1370       | 1370         | 1370        | 1370         |
| Density of standard sand (Ys) (gm/cm <sup>3</sup> ) | 1.50         |            |              |             |              |
| Volume of hole (cm <sup>3</sup> )                   | 1120.00      | 1140.00    | 1087         | 1100.0      | 1143.3       |
| Wt. of wet Sample (gm)                              | 200          |            |              |             |              |
| Wt. of dry sample (gm)                              | 193.2        | 193        | 192          | 193.0       | 193.5        |
| Wet Density (Ywet) (gm/cm <sup>3</sup> )            | 2.263        | 2.193      | 2.255        | 2.282       | 2.213        |
| Moisture ratio (%)                                  | 3.5          | 3.6        | 4.2          | 3.6         | 3.4          |
| Dry Density (Ydry) (gm/cm <sup>3</sup> )            | 2.186        | 2.116      | 2.164        | 2.202       | 2.141        |
| (Ymax.dry) (gm/cm <sup>3</sup> )                    | 2.160        |            |              |             |              |
| Compaction Ratio (%)                                | 101          | 98         | 100          | 102         | 99           |

Lab director

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

Report NO. : 1032 /07/center  
Date : 24/5/2023

### Field Deter. Of Density Of Soil In Place Report

#### ASTM - D 1556

SYSTRA  
SPECTRUM

شركة المهندسين للتصميم  
Diesel

Prepared Sub grade (2)  
14- 5- 2023

General consultant :  
Consultant :  
Contractor :  
Project :  
Sample :  
Date of test :  
Results :

| Points NO.                                          | 21           | 22         | 23           | 24          | 25           | 26           | 27           |
|-----------------------------------------------------|--------------|------------|--------------|-------------|--------------|--------------|--------------|
| Description                                         | St ( 0+400 ) | St (0+410) | St ( 0+420 ) | St ( 0+430) | St ( 0+440 ) | St ( 0+450 ) | St ( 0+460 ) |
| Initial wt. (gm)                                    | 6620         | 8840       | 7670         | 10425       | 7520         | 9470         | 6270         |
| Wt. after filling the cone and the hole (gm)        | 3610         | 5800       | 4610         | 7420        | 4550         | 6380         | 3200         |
| Wt. of wet Sample from hole (gm)                    | 2490         | 2515       | 2565         | 2470        | 2450         | 2510         | 2490         |
| Wt. of sand filling hole (gm)                       | 1640         | 1670       | 1690         | 1635        | 1600         | 1720         | 1700         |
| Wt. of sand filling cone (gm)                       | 1370         | 1370       | 1370         | 1370        | 1370         | 1370         | 1370         |
| Density of standard sand (Ys) (gm/cm <sup>3</sup> ) | 1.50         |            |              |             |              |              |              |
| Volume of hole (cm <sup>3</sup> )                   | 1093.33      | 1113.33    | 1127         | 1090.0      | 1066.7       | 1146.7       | 1133.3       |
| Wt. of wet Sample (gm)                              | 200          |            |              |             |              |              |              |
| Wt. of dry sample (gm)                              | 193.4        | 192        | 194          | 192.6       | 193.4        | 193.5        | 193.0        |
| Wet Density (Ywet) (gm/cm <sup>3</sup> )            | 2.277        | 2.259      | 2.277        | 2.266       | 2.297        | 2.189        | 2.197        |
| Moisture ratio (%)                                  | 3.4          | 4.2        | 3.4          | 3.8         | 3.4          | 3.4          | 3.6          |
| Dry Density (Ydry) (gm/cm <sup>3</sup> )            | 2.202        | 2.169      | 2.203        | 2.182       | 2.221        | 2.118        | 2.120        |
| (Ymax.dry) (gm/cm <sup>3</sup> )                    | 2.160        |            |              |             |              |              |              |
| Compaction Ratio (%)                                | 102          | 100        | 102          | 101         | 103          | 98           | 98           |

Lab director

*Eman*

Eng : Eman. E. Kandil

Geotechnical consultant

*For. Dr. M.*

Dr. Mohamed Mostafa Badry



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# MATERIAL INSPECTION REQUEST



| Contractor Company            | Project                                                                                  | Designer Company                            |
|-------------------------------|------------------------------------------------------------------------------------------|---------------------------------------------|
| El-Mohandsin For Construction | Electrical Express Train<br>( Borg Alarab - Alamein )<br>From St. 325+393 To St. 394+600 | (SPECTRUM) Engineering Consulting<br>Office |

| Issued by Contractor | Name                     | Sign | Date / Serial no.                 | Time    |
|----------------------|--------------------------|------|-----------------------------------|---------|
|                      | Eng. Mohamed Abdel-Gawad |      | 16/05/2023<br>M.I.R. FDT ( D-16 ) | 9:00 AM |

| Received by GARB Consultant | Eng. Mazen Essamy | SNA | C1  | C2 | C3 | DD | MM | YY   | HH | MM |
|-----------------------------|-------------------|-----|-----|----|----|----|----|------|----|----|
|                             |                   |     | 384 | EW | CS | 17 | 5  | 2023 | 9  | 00 |

| CODE-1<br>S1 to S21<br>Station Reference | CODE-1<br>D1 to S3 Depot Reference | CODE-1<br>Kp xxx Note<br>For Kilometer point only | CODE-2<br>Work Activity | CODE-3<br>Sub Element of Activity |
|------------------------------------------|------------------------------------|---------------------------------------------------|-------------------------|-----------------------------------|
|------------------------------------------|------------------------------------|---------------------------------------------------|-------------------------|-----------------------------------|

|                          |                              |  |  |  |  |
|--------------------------|------------------------------|--|--|--|--|
| Description of Materials | Diesel Fill Layer ( T.O.E. ) |  |  |  |  |
|--------------------------|------------------------------|--|--|--|--|

|                     |          |       |        |       |
|---------------------|----------|-------|--------|-------|
| Location to be Used | From St. | 0+520 | To St. | 0+580 |
|---------------------|----------|-------|--------|-------|

|                 |           |      |            |
|-----------------|-----------|------|------------|
| UIR Approval No | IR ( 18 ) | Date | 15/05/2023 |
|-----------------|-----------|------|------------|

|                 |                  |      |            |
|-----------------|------------------|------|------------|
| MAR Approval No | M.A.R. QT ( 13 ) | Date | 14/05/2023 |
|-----------------|------------------|------|------------|

|               |         |  |  |
|---------------|---------|--|--|
| Supplier Name | El-Sewy |  |  |
|---------------|---------|--|--|

|                  |                     |               |                                                                                        |
|------------------|---------------------|---------------|----------------------------------------------------------------------------------------|
| Test Requirement | F.D.T (ASTM D 1556) | Specification | EARTHWORK SPECIFICATIONS &<br>TESTING REPORT (CG21-41.2)<br>VERSION 2 BY CIVECON GROUP |
|------------------|---------------------|---------------|----------------------------------------------------------------------------------------|

|                  |          |       |                                     |
|------------------|----------|-------|-------------------------------------|
| Reference Photos | No / Yes | Other | Previous M.I.R. FDT ( D-13 Rev 01 ) |
|------------------|----------|-------|-------------------------------------|

| Item | Description    | Unit | Quantity | Arrival Date | Note |
|------|----------------|------|----------|--------------|------|
| 1    | Sand cone test | No.  | 3        | 17/5/2023    |      |
| 2    |                |      |          |              |      |
| 3    |                |      |          |              |      |
| 4    |                |      |          |              |      |

|                                            |                                            |
|--------------------------------------------|--------------------------------------------|
| Comments by Eng. Mazen Essamy (SPECTRUM) : | Comments by Eng. Alaa Abd-Allatief ( ER ): |
|--------------------------------------------|--------------------------------------------|

|                                                                                                    |                                                                                                                                                                                                   |
|----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1-The Compaction Test Result F.D.T. (ASTM D 1556) is Approved.<br>(by third Party Lab.) COMIBASSAL | 1-F.D.T was carried-out (by third Party Lab.) . CMIBASSAL<br>2-Results report attached and acceptable with project<br>specifications.<br>3-Final approval is subject to above mentioned comments. |
|----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                 |  |  |  |  |  |
|-----------------|--|--|--|--|--|
| APPROVAL STATUS |  |  |  |  |  |
|-----------------|--|--|--|--|--|

| Organisation             | Name                    | Sign | Designation | Date      | A-AWC-R |
|--------------------------|-------------------------|------|-------------|-----------|---------|
| Contractor               | Eng.Mohamed Abdel-Gawad |      |             | 17/5/2023 | A       |
| QA/QC                    | Eng.Mazen Essamy        |      |             |           | A       |
| GARB*                    | Eng.Margaret Magdy      |      |             |           |         |
| Employers Representative | Eng.Alaa Abd-Allatief   |      |             | 24-5-2023 | A WC    |

\* Alignment/Bridges: Culvert only

File: MIR - Material Inspection Request Rev 0822-1.docx

A= Approved; AWC= Approved with Comments; R= Rejected

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# COMIBASSAL International Controllers

## Internal inspection and laboratories sector

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

Report NO. : 1032 /09/center  
Date : 24/5/2023

### Field Deter. Of Density Of Soil In Place Report

#### ASTM - D 1556

General consultant : SYSTRA  
Contractor : SPECTRUM  
Project : شركة المهندسين للتعمير  
Sample : Diesel  
Date of test : Ferma  
Results : 17- 5- 2023

| Points NO.                                          | 3            | 4          | 5            |
|-----------------------------------------------------|--------------|------------|--------------|
| Description                                         | St ( 0+525 ) | St (0+550) | St ( 0+575 ) |
| Initial wt. (gm)                                    | 7430         | 7450       | 6550         |
| Wt. after filling the cone and the hole (gm)        | 4300         | 4310       | 3460         |
| Wt. of wet Sample from hole (gm)                    | 2540         | 2620       | 2565         |
| Wt. of sand filling hole (gm)                       | 1760         | 1770       | 1720         |
| Wt. of sand filling cone (gm)                       | 1370         | 1370       | 1370         |
| Density of standard sand (Ys) (gm/cm <sup>3</sup> ) | 1.50         |            |              |
| Volume of hole (cm <sup>3</sup> )                   | 1173.33      | 1180.00    | 1147         |
| Wt. of wet Sample (gm)                              | 200          |            |              |
| Wt. of dry sample (gm)                              | 193.5        | 193.8      | 194          |
| Wet Density (Ywet) (gm/cm <sup>3</sup> )            | 2.165        | 2.220      | 2.237        |
| Moisture ratio (%)                                  | 3.4          | 3.2        | 3.4          |
| Dry Density (Ydry) (gm/cm <sup>3</sup> )            | 2.094        | 2.152      | 2.164        |
| (Ymax.dry) (gm/cm <sup>3</sup> )                    | 2.128        |            |              |
| Compaction Ratio (%)                                | 98           | 101        | 100          |

Lab director  
*Eman*  
Eng : Eman. E. Kandil



Geotechnical consultant  
*For. Dr. M.*  
Dr. Mohamed Mostafa Badry

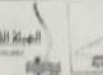
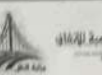
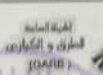
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| Contractor Company            | Project                                                                                  | Designer Company                            |
|-------------------------------|------------------------------------------------------------------------------------------|---------------------------------------------|
| El-Mohandsin For Construction | Electrical Express Train<br>( Borg Alarab - Alamein )<br>From St. 325+393 To St. 394+600 | (SPECTRUM) Engineering Consulting<br>Office |

| Issued by<br>Contractor | Name                        | Sign | Date / Serial no.                 | Time    |
|-------------------------|-----------------------------|------|-----------------------------------|---------|
|                         | Eng.<br>Mohamed Abdel-Gawad |      | 08/05/2023<br>M.I.R. FDT ( D-12 ) | 9:00 AM |

| Received by GARB<br>Consultant | Eng.<br>Mazen Essamy | SNA | C1  | C2 | C3 | DD | MM | YY   | HH | MM |
|--------------------------------|----------------------|-----|-----|----|----|----|----|------|----|----|
|                                |                      |     | 384 | EW | CS | 9  | 5  | 2023 | 9  | 00 |

| CODE-1<br>S1 to S21<br>Station Reference | CODE-1<br>D1 to S3 Depot Reference | CODE-1<br>Kp xxx Note<br>For Kilometer point only | CODE-2<br>Work Activity | CODE-3<br>Sub Element of Activity |
|------------------------------------------|------------------------------------|---------------------------------------------------|-------------------------|-----------------------------------|
|------------------------------------------|------------------------------------|---------------------------------------------------|-------------------------|-----------------------------------|

|                          |                                        |               |                                                                                        |            |
|--------------------------|----------------------------------------|---------------|----------------------------------------------------------------------------------------|------------|
| Description of Materials | Diesel Fill Layer ( T.O.E. )           |               |                                                                                        |            |
| Location to be Used      | From St.                               | 0+460         | To St.                                                                                 | 0+520      |
| UIR Approval No          | IR ( 14 )                              |               | Date                                                                                   | 08/05/2023 |
| MAR Approval No          | M.A.R. QT ( 11 )<br>M.A.R. QT ( 11-1 ) |               |                                                                                        | 06/02/2023 |
| Supplier Name            | El-Sewy                                |               |                                                                                        |            |
| Test Requirement         | F.D.T(ASTM D 1556)                     | Specification | EARTHWORK SPECIFICATIONS &<br>TESTING REPORT (CG21-41.2)<br>VERSION 2 BY CIVECON GROUP |            |
| Reference Photos         | No / Yes                               | Other         | Previous M.I.R. FDT ( D-8 )                                                            |            |

| Item | Description    | Unit | Quantity | Arrival Date | Note |
|------|----------------|------|----------|--------------|------|
| 1    | Sand cone test | No.  | 2        | 10/5/2023    |      |
| 2    |                |      |          |              |      |
| 3    |                |      |          |              |      |
| 4    |                |      |          |              |      |

|                                                                                                    |                                                                                                                                                                                                   |
|----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Comments by Eng. Mazen Essamy (SPECTRUM) :                                                         | Comments by Eng. Alaa Abd-Allatief ( ER ) :                                                                                                                                                       |
| 1-The Compaction Test Result F.D.T. (ASTM D 1556) is Approved.<br>(by third Party Lab.) COMIBASSAL | 1-F.D.T was carried-out (by third Party Lab.) . CMIBASSAL<br>2-Results report attached and acceptable with project<br>specifications.<br>3-Final approval is subject to above mentioned comments. |

## APPROVAL STATUS

| Organisation                | Name                    | Sign | Designation | Date      | A-AWC-R |
|-----------------------------|-------------------------|------|-------------|-----------|---------|
| Contractor<br>Engineer      | Eng.Mohamed Abdel-Gawad |      |             | 10/5/2023 | A       |
| QA/QC                       | Eng.Mazen Essamy        |      |             |           | A       |
| GARB*                       | Eng.Margaret Magdy      |      |             |           |         |
| Employers<br>Representative | Eng.Alaa Abd-Allatief   |      |             | 24-5-2023 | Awc     |