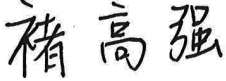


平阳鳌江标准堤加固工程初步设计堤防地基土层物理力学指标建议值总表

附表1-1

| 岩土编号  | 岩土名称              | 天然含水率             | 湿密度               | 干密度  | 饱和密度 | 土粒比重 | 天然孔隙比 | 饱和度  | 液限   | 塑限   | 塑性指数 | 液性指数 | 颗粒组成百分数 |       |       |       |        |         |          |            |             |                      | 渗 透                  |                      | 直 剪                                  |          |         |          | 固结（垂直） |       |       | 建议值    |            |            |   |   |
|-------|-------------------|-------------------|-------------------|------|------|------|-------|------|------|------|------|------|---------|-------|-------|-------|--------|---------|----------|------------|-------------|----------------------|----------------------|----------------------|--------------------------------------|----------|---------|----------|--------|-------|-------|--------|------------|------------|---|---|
|       |                   |                   |                   |      |      |      |       |      |      |      |      |      | >60     | 40-60 | 20-40 | 10-20 | 2.0-10 | 0.5-2.0 | 0.25-0.5 | 0.075-0.25 | 0.005-0.075 | 0-0.005              | 水平渗透系数               | 竖向渗透系数               | 粘聚力(快剪)                              | 内摩擦角(快剪) | 粘聚力(固快) | 内摩擦角(固快) | 压缩系数   | 压缩模量  | 固结系数  | 承载力特征值 | 钻孔灌注桩      |            |   |   |
|       |                   |                   |                   |      |      |      |       |      |      |      |      |      |         |       |       |       |        |         |          |            |             |                      |                      |                      |                                      |          |         |          |        |       |       |        | 桩的极限侧阻力标准值 | 桩的极限端阻力标准值 |   |   |
|       |                   |                   |                   |      |      |      |       |      |      |      |      |      |         |       |       |       |        |         |          |            |             |                      |                      |                      |                                      |          |         |          |        |       |       |        |            |            | ω | ρ |
| %     | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |      | %    | %    | %     |      | %    | %    | %    | %    | %       | %     | %     | %     | %      | cm/s    | kPa      | 度          | kPa         | 度                    | MPa <sup>-1</sup>    | MPa                  | ×10 <sup>-3</sup> cm <sup>2</sup> /s | kPa      | kPa     | kPa      |        |       |       |        |            |            |   |   |
| 0     | 块石                |                   |                   |      |      |      |       |      |      |      |      |      |         | 16.2  | 64.2  | 9.6   | 6.2    | 1.8     | 0.8      | 0.6        | 0.3         | 0.3                  |                      |                      |                                      |          |         |          |        |       |       |        |            |            |   |   |
| 0-1   | 碎石土（堤身）           |                   |                   |      |      |      |       |      |      |      |      |      | 25.2    | 25.4  | 31.8  | 4.9   | 1.6    | 0.4     | 0.7      | 0.5        | 4.6         | 4.9                  |                      |                      | 0                                    | 35       |         |          |        |       |       |        |            |            |   |   |
| 0-2   | 粉质粘土（堤身）          | 33.1              | 1.91              | 1.44 | 1.91 | 2.71 | 0.901 | 99.7 | 37.3 | 24   | 13.4 | 0.69 |         |       |       |       |        |         |          |            | 53.5        | 46.5                 | 7.0×10 <sup>-5</sup> | 5.0×10 <sup>-5</sup> | 14.5                                 | 11.4     | 14.8    | 12.5     | 0.58   | 3.29  | 1.63  |        |            |            |   |   |
| 0-4   | 碎石土               |                   |                   |      |      |      |       |      |      |      |      |      | 39.7    | 20.8  | 20    | 2     | 2.9    | 2       | 2        | 1.6        | 4.7         | 4.3                  |                      |                      | 0                                    | 33       |         |          |        |       |       |        |            |            |   |   |
| 0-5   | 素填土               | 33.2              | 1.89              | 1.42 | 1.90 | 2.72 | 0.924 | 97.8 | 35.5 | 22.3 | 13.2 | 0.83 |         |       |       |       |        |         |          |            | 69.5        | 30.5                 | 7.3×10 <sup>-5</sup> | 5.1×10 <sup>-5</sup> | 14.3                                 | 11.4     | 14.6    | 12.5     | 0.549  | 3.58  | 2.022 |        |            |            |   |   |
| 1     | 粉质粘土              | 32.8              | 1.9               | 1.43 | 1.91 | 2.72 | 0.903 | 98.7 | 36.1 | 22.2 | 13.9 | 0.75 |         |       |       |       | 0.3    | 0.4     | 0.7      | 0.5        | 64.1        | 34.1                 | 7.1×10 <sup>-5</sup> | 5.6×10 <sup>-5</sup> | 16.9                                 | 11.6     | 19      | 14.3     | 0.554  | 3.59  | 1.735 | 110    | 42         |            |   |   |
| 2-0   | 淤泥                | 63.4              | 1.63              | 1    | 1.64 | 2.75 | 1.749 | 99.6 | 54.8 | 29.3 | 25.5 | 1.34 |         |       |       |       |        |         |          |            | 49          | 51                   | 3.0×10 <sup>-6</sup> | 1.5×10 <sup>-6</sup> | 4.7                                  | 2.8      | 7.3     | 5.8      | 1.385  | 2.06  | 1.333 | 50     | 10         |            |   |   |
| 2-1   | 淤泥质粘土             | 46                | 1.76              | 1.2  | 1.76 | 2.73 | 1.276 | 98.6 | 42.8 | 25.1 | 17.7 | 1.2  |         |       |       |       |        |         |          |            | 59.4        | 40.6                 | 6.4×10 <sup>-6</sup> | 5.0×10 <sup>-6</sup> | 11.8                                 | 8.4      | 14      | 11.7     | 0.957  | 2.48  | 1.524 | 78     | 20         |            |   |   |
| 2-2   | 淤泥                | 59.3              | 1.66              | 1.04 | 1.66 | 2.75 | 1.642 | 99.2 | 53.5 | 29.4 | 24.1 | 1.24 |         |       |       |       |        |         |          |            | 49.9        | 50.1                 | 3.7×10 <sup>-6</sup> | 2.0×10 <sup>-6</sup> | 6                                    | 3.8      | 9.5     | 7.2      | 1.407  | 1.92  | 1.480 | 55     | 11         |            |   |   |
| 2-2夹  | 淤泥夹贝壳             |                   |                   |      |      |      |       |      |      |      |      |      |         |       |       |       | 29.2   | 10.6    | 7.1      | 14.6       | 21.1        | 17.4                 | 8.0×10 <sup>-5</sup> | 6.0×10 <sup>-5</sup> |                                      |          | 15      | 23       | 0.337  | 5.89  | 4.493 |        | 12         |            |   |   |
| 3-1   | 淤泥质粘土             | 48.8              | 1.74              | 1.17 | 1.74 | 2.73 | 1.343 | 99.2 | 48.3 | 26.8 | 21.5 | 1.03 |         |       |       |       |        |         |          |            | 60.1        | 39.9                 | 5.8×10 <sup>-6</sup> | 3.2×10 <sup>-6</sup> | 11.1                                 | 6.9      | 13.3    | 10       | 0.949  | 2.49  | 1.558 | 70     | 18         |            |   |   |
| 3-2   | 含砂粉质粘土            | 36                | 1.86              | 1.37 | 1.87 | 2.7  | 0.979 | 99.2 | 32.2 | 20.8 | 11.4 | 0.84 |         |       |       |       |        |         |          | 10         | 63.5        | 26.5                 | 4.5×10 <sup>-5</sup> | 3.2×10 <sup>-5</sup> | 15                                   | 12.6     | 20      | 18.8     | 0.805  | 2.46  | 3.816 | 100    | 40         | 400        |   |   |
| 3-3   | 粘土                | 39                | 1.82              | 1.31 | 1.83 | 2.73 | 1.08  | 98.5 | 42.1 | 24.8 | 17.3 | 0.82 |         |       |       |       |        |         |          |            | 63          | 37                   | 4.0×10 <sup>-6</sup> | 2.8×10 <sup>-6</sup> | 14.3                                 | 10.2     | 17      | 12.2     | 0.615  | 3.68  | 1.859 | 95     | 38         | 380        |   |   |
| 4-1   | 粉质粘土              | 27.1              | 1.97              | 1.56 | 1.98 | 2.71 | 0.746 | 98.2 | 33.3 | 21.2 | 12.1 | 0.49 |         |       |       |       |        |         |          |            | 75.7        | 24.3                 | 5.1×10 <sup>-6</sup> | 4.0×10 <sup>-6</sup> | 19.5                                 | 13.2     | 24.9    | 17.7     | 0.401  | 4.63  | 1.948 | 155    | 58         | 900        |   |   |
| 4-3-1 | 粉质粘土夹粉土粉砂         | 25.5              | 1.98              | 1.58 | 1.99 | 2.69 | 0.707 | 96.8 | 31.9 | 20.8 | 11.1 | 0.68 |         |       |       |       |        |         | 1.3      | 81.4       | 17.3        | 5.0×10 <sup>-5</sup> | 4.0×10 <sup>-5</sup> | 14.9                 | 15                                   | 16.7     | 18      | 0.334    | 5.47   | 3.73  | 145   | 56     | 560        |            |   |   |
| 4-3-2 | 粉土                | 26.7              | 1.98              | 1.56 | 1.98 | 2.69 | 0.731 | 98.3 | 28.9 | 20.1 | 8.8  | 0.85 |         |       |       |       |        | 1       | 3.4      | 84.6       | 11          | 1.5×10 <sup>-4</sup> | 1.0×10 <sup>-4</sup> | 13                   | 18.6                                 | 14.3     | 22.6    | 0.232    | 8.06   | 3.894 | 140   | 70     | 850        |            |   |   |
| 4-4   | 粉质粘土              | 37.3              | 1.85              | 1.35 | 1.85 | 2.72 | 1.028 | 98.9 | 41.6 | 24.9 | 16.7 | 0.74 |         |       |       |       |        | 0.2     | 0.3      | 68.6       | 30.8        | 6.5×10 <sup>-6</sup> | 4.0×10 <sup>-6</sup> | 18.8                 | 12.2                                 | 21.5     | 15.3    | 0.485    | 4.55   | 1.871 | 110   | 42     | 550        |            |   |   |
| 8-2   | 含粘性土碎石            |                   |                   |      |      |      |       |      |      |      |      |      | 31.8    | 39.1  | 7.2   | 2.4   | 4.5    | 2.9     | 2.6      | 1.9        | 3.6         | 4                    |                      |                      |                                      |          | 10      | 30       |        |       |       | 330    | 120        | 1900       |   |   |
| 8-3   | 粉质粘土              | 21.2              | 2.08              | 1.72 | 2.08 | 2.71 | 0.579 | 99.2 | 33.6 | 20.6 | 13   | 0.05 |         |       |       |       |        |         |          |            | 63.5        | 36.5                 | 5.5×10 <sup>-6</sup> | 4.0×10 <sup>-6</sup> | 19                                   | 12       | 22      | 16       | 0.32   | 4.93  | 1.785 | 190    | 72         | 1300       |   |   |
| 10    | 全风化凝灰岩            |                   |                   |      |      |      |       |      |      |      |      |      |         |       |       |       |        |         |          |            |             |                      |                      |                      |                                      |          |         |          |        |       | 160   | 120    | 1000       |            |   |   |
|       | 强风化凝灰岩            |                   |                   |      |      |      |       |      |      |      |      |      |         |       |       |       |        |         |          |            |             |                      |                      |                      |                                      |          |         |          |        |       | 600   | 160    | 1800       |            |   |   |
|       | 弱风化凝灰岩            |                   |                   |      |      |      |       |      |      |      |      |      |         |       |       |       |        |         |          |            |             |                      |                      |                      |                                      |          |         |          |        |       | 2500  | 200    | 4000       |            |   |   |

核 定：

审 查：

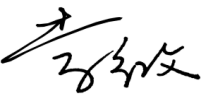
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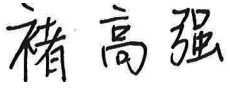
制 表： 日期：2021. 08

平阳鳌江标准堤加固工程初步设计雁门闸地基土层物理力学指标建议值总表

附表1-2

| 岩土<br>编号 | 岩土<br>名称         | 天然<br>含水率      | 湿<br>密度          | 干<br>密度        | 饱<br>和<br>密度   | 土<br>粒<br>比<br>重 | 天然<br>孔<br>隙<br>比 | 饱<br>和<br>度    | 液<br>限         | 塑<br>限         | 塑<br>性<br>指<br>数 | 液<br>性<br>指<br>数 | 颗粒组成百分数 |       |       |       |        |         |          |            |                      |                      | 渗 透                  |                      | 直 剪               |                  |                                      |                  | 固结（垂直）   |          |          | 建议值            |                        |                        |
|----------|------------------|----------------|------------------|----------------|----------------|------------------|-------------------|----------------|----------------|----------------|------------------|------------------|---------|-------|-------|-------|--------|---------|----------|------------|----------------------|----------------------|----------------------|----------------------|-------------------|------------------|--------------------------------------|------------------|----------|----------|----------|----------------|------------------------|------------------------|
|          |                  |                |                  |                |                |                  |                   |                |                |                |                  |                  | >60     | 40~60 | 20~40 | 10~20 | 2.0~10 | 0.5~2.0 | 0.25~0.5 | 0.075~0.25 | 0.005~0.075          | 0~0.005              | 水平<br>渗透<br>系数       | 竖向<br>渗透<br>系数       | 粘聚<br>力<br>(快剪)   | 内摩<br>擦角<br>(快剪) | 粘聚<br>力<br>(固快)                      | 内摩<br>擦角<br>(固快) | 压缩<br>系数 | 压缩<br>模量 | 固结<br>系数 | 承载<br>力特<br>征值 | 钻孔灌注桩                  |                        |
|          |                  |                |                  |                |                |                  |                   |                |                |                |                  |                  |         |       |       |       |        |         |          |            |                      |                      |                      |                      |                   |                  |                                      |                  |          |          |          |                | 桩的极<br>限侧阻<br>力标准<br>值 | 桩的极<br>限端阻<br>力标准<br>值 |
|          |                  |                |                  |                |                |                  |                   |                |                |                |                  |                  |         |       |       |       |        |         |          |            |                      |                      |                      |                      |                   |                  |                                      |                  |          |          |          |                |                        |                        |
| ω        | ρ                | ρ <sub>d</sub> | ρ <sub>sat</sub> | G <sub>s</sub> | e <sub>0</sub> | S <sub>r</sub>   | ω <sub>L</sub>    | ω <sub>p</sub> | I <sub>p</sub> | I <sub>L</sub> | %                | %                | %       | %     | %     | %     | %      | %       | %        | cm/s       | kPa                  | 度                    | kPa                  | 度                    | MPa <sup>-1</sup> | MPa              | ×10 <sup>-3</sup> cm <sup>2</sup> /s | kPa              | kPa      | kPa      |          |                |                        |                        |
| 1        | 粉质粘土             | 32.8           | 1.9              | 1.43           | 1.91           | 2.72             | 0.903             | 98.7           | 36.1           | 22.2           | 13.9             | 0.75             |         |       |       |       | 0.3    | 0.4     | 0.7      | 0.5        | 64                   | 34.1                 | 7.1×10 <sup>-5</sup> | 5.6×10 <sup>-5</sup> | 16.9              | 11.6             | 19                                   | 14.3             | 0.554    | 3.59     | 1.735    | 110            | 42                     |                        |
| 2-0      | 淤泥               | 57.1           | 1.67             | 1.06           | 1.67           | 2.74             | 1.585             | 98.7           | 49.9           | 28.8           | 21               | 1.38             |         |       |       |       |        |         |          | 48.9       | 51.1                 | 3.0×10 <sup>-6</sup> | 1.5×10 <sup>-6</sup> | 5.6                  | 3.8               | 7.3              | 5.8                                  | 1.214            | 2.15     | 1.333    | 50       | 10             |                        |                        |
| 2-1      | 淤泥质粘土            | 49             | 1.73             | 1.17           | 1.74           | 2.73             | 1.345             | 99.2           | 44.5           | 26.2           | 18.3             | 1.25             |         |       |       |       |        |         |          | 61.9       | 38.1                 | 6.4×10 <sup>-6</sup> | 5.0×10 <sup>-6</sup> | 10                   | 7.5               | 13.1             | 11.3                                 | 1.092            | 2.28     | 1.5      | 70       | 20             |                        |                        |
| 2-1夹     | 淤泥质粉质粘土<br>夹粉土粉砂 | 41.5           | 1.8              | 1.27           | 1.8            | 2.71             | 1.134             | 99.2           | 38.3           | 23.5           | 14.9             | 1.2              |         |       |       |       |        | 0.5     | 75.2     | 24.3       | 8.3×10 <sup>-6</sup> | 6.0×10 <sup>-6</sup> | 12.5                 | 11                   | 14.7              | 12.7             | 0.658                                | 3.44             | 3.206    | 80       | 30       |                |                        |                        |
| 2-2      | 淤泥               | 61.4           | 1.64             | 1.02           | 1.65           | 2.74             | 1.698             | 99.2           | 53.4           | 29.5           | 23.9             | 1.34             |         |       |       |       |        |         |          | 49.6       | 50.4                 | 3.7×10 <sup>-6</sup> | 2.0×10 <sup>-6</sup> | 5.8                  | 3.7               | 9.5              | 7.2                                  | 1.486            | 1.87     | 1.304    | 50       | 10             |                        |                        |
| 3-1      | 淤泥质粘土            | 50.1           | 1.72             | 1.15           | 1.73           | 2.73             | 1.382             | 99             | 47.8           | 27.2           | 20.6             | 1.11             |         |       |       |       |        |         |          | 52.2       | 47.8                 | 5.8×10 <sup>-6</sup> | 3.2×10 <sup>-6</sup> | 10.5                 | 7                 | 12.5             | 10                                   | 1.044            | 2.31     | 1.22     | 70       | 18             |                        |                        |
| 3-3      | 粘土               | 41             | 1.8              | 1.28           | 1.81           | 2.73             | 1.133             | 98.6           | 42.5           | 25.2           | 17.3             | 0.91             |         |       |       |       |        |         |          | 62.3       | 37.7                 | 4.0×10 <sup>-6</sup> | 2.8×10 <sup>-6</sup> | 14.3                 | 10.2              | 17               | 12.2                                 | 0.843            | 2.59     | 1.859    | 95       | 35             | 340                    |                        |
| 4-4      | 粉质粘土             | 32.6           | 1.89             | 1.43           | 1.9            | 2.71             | 0.91              | 96.9           | 36.7           | 22.9           | 13.7             | 0.68             |         |       |       |       |        | 1.8     | 5.5      | 74.4       | 18.3                 | 6.5×10 <sup>-6</sup> | 4.0×10 <sup>-6</sup> | 18                   | 12.5              | 22               | 15                                   | 0.643            | 3.48     | 2.933    | 110      | 54             | 650                    |                        |
| 5-3      | 圆砾               |                |                  |                |                |                  |                   |                |                |                |                  |                  |         | 15.4  | 21.5  | 13.3  | 13.9   | 6.7     | 7.3      | 4.4        | 8.6                  | 8.9                  | 6.5×10 <sup>-3</sup> |                      |                   |                  | 0                                    | 28               |          |          |          | 280            | 120                    | 2200                   |

核 定：

审 查：

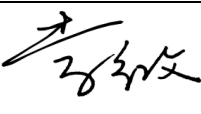
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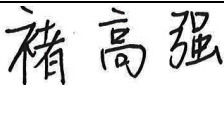
制 表： 日期：2021.08

平阳鳌江标准堤加固工程初步设计下埠闸地基土层物理力学指标建议值总表

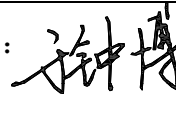
附表1-3

| 岩土<br>编号   | 岩土<br>名称          | 天然<br>含水<br>率     | 湿<br>密<br>度       | 干<br>密<br>度 | 饱<br>和<br>密<br>度 | 土<br>粒<br>比<br>重 | 天然<br>孔<br>隙<br>比 | 饱<br>和<br>度 | 液<br>限 | 塑<br>限         | 塑<br>性<br>指<br>数 | 液<br>性<br>指<br>数 | 颗粒组成百分数        |                 |                 |                   |                    |                   |                 |                  |                      |                      | 渗 透                                  |                | 直 剪             |                  |                 |                  | 固结（垂直）   |          |          | 建议值            |                        |                        |
|------------|-------------------|-------------------|-------------------|-------------|------------------|------------------|-------------------|-------------|--------|----------------|------------------|------------------|----------------|-----------------|-----------------|-------------------|--------------------|-------------------|-----------------|------------------|----------------------|----------------------|--------------------------------------|----------------|-----------------|------------------|-----------------|------------------|----------|----------|----------|----------------|------------------------|------------------------|
|            |                   |                   |                   |             |                  |                  |                   |             |        |                |                  |                  | >60            | 40~60           | 20~40           | 10~20             | 2.0~10             | 0.5~2.0           | 0.25~0.5        | 0.075~0.25       | 0.005~0.075          | 0~0.005              | 水平<br>渗透<br>系数                       | 竖向<br>渗透<br>系数 | 粘聚<br>力<br>(快剪) | 内摩<br>擦角<br>(快剪) | 粘聚<br>力<br>(固快) | 内摩<br>擦角<br>(固快) | 压缩<br>系数 | 压缩<br>模量 | 固结<br>系数 | 承载<br>力特<br>征值 | 钻孔灌注桩                  |                        |
|            |                   |                   |                   |             |                  |                  |                   |             |        |                |                  |                  |                |                 |                 |                   |                    |                   |                 |                  |                      |                      |                                      |                |                 |                  |                 |                  |          |          |          |                | 桩的极<br>限侧阻<br>力标准<br>值 | 桩的极<br>限端阻<br>力标准<br>值 |
|            |                   |                   |                   |             |                  |                  |                   |             |        |                |                  |                  |                |                 |                 |                   |                    |                   |                 |                  |                      |                      |                                      |                |                 |                  |                 |                  |          |          |          |                |                        |                        |
|            |                   |                   |                   |             |                  |                  |                   |             |        |                |                  |                  |                |                 |                 |                   |                    |                   |                 |                  |                      |                      |                                      |                |                 |                  |                 |                  |          |          |          |                |                        |                        |
| (d 单位: mm) |                   |                   |                   |             |                  |                  |                   |             |        | K <sub>h</sub> | K <sub>v</sub>   | c <sub>q</sub>   | φ <sub>q</sub> | c <sub>cq</sub> | φ <sub>cq</sub> | a <sub>v1-2</sub> | E <sub>sv1-2</sub> | C <sub>v0.2</sub> | f <sub>ak</sub> | q <sub>sik</sub> | q <sub>pk</sub>      |                      |                                      |                |                 |                  |                 |                  |          |          |          |                |                        |                        |
| %          | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |             | %                | %                | %                 | %           | %      | %              | %                | %                | %              | %               | %               | cm/s              | kPa                | 度                 | kPa             | 度                | MPa <sup>-1</sup>    | MPa                  | ×10 <sup>-3</sup> cm <sup>2</sup> /s | kPa            | kPa             | kPa              |                 |                  |          |          |          |                |                        |                        |
| 2-0        | 淤泥                | 60.8              | 1.64              | 1.02        | 1.65             | 2.75             | 1.701             | 98.2        | 56.1   | 29.2           | 26.9             | 1.17             |                |                 |                 |                   |                    |                   | 53.4            | 46.6             | 3.0×10 <sup>-6</sup> | 1.5×10 <sup>-6</sup> | 5                                    | 3.2            | 7.3             | 5.8              | 1.544           | 1.78             | 1.78     | 50       | 10       |                |                        |                        |
| 2-1        | 淤泥质粘土             | 46                | 1.75              | 1.2         | 1.76             | 2.73             | 1.279             | 98.2        | 43     | 24.9           | 18.1             | 1.17             |                |                 |                 |                   |                    |                   | 61.5            | 38.5             | 6.4×10 <sup>-6</sup> | 5.0×10 <sup>-6</sup> | 10                                   | 7.5            | 13.1            | 11.3             | 1.117           | 2.25             | 1.39     | 70       | 20       |                |                        |                        |
| 2-1夹       | 淤泥质粉质粘土<br>夹粉土粉砂  | 40.2              | 1.81              | 1.29        | 1.82             | 2.72             | 1.108             | 98.5        | 37.2   | 22.5           | 14.7             | 1.21             |                |                 |                 |                   |                    | 0.5               | 69.5            | 30               | 8.3×10 <sup>-6</sup> | 6.0×10 <sup>-6</sup> | 12.5                                 | 11             | 14.3            | 12.6             | 0.721           | 3.05             | 1.964    | 80       | 30       |                |                        |                        |
| 2-2        | 淤泥                | 57.8              | 1.67              | 1.06        | 1.67             | 2.75             | 1.607             | 98.9        | 53.6   | 28.9           | 24.8             | 1.17             |                |                 |                 |                   |                    |                   | 52.3            | 47.7             | 3.7×10 <sup>-6</sup> | 2.0×10 <sup>-6</sup> | 5.9                                  | 3.9            | 9.5             | 7.4              | 1.381           | 1.91             | 1.252    | 50       | 10       |                |                        |                        |
| 3-1        | 淤泥质粘土             | 47.3              | 1.75              | 1.19        | 1.75             | 2.73             | 1.306             | 98.8        | 45.9   | 25.8           | 20.1             | 1.07             |                |                 |                 |                   |                    |                   | 59.1            | 40.9             | 5.8×10 <sup>-6</sup> | 3.2×10 <sup>-6</sup> | 10.7                                 | 7.3            | 12.5            | 10.1             | 0.977           | 2.44             | 1.263    | 70       | 18       |                |                        |                        |
| 3-3        | 粘土                | 40                | 1.81              | 1.29        | 1.82             | 2.73             | 1.111             | 98.1        | 41.4   | 24.3           | 17.1             | 0.92             |                |                 |                 |                   |                    |                   | 63.7            | 36.3             | 4.0×10 <sup>-6</sup> | 2.8×10 <sup>-6</sup> | 14.3                                 | 10.2           | 17              | 12.2             | 0.765           | 2.78             | 1.264    | 95       | 35       | 340            |                        |                        |
| 4-4        | 粉质粘土              | 26.8              | 1.96              | 1.55        | 1.98             | 2.71             | 0.76              | 95.8        | 34.1   | 21             | 13.1             | 0.43             |                |                 |                 |                   |                    | 0.2               | 73.3            | 26.5             | 6.5×10 <sup>-6</sup> | 4.0×10 <sup>-6</sup> | 18                                   | 12.5           | 20.3            | 15               | 0.422           | 4.37             | 2.567    | 110      | 54       | 700            |                        |                        |
| 5-3        | 圆砾                |                   |                   |             |                  |                  |                   |             |        |                |                  |                  | 3.9            | 22              | 12.3            | 9.2               | 8.7                | 4                 | 7               | 4                | 14                   | 14.9                 | 6.5×10 <sup>-3</sup>                 |                |                 |                  | 0               | 28               |          |          | 280      | 120            | 2200                   |                        |

核 定：

审 查：

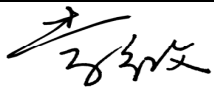
校 核：

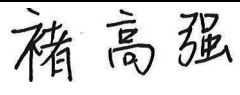
制 表： 日期：2021.08

平阳鳌江标准堤加固工程初步设计下厂闸地基土层物理力学指标建议值总表

附表1-4

| 岩土<br>编号 | 岩土<br>名称          | 天然<br>含水<br>率     | 湿<br>密<br>度       | 干<br>密<br>度    | 饱<br>和<br>密<br>度 | 土<br>粒<br>比<br>重 | 天<br>然<br>孔<br>隙<br>比 | 饱<br>和<br>度    | 液<br>限         | 塑<br>限         | 塑<br>性<br>指<br>数 | 液<br>性<br>指<br>数 | 颗粒组成百分数 |       |       |       |        |         |          |            |                |                | 渗 透                  |                      | 直 剪             |                                      |                  |                    | 固 结（垂直）           |          |                  | 建议值             |                        |                        |
|----------|-------------------|-------------------|-------------------|----------------|------------------|------------------|-----------------------|----------------|----------------|----------------|------------------|------------------|---------|-------|-------|-------|--------|---------|----------|------------|----------------|----------------|----------------------|----------------------|-----------------|--------------------------------------|------------------|--------------------|-------------------|----------|------------------|-----------------|------------------------|------------------------|
|          |                   |                   |                   |                |                  |                  |                       |                |                |                |                  |                  | >60     | 40~60 | 20~40 | 10~20 | 2.0~10 | 0.5~2.0 | 0.25~0.5 | 0.075~0.25 | 0.005~0.075    | 0~0.005        | 水平<br>渗透<br>系数       | 竖向<br>渗透<br>系数       | 粘聚<br>力<br>(快剪) | 内摩<br>擦角<br>(快剪)                     | 粘聚<br>力<br>(固快)  | 内摩<br>擦角<br>(固快)   | 压缩<br>系数          | 压缩<br>模量 | 固结<br>系数         | 承载<br>力特<br>征值  | 钻孔灌注桩                  |                        |
|          |                   |                   |                   |                |                  |                  |                       |                |                |                |                  |                  |         |       |       |       |        |         |          |            |                |                |                      |                      |                 |                                      |                  |                    |                   |          |                  |                 | 桩的极<br>限侧阻<br>力标准<br>值 | 桩的极<br>限端阻<br>力标准<br>值 |
|          |                   |                   |                   |                |                  |                  |                       |                |                |                |                  |                  |         |       |       |       |        |         |          |            |                |                |                      |                      |                 |                                      |                  |                    |                   |          |                  |                 |                        |                        |
| ω        | ρ                 | ρ <sub>d</sub>    | ρ <sub>sat</sub>  | G <sub>s</sub> | e <sub>0</sub>   | S <sub>r</sub>   | ω <sub>L</sub>        | ω <sub>p</sub> | I <sub>p</sub> | I <sub>L</sub> | (d 单位: mm)       |                  |         |       |       |       |        |         |          |            | K <sub>h</sub> | K <sub>v</sub> | q                    | φ <sub>q</sub>       | c <sub>q</sub>  | φ <sub>cq</sub>                      | v <sub>1-2</sub> | E <sub>sv1-2</sub> | C <sub>v0.2</sub> | k        | q <sub>sik</sub> | q <sub>pk</sub> |                        |                        |
| %        | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |                |                  | %                | %                     | %              |                | %              | %                | %                | %       | %     | %     | %     | %      | %       | cm/s     | kPa        | 度              | kPa            | 度                    | MPa <sup>-1</sup>    | MPa             | ×10 <sup>-3</sup> cm <sup>2</sup> /s | kPa              | kPa                | kPa               |          |                  |                 |                        |                        |
| 0-4      | 碎石土               |                   |                   |                |                  |                  |                       |                |                |                |                  |                  | 85      | 8.3   | 3.5   | 0.6   | 1.1    | 0.7     | 0.3      | 0.3        | 0.1            | 0.1            |                      |                      | 0               | 33                                   |                  |                    |                   |          |                  |                 |                        |                        |
| 2-0      | 淤泥                | 60.7              | 1.66              | 1.03           | 1.66             | 2.75             | 1.669                 | 99.8           | 54.6           | 30.1           | 24.5             | 1.25             |         |       |       |       |        |         |          |            | 48             | 52             | 3.0×10 <sup>-6</sup> | 1.5×10 <sup>-6</sup> | 4.7             | 2.8                                  | 7.3              | 5.8                | 1.470             | 2.01     | 1.451            | 50              | 10                     |                        |
| 2-1      | 淤泥质粘土             | 49                | 1.73              | 1.16           | 1.74             | 2.73             | 1.352                 | 99.2           | 46             | 26.7           | 19.3             | 1.16             |         |       |       |       |        |         |          |            | 64.2           | 35.8           | 6.4×10 <sup>-6</sup> | 5.0×10 <sup>-6</sup> | 11              | 8.4                                  | 13               | 11.4               | 1.165             | 2.16     | 1.07             | 70              | 20                     |                        |
| 2-2      | 淤泥                | 59                | 1.66              | 1.05           | 1.66             | 2.75             | 1.633                 | 99.3           | 54             | 30.1           | 23.9             | 1.21             |         |       |       |       |        |         |          |            | 48.3           | 51.7           | 3.7×10 <sup>-6</sup> | 2.0×10 <sup>-6</sup> | 6               | 3.8                                  | 9.5              | 7.2                | 1.535             | 1.75     | 1.248            | 50              | 10                     |                        |
| 3-1      | 淤泥质粘土             | 50.5              | 1.72              | 1.15           | 1.73             | 2.73             | 1.388                 | 99.4           | 48.3           | 27.5           | 20.8             | 1.11             |         |       |       |       |        |         |          |            | 49.7           | 50.3           | 5.8×10 <sup>-6</sup> | 3.2×10 <sup>-6</sup> | 10.5            | 7                                    | 12.5             | 10                 | 0.98              | 2.57     | 1.424            | 70              | 18                     |                        |
| 3-3      | 粘土                | 39                | 1.82              | 1.31           | 1.83             | 2.73             | 1.08                  | 98.5           | 42.1           | 24.8           | 17.3             | 0.82             |         |       |       |       |        |         |          |            | 63             | 37             | 4.0×10 <sup>-6</sup> | 2.8×10 <sup>-6</sup> | 14.3            | 10.2                                 | 17               | 12.2               | 0.615             | 3.68     | 1.859            | 95              | 38                     | 380                    |
| 4-2      | 粉土粉砂混粘性土          | 27.6              | 1.96              | 1.54           | 1.96             | 2.68             | 0.749                 | 99             | 29.2           | 20.1           | 9.1              | 0.88             |         |       |       |       | 0.4    | 4.3     | 9        | 28.2       | 47.8           | 10.3           | 3.0×10 <sup>-4</sup> | 2.2×10 <sup>-4</sup> | 13              | 18.9                                 | 14.3             | 21.3               | 0.266             | 7.15     | 3.498            | 135             | 60                     | 850                    |
| 4-4      | 粉质粘土              | 35.1              | 1.87              | 1.39           | 1.88             | 2.72             | 0.963                 | 99.1           | 39.3           | 24             | 15.3             | 0.73             |         |       |       |       |        |         |          | 5.3        | 65.2           | 29.5           | 6.5×10 <sup>-6</sup> | 4.0×10 <sup>-6</sup> | 19.1            | 12.1                                 | 22.5             | 15                 | 0.442             | 4.57     | 1.422            | 110             | 50                     | 600                    |

核 定：

审 查：

校 核：

制 表： 日期：2021.08

平阳鳌江标准堤加固工程初步设计堤防地基土层物理力学指标设计参数统计表

附表2-1

| 岩土编号 | 岩土名称     | 统计项目  | 天然含水率 | 湿密度  | 干密度            | 饱和密度             | 土粒比重           | 天然孔隙比          | 饱和度            | 液限             | 塑限             | 塑性指数           | 液性指数           | 颗粒组成百分数 |       |       |       |        |         |          |            |             |         | 渗透     |        | 直剪      |          |         |          | 固结（垂直） |      |                  |                    | 动探击数              |                   | 标贯击数  |        |   |    |
|------|----------|-------|-------|------|----------------|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------|-------|-------|-------|--------|---------|----------|------------|-------------|---------|--------|--------|---------|----------|---------|----------|--------|------|------------------|--------------------|-------------------|-------------------|-------|--------|---|----|
|      |          |       | ω     | ρ    | ρ <sub>d</sub> | ρ <sub>sat</sub> | G <sub>s</sub> | e <sub>0</sub> | S <sub>r</sub> | ω <sub>L</sub> | ω <sub>p</sub> | I <sub>p</sub> | I <sub>L</sub> | ≥60     | 40~60 | 20~40 | 10~20 | 2.0~10 | 0.5~2.0 | 0.25~0.5 | 0.075~0.25 | 0.005~0.075 | 0~0.005 | 水平渗透系数 | 竖向渗透系数 | 粘聚力(快剪) | 内摩擦角(快剪) | 粘聚力(固快) | 内摩擦角(固快) | 压缩系数   | 压缩模量 | 固结系数（MPa）        |                    |                   |                   |       |        |   |    |
|      |          |       |       |      |                |                  |                |                |                |                |                |                |                |         |       |       |       |        |         |          |            |             |         |        |        |         |          |         |          |        |      | v <sub>1-2</sub> | E <sub>sv1-2</sub> | C <sub>v0.2</sub> | C <sub>v0.4</sub> | N63.5 | N63.5' | N | N' |
|      |          |       |       |      |                |                  |                |                |                |                |                |                |                |         |       |       |       |        |         |          |            |             |         |        |        |         |          |         |          |        |      |                  |                    |                   |                   |       |        |   |    |
| 0-0  | 块石       | 统计个数  |       |      |                |                  |                |                |                |                |                |                |                |         | 2     | 2     | 2     | 2      | 2       | 2        | 2          | 2           |         |        |        |         |          |         |          |        |      |                  | 6                  | 6                 |                   |       |        |   |    |
|      |          | 平均值   |       |      |                |                  |                |                |                |                |                |                |                |         | 16.2  | 64.3  | 9.6   | 6.2    | 1.8     | 0.8      | 0.6        | 0.3         | 0.3     |        |        |         |          |         |          |        |      | 18.3             | 15.5               |                   |                   |       |        |   |    |
|      |          | 最大值   |       |      |                |                  |                |                |                |                |                |                |                |         | 16.9  | 75.8  | 10.6  | 12.3   | 3.6     | 1.6      | 1          | 0.5         | 0.6     |        |        |         |          |         |          |        |      | 38               | 30.4               |                   |                   |       |        |   |    |
|      |          | 最小值   |       |      |                |                  |                |                |                |                |                |                |                |         | 15.5  | 52.9  | 8.5   | 0.1    | 0       | 0        | 0.1        | 0           | 0       |        |        |         |          |         |          |        |      | 9                | 8.3                |                   |                   |       |        |   |    |
|      |          | 标准差   |       |      |                |                  |                |                |                |                |                |                |                |         |       |       |       |        |         |          |            |             |         |        |        |         |          |         |          |        |      |                  | 11.639             | 8.804             |                   |       |        |   |    |
|      |          | 变异系数  |       |      |                |                  |                |                |                |                |                |                |                |         |       |       |       |        |         |          |            |             |         |        |        |         |          |         |          |        |      |                  | 0.635              | 0.566             |                   |       |        |   |    |
|      |          | 修正系数  |       |      |                |                  |                |                |                |                |                |                |                |         |       |       |       |        |         |          |            |             |         |        |        |         |          |         |          |        |      |                  | 0.476              | 0.532             |                   |       |        |   |    |
|      |          | 标准值   |       |      |                |                  |                |                |                |                |                |                |                |         |       |       |       |        |         |          |            |             |         |        |        |         |          |         |          |        |      |                  | 8.7                | 8.2               |                   |       |        |   |    |
|      |          | 大值平均值 |       |      |                |                  |                |                |                |                |                |                |                |         | 16.9  | 75.8  | 10.6  | 12.3   | 3.6     | 1.6      | 1          | 0.5         | 0.6     |        |        |         |          |         |          |        |      | 32.5             | 26.2               |                   |                   |       |        |   |    |
|      |          | 小值平均值 |       |      |                |                  |                |                |                |                |                |                |                |         | 15.5  | 52.9  | 8.5   | 0.1    | 0       | 0        | 0.1        | 0           | 0       |        |        |         |          |         |          |        |      | 11.2             | 10.2               |                   |                   |       |        |   |    |
| 0-1  | 碎石土（堤身）  | 统计个数  |       |      |                |                  |                |                |                |                |                |                | 11             | 11      | 11    | 11    | 11    | 11     | 11      | 11       | 11         | 11          |         |        |        |         |          |         |          |        |      | 5                | 5                  |                   |                   |       |        |   |    |
|      |          | 平均值   |       |      |                |                  |                |                |                |                |                |                |                | 25.2    | 25.4  | 31.8  | 4.9   | 1.6    | 0.4     | 0.7      | 0.5        | 4.6         | 4.9     |        |        |         |          |         |          |        |      | 17.4             | 15.5               |                   |                   |       |        |   |    |
|      |          | 最大值   |       |      |                |                  |                |                |                |                |                |                |                | 92.3    | 67.1  | 76.5  | 23.4  | 6      | 1.4     | 4.2      | 2.3        | 19.7        | 20.7    |        |        |         |          |         |          |        |      | 35               | 28.9               |                   |                   |       |        |   |    |
|      |          | 最小值   |       |      |                |                  |                |                |                |                |                |                |                | 0       | 7.2   | 0     | 0.1   | 0.2    | 0       | 0        | 0          | 0           | 0       |        |        |         |          |         |          |        |      | 7                | 7                  |                   |                   |       |        |   |    |
|      |          | 标准差   |       |      |                |                  |                |                |                |                |                |                |                | 37.867  | 21.53 | 23.42 | 7.296 | 1.863  | 0.386   | 1.194    | 0.665      | 5.845       | 6.153   |        |        |         |          |         |          |        |      |                  |                    |                   |                   |       |        |   |    |
|      |          | 变异系数  |       |      |                |                  |                |                |                |                |                |                |                | 1.504   | 0.847 | 0.736 | 1.494 | 1.171  | 0.943   | 1.642    | 1.282      | 1.266       | 1.265   |        |        |         |          |         |          |        |      |                  |                    |                   |                   |       |        |   |    |
|      |          | 修正系数  |       |      |                |                  |                |                |                |                |                |                |                | 1.831   | 1.468 | 1.407 | 1.826 | 1.647  | 1.521   | 1.907    | 1.708      | 1.699       | 1.699   |        |        |         |          |         |          |        |      |                  |                    |                   |                   |       |        |   |    |
|      |          | 标准值   |       |      |                |                  |                |                |                |                |                |                |                | 46.1    | 37.3  | 44.7  | 8.9   | 2.6    | 0.6     | 1.4      | 0.9        | 7.8         | 8.3     |        |        |         |          |         |          |        |      |                  |                    |                   |                   |       |        |   |    |
|      |          | 大值平均值 |       |      |                |                  |                |                |                |                |                |                |                | 69.2    | 49.3  | 52.4  | 18.6  | 3.6    | 0.8     | 2.7      | 1.3        | 10.4        | 11      |        |        |         |          |         |          |        |      | 29.0             | 24.4               |                   |                   |       |        |   |    |
|      |          | 小值平均值 |       |      |                |                  |                |                |                |                |                |                |                | 0       | 11.7  | 14.6  | 1.8   | 0.5    | 0.2     | 0.3      | 0.2        | 1.3         | 1.4     |        |        |         |          |         |          |        |      | 9.6              | 9.6                |                   |                   |       |        |   |    |
| 0-2  | 粉质粘土（堤身） | 统计个数  | 2     | 2    | 2              | 2                | 2              | 2              | 2              | 2              | 2              | 2              |                |         |       |       |       |        |         |          | 2          | 2           |         | 1      | 1      | 1       | 1        | 1       | 2        | 2      | 2    | 2                |                    |                   |                   |       |        |   |    |
|      |          | 平均值   | 33.1  | 1.91 | 1.44           | 1.91             | 2.71           | 0.901          | 99.7           | 37.3           | 24             | 13.4           | 0.69           |         |       |       |       |        |         |          |            | 53.5        | 46.5    |        | 0.51   | 16.8    | 13.5     | 19.5    | 15.9     | 0.58   | 3.29 | 1.63             | 1.296              |                   |                   |       |        |   |    |
|      |          | 最大值   | 37.1  | 1.96 | 1.52           | 1.96             | 2.72           | 1.016          | 100            | 39.3           | 25.8           | 13.5           | 0.84           |         |       |       |       |        |         |          |            | 55.2        | 48.1    |        | 0.51   | 16.8    | 13.5     | 19.5    | 15.9     | 0.63   | 3.37 | 2.213            | 1.435              |                   |                   |       |        |   |    |
|      |          | 最小值   | 29.1  | 1.85 | 1.35           | 1.85             | 2.71           | 0.785          | 99.3           | 35.3           | 22.1           | 13.2           | 0.53           |         |       |       |       |        |         |          |            | 51.9        | 44.8    |        | 0.51   | 16.8    | 13.5     | 19.5    | 15.9     | 0.53   | 3.2  | 1.054            | 1.156              |                   |                   |       |        |   |    |
|      |          | 标准差   |       |      |                |                  |                |                |                |                |                |                |                |         |       |       |       |        |         |          |            |             |         |        |        |         |          |         |          |        |      |                  |                    |                   |                   |       |        |   |    |
|      |          | 变异系数  |       |      |                |                  |                |                |                |                |                |                |                |         |       |       |       |        |         |          |            |             |         |        |        |         |          |         |          |        |      |                  |                    |                   |                   |       |        |   |    |
|      |          | 修正系数  |       |      |                |                  |                |                |                |                |                |                |                |         |       |       |       |        |         |          |            |             |         |        |        |         |          |         |          |        |      |                  |                    |                   |                   |       |        |   |    |
|      |          | 标准值   |       |      |                |                  |                |                |                |                |                |                |                |         |       |       |       |        |         |          |            |             |         |        |        |         |          |         |          |        |      |                  |                    |                   |                   |       |        |   |    |
|      |          | 大值平均值 | 37.1  | 1.96 | 1.52           | 1.96             | 2.72           | 1.016          | 100            | 39.3           | 25.8           | 13.5           | 0.84           |         |       |       |       |        |         |          |            | 55.2        | 48.1    |        | 0.51   | 16.8    | 13.5     | 19.5    | 15.9     | 0.63   | 3.37 | 2.213            | 1.435              |                   |                   |       |        |   |    |
|      |          | 小值平均值 | 29.1  | 1.85 | 1.35           | 1.85             | 2.71           | 0.785          | 99.3           | 35.3           | 22.1           | 13.2           | 0.53           |         |       |       |       |        |         |          |            | 51.9        | 44.8    |        | 0.51   | 16.8    | 13.5     | 19.5    | 15.9     | 0.53   | 3.2  | 1.054            | 1.156              |                   |                   |       |        |   |    |
| 0-4  | 碎石土      | 统计个数  |       |      |                |                  |                |                |                |                |                |                | 8              | 8       | 8     | 8     | 8     | 8      | 8       | 8        | 8          | 8           |         |        |        |         |          |         |          |        |      | 13               | 13                 |                   |                   |       |        |   |    |
|      |          | 平均值   |       |      |                |                  |                |                |                |                |                |                |                | 39.8    | 20.8  | 20    | 2     | 2.9    | 2       | 2        | 1.6        | 4.7         | 4.3     |        |        |         |          |         |          |        |      | 19.6             | 16.7               |                   |                   |       |        |   |    |
|      |          | 最大值   |       |      |                |                  |                |                |                |                |                |                |                | 95.9    | 63.8  | 64.8  | 11.9  | 11.8   | 8.7     | 10       | 9.2        | 34.1        | 30.9    |        |        |         |          |         |          |        |      | 50               | 39.5               |                   |                   |       |        |   |    |
|      |          | 最小值   |       |      |                |                  |                |                |                |                |                |                |                | 0       | 0     | 0     | 0     | 0      | 0       | 0        | 0          | 0           | 0       |        |        |         |          |         |          |        |      | 9                | 8.5                |                   |                   |       |        |   |    |
|      |          | 标准差   |       |      |                |                  |                |                |                |                |                |                |                | 39.918  | 21.7  | 22.72 | 4.064 | 4.322  | 3.193   | 3.547    | 3.177      | 11.914      | 10.782  |        |        |         |          |         |          |        |      | 11.449           | 8.754              |                   |                   |       |        |   |    |
|      |          | 变异系数  |       |      |                |                  |                |                |                |                |                |                |                | 1.002   | 1.044 | 1.135 | 2.084 | 1.484  | 1.597   | 1.807    | 1.986      | 2.549       | 2.515   |        |        |         |          |         |          |        |      | 0.584            | 0.523              |                   |                   |       |        |   |    |
|      |          | 修正系数  |       |      |                |                  |                |                |                |                |                |                |                | 1.677   | 1.706 | 1.767 | 2.408 | 2.002  | 2.079   | 2.221    | 2.341      | 2.722       | 2.699   |        |        |         |          |         |          |        |      | 0.708            | 0.738              |                   |                   |       |        |   |    |
|      |          | 标准值   |       |      |                |                  |                |                |                |                |                |                |                | 66.8    | 35.4  | 35.4  | 4.7   | 5.8    | 4.2     | 4.4      | 3.7        | 12.7        | 11.6    |        |        |         |          |         |          |        |      | 13.8             | 12.3               |                   |                   |       |        |   |    |
|      |          | 大值平均值 |       |      |                |                  |                |                |                |                |                |                |                | 72.9    | 42.9  | 37.7  | 11.9  | 9.4    | 6.8     | 7.1      | 5.8        | 34.1        | 30.9    |        |        |         |          |         |          |        |      | 30.0             | 24.7               |                   |                   |       |        |   |    |
|      |          | 小值平均值 |       |      |                |                  |                |                |                |                |                |                |                | 6.8     | 7.5   | 2.3   | 0.5   | 0.7    | 0.4     | 0.3      | 0.2        | 0.5         | 0.5     |        |        |         |          |         |          |        |      | 13.1             | 11.7               |                   |                   |       |        |   |    |





平阳鳌江标准堤加固工程初步设计堤防地基土层物理力学指标设计参数统计表

附表2-4

| 岩土编号  | 岩土名称              | 统计项目              | 天然含水率             | 湿密度   | 干密度            | 饱和密度             | 土粒比重           | 天然孔隙比          | 饱和度            | 液限             | 塑限             | 塑性指数           | 液性指数           | 颗粒组成百分数 |       |       |       |        |         |          |            |                        |         | 渗透             |                | 直剪          |                   |             |                                      | 固结（垂直）   |          |                   |                    | 动探<br>击数          |                   | 标贯<br>击数 |  |
|-------|-------------------|-------------------|-------------------|-------|----------------|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------|-------|-------|-------|--------|---------|----------|------------|------------------------|---------|----------------|----------------|-------------|-------------------|-------------|--------------------------------------|----------|----------|-------------------|--------------------|-------------------|-------------------|----------|--|
|       |                   |                   | ω                 | ρ     | ρ <sub>d</sub> | ρ <sub>sat</sub> | G <sub>s</sub> | e <sub>0</sub> | S <sub>r</sub> | ω <sub>L</sub> | ω <sub>p</sub> | I <sub>p</sub> | I <sub>L</sub> | >60     | 40-60 | 20-40 | 10-20 | 2.0-10 | 0.5-2.0 | 0.25-0.5 | 0.075-0.25 | 0.005-0.075            | 0-0.005 | 水平<br>渗透<br>系数 | 竖向<br>渗透<br>系数 | 粘聚力<br>(快剪) | 内摩擦角<br>(快剪)      | 粘聚力<br>(固快) | 内摩擦角<br>(固快)                         | 压缩<br>系数 | 压缩<br>模量 | 固结<br>系数<br>(MPa) |                    |                   |                   |          |  |
|       |                   |                   |                   |       |                |                  |                |                |                |                |                |                |                |         |       |       |       |        |         |          |            |                        |         |                |                |             |                   |             |                                      |          |          | 压                 | 固                  |                   |                   |          |  |
|       |                   |                   |                   |       |                |                  |                |                |                |                |                |                |                |         |       |       |       |        |         |          |            |                        |         |                |                |             |                   |             |                                      |          |          | v <sub>1-2</sub>  | E <sub>sv1-2</sub> | C <sub>v0.2</sub> | C <sub>v0.4</sub> |          |  |
| %     | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |       |                | %                | %              | %              | %              | %              | %              | %              | %              | %       | %     | %     | %     | %      | %       | %        | %          | ×10 <sup>-6</sup> cm/s | kPa     | 度              | kPa            | 度           | MPa <sup>-1</sup> | MPa         | ×10 <sup>-3</sup> cm <sup>2</sup> /s | 击/10cm   |          | 击/30cm            |                    |                   |                   |          |  |
| 3-3   | 粘土                | 统计个数              | 30                | 30    | 30             | 30               | 30             | 30             | 30             | 30             | 30             | 30             |                |         |       |       |       |        |         |          | 11         | 11                     | 6       | 10             | 20             | 20          | 11                | 11          | 31                                   | 31       | 20       | 20                |                    |                   |                   |          |  |
|       |                   | 平均值               | 39                | 1.82  | 1.31           | 1.83             | 2.73           | 1.08           | 98.5           | 42.1           | 24.8           | 17.3           | 0.82           |         |       |       |       |        |         |          | 63         | 37                     | 0.38    | 0.4            | 14.3           | 10.2        | 17                | 12.2        | 0.615                                | 3.68     | 1.859    | 1.236             |                    |                   |                   |          |  |
|       |                   | 最大值               | 45.4              | 1.93  | 1.48           | 1.94             | 2.75           | 1.238          | 100            | 49.3           | 28.2           | 21.1           | 1.12           |         |       |       |       |        |         |          | 86.5       | 49.8                   | 0.56    | 0.73           | 18.3           | 12.6        | 23.2              | 14.3        | 0.93                                 | 6.21     | 4.915    | 2.762             |                    |                   |                   |          |  |
|       |                   | 最小值               | 30.3              | 1.77  | 1.22           | 1.78             | 2.71           | 0.836          | 95.1           | 35.3           | 21             | 12.1           | 0.42           |         |       |       |       |        |         |          | 50.2       | 13.5                   | 0.1     | 0.15           | 11.2           | 8.1         | 14.3              | 10.1        | 0.33                                 | 2.26     | 0.846    | 0.177             |                    |                   |                   |          |  |
|       |                   | 标准差               | 3.534             | 0.041 | 0.061          | 0.039            | 0.01           | 0.099          | 1.547          | 3.828          | 2.212          | 2.115          | 0.177          |         |       |       |       |        |         |          | 10.694     | 10.694                 | 0.194   | 0.181          | 2.014          | 1.339       | 2.536             | 1.235       | 0.17                                 | 1.12     | 1.079    | 0.656             |                    |                   |                   |          |  |
|       |                   | 变异系数              | 0.091             | 0.022 | 0.047          | 0.021            | 0.004          | 0.091          | 0.016          | 0.091          | 0.089          | 0.122          | 0.215          |         |       |       |       |        |         |          | 0.17       | 0.289                  | 0.509   | 0.446          | 0.141          | 0.131       | 0.149             | 0.101       | 0.277                                | 0.304    | 0.58     | 0.531             |                    |                   |                   |          |  |
|       |                   | 修正系数              | 1.029             | 0.993 | 0.985          | 0.993            | 0.999          | 0.971          | 1.005          | 0.971          | 0.972          | 0.961          | 1.068          |         |       |       |       |        |         |          | 1.094      | 1.16                   | 1.421   | 1.261          | 0.945          | 0.949       | 0.917             | 0.944       | 1.086                                | 0.905    | 0.772    | 0.791             |                    |                   |                   |          |  |
|       |                   | 标准值               | 40.2              | 1.81  | 1.29           | 1.82             | 2.72           | 1.049          | 99             | 40.9           | 24.2           | 16.6           | 0.88           |         |       |       |       |        |         |          | 68.9       | 42.9                   | 0.54    | 0.51           | 13.5           | 9.7         | 15.6              | 11.5        | 0.667                                | 3.33     | 1.435    | 0.978             |                    |                   |                   |          |  |
|       |                   | 大值平均值             | 41.7              | 1.86  | 1.37           | 1.87             | 2.73           | 1.155          | 99.5           | 45.7           | 27             | 18.7           | 0.96           |         |       |       |       |        |         |          | 70.7       | 46.3                   | 0.54    | 0.58           | 15.9           | 11.5        | 19.5              | 13.2        | 0.738                                | 4.83     | 3.041    | 1.913             |                    |                   |                   |          |  |
|       |                   | 小值平均值             | 36                | 1.8   | 1.27           | 1.81             | 2.72           | 0.995          | 96.7           | 39             | 23             | 15.4           | 0.68           |         |       |       |       |        |         |          | 53.7       | 29.3                   | 0.22    | 0.29           | 12.7           | 9.2         | 15.5              | 11.4        | 0.464                                | 2.95     | 1.222    | 0.871             |                    |                   |                   |          |  |
| 4-1   | 粉质粘土              | 统计个数              | 8                 | 8     | 8              | 8                | 8              | 8              | 8              | 8              | 8              | 8              |                |         |       |       |       |        |         |          | 3          | 3                      | 4       |                | 5              | 5           | 3                 | 3           | 8                                    | 8        | 8        | 8                 |                    |                   |                   |          |  |
|       |                   | 平均值               | 27.1              | 1.97  | 1.56           | 1.98             | 2.71           | 0.746          | 98.2           | 33.3           | 21.2           | 12.1           | 0.49           |         |       |       |       |        |         |          | 75.7       | 24.3                   | 1.790   |                | 19.5           | 13.2        | 24.9              | 17.7        | 0.401                                | 4.63     | 1.948    | 2.145             |                    |                   |                   |          |  |
|       |                   | 最大值               | 31.9              | 2.07  | 1.71           | 2.07             | 2.72           | 0.878          | 99.8           | 36.8           | 22.5           | 15             | 0.75           |         |       |       |       |        |         |          | 82.5       | 29.2                   | 5.1     |                | 26.5           | 15.3        | 26                | 20.3        | 0.52                                 | 6.59     | 3.333    | 3.662             |                    |                   |                   |          |  |
|       |                   | 最小值               | 21.3              | 1.91  | 1.45           | 1.92             | 2.7            | 0.582          | 96.7           | 30.6           | 19.8           | 10.8           | 0.1            |         |       |       |       |        |         |          | 70.8       | 17.5                   | 0.56    |                | 16.6           | 10.3        | 23.2              | 16.2        | 0.24                                 | 3.49     | 1.174    | 1.152             |                    |                   |                   |          |  |
|       |                   | 标准差               | 3.497             | 0.057 | 0.09           | 0.053            | 0.008          | 0.1            | 1.023          | 2.448          | 0.987          | 1.603          | 0.248          |         |       |       |       |        |         |          |            |                        |         |                |                |             |                   |             |                                      |          |          |                   |                    |                   |                   |          |  |
|       |                   | 变异系数              | 0.129             | 0.029 | 0.058          | 0.027            | 0.003          | 0.133          | 0.01           | 0.074          | 0.047          | 0.132          | 0.512          |         |       |       |       |        |         |          |            |                        |         |                |                |             |                   |             |                                      |          |          |                   |                    |                   |                   |          |  |
|       |                   | 修正系数              | 1.087             | 0.981 | 0.961          | 0.982            | 0.998          | 0.91           | 1.007          | 0.95           | 0.968          | 0.911          | 1.346          |         |       |       |       |        |         |          |            |                        |         |                |                |             |                   |             |                                      |          |          |                   |                    |                   |                   |          |  |
|       |                   | 标准值               | 29.4              | 1.94  | 1.5            | 1.94             | 2.7            | 0.679          | 98.9           | 31.6           | 20.5           | 11.1           | 0.65           |         |       |       |       |        |         |          |            |                        |         |                |                |             |                   |             |                                      |          |          |                   |                    |                   |                   |          |  |
|       |                   | 大值平均值             | 29.3              | 2.02  | 1.65           | 2.02             | 2.71           | 0.827          | 99.1           | 36.1           | 21.9           | 13.9           | 0.65           |         |       |       |       |        |         |          | 82.5       | 27.6                   | 5.1     |                | 26.5           | 15.2        | 25.8              | 20.3        | 0.492                                | 5.68     | 2.652    | 3.033             |                    |                   |                   |          |  |
|       |                   | 小值平均值             | 23.3              | 1.93  | 1.5            | 1.94             | 2.7            | 0.665          | 97.4           | 31.6           | 20.4           | 11.1           | 0.22           |         |       |       |       |        |         |          | 72.3       | 17.5                   | 0.690   |                | 17.8           | 11.8        | 23.2              | 16.4        | 0.31                                 | 3.59     | 1.526    | 1.612             |                    |                   |                   |          |  |
| 4-3-1 | 粉质粘土夹粉土           | 统计个数              | 10                | 10    | 10             | 10               | 10             | 10             | 10             | 6              | 6              | 6              |                |         |       |       |       |        |         | 8        | 8          | 8                      | 1       | 1              | 8              | 8           | 2                 | 2           | 9                                    | 9        | 10       | 10                |                    |                   |                   |          |  |
|       |                   | 平均值               | 25.5              | 1.98  | 1.58           | 1.99             | 2.69           | 0.707          | 96.8           | 31.9           | 20.8           | 11.1           | 0.68           |         |       |       |       |        |         |          | 1.3        | 81.4                   | 17.3    | 50             | 320            | 18.9        | 16.7              | 29.4        | 19.8                                 | 0.334    | 5.47     | 3.73              | 3.735              |                   |                   |          |  |
|       |                   | 最大值               | 32.1              | 2.06  | 1.74           | 2.09             | 2.71           | 0.904          | 99.7           | 36.5           | 22.8           | 13.7           | 0.82           |         |       |       |       |        |         |          | 10.2       | 89.3                   | 26.3    | 50             | 320            | 28.3        | 20.6              | 35.3        | 20.6                                 | 0.45     | 8.58     | 4.954             | 5.223              |                   |                   |          |  |
|       |                   | 最小值               | 18.7              | 1.88  | 1.42           | 1.9              | 2.68           | 0.544          | 90.6           | 28.6           | 19.5           | 9.1            | 0.35           |         |       |       |       |        |         |          | 0          | 63.5                   | 10.7    | 50             | 320            | 13.6        | 12.8              | 23.5        | 18.9                                 | 0.18     | 3.84     | 1.561             | 1.165              |                   |                   |          |  |
|       |                   | 标准差               | 4.334             | 0.06  | 0.103          | 0.063            | 0.011          | 0.114          | 3.211          | 2.839          | 1.238          | 1.735          | 0.182          |         |       |       |       |        |         |          | 3.606      | 8.443                  | 5.658   |                | 4.8            | 2.572       |                   |             | 0.091                                | 1.446    | 1.137    | 1.251             |                    |                   |                   |          |  |
|       |                   | 变异系数              | 0.17              | 0.03  | 0.065          | 0.032            | 0.004          | 0.16           | 0.033          | 0.089          | 0.06           | 0.157          | 0.266          |         |       |       |       |        |         |          | 2.828      | 0.104                  | 0.327   |                | 0.254          | 0.154       |                   |             | 0.272                                | 0.264    | 0.304    | 0.335             |                    |                   |                   |          |  |
|       |                   | 修正系数              | 1.1               | 0.982 | 0.962          | 0.981            | 0.998          | 0.906          | 1.019          | 0.926          | 0.951          | 0.871          | 1.219          |         |       |       |       |        |         |          | 2.911      | 1.07                   | 1.221   |                | 0.828          | 0.896       |                   |             | 1.17                                 | 0.835    | 0.822    | 0.804             |                    |                   |                   |          |  |
|       |                   | 标准值               | 28                | 1.95  | 1.52           | 1.96             | 2.69           | 0.641          | 98.7           | 29.5           | 19.8           | 9.7            | 0.83           |         |       |       |       |        |         |          | 3.7        | 87.1                   | 21.1    |                | 15.7           | 15          |                   |             | 0.391                                | 4.57     | 3.067    | 3.003             |                    |                   |                   |          |  |
|       |                   | 大值平均值             | 29.1              | 2.03  | 1.67           | 2.05             | 2.7            | 0.8            | 98.9           | 34             | 21.8           | 12.4           | 0.81           |         |       |       |       |        |         |          | 10.2       | 86.3                   | 21.8    | 50             | 320            | 23.9        | 19.5              | 35.3        | 20.6                                 | 0.44     | 6.6      | 4.387             | 4.421              |                   |                   |          |  |
|       |                   | 小值平均值             | 21.8              | 1.93  | 1.5            | 1.94             | 2.68           | 0.615          | 93.7           | 29.8           | 19.8           | 9.7            | 0.55           |         |       |       |       |        |         |          | 0          | 73.3                   | 12.8    | 50             | 320            | 15.9        | 15                | 23.5        | 18.9                                 | 0.282    | 4.56     | 2.206             | 2.135              |                   |                   |          |  |
| 4-3-2 | 粉土                | 统计个数              | 16                | 16    | 16             | 16               | 16             | 16             |                |                |                |                |                |         |       |       |       |        |         |          |            |                        |         |                |                |             |                   |             |                                      |          |          |                   |                    |                   |                   |          |  |



平阳鳌江标准堤加固工程初步设计雁门闸地基土层物理力学指标设计参数统计表

附表2-6

| 岩土编号  | 岩土名称                     | 统计项目  | 天然含水率 | 湿密度   | 干密度            | 饱和密度             | 土粒比重           | 天然孔隙比          | 饱和度            | 液限             | 塑限             | 塑性指数           | 液性指数           | 颗粒组成百分数 |       |       |       |        |         |          |            |             |         | 渗透             |                | 直剪          |              |             |              | 固结（垂直）   |          |                   |                    | 动探<br>击数          |                   | 标贯<br>击数 |        |   |    |
|-------|--------------------------|-------|-------|-------|----------------|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------|-------|-------|-------|--------|---------|----------|------------|-------------|---------|----------------|----------------|-------------|--------------|-------------|--------------|----------|----------|-------------------|--------------------|-------------------|-------------------|----------|--------|---|----|
|       |                          |       | ω     | ρ     | ρ <sub>d</sub> | ρ <sub>sat</sub> | G <sub>s</sub> | e <sub>0</sub> | S <sub>r</sub> | ω <sub>L</sub> | ω <sub>p</sub> | I <sub>p</sub> | I <sub>L</sub> | >60     | 40-60 | 20-40 | 10-20 | 2.0-10 | 0.5-2.0 | 0.25-0.5 | 0.075-0.25 | 0.005-0.075 | 0-0.005 | 水平<br>渗透<br>系数 | 竖向<br>渗透<br>系数 | 粘聚力<br>(快剪) | 内摩擦角<br>(快剪) | 粘聚力<br>(固快) | 内摩擦角<br>(固快) | 压缩<br>系数 | 压缩<br>模量 | 固结<br>系数<br>(MPa) |                    |                   |                   |          |        |   |    |
|       |                          |       |       |       |                |                  |                |                |                |                |                |                |                |         |       |       |       |        |         |          |            |             |         |                |                |             |              |             |              |          |          | v <sub>1-2</sub>  | E <sub>sv1-2</sub> | C <sub>v0.2</sub> | C <sub>v0.4</sub> | N63.5    | N63.5' | N | N' |
|       |                          |       |       |       |                |                  |                |                |                |                |                |                |                |         |       |       |       |        |         |          |            |             |         |                |                |             |              |             |              |          |          | %                 | g/cm <sup>3</sup>  | g/cm <sup>3</sup> | g/cm <sup>3</sup> |          |        | % | %  |
| 2-0   | 淤泥                       | 统计个数  | 5     | 5     | 5              | 5                | 5              | 5              | 5              | 5              | 5              | 5              |                |         |       |       |       |        |         |          | 1          | 1           | 3       | 1              | 4              | 4           | 1            | 1           | 5            | 5        | 5        | 5                 |                    |                   |                   |          |        |   |    |
|       |                          | 平均值   | 57.1  | 1.67  | 1.06           | 1.67             | 2.74           | 1.585          | 98.7           | 49.9           | 28.8           | 21             | 1.38           |         |       |       |       |        |         |          | 48.9       | 51.1        | 0.25    | 0.08           | 7.4            | 5           | 11.3         | 9.5         | 1.214        | 2.15     | 1.338    | 1.364             |                    |                   |                   |          |        |   |    |
|       |                          | 最大值   | 61    | 1.69  | 1.09           | 1.69             | 2.75           | 1.716          | 100            | 56.1           | 29.3           | 27             | 1.66           |         |       |       |       |        |         |          | 48.9       | 51.1        | 0.35    | 0.08           | 9.5            | 6.3         | 11.3         | 9.5         | 1.41         | 2.31     | 1.791    | 1.798             |                    |                   |                   |          |        |   |    |
|       |                          | 最小值   | 54.8  | 1.63  | 1.01           | 1.64             | 2.73           | 1.501          | 97.2           | 45.2           | 28.2           | 17             | 1.18           |         |       |       |       |        |         |          | 48.9       | 51.1        | 0.09    | 0.08           | 5.6            | 3.8         | 11.3         | 9.5         | 1.09         | 1.86     | 1.008    | 0.974             |                    |                   |                   |          |        |   |    |
|       |                          | 标准差   |       |       |                |                  |                |                |                |                |                |                |                |         |       |       |       |        |         |          |            |             |         |                |                |             |              |             |              |          |          |                   |                    |                   |                   |          |        |   |    |
|       |                          | 变异系数  |       |       |                |                  |                |                |                |                |                |                |                |         |       |       |       |        |         |          |            |             |         |                |                |             |              |             |              |          |          |                   |                    |                   |                   |          |        |   |    |
|       |                          | 修正系数  |       |       |                |                  |                |                |                |                |                |                |                |         |       |       |       |        |         |          |            |             |         |                |                |             |              |             |              |          |          |                   |                    |                   |                   |          |        |   |    |
|       |                          | 标准值   |       |       |                |                  |                |                |                |                |                |                |                |         |       |       |       |        |         |          |            |             |         |                |                |             |              |             |              |          |          |                   |                    |                   |                   |          |        |   |    |
|       |                          | 大值平均值 | 58.6  | 1.68  | 1.08           | 1.69             | 2.75           | 1.669          | 99.5           | 54.4           | 29.2           | 25.6           | 1.62           |         |       |       |       |        |         |          | 48.9       | 51.1        | 0.33    | 0.08           | 8.8            | 5.8         | 11.3         | 9.5         | 1.38         | 2.29     | 1.659    | 1.649             |                    |                   |                   |          |        |   |    |
| 小值平均值 | 55                       | 1.64  | 1.03  | 1.65  | 2.73           | 1.529            | 97.5           | 46.9           | 28.4           | 18             | 1.22           |                |                |         |       |       |       |        | 48.9    | 51.1     | 0.09       | 0.08        | 6       | 4.3            | 11.3           | 9.5         | 1.103        | 1.94        | 1.124        | 1.174    |          |                   |                    |                   |                   |          |        |   |    |
| 2-1   | 淤泥质<br>粘土                | 统计个数  | 26    | 26    | 26             | 26               | 26             | 26             | 26             | 26             | 26             | 26             |                |         |       |       |       |        | 9       | 9        | 9          | 4           | 8       | 15             | 15             | 12          | 12           | 28          | 28           | 19       | 19       |                   |                    |                   |                   |          |        |   |    |
|       |                          | 平均值   | 49    | 1.73  | 1.17           | 1.74             | 2.73           | 1.345          | 99.2           | 44.5           | 26.2           | 18.3           | 1.25           |         |       |       |       |        | 0.1     | 61.9     | 38         | 0.390       | 0.27    | 10             | 7.5            | 13.7        | 12.1         | 1.092       | 2.28         | 1.502    | 1.512    |                   |                    |                   |                   |          |        |   |    |
|       |                          | 最大值   | 53.6  | 1.81  | 1.28           | 1.81             | 2.74           | 1.49           | 100            | 50.3           | 28             | 22.8           | 1.42           |         |       |       |       |        | 1.2     | 78.3     | 51         | 0.52        | 0.82    | 13             | 9.8            | 15.3        | 15.6         | 1.65        | 3.47         | 3.115    | 3.224    |                   |                    |                   |                   |          |        |   |    |
|       |                          | 最小值   | 41    | 1.68  | 1.1            | 1.69             | 2.71           | 1.127          | 97.3           | 36.8           | 21.9           | 14.9           | 1.07           |         |       |       |       |        | 0       | 49       | 20.5       | 0.25        | 0.06    | 6.3            | 4.9            | 11.9        | 9.3          | 0.7         | 1.39         | 1        | 0.782    |                   |                    |                   |                   |          |        |   |    |
|       |                          | 标准差   | 3.391 | 0.034 | 0.049          | 0.031            | 0.008          | 0.098          | 0.859          | 2.818          | 1.338          | 2.057          | 0.099          |         |       |       |       |        | 0.4     | 11.058   | 11.286     |             | 0.237   | 1.906          | 1.667          | 1.191       | 1.507        | 0.244       | 0.513        | 0.543    | 0.577    |                   |                    |                   |                   |          |        |   |    |
|       |                          | 变异系数  | 0.069 | 0.02  | 0.042          | 0.018            | 0.003          | 0.073          | 0.009          | 0.063          | 0.051          | 0.112          | 0.08           |         |       |       |       |        | 3       | 0.179    | 0.297      |             | 0.872   | 0.191          | 0.223          | 0.087       | 0.125        | 0.224       | 0.225        | 0.362    | 0.382    |                   |                    |                   |                   |          |        |   |    |
|       |                          | 修正系数  | 1.024 | 0.993 | 0.986          | 0.994            | 0.999          | 0.975          | 1.003          | 0.978          | 0.983          | 0.962          | 1.027          |         |       |       |       |        | 2.877   | 1.112    | 1.186      |             | 1.589   | 0.912          | 0.897          | 0.954       | 0.935        | 1.073       | 0.926        | 0.854    | 0.846    |                   |                    |                   |                   |          |        |   |    |
|       |                          | 标准值   | 50.1  | 1.72  | 1.15           | 1.73             | 2.72           | 1.312          | 99.5           | 43.5           | 25.7           | 17.6           | 1.28           |         |       |       |       |        | 0.4     | 68.8     | 45.1       |             | 0.43    | 9.1            | 6.7            | 13.1        | 11.3         | 1.172       | 2.12         | 1.282    | 1.279    |                   |                    |                   |                   |          |        |   |    |
|       |                          | 大值平均值 | 51.6  | 1.77  | 1.2            | 1.76             | 2.73           | 1.428          | 99.8           | 46.4           | 26.9           | 20.1           | 1.32           |         |       |       |       |        | 1.2     | 70.2     | 48.6       | 0.49        | 0.56    | 11             | 8.7            | 14.7        | 13.1         | 1.267       | 2.85         | 1.982    | 2.101    |                   |                    |                   |                   |          |        |   |    |
| 小值平均值 | 46.3                     | 1.71  | 1.13  | 1.71  | 2.71           | 1.274            | 98.3           | 42             | 25             | 16.8           | 1.16           |                |                |         |       |       | 0     | 51.4   | 29.5    | 0.280    | 0.17       | 7.2         | 6       | 12.7           | 11             | 0.858       | 1.97         | 1.152       | 1.168        |          |          |                   |                    |                   |                   |          |        |   |    |
| 2-1夹  | 淤泥质<br>粉质粘土<br>夹粉土<br>粉砂 | 统计个数  | 10    | 10    | 10             | 10               | 10             | 10             | 10             | 10             | 10             | 10             |                |         |       |       |       |        |         | 5        | 5          | 6           | 1       | 6              | 6              | 5           | 5            | 10          | 10           | 6        | 6        |                   |                    |                   |                   |          |        |   |    |
|       |                          | 平均值   | 41.5  | 1.8   | 1.27           | 1.8              | 2.71           | 1.134          | 99.2           | 38.3           | 23.5           | 14.9           | 1.2            |         |       |       |       |        |         | 75.4     | 24.6       | 0.710       | 0.25    | 14.6           | 12.6           | 14.7        | 15.6         | 0.658       | 3.44         | 3.21     | 3.341    |                   |                    |                   |                   |          |        |   |    |
|       |                          | 最大值   | 48.6  | 1.86  | 1.37           | 1.86             | 2.73           | 1.328          | 100            | 43.2           | 26.5           | 17.6           | 1.37           |         |       |       |       |        |         | 83.2     | 31.8       | 0.85        | 0.25    | 16             | 15.6           | 16.2        | 19.2         | 0.96        | 4.94         | 4.497    | 4.438    |                   |                    |                   |                   |          |        |   |    |
|       |                          | 最小值   | 35.7  | 1.73  | 1.16           | 1.73             | 2.7            | 0.974          | 97.9           | 33.9           | 20.6           | 12.5           | 0.96           |         |       |       |       |        |         | 68.2     | 16.8       | 0.6         | 0.25    | 13.2           | 10.1           | 12.6        | 12.1         | 0.4         | 2.32         | 1.622    | 1.952    |                   |                    |                   |                   |          |        |   |    |
|       |                          | 标准差   | 4.62  | 0.051 | 0.077          | 0.048            | 0.009          | 0.13           | 0.759          | 3.276          | 1.662          | 2.109          | 0.15           |         |       |       |       |        |         |          |            | 0.098       |         | 1.269          | 1.903          |             |              | 0.202       | 0.879        | 1.23     | 1.015    |                   |                    |                   |                   |          |        |   |    |
|       |                          | 变异系数  | 0.111 | 0.028 | 0.061          | 0.027            | 0.003          | 0.115          | 0.008          | 0.085          | 0.071          | 0.142          | 0.124          |         |       |       |       |        |         |          |            | 0.138       |         | 0.087          | 0.151          |             |              | 0.307       | 0.256        | 0.384    | 0.304    |                   |                    |                   |                   |          |        |   |    |
|       |                          | 修正系数  | 1.065 | 0.984 | 0.965          | 0.984            | 0.998          | 0.933          | 1.004          | 0.95           | 0.959          | 0.917          | 1.073          |         |       |       |       |        |         |          |            | 1.114       |         | 0.928          | 0.875          |             |              | 1.18        | 0.85         | 0.683    | 0.749    |                   |                    |                   |                   |          |        |   |    |
|       |                          | 标准值   | 44.2  | 1.77  | 1.23           | 1.77             | 2.71           | 1.058          | 99.6           | 36.4           | 22.5           | 13.6           | 1.29           |         |       |       |       |        |         |          |            | 0.800       |         | 13.5           | 11             |             |              | 0.776       | 2.92         | 2.191    | 2.504    |                   |                    |                   |                   |          |        |   |    |
|       |                          | 大值平均值 | 45.6  | 1.85  | 1.34           | 1.85             | 2.73           | 1.252          | 99.7           | 41.7           | 24.5           | 16.8           | 1.35           |         |       |       |       |        |         | 79.4     | 30.6       | 0.83        | 0.25    | 15.7           | 14             | 15.7        | 18.8         | 0.824       | 4.12         | 4.286    | 4.213    |                   |                    |                   |                   |          |        |   |    |
| 小值平均值 | 37.4                     | 1.75  | 1.2   | 1.76  | 2.71           | 1.017            | 98.4           | 36.1           | 22.1           | 12.9           | 1.11           |                |                |         |       |       |       | 69.3   | 20.6    | 0.66     | 0.25       | 13.4        | 11.3    | 13.2           | 13.5           | 0.492       | 2.75         | 2.126       | 2.470        |          |          |                   |                    |                   |                   |          |        |   |    |
| 2-2   | 淤泥                       | 统计个数  | 84    | 84    | 84             | 84               | 84             | 84             | 84             | 84             | 84             | 84             |                |         |       |       |       |        |         | 24       | 24         | 21          | 21      | 53             | 53             | 31          | 31           | 80          | 80           | 54       | 54       |                   |                    |                   |                   |          |        |   |    |
|       |                          | 平均值   | 61.4  | 1.64  | 1.02           | 1.65             | 2.74           | 1.698          | 99.2           | 53.4           | 29.5           | 23.9           | 1.34           |         |       |       |       |        |         | 49.6     | 50.4       | 0.230       | 0.230   | 6              | 4.1            | 9.9         | 7.7          | 1.486       | 1.87         | 1.304    | 1.082    |                   |                    |                   |                   |          |        |   |    |
|       |                          | 最大值   | 69    | 1.69  | 1.09           | 1.7              | 2.75           | 1.905          | 100            | 63.5           | 3              |                |                |         |       |       |       |        |         |          |            |             |         |                |                |             |              |             |              |          |          |                   |                    |                   |                   |          |        |   |    |

平阳鳌江标准堤加固工程初步设计雁门闸地基土层物理力学指标设计参数统计表

附表2-7

| 岩土编号 | 岩土名称              | 统计项目              | 天然含水率             | 湿密度   | 干密度            | 饱和密度             | 土粒比重           | 天然孔隙比          | 饱和度            | 液限             | 塑限             | 塑性指数           | 液性指数           | 颗粒组成百分数 |       |       |       |        |         |          |            |                        |         | 渗透     |        | 直剪      |                   |         |                                      | 固结（垂直） |       |                        |                | 动探击数           |                 | 标贯击数             |                    |       |        |   |    |                   |                                      |
|------|-------------------|-------------------|-------------------|-------|----------------|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------|-------|-------|-------|--------|---------|----------|------------|------------------------|---------|--------|--------|---------|-------------------|---------|--------------------------------------|--------|-------|------------------------|----------------|----------------|-----------------|------------------|--------------------|-------|--------|---|----|-------------------|--------------------------------------|
|      |                   |                   | ω                 | ρ     | ρ <sub>d</sub> | ρ <sub>sat</sub> | G <sub>s</sub> | e <sub>0</sub> | S <sub>r</sub> | ω <sub>L</sub> | ω <sub>p</sub> | I <sub>p</sub> | I <sub>L</sub> | ≥60     | 40-60 | 20-40 | 10-20 | 2.0-10 | 0.5-2.0 | 0.25-0.5 | 0.075-0.25 | 0.005-0.075            | 0-0.005 | 水平渗透系数 | 竖向渗透系数 | 粘聚力(快剪) | 内摩擦角(快剪)          | 粘聚力(固快) | 内摩擦角(固快)                             | 压缩系数   | 压缩模量  | 固结系数（MPa）              |                |                |                 |                  |                    | N63.5 | N63.5' | N | N' |                   |                                      |
|      |                   |                   |                   |       |                |                  |                |                |                |                |                |                |                |         |       |       |       |        |         |          |            |                        |         |        |        |         |                   |         |                                      |        |       | q                      | φ <sub>q</sub> | c <sub>q</sub> | φ <sub>cq</sub> | v <sub>1-2</sub> | E <sub>sv1-2</sub> |       |        |   |    | C <sub>v0.2</sub> | C <sub>v0.4</sub>                    |
|      |                   |                   |                   |       |                |                  |                |                |                |                |                |                |                |         |       |       |       |        |         |          |            |                        |         |        |        |         |                   |         |                                      |        |       | ×10 <sup>-6</sup> cm/s | kPa            | 度              | kPa             | 度                | MPa <sup>-1</sup>  |       |        |   |    | MPa               | ×10 <sup>-3</sup> cm <sup>2</sup> /s |
| %    | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |       |                | %                | %              | %              | %              | %              | %              | %              | %              | %       | %     | %     | %     | %      | %       | %        | %          | ×10 <sup>-6</sup> cm/s | kPa     | 度      | kPa    | 度       | MPa <sup>-1</sup> | MPa     | ×10 <sup>-3</sup> cm <sup>2</sup> /s |        |       |                        |                |                |                 |                  |                    |       |        |   |    |                   |                                      |
| 3-1  | 淤泥质粘土             | 统计个数              | 12                | 12    | 12             | 12               | 12             | 12             | 12             | 12             | 12             | 12             | 12             |         |       |       |       |        |         |          |            | 6                      | 6       | 2      | 1      | 6       | 6                 | 6       | 6                                    | 12     | 12    | 9                      | 9              |                |                 |                  |                    |       |        |   |    |                   |                                      |
|      |                   | 平均值               | 50.1              | 1.72  | 1.15           | 1.73             | 2.73           | 1.382          | 99             | 47.8           | 27.2           | 20.6           | 1.11           |         |       |       |       |        |         |          |            | 52.3                   | 47.8    | 0.4    | 0.21   | 10      | 7.2               | 14.6    | 11                                   | 1.044  | 2.31  | 1.220                  | 1.134          |                |                 |                  |                    |       |        |   |    |                   |                                      |
|      |                   | 最大值               | 53.6              | 1.77  | 1.23           | 1.78             | 2.74           | 1.487          | 100            | 50.1           | 29.6           | 23.3           | 1.22           |         |       |       |       |        |         |          |            | 63.5                   | 56.1    | 0.52   | 0.21   | 12.2    | 8.2               | 16.5    | 12.1                                 | 1.36   | 2.85  | 1.632                  | 1.968          |                |                 |                  |                    |       |        |   |    |                   |                                      |
|      |                   | 最小值               | 44.2              | 1.69  | 1.1            | 1.7              | 2.72           | 1.224          | 98.2           | 43.9           | 25.6           | 17.9           | 0.89           |         |       |       |       |        |         |          |            | 43.9                   | 36.5    | 0.28   | 0.21   | 7.5     | 5                 | 12.1    | 10.2                                 | 0.78   | 1.73  | 0.881                  | 0.65           |                |                 |                  |                    |       |        |   |    |                   |                                      |
|      |                   | 标准差               | 2.989             | 0.024 | 0.04           | 0.024            | 0.005          | 0.082          | 0.565          | 2.044          | 1.393          | 1.665          | 0.088          |         |       |       |       |        |         |          |            | 6.907                  | 6.907   |        |        | 1.601   | 1.164             | 1.63    | 0.741                                | 0.136  | 0.259 | 0.271                  | 0.449          |                |                 |                  |                    |       |        |   |    |                   |                                      |
|      |                   | 变异系数              | 0.06              | 0.014 | 0.035          | 0.014            | 0.002          | 0.06           | 0.006          | 0.043          | 0.051          | 0.081          | 0.08           |         |       |       |       |        |         |          |            | 0.132                  | 0.145   |        |        | 0.159   | 0.162             | 0.112   | 0.067                                | 0.131  | 0.112 | 0.222                  | 0.396          |                |                 |                  |                    |       |        |   |    |                   |                                      |
|      |                   | 修正系数              | 1.031             | 0.993 | 0.982          | 0.993            | 0.999          | 0.969          | 1.003          | 0.978          | 0.973          | 0.958          | 1.042          |         |       |       |       |        |         |          |            | 1.109                  | 1.119   |        |        | 0.868   | 0.866             | 0.908   | 0.944                                | 1.068  | 0.941 | 0.861                  | 0.752          |                |                 |                  |                    |       |        |   |    |                   |                                      |
|      |                   | 标准值               | 51.7              | 1.71  | 1.13           | 1.71             | 2.73           | 1.339          | 99.3           | 46.8           | 26.5           | 19.8           | 1.15           |         |       |       |       |        |         |          |            | 58                     | 53.5    |        |        | 8.7     | 6.2               | 13.3    | 10.4                                 | 1.116  | 2.18  | 1.051                  | 0.853          |                |                 |                  |                    |       |        |   |    |                   |                                      |
|      |                   | 大值平均值             | 52.1              | 1.74  | 1.18           | 1.75             | 2.74           | 1.437          | 99.6           | 49.3           | 29.4           | 22.1           | 1.17           |         |       |       |       |        |         |          |            | 57.5                   | 53      | 0.52   | 0.21   | 10.9    | 7.7               | 15.6    | 11.6                                 | 1.133  | 2.48  | 1.476                  | 1.685          |                |                 |                  |                    |       |        |   |    |                   |                                      |
|      |                   | 小值平均值             | 47.3              | 1.71  | 1.12           | 1.71             | 2.73           | 1.304          | 98.6           | 45.8           | 26.5           | 19.6           | 1.04           |         |       |       |       |        |         |          |            | 47                     | 42.5    | 0.28   | 0.21   | 8.3     | 6                 | 12.6    | 10.5                                 | 0.955  | 2.14  | 1.016                  | 0.858          |                |                 |                  |                    |       |        |   |    |                   |                                      |
| 3-3  | 粘土                | 统计个数              | 43                | 43    | 43             | 43               | 43             | 43             | 43             | 43             | 43             | 43             | 43             |         |       |       |       |        |         |          |            | 16                     | 16      | 10     | 13     | 27      | 27                | 16      | 16                                   | 42     | 42    | 28                     | 28             |                |                 |                  |                    |       |        |   |    |                   |                                      |
|      |                   | 平均值               | 41                | 1.8   | 1.28           | 1.81             | 2.73           | 1.133          | 98.6           | 42.5           | 25.2           | 17.3           | 0.91           |         |       |       |       |        |         |          |            | 62.3                   | 37.7    | 0.55   | 0.33   | 13.5    | 10                | 16.9    | 13.4                                 | 0.843  | 2.59  | 1.521                  | 1.256          |                |                 |                  |                    |       |        |   |    |                   |                                      |
|      |                   | 最大值               | 46.5              | 1.88  | 1.41           | 1.89             | 2.74           | 1.278          | 100            | 46.9           | 26.8           | 20.8           | 1.19           |         |       |       |       |        |         |          |            | 71                     | 49      | 0.78   | 0.56   | 16.5    | 11.5              | 21      | 15.2                                 | 1.64   | 3.66  | 4.315                  | 2.836          |                |                 |                  |                    |       |        |   |    |                   |                                      |
|      |                   | 最小值               | 33.3              | 1.75  | 1.2            | 1.76             | 2.71           | 0.922          | 92.6           | 36.2           | 22.2           | 12.7           | 0.77           |         |       |       |       |        |         |          |            | 51                     | 29      | 0.32   | 0.04   | 11.2    | 7.9               | 15.2    | 11.8                                 | 0.51   | 1.3   | 1.02                   | 0.557          |                |                 |                  |                    |       |        |   |    |                   |                                      |
|      |                   | 标准差               | 2.826             | 0.033 | 0.048          | 0.03             | 0.007          | 0.082          | 1.651          | 2.733          | 1.316          | 2.009          | 0.08           |         |       |       |       |        |         |          |            | 5.152                  | 5.152   | 0.131  | 0.119  | 1.384   | 1.137             | 1.56    | 0.868                                | 0.161  | 0.348 | 0.669                  | 0.427          |                |                 |                  |                    |       |        |   |    |                   |                                      |
|      |                   | 变异系数              | 0.069             | 0.018 | 0.037          | 0.017            | 0.002          | 0.072          | 0.017          | 0.064          | 0.052          | 0.116          | 0.087          |         |       |       |       |        |         |          |            | 0.083                  | 0.137   | 0.24   | 0.359  | 0.103   | 0.114             | 0.092   | 0.065                                | 0.191  | 0.134 | 0.44                   | 0.34           |                |                 |                  |                    |       |        |   |    |                   |                                      |
|      |                   | 修正系数              | 1.018             | 0.995 | 0.99           | 0.996            | 0.999          | 0.981          | 1.004          | 0.983          | 0.986          | 0.969          | 1.023          |         |       |       |       |        |         |          |            | 1.037                  | 1.061   | 1.141  | 1.18   | 0.966   | 0.962             | 0.959   | 0.971                                | 1.051  | 0.964 | 0.856                  | 0.889          |                |                 |                  |                    |       |        |   |    |                   |                                      |
|      |                   | 标准值               | 41.7              | 1.79  | 1.27           | 1.8              | 2.72           | 1.112          | 99             | 41.8           | 24.9           | 16.8           | 0.93           |         |       |       |       |        |         |          |            | 64.6                   | 40      | 0.620  | 0.39   | 13      | 9.6               | 16.2    | 13                                   | 0.886  | 2.5   | 1.302                  | 1.116          |                |                 |                  |                    |       |        |   |    |                   |                                      |
|      |                   | 大值平均值             | 42.8              | 1.83  | 1.31           | 1.83             | 2.73           | 1.197          | 99.5           | 44.6           | 26.1           | 18.8           | 0.97           |         |       |       |       |        |         |          |            | 66.8                   | 41.2    | 0.67   | 0.40   | 14.4    | 10.7              | 18.8    | 14                                   | 0.946  | 2.87  | 2.347                  | 1.700          |                |                 |                  |                    |       |        |   |    |                   |                                      |
|      |                   | 小值平均值             | 38.6              | 1.77  | 1.24           | 1.79             | 2.72           | 1.072          | 96.9           | 40.5           | 23.9           | 15.5           | 0.85           |         |       |       |       |        |         |          |            | 58.8                   | 33.2    | 0.470  | 0.25   | 12.3    | 8.5               | 16      | 12.6                                 | 0.758  | 2.4   | 1.246                  | 1.046          |                |                 |                  |                    |       |        |   |    |                   |                                      |
| 4-4  | 粉质粘土              | 统计个数              | 6                 | 6     | 6              | 6                | 6              | 6              | 6              | 6              | 6              | 6              | 6              |         |       |       |       |        |         | 2        | 2          | 2                      | 2       | 3      |        | 5       | 5                 | 2       | 2                                    | 8      | 8     | 6                      | 6              |                |                 |                  |                    |       |        |   |    |                   |                                      |
|      |                   | 平均值               | 32.6              | 1.89  | 1.43           | 1.9              | 2.71           | 0.91           | 96.9           | 36.7           | 22.9           | 13.7           | 0.68           |         |       |       |       |        |         | 1.8      | 5.5        | 74.5                   | 18.3    | 0.700  |        | 18      | 13.4              | 16.6    | 14.4                                 | 0.643  | 3.48  | 2.93                   | 1.855          |                |                 |                  |                    |       |        |   |    |                   |                                      |
|      |                   | 最大值               | 40.4              | 1.99  | 1.58           | 2                | 2.73           | 1.11           | 99.4           | 41.1           | 26.2           | 16.3           | 0.97           |         |       |       |       |        |         | 3.6      | 10.9       | 75                     | 26.1    | 0.85   |        | 25      | 16.3              | 18.5    | 15.9                                 | 0.95   | 5.44  | 3.577                  | 3.714          |                |                 |                  |                    |       |        |   |    |                   |                                      |
|      |                   | 最小值               | 23.4              | 1.81  | 1.29           | 1.82             | 2.68           | 0.696          | 90.1           | 32.3           | 20.8           | 10.9           | 0.23           |         |       |       |       |        |         | 0        | 0          | 73.9                   | 10.5    | 0.62   |        | 15.2    | 11                | 14.6    | 12.9                                 | 0.32   | 2.13  | 1.089                  | 0.685          |                |                 |                  |                    |       |        |   |    |                   |                                      |
|      |                   | 标准差               | 7.126             | 0.072 | 0.13           | 0.079            | 0.019          | 0.182          | 3.456          | 3.445          | 1.802          | 2.099          | 0.351          |         |       |       |       |        |         |          |            |                        |         |        |        |         |                   |         |                                      |        |       |                        |                |                |                 |                  |                    |       |        |   |    |                   |                                      |
|      |                   | 变异系数              | 0.219             | 0.038 | 0.091          | 0.041            | 0.007          | 0.2            | 0.036          | 0.094          | 0.079          | 0.153          | 0.517          |         |       |       |       |        |         |          |            |                        |         |        |        |         |                   |         |                                      |        |       |                        |                |                |                 |                  |                    |       |        |   |    |                   |                                      |
|      |                   | 修正系数              | 1.181             | 0.969 | 0.925          | 0.966            | 0.994          | 0.835          | 1.029          | 0.922          | 0.935          | 0.874          | 1.427          |         |       |       |       |        |         |          |            |                        |         |        |        |         |                   |         |                                      |        |       |                        |                |                |                 |                  |                    |       |        |   |    |                   |                                      |
|      |                   | 标准值               | 38.5              | 1.83  | 1.32           | 1.84             | 2.7            | 0.759          | 99.7           | 33.8           | 21.5           | 12             | 0.97           |         |       |       |       |        |         |          |            |                        |         |        |        |         |                   |         |                                      |        |       |                        |                |                |                 |                  |                    |       |        |   |    |                   |                                      |
|      |                   | 大值平均值             | 38.7              | 1.95  | 1.54           | 1.97             | 2.73           | 1.067          | 98.6           | 39.4           | 24.1           | 15             | 0.9            |         |       |       |       |        |         | 3.6      | 10.9       | 75                     | 26.1    | 0.85   |        | 21.6    | 16.3              | 18.5    | 15.9                                 | 0.813  | 4.77  | 3.415                  | 2.801          |                |                 |                  |                    |       |        |   |    |                   |                                      |
|      |                   | 小值平均值             | 26.5              | 1.83  | 1.32           | 1.84             | 2.7            | 0.752          | 93.4           | 33.9           | 21.8           | 11.2           | 0.24           |         |       |       |       |        |         | 0        | 0          | 73.9                   | 10.5    | 0.63   |        | 15.6    | 11.4              | 14.6    | 12.9                                 | 0.472  | 2.7   | 1.968                  | 0.908          |                |                 |                  |                    |       |        |   |    |                   |                                      |
| 5-3  | 圆砾                | 统计个数              |                   |       |                |                  |                |                |                |                |                |                |                |         | 20    | 20    | 20    | 20     | 20      | 20       | 20         | 20                     |         |        |        |         |                   |         |                                      |        |       |                        | 3              | 3              |                 |                  |                    |       |        |   |    |                   |                                      |

平阳鳌江标准堤加固工程初步设计下埠闸地基土层物理力学指标设计参数统计表

附表2-8

| 岩土编号 | 岩土名称              | 统计项目              | 天然含水率             | 湿密度   | 干密度            | 饱和密度             | 土粒比重           | 天然孔隙比          | 饱和度            | 液限             | 塑限             | 塑性指数           | 液性指数           | 颗粒组成百分数 |       |       |       |        |         |          |            |                        |         | 渗透     |        | 直剪      |                   |         |                                      | 固结（垂直） |       |                  |                    | 动探击数              |                   | 标贯击数  |        |
|------|-------------------|-------------------|-------------------|-------|----------------|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------|-------|-------|-------|--------|---------|----------|------------|------------------------|---------|--------|--------|---------|-------------------|---------|--------------------------------------|--------|-------|------------------|--------------------|-------------------|-------------------|-------|--------|
|      |                   |                   | ω                 | ρ     | ρ <sub>d</sub> | ρ <sub>sat</sub> | G <sub>s</sub> | e <sub>0</sub> | S <sub>r</sub> | ω <sub>L</sub> | ω <sub>p</sub> | I <sub>p</sub> | I <sub>L</sub> | >60     | 40-60 | 20-40 | 10-20 | 2.0-10 | 0.5-2.0 | 0.25-0.5 | 0.075-0.25 | 0.005-0.075            | 0-0.005 | 水平渗透系数 | 竖向渗透系数 | 粘聚力(快剪) | 内摩擦角(快剪)          | 粘聚力(固快) | 内摩擦角(固快)                             | 压缩系数   | 压缩模量  | 固结系数（MPa）        |                    |                   |                   |       |        |
|      |                   |                   |                   |       |                |                  |                |                |                |                |                |                |                |         |       |       |       |        |         |          |            |                        |         |        |        |         |                   |         |                                      |        |       | v <sub>1-2</sub> | E <sub>sv1-2</sub> | C <sub>v0.2</sub> | C <sub>v0.4</sub> |       |        |
|      |                   |                   |                   |       |                |                  |                |                |                |                |                |                |                |         |       |       |       |        |         |          |            |                        |         |        |        |         |                   |         |                                      |        |       |                  |                    |                   |                   | N63.5 | N63.5' |
| %    | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |       |                | %                | %              | %              | %              | %              | %              | %              | %              | %       | %     | %     | %     | %      | %       | %        | %          | ×10 <sup>-6</sup> cm/s | kPa     | 度      | kPa    | 度       | MPa <sup>-1</sup> | MPa     | ×10 <sup>-3</sup> cm <sup>2</sup> /s | 击/10cm |       | 击/30cm           |                    |                   |                   |       |        |
| 2-0  | 淤泥                | 统计个数              | 4                 | 4     | 4              | 4                | 4              | 4              | 4              | 4              | 4              | 4              |                |         |       |       |       |        |         |          |            | 2                      | 2       | 2      | 2      | 2       | 2                 | 5       | 5                                    | 2      | 2     |                  |                    |                   |                   |       |        |
|      |                   | 平均值               | 60.8              | 1.64  | 1.02           | 1.65             | 2.75           | 1.701          | 98.2           | 56.1           | 29.2           | 26.9           | 1.17           |         |       |       |       |        |         |          |            | 53.4                   | 46.6    | 0.19   | 0.45   | 6.3     | 4.6               | 8.9     | 6.3                                  | 1.544  | 1.78  | 0.845            | 1.039              |                   |                   |       |        |
|      |                   | 最大值               | 65.2              | 1.66  | 1.06           | 1.67             | 2.75           | 1.787          | 100            | 60             | 31.2           | 28.8           | 1.18           |         |       |       |       |        |         |          |            | 59.9                   | 53.1    | 0.29   | 0.73   | 7.5     | 5.9               | 9.3     | 6.5                                  | 1.94   | 2.11  | 1.017            | 1.209              |                   |                   |       |        |
|      |                   | 最小值               | 56.5              | 1.63  | 0.99           | 1.63             | 2.75           | 1.593          | 96.8           | 52.6           | 27.5           | 25.1           | 1.16           |         |       |       |       |        |         |          |            | 46.9                   | 40.1    | 0.09   | 0.17   | 5.2     | 3.2               | 8.6     | 6                                    | 1.17   | 1.39  | 0.674            | 0.868              |                   |                   |       |        |
|      |                   | 标准差               |                   |       |                |                  |                |                |                |                |                |                |                |         |       |       |       |        |         |          |            |                        |         |        |        |         |                   |         |                                      |        |       |                  |                    |                   |                   |       |        |
|      |                   | 变异系数              |                   |       |                |                  |                |                |                |                |                |                |                |         |       |       |       |        |         |          |            |                        |         |        |        |         |                   |         |                                      |        |       |                  |                    |                   |                   |       |        |
|      |                   | 修正系数              |                   |       |                |                  |                |                |                |                |                |                |                |         |       |       |       |        |         |          |            |                        |         |        |        |         |                   |         |                                      |        |       |                  |                    |                   |                   |       |        |
|      |                   | 标准值               |                   |       |                |                  |                |                |                |                |                |                |                |         |       |       |       |        |         |          |            |                        |         |        |        |         |                   |         |                                      |        |       |                  |                    |                   |                   |       |        |
|      |                   | 大值平均值             | 63.5              | 1.66  | 1.04           | 1.66             | 2.75           | 1.759          | 99.2           | 58.5           | 30.4           | 28.1           | 1.18           |         |       |       |       |        |         |          |            | 59.9                   | 53.1    | 0.29   | 0.73   | 7.5     | 5.9               | 9.3     | 6.5                                  | 1.905  | 2.02  | 1.017            | 1.209              |                   |                   |       |        |
|      |                   | 小值平均值             | 58                | 1.63  | 1.01           | 1.63             | 2.75           | 1.643          | 97.2           | 53.7           | 28             | 25.7           | 1.16           |         |       |       |       |        |         |          |            | 46.9                   | 40.1    | 0.09   | 0.17   | 5.2     | 3.2               | 8.6     | 6                                    | 1.303  | 1.42  | 0.674            | 0.868              |                   |                   |       |        |
| 2-1  | 淤泥质粘土             | 统计个数              | 13                | 13    | 13             | 13               | 13             | 13             | 13             | 13             | 13             | 13             |                |         |       |       |       |        |         |          |            | 3                      | 3       | 2      | 3      | 9       | 9                 | 3       | 3                                    | 13     | 13    | 7                | 7                  |                   |                   |       |        |
|      |                   | 平均值               | 46                | 1.75  | 1.2            | 1.76             | 2.73           | 1.279          | 98.2           | 43             | 24.9           | 18.1           | 1.17           |         |       |       |       |        |         |          |            | 61.5                   | 38.5    | 0.460  | 1.14   | 10.7    | 8.5               | 12.7    | 11.1                                 | 1.117  | 2.25  | 1.390            | 1.572              |                   |                   |       |        |
|      |                   | 最大值               | 53.6              | 1.82  | 1.31           | 1.83             | 2.74           | 1.463          | 100            | 49.5           | 28             | 22.2           | 1.37           |         |       |       |       |        |         |          |            | 70                     | 50.5    | 0.86   | 3.2    | 12.2    | 10.9              | 13.8    | 11.5                                 | 2.29   | 3.13  | 2.174            | 2.047              |                   |                   |       |        |
|      |                   | 最小值               | 38.8              | 1.7   | 1.11           | 1.7              | 2.71           | 1.082          | 95.2           | 36.3           | 21.5           | 14             | 1.06           |         |       |       |       |        |         |          |            | 49.5                   | 30      | 0.05   | 0.09   | 8       | 5.6               | 11.6    | 10.5                                 | 0.67   | 1.02  | 0.961            | 1.047              |                   |                   |       |        |
|      |                   | 标准差               | 4.976             | 0.039 | 0.067          | 0.042            | 0.008          | 0.128          | 1.329          | 4.516          | 2.152          | 2.525          | 0.089          |         |       |       |       |        |         |          |            |                        |         |        | 1.604  | 1.932   |                   |         | 0.441                                | 0.62   | 0.406 | 0.381            |                    |                   |                   |       |        |
|      |                   | 变异系数              | 0.108             | 0.022 | 0.056          | 0.024            | 0.003          | 0.1            | 0.014          | 0.105          | 0.086          | 0.14           | 0.077          |         |       |       |       |        |         |          |            |                        |         |        |        |         |                   |         |                                      | 0.395  | 0.275 | 0.292            | 0.242              |                   |                   |       |        |
|      |                   | 修正系数              | 1.054             | 0.989 | 0.972          | 0.988            | 0.999          | 0.95           | 1.007          | 0.948          | 0.957          | 0.93           | 1.038          |         |       |       |       |        |         |          |            |                        |         |        |        |         |                   |         |                                      | 1.197  | 0.862 | 0.784            | 0.821              |                   |                   |       |        |
|      |                   | 标准值               | 48.5              | 1.73  | 1.17           | 1.74             | 2.73           | 1.215          | 98.9           | 40.8           | 23.9           | 16.8           | 1.21           |         |       |       |       |        |         |          |            |                        |         |        |        |         |                   |         |                                      | 1.337  | 1.94  | 1.089            | 1.291              |                   |                   |       |        |
|      |                   | 大值平均值             | 50.5              | 1.78  | 1.25           | 1.79             | 2.74           | 1.393          | 99.1           | 45.9           | 26.2           | 20.1           | 1.23           |         |       |       |       |        |         |          |            | 67.5                   | 50.5    | 0.86   | 3.20   | 11.7    | 10                | 13.3    | 11.4                                 | 1.524  | 2.71  | 1.633            | 1.851              |                   |                   |       |        |
|      |                   | 小值平均值             | 42.2              | 1.72  | 1.14           | 1.73             | 2.73           | 1.181          | 97.1           | 38.5           | 22.1           | 16.4           | 1.09           |         |       |       |       |        |         |          |            | 49.5                   | 32.5    | 0.050  | 0.11   | 8.7     | 6.7               | 11.6    | 10.5                                 | 0.862  | 1.73  | 1.064            | 1.201              |                   |                   |       |        |
| 2-1夹 | 淤泥质粉质粘土夹粉土粉砂      | 统计个数              | 16                | 16    | 16             | 16               | 16             | 16             | 16             | 16             | 16             | 16             |                |         |       |       |       |        |         |          |            | 6                      | 6       | 6      | 3      | 11      | 11                | 5       | 5                                    | 15     | 15    | 11               | 11                 |                   |                   |       |        |
|      |                   | 平均值               | 40.2              | 1.81  | 1.29           | 1.82             | 2.72           | 1.108          | 98.5           | 37.2           | 22.5           | 14.7           | 1.21           |         |       |       |       |        |         |          |            | 70                     | 29.9    | 1.610  | 0.45   | 13.2    | 11.2              | 13.6    | 12.6                                 | 0.721  | 3.05  | 1.96             | 2.055              |                   |                   |       |        |
|      |                   | 最大值               | 48.2              | 1.9   | 1.42           | 1.9              | 2.74           | 1.33           | 100            | 46.3           | 25.8           | 20.6           | 1.5            |         |       |       |       |        |         |          |            | 78.3                   | 36.7    | 6.1    | 0.65   | 15.3    | 13.5              | 14.3    | 15.6                                 | 0.91   | 4.51  | 3.476            | 3.354              |                   |                   |       |        |
|      |                   | 最小值               | 33.5              | 1.73  | 1.17           | 1.74             | 2.7            | 0.904          | 95.7           | 32.9           | 21             | 11.1           | 0.95           |         |       |       |       |        |         |          |            | 63.3                   | 21.7    | 0.56   | 0.13   | 10.1    | 8.5               | 13      | 10.8                                 | 0.43   | 2.36  | 1.106            | 1.142              |                   |                   |       |        |
|      |                   | 标准差               | 4.687             | 0.05  | 0.078          | 0.05             | 0.011          | 0.13           | 1.066          | 3.553          | 1.406          | 2.381          | 0.172          |         |       |       |       |        |         |          |            | 5.228                  | 5.228   | 2.206  |        | 1.626   | 1.441             |         |                                      | 0.148  | 0.62  | 0.683            | 0.654              |                   |                   |       |        |
|      |                   | 变异系数              | 0.117             | 0.028 | 0.06           | 0.027            | 0.004          | 0.118          | 0.011          | 0.096          | 0.063          | 0.162          | 0.142          |         |       |       |       |        |         |          |            | 0.075                  | 0.175   | 1.373  |        | 0.123   | 0.129             |         |                                      | 0.205  | 0.203 | 0.348            | 0.318              |                   |                   |       |        |
|      |                   | 修正系数              | 1.052             | 0.988 | 0.973          | 0.988            | 0.998          | 0.948          | 1.005          | 0.958          | 0.972          | 0.928          | 1.063          |         |       |       |       |        |         |          |            | 1.062                  | 1.144   | 2.134  |        | 0.932   | 0.929             |         |                                      | 1.095  | 0.906 | 0.808            | 0.824              |                   |                   |       |        |
|      |                   | 标准值               | 42.3              | 1.79  | 1.26           | 1.8              | 2.71           | 1.05           | 99             | 35.6           | 21.8           | 13.6           | 1.28           |         |       |       |       |        |         |          |            | 74.4                   | 34.3    | 3.430  |        | 12.3    | 10.4              |         |                                      | 0.79   | 2.76  | 1.586            | 1.694              |                   |                   |       |        |
|      |                   | 大值平均值             | 45.3              | 1.84  | 1.34           | 1.85             | 2.72           | 1.249          | 99.3           | 40.5           | 23.7           | 16.5           | 1.37           |         |       |       |       |        |         |          |            | 73.9                   | 33.8    | 6.1    | 0.6    | 14.6    | 12.2              | 14.1    | 14.1                                 | 0.834  | 3.81  | 2.550            | 2.632              |                   |                   |       |        |
|      |                   | 小值平均值             | 37.2              | 1.76  | 1.21           | 1.76             | 2.71           | 1.023          | 97.8           | 35.1           | 21.7           | 12.9           | 1.08           |         |       |       |       |        |         |          |            | 66.2                   | 26.1    | 0.71   | 0.13   | 12.1    | 9.9               | 13.3    | 11.5                                 | 0.593  | 2.67  | 1.475            | 1.575              |                   |                   |       |        |
| 2-2  | 淤泥                | 统计个数              | 68                | 68    | 68             | 68               | 68             | 68             | 68             | 68             | 68             | 68             |                |         |       |       |       |        |         |          |            | 21                     | 21      | 24     | 23     | 46      | 46                | 27      | 27                                   | 80     | 80    | 58               | 59                 |                   |                   |       |        |
|      |                   | 平均值               | 57.8              | 1.67  | 1.06           | 1.67             | 2.75           | 1.607          | 98.9           | 53.6           | 28.9           | 24.8           | 1.17           |         |       |       |       |        |         |          |            | 52.3                   | 47.7    | 0.190  | 0.200  | 7       | 4.7               | 10.7    | 8.8                                  | 1.381  | 1.91  | 1.252            | 1.106              |                   |                   |       |        |
|      |                   | 最大值               | 67.9              | 1.7   | 1.11           | 1.7              | 2.75           | 1.886          | 100            | 62.4           | 32.4           |                |                |         |       |       |       |        |         |          |            |                        |         |        |        |         |                   |         |                                      |        |       |                  |                    |                   |                   |       |        |

平阳鳌江标准堤加固工程初步设计下埠闸地基土层物理力学指标设计参数统计表

附表2-9

| 岩土编号 | 岩土名称  | 统计项目  | 天然含水率 | 湿密度   | 干密度            | 饱和密度             | 土粒比重           | 天然孔隙比          | 饱和度            | 液限             | 塑限             | 塑性指数           | 液性指数           | 颗粒组成百分数 |       |       |       |        |         |          |            |             |         | 渗透     |        | 直剪      |          |         |          | 固结（垂直） |       |                  |                    | 动探击数              |                   | 标贯击数  |        |   |    |
|------|-------|-------|-------|-------|----------------|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------|-------|-------|-------|--------|---------|----------|------------|-------------|---------|--------|--------|---------|----------|---------|----------|--------|-------|------------------|--------------------|-------------------|-------------------|-------|--------|---|----|
|      |       |       | ω     | ρ     | ρ <sub>d</sub> | ρ <sub>sat</sub> | G <sub>s</sub> | e <sub>0</sub> | S <sub>r</sub> | ω <sub>L</sub> | ω <sub>p</sub> | I <sub>p</sub> | I <sub>L</sub> | >60     | 40-60 | 20-40 | 10-20 | 2.0-10 | 0.5-2.0 | 0.25-0.5 | 0.075-0.25 | 0.005-0.075 | 0-0.005 | 水平渗透系数 | 竖向渗透系数 | 粘聚力(快剪) | 内摩擦角(快剪) | 粘聚力(固快) | 内摩擦角(固快) | 压缩系数   | 压缩模量  | 固结系数(MPa)        |                    |                   |                   |       |        |   |    |
|      |       |       |       |       |                |                  |                |                |                |                |                |                |                |         |       |       |       |        |         |          |            |             |         |        |        |         |          |         |          |        |       | v <sub>1-2</sub> | E <sub>sv1-2</sub> | C <sub>v0.2</sub> | C <sub>v0.4</sub> | N63.5 | N63.5' | N | N' |
|      |       |       |       |       |                |                  |                |                |                |                |                |                |                |         |       |       |       |        |         |          |            |             |         |        |        |         |          |         |          |        |       | %                | g/cm <sup>3</sup>  | g/cm <sup>3</sup> | g/cm <sup>3</sup> |       |        | % | %  |
| 3-1  | 淤泥质粘土 | 统计个数  | 10    | 10    | 10             | 10               | 10             | 10             | 10             | 10             | 10             | 10             | 10             |         |       |       |       |        |         |          |            | 4           | 4       | 3      | 3      | 4       | 4        | 5       | 5        | 10     | 10    | 7                | 7                  |                   |                   |       |        |   |    |
|      |       | 平均值   | 47.3  | 1.75  | 1.19           | 1.75             | 2.73           | 1.306          | 98.8           | 45.9           | 25.8           | 20.1           | 1.07           |         |       |       |       |        |         |          |            | 59.1        | 40.9    | 0.4    | 0.35   | 13.4    | 9.4      | 13.7    | 11.2     | 0.977  | 2.44  | 1.263            | 1.006              |                   |                   |       |        |   |    |
|      |       | 最大值   | 52.6  | 1.78  | 1.25           | 1.79             | 2.74           | 1.46           | 100            | 52             | 27             | 25             | 1.23           |         |       |       |       |        |         |          |            | 63.9        | 46      | 0.58   | 0.39   | 15.8    | 10.2     | 15.3    | 12.5     | 1.41   | 3.37  | 1.847            | 1.177              |                   |                   |       |        |   |    |
|      |       | 最小值   | 42.4  | 1.7   | 1.11           | 1.71             | 2.73           | 1.187          | 96.8           | 43             | 23.6           | 17.1           | 0.93           |         |       |       |       |        |         |          |            | 54          | 36.1    | 0.31   | 0.31   | 12.2    | 8        | 11.6    | 10.3     | 0.65   | 1.74  | 0.841            | 0.868              |                   |                   |       |        |   |    |
|      |       | 标准差   | 4.082 | 0.028 | 0.052          | 0.032            | 0.005          | 0.104          | 1.221          | 2.802          | 1.245          | 2.279          | 0.109          |         |       |       |       |        |         |          |            |             |         |        |        |         |          |         |          |        |       |                  |                    |                   |                   |       |        |   |    |
|      |       | 变异系数  | 0.086 | 0.016 | 0.044          | 0.018            | 0.002          | 0.08           | 0.012          | 0.061          | 0.048          | 0.113          | 0.102          |         |       |       |       |        |         |          |            |             |         |        |        |         |          |         |          |        |       |                  |                    |                   |                   |       |        |   |    |
|      |       | 修正系数  | 1.051 | 0.991 | 0.974          | 0.989            | 0.999          | 0.953          | 1.007          | 0.964          | 0.972          | 0.934          | 1.06           |         |       |       |       |        |         |          |            |             |         |        |        |         |          |         |          |        |       |                  |                    |                   |                   |       |        |   |    |
|      |       | 标准值   | 49.7  | 1.73  | 1.16           | 1.73             | 2.73           | 1.245          | 99.6           | 44.2           | 25             | 18.8           | 1.13           |         |       |       |       |        |         |          |            |             |         |        |        |         |          |         |          |        |       |                  |                    |                   |                   |       |        |   |    |
|      |       | 大值平均值 | 51    | 1.77  | 1.23           | 1.78             | 2.74           | 1.401          | 99.7           | 47.8           | 26.6           | 22.8           | 1.19           |         |       |       |       |        |         |          |            | 60.8        | 46      | 0.58   | 0.38   | 15.8    | 9.9      | 14.7    | 12.2     | 1.163  | 2.83  | 1.624            | 1.094              |                   |                   |       |        |   |    |
|      |       | 小值平均值 | 43.6  | 1.72  | 1.14           | 1.72             | 2.73           | 1.212          | 97.6           | 43.9           | 24.5           | 19             | 0.99           |         |       |       |       |        |         |          |            | 54          | 39.2    | 0.31   | 0.31   | 12.5    | 8        | 12.3    | 10.6     | 0.853  | 2.19  | 0.992            | 0.888              |                   |                   |       |        |   |    |
| 3-3  | 粘土    | 统计个数  | 56    | 56    | 56             | 56               | 56             | 56             | 56             | 56             | 56             | 56             | 56             |         |       |       |       |        |         |          |            | 20          | 20      | 16     | 16     | 43      | 43       | 25      | 25       | 60     | 60    | 49               | 49                 |                   |                   |       |        |   |    |
|      |       | 平均值   | 40    | 1.81  | 1.29           | 1.82             | 2.73           | 1.111          | 98.1           | 41.4           | 24.3           | 17.1           | 0.92           |         |       |       |       |        |         |          |            | 63.7        | 36.3    | 0.58   | 0.37   | 14.4    | 10.8     | 16.8    | 13.4     | 0.765  | 2.78  | 1.264            | 1.163              |                   |                   |       |        |   |    |
|      |       | 最大值   | 48.6  | 1.91  | 1.45           | 1.92             | 2.74           | 1.345          | 100            | 49.2           | 28.8           | 23.2           | 1.19           |         |       |       |       |        |         |          |            | 79.7        | 46.9    | 0.89   | 0.68   | 18.6    | 12.8     | 22.1    | 15.2     | 1.07   | 3.84  | 3.525            | 2.592              |                   |                   |       |        |   |    |
|      |       | 最小值   | 31.8  | 1.73  | 1.16           | 1.74             | 2.71           | 0.884          | 95.2           | 35.2           | 20.8           | 13.6           | 0.6            |         |       |       |       |        |         |          |            | 53.1        | 20.3    | 0.05   | 0.11   | 10.9    | 9.2      | 14.3    | 11.8     | 0.52   | 2.1   | 0.587            | 0.689              |                   |                   |       |        |   |    |
|      |       | 标准差   | 3.372 | 0.036 | 0.055          | 0.036            | 0.007          | 0.093          | 1.442          | 3.297          | 1.939          | 1.819          | 0.089          |         |       |       |       |        |         |          |            | 6.525       | 6.522   | 0.216  | 0.165  | 1.746   | 0.933    | 1.826   | 0.882    | 0.113  | 0.396 | 0.494            | 0.34               |                   |                   |       |        |   |    |
|      |       | 变异系数  | 0.084 | 0.02  | 0.043          | 0.02             | 0.003          | 0.084          | 0.015          | 0.08           | 0.08           | 0.107          | 0.097          |         |       |       |       |        |         |          |            | 0.102       | 0.18    | 0.371  | 0.452  | 0.121   | 0.087    | 0.109   | 0.066    | 0.148  | 0.142 | 0.391            | 0.293              |                   |                   |       |        |   |    |
|      |       | 修正系数  | 1.019 | 0.995 | 0.99           | 0.996            | 0.999          | 0.981          | 1.003          | 0.982          | 0.982          | 0.976          | 1.022          |         |       |       |       |        |         |          |            | 1.04        | 1.071   | 1.165  | 1.201  | 0.968   | 0.977    | 0.962   | 0.977    | 1.033  | 0.968 | 0.904            | 0.928              |                   |                   |       |        |   |    |
|      |       | 标准值   | 40.8  | 1.8   | 1.28           | 1.81             | 2.72           | 1.09           | 98.4           | 40.6           | 23.8           | 16.7           | 0.94           |         |       |       |       |        |         |          |            | 66.2        | 38.8    | 0.680  | 0.44   | 14      | 10.5     | 16.1    | 13.1     | 0.791  | 2.69  | 1.142            | 1.079              |                   |                   |       |        |   |    |
|      |       | 大值平均值 | 42.4  | 1.83  | 1.34           | 1.84             | 2.73           | 1.188          | 99.2           | 44.2           | 26.1           | 18.6           | 0.98           |         |       |       |       |        |         |          |            | 68.5        | 41.5    | 0.71   | 0.54   | 16      | 11.5     | 18.2    | 14.3     | 0.849  | 3.21  | 1.641            | 1.447              |                   |                   |       |        |   |    |
|      |       | 小值平均值 | 37.4  | 1.78  | 1.25           | 1.79             | 2.72           | 1.045          | 96.7           | 38.7           | 22.7           | 15.8           | 0.86           |         |       |       |       |        |         |          |            | 58.9        | 32      | 0.410  | 0.26   | 13.1    | 10       | 15.8    | 12.8     | 0.67   | 2.56  | 1.003            | 0.950              |                   |                   |       |        |   |    |
| 4-4  | 粉质粘土  | 统计个数  | 9     | 9     | 9              | 9                | 9              | 9              | 9              | 9              | 9              | 9              | 9              |         |       |       |       |        |         |          | 6          | 6           | 6       | 3      | 3      | 5       | 5        | 4       | 4        | 9      | 9     | 9                | 9                  |                   |                   |       |        |   |    |
|      |       | 平均值   | 26.8  | 1.96  | 1.55           | 1.98             | 2.71           | 0.76           | 95.8           | 34.1           | 21             | 13.1           | 0.43           |         |       |       |       |        |         |          |            | 0.2         | 73.3    | 26.5   | 22.420 | 6.390   | 19.2     | 14.8    | 20.3     | 17.4   | 0.422 | 4.37             | 2.57               | 2.290             |                   |       |        |   |    |
|      |       | 最大值   | 35.3  | 2.06  | 1.72           | 2.09             | 2.73           | 0.989          | 98             | 45.9           | 25.2           | 20.7           | 0.78           |         |       |       |       |        |         |          |            | 1.3         | 87.1    | 39.1   | 59     | 15      | 22       | 16.5    | 22.3     | 19.5   | 0.67  | 6.26             | 3.776              | 3.399             |                   |       |        |   |    |
|      |       | 最小值   | 19.5  | 1.85  | 1.37           | 1.86             | 2.68           | 0.566          | 92             | 26.3           | 18.3           | 8              | 0.13           |         |       |       |       |        |         |          |            | 0           | 60.9    | 11.6   | 0.45   | 0.36    | 18       | 13.2    | 16.5     | 16.5   | 0.25  | 2.97             | 1.383              | 1.638             |                   |       |        |   |    |
|      |       | 标准差   | 4.893 | 0.077 | 0.12           | 0.075            | 0.016          | 0.144          | 2.052          | 6.131          | 2.063          | 4.208          | 0.183          |         |       |       |       |        |         |          |            | 0.531       | 10.104  | 10.467 |        |         |          |         |          |        |       |                  |                    |                   |                   |       |        |   |    |
|      |       | 变异系数  | 0.182 | 0.039 | 0.077          | 0.038            | 0.006          | 0.189          | 0.021          | 0.18           | 0.098          | 0.321          | 0.43           |         |       |       |       |        |         |          |            | 2.449       | 0.138   | 0.395  |        |         |          |         |          |        |       |                  |                    |                   |                   |       |        |   |    |
|      |       | 修正系数  | 1.114 | 0.975 | 0.952          | 0.976            | 0.996          | 0.882          | 1.013          | 0.888          | 0.939          | 0.799          | 1.269          |         |       |       |       |        |         |          |            | 3.022       | 1.114   | 1.326  |        |         |          |         |          |        |       |                  |                    |                   |                   |       |        |   |    |
|      |       | 标准值   | 29.9  | 1.91  | 1.47           | 1.93             | 2.7            | 0.67           | 97.1           | 30.3           | 19.7           | 10.5           | 0.54           |         |       |       |       |        |         |          |            | 0.7         | 81.6    | 35.1   |        |         |          |         |          |        |       |                  |                    |                   |                   |       |        |   |    |
|      |       | 大值平均值 | 30.2  | 2.01  | 1.65           | 2.04             | 2.72           | 0.861          | 97.1           | 39.4           | 22.3           | 16.9           | 0.58           |         |       |       |       |        |         |          |            | 1.3         | 81.4    | 34.9   | 59     | 15      | 22       | 15.7    | 21.6     | 19.5   | 0.513 | 5.04             | 3.603              | 2.842             |                   |       |        |   |    |
|      |       | 小值平均值 | 22.7  | 1.9   | 1.47           | 1.93             | 2.7            | 0.635          | 93.4           | 29.9           | 19.5           | 10.1           | 0.31           |         |       |       |       |        |         |          |            | 0           | 65.1    | 18.1   | 4.13   | 2.08    | 18.4     | 13.6    | 16.5     | 16.6   | 0.35  | 3.83             | 2.049              | 1.848             |                   |       |        |   |    |
| 5-3  | 圆砾    | 统计个数  |       |       |                |                  |                |                |                |                |                |                |                | 11      | 11    | 11    | 11    | 11     | 11      | 11       | 11         | 11          |         |        |        |         |          |         |          |        |       | 9                | 9                  |                   |                   |       |        |   |    |
|      |       | 平均值   |       |       |                |                  |                |                |                |                |                |                |                |         | 3.9   | 22    | 12.3  | 9.1    | 8.7     | 4        | 7          | 4           | 14      | 14.8   |        |         |          |         |          |        |       |                  | 30.1               | 30.1              |                   |       |        |   |    |
|      |       | 最大值   |       |       |                |                  |                |                |                |                |                |                |                |         | 23.6  | 46.3  | 25.9  | 18.6   | 14.8    | 7.8      | 14.2       | 6.4         | 19.5    | 20.6   |        |         |          |         |          |        |       |                  |                    |                   |                   |       |        |   |    |

平阳鳌江标准堤加固工程初步设计下厂闸地基土层物理力学指标设计参数统计表

附表2-10

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|      |      |      |       |     |     |      |      |       |     |    |    |      |      |         |  |  |  |  |  |  |  |  |  |    |  |    |  |  |  |        |  |  |  |      |  |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

平阳鳌江标准堤加固工程初步设计下厂闸地基土层物理力学指标设计参数统计表

附表2-11

| 岩土编号  | 岩土名称              | 统计项目              | 天然含水率             | 湿密度   | 干密度            | 饱和密度             | 土粒比重           | 天然孔隙比          | 饱和度            | 液限             | 塑限             | 塑性指数           | 液性指数           | 颗粒组成百分数 |       |       |       |        |         |          |            |                        |         | 渗透     |         | 直剪      |                   |         |                                      | 固结（垂直） |       |                  |                    | 动探击数              |                   | 标贯击数  |        |
|-------|-------------------|-------------------|-------------------|-------|----------------|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------|-------|-------|-------|--------|---------|----------|------------|------------------------|---------|--------|---------|---------|-------------------|---------|--------------------------------------|--------|-------|------------------|--------------------|-------------------|-------------------|-------|--------|
|       |                   |                   | ω                 | ρ     | ρ <sub>d</sub> | ρ <sub>sat</sub> | G <sub>s</sub> | e <sub>0</sub> | S <sub>r</sub> | ω <sub>L</sub> | ω <sub>p</sub> | I <sub>p</sub> | I <sub>L</sub> | ≥60     | 40-60 | 20-40 | 10-20 | 2.0-10 | 0.5-2.0 | 0.25-0.5 | 0.075-0.25 | 0.005-0.075            | 0-0.005 | 水平渗透系数 | 竖向渗透系数  | 粘聚力(快剪) | 内摩擦角(快剪)          | 粘聚力(固快) | 内摩擦角(固快)                             | 压缩系数   | 压缩模量  | 固结系数（MPa）        |                    |                   |                   |       |        |
|       |                   |                   |                   |       |                |                  |                |                |                |                |                |                |                |         |       |       |       |        |         |          |            |                        |         |        |         |         |                   |         |                                      |        |       | v <sub>1-2</sub> | E <sub>sv1-2</sub> | C <sub>v0.2</sub> | C <sub>v0.4</sub> |       |        |
|       |                   |                   |                   |       |                |                  |                |                |                |                |                |                |                |         |       |       |       |        |         |          |            |                        |         |        |         |         |                   |         |                                      |        |       |                  |                    |                   |                   | N63.5 | N63.5' |
| %     | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |       |                | %                | %              | %              | %              | %              | %              | %              | %              | %       | %     | %     | %     | %      | %       | %        | %          | ×10 <sup>-6</sup> cm/s | kPa     | 度      | kPa     | 度       | MPa <sup>-1</sup> | MPa     | ×10 <sup>-3</sup> cm <sup>2</sup> /s | 击/10cm |       | 击/30cm           |                    |                   |                   |       |        |
| 3-1   | 淤泥质粘土             | 统计个数              | 10                | 10    | 10             | 10               | 10             | 10             | 10             | 10             | 10             | 10             | 10             |         |       |       |       |        |         |          |            | 2                      | 2       | 3      | 2       | 6       | 6                 | 3       | 3                                    | 9      | 9     | 6                | 6                  |                   |                   |       |        |
|       |                   | 平均值               | 50.5              | 1.72  | 1.15           | 1.73             | 2.73           | 1.388          | 99.4           | 48.3           | 27.5           | 20.8           | 1.11           |         |       |       |       |        |         |          |            | 49.7                   | 50.3    | 0.43   | 0.26    | 8.8     | 6.2               | 15.6    | 12.5                                 | 0.98   | 2.57  | 1.424            | 1.174              |                   |                   |       |        |
|       |                   | 最大值               | 54.2              | 1.8   | 1.27           | 1.8              | 2.74           | 1.485          | 100            | 52.2           | 29.3           | 23.9           | 1.35           |         |       |       |       |        |         |          |            | 52.5                   | 53.1    | 0.57   | 0.33    | 11.6    | 8.8               | 16.5    | 13.2                                 | 1.39   | 3.45  | 1.817            | 1.383              |                   |                   |       |        |
|       |                   | 最小值               | 42                | 1.7   | 1.1            | 1.7              | 2.72           | 1.154          | 97.9           | 43.6           | 26             | 17.6           | 0.91           |         |       |       |       |        |         |          |            | 46.9                   | 47.5    | 0.16   | 0.18    | 5.6     | 4.1               | 14.3    | 12.1                                 | 0.66   | 1.74  | 1.049            | 0.829              |                   |                   |       |        |
|       |                   | 标准差               | 3.612             | 0.032 | 0.051          | 0.031            | 0.009          | 0.1            | 0.724          | 2.891          | 1.091          | 2.115          | 0.149          |         |       |       |       |        |         |          |            |                        |         |        | 2.663   | 1.847   |                   |         | 0.239                                | 0.582  | 0.315 | 0.211            |                    |                   |                   |       |        |
|       |                   | 变异系数              | 0.072             | 0.019 | 0.045          | 0.018            | 0.003          | 0.072          | 0.007          | 0.06           | 0.04           | 0.102          | 0.134          |         |       |       |       |        |         |          |            |                        |         |        | 0.301   | 0.299   |                   |         | 0.244                                | 0.226  | 0.221 | 0.179            |                    |                   |                   |       |        |
|       |                   | 修正系数              | 1.042             | 0.989 | 0.974          | 0.99             | 0.998          | 0.958          | 1.004          | 0.965          | 0.977          | 0.94           | 1.078          |         |       |       |       |        |         |          |            |                        |         |        | 0.752   | 0.753   |                   |         | 1.153                                | 0.858  | 0.817 | 0.852            |                    |                   |                   |       |        |
|       |                   | 标准值               | 52.6              | 1.7   | 1.12           | 1.71             | 2.72           | 1.329          | 99.8           | 46.6           | 26.9           | 19.5           | 1.2            |         |       |       |       |        |         |          |            |                        |         |        | 6.7     | 4.7     |                   |         | 1.13                                 | 2.21   | 1.164 | 1.000            |                    |                   |                   |       |        |
|       |                   | 大值平均值             | 52.7              | 1.76  | 1.19           | 1.75             | 2.74           | 1.441          | 99.8           | 50.7           | 28.4           | 22.3           | 1.21           |         |       |       |       |        |         |          |            | 52.5                   | 53.1    | 0.56   | 0.33    | 11.2    | 7.7               | 16.3    | 13.2                                 | 1.198  | 3.12  | 1.611            | 1.340              |                   |                   |       |        |
| 小值平均值 | 47.2              | 1.71              | 1.12              | 1.71  | 2.72           | 1.264            | 98.4           | 45.9           | 26.6           | 18.6           | 0.97           |                |                |         |       |       |       |        |         | 46.9     | 47.5       | 0.16                   | 0.18    | 6.5    | 4.6     | 14.3    | 12.1              | 0.806   | 2.13                                 | 1.051  | 1.007 |                  |                    |                   |                   |       |        |
| 3-3   | 粘土                | 统计个数              | 1                 | 1     | 1              | 1                | 1              | 1              | 1              | 1              | 1              | 1              | 1              |         |       |       |       |        |         |          |            | 1                      | 1       |        |         |         |                   | 1       | 1                                    | 1      | 1     | 1                | 1                  |                   |                   |       |        |
|       |                   | 平均值               | 36.7              | 1.86  | 1.36           | 1.86             | 2.72           | 0.999          | 99.9           | 40.6           | 24.3           | 16.3           | 0.76           |         |       |       |       |        |         |          |            | 63.1                   | 36.9    |        |         |         |                   | 16.8    | 14.3                                 | 0.57   | 3.51  | 0.998            | 1.015              |                   |                   |       |        |
|       |                   | 最大值               | 36.7              | 1.86  | 1.36           | 1.86             | 2.72           | 0.999          | 99.9           | 40.6           | 24.3           | 16.3           | 0.76           |         |       |       |       |        |         |          |            | 63.1                   | 36.9    |        |         |         |                   | 16.8    | 14.3                                 | 0.57   | 3.51  | 0.998            | 1.015              |                   |                   |       |        |
|       |                   | 最小值               | 36.7              | 1.86  | 1.36           | 1.86             | 2.72           | 0.999          | 99.9           | 40.6           | 24.3           | 16.3           | 0.76           |         |       |       |       |        |         |          |            | 63.1                   | 36.9    |        |         |         |                   | 16.8    | 14.3                                 | 0.57   | 3.51  | 0.998            | 1.015              |                   |                   |       |        |
|       |                   | 标准差               |                   |       |                |                  |                |                |                |                |                |                |                |         |       |       |       |        |         |          |            |                        |         |        |         |         |                   |         |                                      |        |       |                  |                    |                   |                   |       |        |
|       |                   | 变异系数              |                   |       |                |                  |                |                |                |                |                |                |                |         |       |       |       |        |         |          |            |                        |         |        |         |         |                   |         |                                      |        |       |                  |                    |                   |                   |       |        |
|       |                   | 修正系数              |                   |       |                |                  |                |                |                |                |                |                |                |         |       |       |       |        |         |          |            |                        |         |        |         |         |                   |         |                                      |        |       |                  |                    |                   |                   |       |        |
|       |                   | 标准值               |                   |       |                |                  |                |                |                |                |                |                |                |         |       |       |       |        |         |          |            |                        |         |        |         |         |                   |         |                                      |        |       |                  |                    |                   |                   |       |        |
|       |                   | 大值平均值             | 36.7              | 1.86  | 1.36           | 1.86             | 2.72           | 0.999          | 99.9           | 40.6           | 24.3           | 16.3           | 0.76           |         |       |       |       |        |         |          |            | 63.1                   | 36.9    |        |         |         |                   | 16.8    | 14.3                                 | 0.57   | 3.51  | 0.998            | 1.015              |                   |                   |       |        |
| 小值平均值 | 36.7              | 1.86              | 1.36              | 1.86  | 2.72           | 0.999            | 99.9           | 40.6           | 24.3           | 16.3           | 0.76           |                |                |         |       |       |       |        |         | 63.1     | 36.9       |                        |         |        |         | 16.8    | 14.3              | 0.57    | 3.51                                 | 0.998  | 1.015 |                  |                    |                   |                   |       |        |
| 4-2   | 粉土粉砂混粘性土          | 统计个数              | 11                | 11    | 11             | 11               | 11             | 11             | 11             | 3              | 3              | 3              | 3              |         |       |       |       | 14     | 14      | 14       | 14         | 14                     | 14      | 2      | 3       | 4       | 4                 | 5       | 5                                    | 9      | 9     | 11               | 11                 |                   |                   | 2     | 2      |
|       |                   | 平均值               | 27.6              | 1.96  | 1.54           | 1.96             | 2.68           | 0.749          | 99             | 29.2           | 20.1           | 9.1            | 0.88           |         |       |       |       | 0.4    | 4.3     | 9        | 28.2       | 47.8                   | 10.3    | 81.500 | 219.670 | 15.8    | 22.4              | 15.2    | 25.8                                 | 0.266  | 7.15  | 3.50             | 3.357              |                   |                   | 25.5  | 17.9   |
|       |                   | 最大值               | 30.5              | 2     | 1.6            | 2                | 2.7            | 0.828          | 100            | 31             | 21.1           | 9.9            | 0.99           |         |       |       |       | 3      | 43.5    | 39.5     | 78         | 90.8                   | 22.8    | 110    | 350     | 18      | 23.5              | 16.8    | 28.6                                 | 0.51   | 9.58  | 5.338            | 5.416              |                   |                   | 34    | 23.8   |
|       |                   | 最小值               | 24.8              | 1.91  | 1.47           | 1.92             | 2.68           | 0.672          | 97.3           | 27.3           | 19             | 8.3            | 0.69           |         |       |       |       | 0      | 0       | 0        | 0          | 11.8                   | 0       | 53     | 39      | 15      | 20.3              | 13.2    | 22.3                                 | 0.19   | 4.09  | 2.187            | 0.648              |                   |                   | 17    | 11.9   |
|       |                   | 标准差               | 2.116             | 0.035 | 0.051          | 0.033            | 0.007          | 0.062          | 0.899          |                |                |                |                |         |       |       | 0.937 | 12.07  | 12.647  | 23.844   | 27.705     | 6.135                  |         |        |         |         |                   |         | 0.095                                | 1.573  | 1.216 | 1.506            |                    |                   |                   |       |        |
|       |                   | 变异系数              | 0.077             | 0.018 | 0.033          | 0.017            | 0.003          | 0.083          | 0.009          |                |                |                |                |         |       |       | 2.43  | 2.793  | 1.409   | 0.846    | 0.58       | 0.595                  |         |        |         |         |                   |         | 0.359                                | 0.22   | 0.348 | 0.449            |                    |                   |                   |       |        |
|       |                   | 修正系数              | 1.042             | 0.99  | 0.982          | 0.991            | 0.999          | 0.954          | 1.005          |                |                |                |                |         |       |       | 2.164 | 2.339  | 1.675   | 1.405    | 1.278      | 1.285                  |         |        |         |         |                   |         | 1.225                                | 0.862  | 0.808 | 0.752            |                    |                   |                   |       |        |
|       |                   | 标准值               | 28.8              | 1.94  | 1.51           | 1.94             | 2.68           | 0.714          | 99.5           |                |                |                |                |         |       |       | 0.8   | 10.1   | 15      | 39.6     | 61         | 13.3                   |         |        |         |         |                   |         | 0.325                                | 6.16   | 2.826 | 2.525            |                    |                   |                   |       |        |
|       |                   | 大值平均值             | 29.6              | 1.99  | 1.58           | 1.99             | 2.69           | 0.82           | 99.7           | 30.1           | 20.6           | 9.5            | 0.97           |         |       |       | 2.5   | 29.9   | 23.7    | 45.2     | 75         | 14.4                   | 110     | 310    | 18      | 23.1    | 16.5              | 27.1    | 0.39                                 | 8.82   | 4.401 | 4.715            |                    |                   | 34                | 23.8  |        |
| 小值平均值 | 26                | 1.93              | 1.49              | 1.93  | 2.68           | 0.708            | 98.3           | 27.3           | 19             | 8.7            | 0.69           |                |                |         | 0     | 0.1   | 0.8   | 5.5    | 27.3    | 4.9      | 53         | 39.00                  | 15      | 20.3   | 14.4    | 23.8    | 0.23              | 6.31    | 2.414                                | 2.226  |       |                  | 17                 | 11.9              |                   |       |        |
| 4-4   | 粉质粘土              | 统计个数              | 52                | 52    | 52             | 52               | 52             | 52             | 52             | 52             | 52             | 52             | 52             |         |       |       |       |        |         |          | 14         | 14                     | 14      | 9      | 13      | 31      | 31                | 19      | 19                                   | 51     | 51    | 43               | 43                 |                   |                   |       |        |
|       |                   | 平均值               | 35.1              | 1.87  | 1.39           | 1.88             | 2.72           | 0.963          | 99.1           | 39.3           | 24             | 15.3           | 0.73           |         |       |       |       |        |         |          | 5.3        | 65.2                   | 29.5    | 0.770  | 0.670   | 20.1    | 12.1              | 24.3    | 15                                   | 0.442  | 4.57  | 1.422            | 1.338              |                   |                   |       |        |
|       |                   | 最大值               | 42                |       |                |                  |                |                |                |                |                |                |                |         |       |       |       |        |         |          |            |                        |         |        |         |         |                   |         |                                      |        |       |                  |                    |                   |                   |       |        |

**附表3-1**

| 岩土<br>编号 | 室内<br>定名          | 试样<br>深度<br>(m)   | 天然<br>含水<br>率     | 湿<br>密<br>度    | 干<br>密<br>度    | 饱<br>和<br>密<br>度 | 土<br>粒<br>比<br>重 | 天然<br>孔<br>隙<br>比 | 饱<br>和<br>度    | 液<br>限         | 塑<br>限  | 塑<br>性<br>指<br>数 | 液<br>性<br>指<br>数 | 颗粒组成百分数 |     |     |       |        |         |          |                |                        |                        | 渗 透            |                | 直 剪             |                  |                    |                   | 固结（垂直）                               |          |                   |                    |                   |                   |
|----------|-------------------|-------------------|-------------------|----------------|----------------|------------------|------------------|-------------------|----------------|----------------|---------|------------------|------------------|---------|-----|-----|-------|--------|---------|----------|----------------|------------------------|------------------------|----------------|----------------|-----------------|------------------|--------------------|-------------------|--------------------------------------|----------|-------------------|--------------------|-------------------|-------------------|
|          |                   |                   |                   |                |                |                  |                  |                   |                |                |         |                  |                  | >60     | >40 | >20 | 10~20 | 2.0~10 | 0.5~2.0 | 0.25~0.5 | 0.075~0.25     | 0.005~0.075            | 0~0.005                | 水平<br>渗透<br>系数 | 竖向<br>渗透<br>系数 | 粘聚<br>力<br>(快剪) | 内摩<br>擦角<br>(快剪) | 粘聚<br>力<br>(固快)    | 内摩<br>擦角<br>(固快)  | 压缩<br>系数                             | 压缩<br>模量 | 固结<br>系数<br>(MPa) |                    |                   |                   |
|          |                   |                   |                   |                |                |                  |                  |                   |                |                |         |                  |                  |         |     |     |       |        |         |          |                |                        |                        |                |                |                 |                  |                    |                   |                                      |          | v <sub>1-2</sub>  | E <sub>sv1-2</sub> | C <sub>v0.2</sub> | C <sub>v0.4</sub> |
|          |                   |                   |                   |                |                |                  |                  |                   |                |                |         |                  |                  |         |     |     |       |        |         |          |                |                        |                        |                |                |                 |                  |                    |                   |                                      |          |                   |                    |                   |                   |
| ω        | ρ                 | ρ <sub>d</sub>    | ρ <sub>sat</sub>  | G <sub>s</sub> | e <sub>0</sub> | S <sub>r</sub>   | ω <sub>L</sub>   | ω <sub>p</sub>    | I <sub>p</sub> | I <sub>L</sub> | (单位:mm) |                  |                  |         |     |     |       |        |         |          | K <sub>h</sub> | K <sub>v</sub>         | q                      | φ <sub>q</sub> | c <sub>q</sub> | φ <sub>cq</sub> | v <sub>1-2</sub> | E <sub>sv1-2</sub> | C <sub>v0.2</sub> | C <sub>v0.4</sub>                    |          |                   |                    |                   |                   |
| %        | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |                |                | %                | %                | %                 | %              | %              | %       | %                | %                | %       | %   | %   | %     | %      | %       | %        | %              | ×10 <sup>-6</sup> cm/s | ×10 <sup>-6</sup> cm/s | kPa            | 度              | kPa             | 度                | MPa <sup>-1</sup>  | MPa               | ×10 <sup>-3</sup> cm <sup>2</sup> /s |          |                   |                    |                   |                   |
| DK1-1    | 淤泥质粘土             | 1.70-2.00         | 47.3              | 1.75           | 1.19           | 1.75             | 2.73             | 1.298             | 99.5           | 43.5           | 23.5    | 20               | 1.19             |         |     |     |       |        |         |          |                |                        |                        |                |                | 15.9            | 12.8             | 0.84               | 2.74              | 2.649                                | 2.909    |                   |                    |                   |                   |
| DK1-2    | 淤泥                | 3.70-4.00         | 62.3              | 1.64           | 1.01           | 1.64             | 2.75             | 1.721             | 99.5           | 55.3           | 29.8    | 25.5             | 1.27             |         |     |     |       |        |         |          | 50.3           | 49.7                   |                        | 4.3            | 3.1            |                 |                  | 1.43               | 1.9               |                                      |          |                   |                    |                   |                   |
| DK1-3    | 淤泥质粘土             | 5.70-6.00         | 49.7              | 1.71           | 1.14           | 1.73             | 2.75             | 1.407             | 97.1           | 46.3           | 25.8    | 20.5             | 1.17             |         |     |     |       |        |         |          |                |                        | 0.34                   | 9.8            | 7.2            |                 |                  | 1.11               | 2.17              | 1.228                                | 1.177    |                   |                    |                   |                   |
| DK1-4    | 淤泥                | 7.70-8.00         | 58.3              | 1.61           | 1.02           | 1.65             | 2.75             | 1.704             | 94.1           | 52.3           | 28      | 24.3             | 1.25             |         |     |     |       |        |         |          | 49             | 51                     |                        |                |                | 10.5            | 7.3              | 1.66               | 1.63              | 0.814                                | 0.863    |                   |                    |                   |                   |
| DK1-5    | 淤泥质粘土             | 9.70-10.00        | 51                | 1.72           | 1.14           | 1.72             | 2.75             | 1.414             | 99.2           | 48.6           | 26.9    | 21.7             | 1.11             |         |     |     |       |        |         |          |                |                        | 0.17                   | 8.6            | 6.8            |                 |                  | 1.42               | 1.7               |                                      |          |                   |                    |                   |                   |
| DK1-6    | 淤泥                | 11.70-12.00       | 56.8              | 1.68           | 1.07           | 1.68             | 2.75             | 1.567             | 99.7           | 53.2           | 30.1    | 23.1             | 1.16             |         |     |     |       |        |         |          |                |                        |                        | 6.9            | 5.1            |                 |                  | 1.35               | 1.9               | 1.751                                | 0.759    |                   |                    |                   |                   |
| DK1-7    | 淤泥                | 13.70-14.00       | 58.1              | 1.67           | 1.06           | 1.67             | 2.75             | 1.603             | 99.6           | 52.3           | 29      | 23.3             | 1.25             |         |     |     |       |        |         |          | 51.5           | 48.5                   |                        | 0.08           |                |                 | 9.7              | 7.5                | 1.4               | 1.86                                 |          |                   |                    |                   |                   |
| DK1-8    | 淤泥                | 15.70-16.00       | 57.9              | 1.68           | 1.06           | 1.68             | 2.75             | 1.585             | 100            | 51.6           | 28      | 23.6             | 1.27             |         |     |     |       |        |         |          |                |                        |                        |                | 5.6            | 3.6             |                  |                    | 1.26              | 2.05                                 | 0.925    | 0.993             |                    |                   |                   |
| DK1-9    | 淤泥质粘土             | 17.70-18.00       | 53.8              | 1.71           | 1.11           | 1.71             | 2.75             | 1.473             | 100            | 50.3           | 27.8    | 22.5             | 1.16             |         |     |     |       |        |         |          |                |                        |                        |                | 6.3            | 4.3             |                  |                    | 1.1               | 2.25                                 | 1.265    | 0.949             |                    |                   |                   |
| DK1-10   | 淤泥                | 21.70-22.00       | 58.5              | 1.67           | 1.05           | 1.67             | 2.75             | 1.61              | 99.9           | 55             | 29.5    | 25.5             | 1.14             |         |     |     |       |        |         |          | 52.5           | 47.5                   | 0.07                   |                |                | 8.2             | 7.1              | 1.31               | 1.99              |                                      |          |                   |                    |                   |                   |
| DK1-11   | 淤泥质粘土             | 27.70-28.00       | 53.1              | 1.69           | 1.1            | 1.7              | 2.75             | 1.491             | 97.9           | 51.5           | 28.8    | 22.7             | 1.07             |         |     |     |       |        |         |          |                |                        |                        |                | 7.3            | 5.6             |                  |                    | 1.04              | 2.4                                  | 1.478    | 1.039             |                    |                   |                   |
| DK1-12   | 淤泥                | 29.70-30.00       | 58.2              | 1.67           | 1.06           | 1.67             | 2.75             | 1.605             | 99.7           | 52.3           | 27.8    | 24.5             | 1.24             |         |     |     |       |        |         |          |                |                        | 0.13                   | 6              | 3.8            |                 |                  | 1.33               | 1.96              | 0.785                                | 0.786    |                   |                    |                   |                   |
| DK1-13   | 淤泥质粘土             | 32.70-33.00       | 48.3              | 1.72           | 1.16           | 1.74             | 2.74             | 1.362             | 97.1           | 46.9           | 26.9    | 20               | 1.07             |         |     |     |       |        |         |          |                |                        |                        |                |                |                 | 10.6             | 8                  | 1.06              | 2.23                                 |          |                   |                    |                   |                   |
| DK1-14   | 粘土                | 35.70-36.00       | 45.8              | 1.73           | 1.19           | 1.75             | 2.74             | 1.309             | 95.9           | 46.3           | 25.8    | 20.5             | 0.98             |         |     |     |       |        |         |          | 55             | 45                     | 0.58                   |                | 11.3           | 7.3             |                  |                    | 0.87              | 2.65                                 |          |                   |                    |                   |                   |
| DK1-15   | 粉质粘土              | 38.70-39.00       | 35.2              | 1.85           | 1.37           | 1.87             | 2.72             | 0.988             | 96.9           | 38.9           | 23.2    | 15.7             | 0.76             |         |     |     |       |        |         |          |                |                        |                        |                | 13.8           | 9.5             |                  |                    | 0.64              | 3.11                                 | 1.63     | 1.504             |                    |                   |                   |
| DK2-1-1  | 淤泥质粉质粘土           | 5.20-5.50         | 43.5              | 1.75           | 1.22           | 1.77             | 2.72             | 1.23              | 96.2           | 38.9           | 22.6    | 16.3             | 1.28             |         |     |     |       |        |         |          |                |                        | 0.58                   |                | 13.1           | 11.1            |                  |                    | 0.79              | 2.82                                 |          |                   |                    |                   |                   |
| DK2-1-2  | 淤泥质粉质粘土           | 6.70-7.00         | 43.9              | 1.76           | 1.22           | 1.78             | 2.73             | 1.232             | 97.3           | 37.7           | 23.2    | 14.5             | 1.43             |         |     |     |       |        |         |          | 68.3           | 31.7                   |                        |                |                | 14.6            | 12.5             | 0.82               | 2.72              | 1.462                                | 1.714    |                   |                    |                   |                   |
| DK2-1-3  | 淤泥质粘土             | 8.70-9.00         | 48.1              | 1.67           | 1.13           | 1.72             | 2.74             | 1.43              | 92.2           | 45.3           | 26.8    | 18.5             | 1.15             |         |     |     |       |        |         |          |                |                        | 0.23                   | 10.8           | 8.6            |                 |                  | 1.21               | 2.01              |                                      |          |                   |                    |                   |                   |
| DK2-1-4  | 淤泥质粘土             | 9.70-10.00        | 50.9              | 1.71           | 1.13           | 1.72             | 2.74             | 1.418             | 98.4           | 46.8           | 27.3    | 19.5             | 1.21             |         |     |     |       |        |         |          |                |                        |                        |                | 10.1           | 8.1             |                  |                    | 1.17              | 2.07                                 | 0.787    | 1.043             |                    |                   |                   |
| DK2-1-5  | 淤泥                | 11.70-12.00       | 56.8              | 1.63           | 1.04           | 1.66             | 2.75             | 1.645             | 94.9           | 52.5           | 28.8    | 23.7             | 1.18             |         |     |     |       |        |         |          |                |                        | 0.38                   |                |                | 10.5            | 9.6              | 1.38               | 1.92              |                                      |          |                   |                    |                   |                   |
| DK2-1-6  | 淤泥                | 13.70-14.00       | 60.3              | 1.64           | 1.02           | 1.65             | 2.75             | 1.688             | 98.2           | 55             | 29.3    | 25.7             | 1.21             |         |     |     |       |        |         |          | 49             | 51                     |                        |                | 5.3            | 3.2             |                  |                    | 1.56              | 1.72                                 | 1.118    | 1.299             |                    |                   |                   |
| DK2-1-7  | 淤泥                | 15.70-16.00       | 57.7              | 1.67           | 1.06           | 1.67             | 2.75             | 1.597             | 99.4           | 53.5           | 28.2    | 25.3             | 1.17             |         |     |     |       |        |         |          |                |                        |                        | 0.22           | 5.9            | 3.9             |                  |                    | 1.5               | 1.73                                 |          |                   |                    |                   |                   |
| DK2-1-8  | 淤泥                | 17.70-18.00       | 55.8              | 1.68           | 1.08           | 1.69             | 2.75             | 1.55              | 99             | 52.1           | 30.3    | 21.8             | 1.17             |         |     |     |       |        |         |          |                |                        |                        |                |                | 9.3             | 7.5              | 1.43               | 1.78              |                                      |          |                   |                    |                   |                   |
| DK2-1    | 粉质粘土              | 1.20-1.50         | 34                | 1.85           | 1.38           | 1.87             | 2.72             | 0.97              | 95.3           | 36.8           | 22.5    | 14.3             | 0.8              |         |     |     |       |        |         |          | 60.5           | 39.5                   |                        | 0.55           | 13.5           | 10.6            |                  |                    | 0.53              | 3.72                                 | 0.727    | 1.045             |                    |                   |                   |
| DK2-2    | 淤泥质粘土             | 3.20-3.50         | 45.2              | 1.77           | 1.22           | 1.77             | 2.73             | 1.24              | 99.6           | 43.2           | 25.2    | 18               | 1.11             |         |     |     |       |        |         |          |                |                        |                        |                | 11.9           | 9.5             |                  |                    | 0.79              | 2.84                                 |          |                   |                    |                   |                   |
| DK2-3    | 淤泥质粘土             | 5.20-5.50         | 45.5              | 1.77           | 1.22           | 1.77             | 2.74             | 1.252             | 99.5           | 44             | 25.3    | 18.7             | 1.08             |         |     |     |       |        |         |          |                |                        | 0.31                   |                |                | 12.8            | 10.9             | 0.94               | 2.4               | 0.871                                | 0.906    |                   |                    |                   |                   |
| DK2-4    | 淤泥质粉质粘土           | 7.70-8.00         | 43.7              | 1.72           | 1.2            | 1.76             | 2.73             | 1.281             | 93.1           | 39.3           | 24.3    | 15               | 1.29             |         |     |     |       |        |         |          | 66             | 34                     |                        |                | 11.3           | 9.1             |                  |                    | 0.9               | 2.53                                 | 2.044    | 2.136             |                    |                   |                   |
| DK2-5    | 淤泥质粘土             | 9.70-10.00        | 50.5              | 1.73           | 1.15           | 1.73             | 2.74             | 1.384             | 100            | 45.6           | 26.5    | 19.1             | 1.26             |         |     |     |       |        |         |          |                |                        |                        | 0.1            | 9.8            | 7.3             |                  |                    | 1.1               | 2.17                                 |          |                   |                    |                   |                   |
| DK2-6    | 淤泥                | 11.70-12.00       | 55.9              | 1.61           | 1.03           | 1.66             | 2.75             | 1.663             | 92.4           | 52.3           | 29.2    | 23.1             | 1.16             |         |     |     |       |        |         |          |                |                        |                        |                |                | 10.3            | 8.2              | 1.51               | 1.76              |                                      |          |                   |                    |                   |                   |
| DK2-7    | 淤泥                | 13.70-14.00       | 58.4              | 1.65           | 1.04           | 1.66             | 2.75             | 1.64              | 97.9           | 53.5           | 30.5    | 23               | 1.21             |         |     |     |       |        |         |          | 50.8           | 49.2                   | 0.02                   |                | 6.3            | 4.6             |                  |                    | 0.8               | 3.3                                  | 2.916    | 3.184             |                    |                   |                   |
| DK2-8    | 淤泥                | 15.70-16.00       | 55.6              | 1.69           | 1.09           | 1.69             | 2.75             | 1.532             | 99.8           | 51.9           | 28.9    | 23               | 1.16             |         |     |     |       |        |         |          |                |                        |                        |                | 6.2            | 4.3             |                  |                    | 1.94              | 1.3                                  | 0.139    | 0.831             |                    |                   |                   |
| DK2-9    | 淤泥质粘土             | 17.70-18.00       | 47.6              | 1.68           | 1.14           | 1.72             | 2.74             | 1.407             | 92.7           | 45.2           | 26.5    | 18.7             | 1.13             |         |     |     |       |        |         |          |                |                        | 0.1                    |                |                | 12.3            | 10.6             | 1.44               | 1.67              |                                      |          |                   |                    |                   |                   |
| DK2-10   | 淤泥                | 19.70-20.00       | 57.3              | 1.65           | 1.05           | 1.67             | 2.75             | 1.622             | 97.2           | 52.2           | 29.3    | 22.9             | 1.22             |         |     |     |       |        |         |          | 51             | 49                     |                        |                | 5.5            | 3.8             |                  |                    | 1.52              | 1.73                                 | 1.032    | 0.92              |                    |                   |                   |
| DK2-11   | 淤泥                | 21.70-22.00       | 58                | 1.67           | 1.06           | 1.67             | 2.75             | 1.602             | 99.6           | 53.9           | 30.3    | 23.6             | 1.17             |         |     |     |       |        |         |          |                |                        | 0.08                   |                | 6.1            | 4.5             |                  |                    | 1.71              | 1.52                                 |          |                   |                    |                   |                   |
| DK2-12   | 淤泥                | 23.70-24.00       | 59.8              | 1.66           | 1.04           | 1.66             | 2.75             | 1.647             | 99.8           | 55.6           | 31.3    | 24.3             | 1.17             |         |     |     |       |        |         |          |                |                        |                        |                |                | 8.6             | 7.9              | 1.61               | 1.64              | 0.809                                | 0.646    |                   |                    |                   |                   |
| DK2-13   | 淤泥                | 25.70-26.00       | 61.1              | 1.61           | 1              | 1.64             | 2.75             | 1.752             | 95.9           | 56.8           | 32      | 24.8             | 1.17             |         |     |     |       |        |         |          | 45.5           | 54.5                   | 0.33                   |                | 5.6            | 3.8             |                  |                    | 1.47              | 1.87                                 | 1.257    | 0.746             |                    |                   |                   |
| DK2-14   | 淤泥                | 27.70-28.00       | 60                | 1.66           | 1.04           | 1.66             | 2.75             | 1.651             | 100            | 55.2           | 31.3    | 23.9             | 1.2              |         |     |     |       |        |         |          |                |                        |                        |                |                | 13.5            | 10.8             | 1.35               | 1.96              | 1.188                                | 1.208    |                   |                    |                   |                   |
| DK2-15   | 淤泥                | 29.70-30.00       | 57.8              | 1.66           | 1.05           | 1.67             | 2.75             | 1.614             | 98.5           | 53.1           | 30.2    | 22.9             | 1.21             |         |     |     |       |        |         |          | 52.2           | 47.8                   | 0.55                   |                | 5.5            | 3.8             |                  |                    | 0.61              | 4.29                                 | 2.937    | 0.402             |                    |                   |                   |
| DK2-16   | 淤泥                | 31.70-32.00       | 59.5              | 1.61           | 1.01           | 1.64             | 2.75             | 1.724             | 94.9           | 54.6           | 31.1    | 23.5             | 1.21             |         |     |     |       |        |         |          |                |                        |                        |                | 11.3           | 8.6             |                  |                    | 1.5               | 1.82                                 | 1.198    | 0.861             |                    |                   |                   |

平阳鳌江标准堤加固工程初步设计堤防地基土层室内土工试验综合成果表

附表3-2

| 岩土<br>编号 | 室内<br>定名 | 试样<br>深度<br>(m) | 天然<br>含水<br>率 | 湿<br>密<br>度 | 干<br>密<br>度    | 饱<br>和<br>密<br>度 | 土<br>粒<br>比<br>重 | 天然<br>孔<br>隙<br>比 | 饱<br>和<br>度    | 液<br>限         | 塑<br>限         | 塑<br>性<br>指<br>数 | 液<br>性<br>指<br>数 | 颗粒组成百分数 |     |     |       |        |         |          |            |             |         | 渗 透            |                | 直 剪         |                  |             |                  | 固结（垂直）   |          |                   |                |   |                |                        |                 |                  |                    |                   |                   |
|----------|----------|-----------------|---------------|-------------|----------------|------------------|------------------|-------------------|----------------|----------------|----------------|------------------|------------------|---------|-----|-----|-------|--------|---------|----------|------------|-------------|---------|----------------|----------------|-------------|------------------|-------------|------------------|----------|----------|-------------------|----------------|---|----------------|------------------------|-----------------|------------------|--------------------|-------------------|-------------------|
|          |          |                 | ω             | ρ           | ρ <sub>d</sub> | ρ <sub>sat</sub> | G <sub>s</sub>   | e <sub>0</sub>    | S <sub>r</sub> | ω <sub>L</sub> | ω <sub>p</sub> | I <sub>p</sub>   | I <sub>L</sub>   | >60     | >40 | >20 | 10~20 | 2.0~10 | 0.5~2.0 | 0.25~0.5 | 0.075~0.25 | 0.005~0.075 | 0~0.005 | 水平<br>渗透<br>系数 | 竖向<br>渗透<br>系数 | 粘聚力<br>(快剪) | 内摩<br>擦角<br>(快剪) | 粘聚力<br>(固快) | 内摩<br>擦角<br>(固快) | 压缩<br>系数 | 压缩<br>模量 | 固结<br>系数<br>(MPa) |                |   |                |                        |                 |                  |                    |                   |                   |
|          |          |                 |               |             |                |                  |                  |                   |                |                |                |                  |                  | (单位:mm) |     |     |       |        |         |          |            |             |         |                |                |             |                  |             |                  |          |          | K <sub>h</sub>    | K <sub>v</sub> | q | φ <sub>q</sub> | c <sub>q</sub>         | φ <sub>cq</sub> | v <sub>1-2</sub> | E <sub>sv1-2</sub> | C <sub>v0.2</sub> | C <sub>v0.4</sub> |
|          |          |                 |               |             |                |                  |                  |                   |                |                |                |                  |                  | %       | %   | %   | %     | %      | %       | %        | %          | %           | %       |                |                |             |                  |             |                  |          |          | %                 | %              | % | %              | ×10 <sup>-6</sup> cm/s | kPa             | 度                | kPa                | 度                 | MPa <sup>-1</sup> |
| DK2-17   | 淤泥质粘土    | 33.70-34.00     | 54.2          | 1.7         | 1.1            | 1.7              | 2.75             | 1.494             | 99.7           | 52.3           | 29.1           | 23.2             | 1.08             |         |     |     |       |        |         |          |            |             |         | 0.26           |                |             | 15.3             | 10.9        | 0.63             | 3.96     | 2.656    | 0.871             |                |   |                |                        |                 |                  |                    |                   |                   |
| DK2-18   | 淤泥质粘土    | 35.70-36.00     | 51.9          | 1.69        | 1.11           | 1.71             | 2.74             | 1.463             | 97.2           | 49.9           | 28.9           | 21               | 1.1              |         |     |     |       |        |         |          | 55.1       | 44.9        |         |                | 11.6           | 8.2         |                  |             | 1.13             | 2.18     | 1.252    | 1.028             |                |   |                |                        |                 |                  |                    |                   |                   |
| DK2-19   | 淤泥质粉质粘土  | 37.70-38.00     | 43.2          | 1.79        | 1.25           | 1.79             | 2.73             | 1.184             | 99.6           | 39.5           | 24.1           | 15.4             | 1.24             |         |     |     |       |        |         |          |            |             | 0.32    |                |                | 16.3        | 12.2             | 0.85        | 2.57             | 0.886    | 0.987    |                   |                |   |                |                        |                 |                  |                    |                   |                   |
| DK2-20   | 淤泥质粉质粘土  | 42.70-43.00     | 38.7          | 1.83        | 1.32           | 1.83             | 2.72             | 1.062             | 99.2           | 36.7           | 21.6           | 15.1             | 1.13             |         |     |     |       |        |         |          |            |             |         |                | 16.8           | 11.2        |                  |             | 0.77             | 2.68     |          |                   |                |   |                |                        |                 |                  |                    |                   |                   |
| DK2-21   | 淤泥质粉质粘土  | 46.70-47.00     | 41.2          | 1.78        | 1.26           | 1.8              | 2.74             | 1.174             | 96.2           | 39.3           | 22.9           | 16.4             | 1.12             |         |     |     |       |        |         |          | 53.2       | 46.8        |         | 0.38           | 15.3           | 10.1        |                  |             | 0.79             | 2.75     |          |                   |                |   |                |                        |                 |                  |                    |                   |                   |
| DK2-22   | 淤泥质粉质粘土  | 49.70-50.00     | 40.2          | 1.8         | 1.28           | 1.81             | 2.73             | 1.126             | 97.4           | 38.2           | 22             | 16.2             | 1.12             |         |     |     |       |        |         |          |            |             |         |                |                |             | 17.9             | 12.5        | 0.77             | 2.76     | 1.024    | 0.946             |                |   |                |                        |                 |                  |                    |                   |                   |
| DK3-1    | 淤泥质粘土    | 7.20-7.50       | 48            | 1.75        | 1.18           | 1.75             | 2.72             | 1.3               | 100            | 45.3           | 26.7           | 18.6             | 1.15             |         |     |     |       |        |         |          |            |             | 0.06    |                |                | 13.5        | 16.2             |             |                  | 0.81     | 2.84     | 1.204             | 1.473          |   |                |                        |                 |                  |                    |                   |                   |
| DK3-2    | 淤泥质粘土    | 8.70-9.00       | 51.4          | 1.7         | 1.12           | 1.71             | 2.74             | 1.44              | 97.8           | 48.8           | 28.6           | 20.2             | 1.13             |         |     |     |       |        |         |          |            |             |         |                |                |             | 13.2             | 11          | 1.17             | 2.09     | 0.723    | 0.924             |                |   |                |                        |                 |                  |                    |                   |                   |
| DK3-3    | 淤泥质粘土    | 10.70-11.00     | 45.3          | 1.72        | 1.18           | 1.75             | 2.74             | 1.315             | 94.4           | 43.2           | 25.2           | 18               | 1.12             |         |     |     |       |        |         |          | 54.5       | 45.5        | 0.65    |                | 12.5           | 9.5         |                  |             | 0.96             | 2.41     | 2.517    | 2.727             |                |   |                |                        |                 |                  |                    |                   |                   |
| DK3-4    | 淤泥       | 14.70-15.00     | 55.7          | 1.68        | 1.08           | 1.69             | 2.75             | 1.549             | 98.9           | 52.2           | 29             | 23.2             | 1.15             |         |     |     |       |        |         |          |            |             |         |                | 10.5           | 7.5         |                  |             | 2.52             | 1.01     |          |                   |                |   |                |                        |                 |                  |                    |                   |                   |
| DK3-5    | 淤泥       | 16.70-17.00     | 57.3          | 1.67        | 1.06           | 1.68             | 2.75             | 1.59              | 99.1           | 53.1           | 29.6           | 23.5             | 1.18             |         |     |     |       |        |         |          |            |             |         | 0.07           |                |             | 8.9              | 6.9         | 1.6              | 1.62     |          |                   |                |   |                |                        |                 |                  |                    |                   |                   |
| DK3-6    | 淤泥质粘土    | 18.70-19.00     | 50.2          | 1.73        | 1.15           | 1.73             | 2.74             | 1.379             | 99.8           | 46.7           | 27.9           | 18.8             | 1.19             |         |     |     |       |        |         |          | 53.9       | 46.1        |         |                | 7.3            | 4.3         |                  |             | 0.8              | 2.97     | 1.917    | 0.773             |                |   |                |                        |                 |                  |                    |                   |                   |
| DK3-7    | 淤泥       | 20.70-21.00     | 57            | 1.61        | 1.03           | 1.65             | 2.75             | 1.682             | 93.2           | 52.3           | 29.7           | 22.6             | 1.21             |         |     |     |       |        |         |          |            |             |         | 0.1            | 4.9            | 3.1         |                  |             | 1.59             | 1.69     |          |                   |                |   |                |                        |                 |                  |                    |                   |                   |
| DK3-8    | 淤泥       | 22.70-23.00     | 58.9          | 1.66        | 1.04           | 1.66             | 2.75             | 1.632             | 99.2           | 53.1           | 30.8           | 22.3             | 1.26             |         |     |     |       |        |         |          |            |             |         |                |                |             | 9.3              | 7.2         | 1.55             | 1.7      | 0.91     | 0.763             |                |   |                |                        |                 |                  |                    |                   |                   |
| DK3-9    | 淤泥       | 26.70-27.00     | 60.6          | 1.63        | 1.01           | 1.65             | 2.75             | 1.71              | 97.5           | 53.5           | 31.7           | 21.8             | 1.33             |         |     |     |       |        |         |          | 49.5       | 50.5        | 0.25    |                | 4.3            | 2.8         |                  |             | 1.41             | 1.92     | 1.787    | 0.913             |                |   |                |                        |                 |                  |                    |                   |                   |
| DK3-10   | 淤泥       | 28.70-29.00     | 58.8          | 1.67        | 1.05           | 1.67             | 2.75             | 1.615             | 100            | 53.1           | 30.8           | 22.3             | 1.26             |         |     |     |       |        |         |          |            |             |         |                |                |             | 9.5              | 6.5         | 1.24             | 2.11     | 1.194    | 0.974             |                |   |                |                        |                 |                  |                    |                   |                   |
| DK3-11   | 淤泥       | 30.70-31.00     | 56.3          | 1.66        | 1.06           | 1.68             | 2.75             | 1.589             | 97.4           | 52.2           | 29.3           | 22.9             | 1.18             |         |     |     |       |        |         |          |            |             |         | 0.23           | 5.6            | 3.3         |                  |             | 1.23             | 2.11     |          |                   |                |   |                |                        |                 |                  |                    |                   |                   |
| DK3-12   | 淤泥       | 33.70-34.00     | 56.9          | 1.66        | 1.06           | 1.67             | 2.75             | 1.599             | 97.8           | 55.6           | 29.7           | 25.9             | 1.05             |         |     |     |       |        |         |          | 46         | 54          |         |                | 5.1            | 3           |                  |             | 1.18             | 2.2      | 1.442    | 0.741             |                |   |                |                        |                 |                  |                    |                   |                   |
| DK3-13   | 淤泥       | 36.70-37.00     | 63.2          | 1.63        | 1              | 1.64             | 2.75             | 1.753             | 99.1           | 53.3           | 30.1           | 23.2             | 1.43             |         |     |     |       |        |         |          |            |             | 0.07    |                |                |             | 8.2              | 7           | 1.41             | 1.95     | 1.12     | 0.839             |                |   |                |                        |                 |                  |                    |                   |                   |
| DK3-14   | 淤泥质粘土    | 39.70-40.00     | 49.9          | 1.73        | 1.15           | 1.73             | 2.74             | 1.374             | 99.5           | 46.9           | 27.6           | 19.3             | 1.16             |         |     |     |       |        |         |          |            |             |         |                | 10             | 6.2         |                  |             | 0.92             | 2.58     | 1.958    | 1.208             |                |   |                |                        |                 |                  |                    |                   |                   |
| DK3-15   | 粘土       | 42.70-43.00     | 37.7          | 1.85        | 1.34           | 1.85             | 2.72             | 1.025             | 100            | 38.9           | 21             | 17.9             | 0.93             |         |     |     |       |        |         |          | 55         | 45          |         | 0.15           | 12.2           | 8.1         |                  |             | 0.69             | 2.93     |          |                   |                |   |                |                        |                 |                  |                    |                   |                   |
| DK3-16   | 粘土       | 45.70-46.00     | 39.9          | 1.78        | 1.27           | 1.81             | 2.73             | 1.146             | 95.1           | 40.3           | 22.2           | 18.1             | 0.98             |         |     |     |       |        |         |          |            |             |         |                |                |             | 15.3             | 12.2        | 0.85             | 2.52     | 0.904    | 0.699             |                |   |                |                        |                 |                  |                    |                   |                   |
| DK3-17   | 粘土       | 48.70-49.00     | 43.9          | 1.78        | 1.24           | 1.79             | 2.74             | 1.215             | 99             | 45.2           | 24.4           | 20.8             | 0.94             |         |     |     |       |        |         |          |            |             | 0.1     |                | 13.1           | 8.6         |                  |             | 0.88             | 2.52     |          |                   |                |   |                |                        |                 |                  |                    |                   |                   |
| BDK4-1   | 粉质粘土     | 1.60-1.90       | 28.2          | 1.96        | 1.53           | 1.97             | 2.72             | 0.779             | 98.5           | 36.2           | 23.2           | 13               | 0.38             |         |     |     |       |        |         |          |            |             | 0.58    |                |                |             | 15.6             | 11.6        | 0.34             | 5.23     | 2.508    | 1.603             |                |   |                |                        |                 |                  |                    |                   |                   |
| BDK4-2   |          | 2.00-2.30       |               |             |                |                  |                  |                   |                |                |                |                  |                  |         |     |     |       |        |         |          | 40.6       | 59.4        |         |                |                |             |                  |             |                  |          |          |                   |                |   |                |                        |                 |                  |                    |                   |                   |
| BDK4-3   | 粉质粘土     | 3.70-4.00       | 35.9          | 1.87        | 1.38           | 1.87             | 2.72             | 0.977             | 100            | 36.3           | 21.2           | 15.1             | 0.97             |         |     |     |       |        |         |          |            |             |         |                |                | 13          | 10.2             |             |                  | 0.64     | 3.09     | 1.045             | 1.51           |   |                |                        |                 |                  |                    |                   |                   |
| BDK4-4   | 淤泥质粉质粘土  | 5.70-6.00       | 39.7          | 1.82        | 1.3            | 1.82             | 2.72             | 1.088             | 99.3           | 35.8           | 22             | 13.8             | 1.28             |         |     |     |       |        |         |          | 69.3       | 30.7        |         |                |                |             | 15.9             | 12.2        | 0.64             | 3.26     | 1.209    | 1.496             |                |   |                |                        |                 |                  |                    |                   |                   |
| BDK4-5   | 淤泥质粘土    | 7.70-8.00       | 48.2          | 1.73        | 1.17           | 1.74             | 2.72             | 1.33              | 98.6           | 43.9           | 26.3           | 17.6             | 1.24             |         |     |     |       |        |         |          |            |             |         | 0.53           | 12.2           | 10.6        |                  |             | 1.03             | 2.26     | 1.153    | 1.32              |                |   |                |                        |                 |                  |                    |                   |                   |
| BDK4-6   | 淤泥质粘土    | 9.70-10.00      | 50.5          | 1.71        | 1.14           | 1.72             | 2.74             | 1.412             | 98             | 46.9           | 25.2           | 21.7             | 1.17             |         |     |     |       |        |         |          |            |             |         |                | 11             | 9.5         |                  |             | 1.15             | 2.1      |          |                   |                |   |                |                        |                 |                  |                    |                   |                   |
| BDK4-7   | 淤泥质粉质粘土  | 11.70-12.00     | 37.2          | 1.86        | 1.36           | 1.86             | 2.73             | 1.014             | 100            | 36.1           | 22.1           | 14               | 1.08             |         |     |     |       |        |         |          |            |             | 0.61    |                |                |             | 15.3             | 10.2        | 0.88             | 2.29     | 1.551    | 1.654             |                |   |                |                        |                 |                  |                    |                   |                   |
| BDK4-8   | 淤泥质粘土    | 13.70-14.00     | 54.2          | 1.7         | 1.1            | 1.7              | 2.74             | 1.485             | 100            | 50.6           | 29.5           | 21.1             | 1.17             |         |     |     |       |        |         |          | 51.1       | 48.9        |         |                | 6.5            | 5.2         |                  |             | 1.36             | 1.83     |          |                   |                |   |                |                        |                 |                  |                    |                   |                   |
| BDK4-9   | 淤泥       | 15.70-16.00     | 57.4          | 1.68        | 1.07           | 1.68             | 2.74             | 1.567             | 100            | 52.8           | 28.8           | 24               | 1.19             |         |     |     |       |        |         |          |            |             |         | 0.11           | 8.3            | 5           |                  |             | 1.4              | 1.83     | 1.373    | 1.306             |                |   |                |                        |                 |                  |                    |                   |                   |
| BDK4-10  | 淤泥质粘土    | 17.70-18.00     | 52.2          | 1.7         | 1.12           | 1.71             | 2.74             | 1.453             | 98.4           | 51.3           | 29.3           | 22               | 1.04             |         |     |     |       |        |         |          |            |             |         |                |                |             | 11.2             | 8.2         | 1.23             | 1.99     | 1.357    | 1.308             |                |   |                |                        |                 |                  |                    |                   |                   |
| BDK4-11  | 淤泥       | 19.70-20.00     | 56.8          | 1.68        | 1.07           | 1.68             | 2.74             | 1.557             | 99.9           | 52.6           | 29.5           | 23.1             | 1.18             |         |     |     |       |        |         |          |            | 0.21        |         |                | 6.3            | 4.3         |                  |             | 1.51             | 1.69     |          |                   |                |   |                |                        |                 |                  |                    |                   |                   |
| BDK4-12  | 淤泥       | 21.70-22.00     | 55.7          | 1.69        | 1.09           | 1.69             | 2.74             | 1.524             | 100            | 52             | 29.1           | 22.9             | 1.16             |         |     |     |       |        |         |          | 46.3       | 53.7        |         |                | 5.9            | 3.9         |                  |             | 1.39             | 1.82     | 1.418    | 1.348             |                |   |                |                        |                 |                  |                    |                   |                   |
| BDK4-13  | 淤泥       | 23.70-24.00     | 59.4          | 1.65        | 1.04           | 1.66             | 2.75             | 1.657             | 98.6           | 52.6           | 28.5           | 24.1             | 1.28             |         |     |     |       |        |         |          |            |             |         | 0.075          |                |             | 10.3             | 8.5         | 1.61             | 1.65     | 1.312    | 1.249             |                |   |                |                        |                 |                  |                    |                   |                   |
| BDK4-14  | 淤泥       | 25.70-26.00     | 55.2          | 1.69        | 1.09           | 1.69             | 2.74             | 1.516             | 99.8           | 52             | 29.2           | 22.8             | 1.14             |         |     |     |       |        |         |          |            |             |         |                |                | 6.3         | 3.8              |             |                  | 1.27     | 1.98     |                   |                |   |                |                        |                 |                  |                    |                   |                   |
| BDK4-15  | 淤泥       | 27.70-28.00     | 56.4          | 1.68        | 1.07           | 1.68             | 2.74             | 1.551             | 99.6           | 53.2           | 29.5           | 23.7             | 1.14             |         |     |     |       |        |         |          |            |             |         |                |                |             |                  |             |                  |          |          |                   |                |   |                |                        |                 |                  |                    |                   |                   |

**附表3-3**

| 岩土<br>编号 | 室内<br>定名 | 试样<br>深度<br>(m) | 天然<br>含水<br>率 | 湿<br>密<br>度 | 干<br>密<br>度 | 饱<br>和<br>密<br>度 | 土<br>粒<br>比<br>重 | 天然<br>孔<br>隙<br>比 | 饱<br>和<br>度 | 液<br>限 | 塑<br>限 | 塑<br>性<br>指<br>数 | 液<br>性<br>指<br>数 | 颗粒组成百分数 |                   |                   |                   |        |         |          |            |             |         | 渗 透            |                | 直 剪             |                  |                 |                  | 固 结（垂直）          |                        |                   |                   |
|----------|----------|-----------------|---------------|-------------|-------------|------------------|------------------|-------------------|-------------|--------|--------|------------------|------------------|---------|-------------------|-------------------|-------------------|--------|---------|----------|------------|-------------|---------|----------------|----------------|-----------------|------------------|-----------------|------------------|------------------|------------------------|-------------------|-------------------|
|          |          |                 |               |             |             |                  |                  |                   |             |        |        |                  |                  | ≥60     | ≥40               | ≥20               | 10~20             | 2.0~10 | 0.5~2.0 | 0.25~0.5 | 0.075~0.25 | 0.005~0.075 | 0~0.005 | 水平<br>渗透<br>系数 | 竖向<br>渗透<br>系数 | 粘聚<br>力<br>(快剪) | 内摩<br>擦角<br>(快剪) | 粘聚<br>力<br>(固快) | 内摩<br>擦角<br>(固快) | 压缩<br>系数         | 压缩<br>模量               | 固结<br>系数<br>(MPa) |                   |
|          |          |                 |               |             |             |                  |                  |                   |             |        |        |                  |                  | (单位:mm) |                   |                   |                   |        |         |          |            |             |         | K <sub>h</sub> | K <sub>v</sub> | q               | φ <sub>q</sub>   | c <sub>q</sub>  | φ <sub>cq</sub>  | v <sub>1-2</sub> | E <sub>sv1-2</sub>     | C <sub>v0.2</sub> | C <sub>v0.4</sub> |
|          |          |                 |               |             |             |                  |                  |                   |             |        |        |                  |                  | %       | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |        |         | %        | %          | %           | %       | %              | %              | %               | %                | %               | %                | %                | ×10 <sup>-6</sup> cm/s | kPa               | 度                 |
| BDK4-17  | 淤泥       | 32.70-33.00     | 56.2          | 1.68        | 1.08        | 1.68             | 2.74             | 1.548             | 99.5        | 53.9   | 29.3   | 24.6             | 1.09             |         |                   |                   |                   |        |         |          |            |             | 0.13    | 5.6            | 3.8            |                 |                  | 1.17            | 2.18             |                  |                        |                   |                   |
| BDK4-18  | 淤泥质粘土    | 35.70-36.00     | 53.6          | 1.7         | 1.11        | 1.7              | 2.74             | 1.476             | 99.5        | 52.9   | 29.3   | 23.6             | 1.03             |         |                   |                   |                   |        |         |          |            |             |         |                |                | 10.5            | 8.8              | 1.07            | 2.31             | 2.063            | 1.337                  |                   |                   |
| BDK4-19  | 粘土       | 38.70-39.00     | 52.6          | 1.7         | 1.11        | 1.71             | 2.74             | 1.46              | 98.7        | 53     | 29.5   | 23.5             | 0.98             |         |                   |                   |                   |        |         |          |            | 0.35        |         | 5.5            | 3.8            |                 |                  | 0.46            | 5.35             | 3.598            | 2.762                  |                   |                   |
| BDK4-20  | 粉质粘土     | 41.70-42.00     | 33.7          | 1.9         | 1.42        | 1.9              | 2.72             | 0.914             | 100         | 36.5   | 22.2   | 14.3             | 0.8              |         |                   |                   |                   |        |         | 67       | 33         |             |         | 12.2           | 8.6            |                 |                  | 0.62            | 3.09             | 4.915            | 2.542                  |                   |                   |
| BDK4-21  | 粉质粘土     | 43.60-43.90     | 32.2          | 1.92        | 1.45        | 1.92             | 2.72             | 0.873             | 100         | 35.3   | 23.2   | 12.1             | 0.74             |         |                   |                   |                   |        |         |          |            |             | 0.76    |                |                | 18.6            | 12.2             | 0.56            | 3.34             |                  |                        |                   |                   |
| BDK4-22  | 粘土       | 46.60-46.90     | 38            | 1.83        | 1.33        | 1.84             | 2.72             | 1.051             | 98.3        | 43.1   | 25.2   | 17.9             | 0.72             |         |                   |                   |                   |        |         |          |            |             |         | 12.6           | 8.9            |                 |                  | 0.67            | 3.06             | 1.504            | 1.344                  |                   |                   |
| BDK4-23  | 粘土       | 49.10-49.40     | 38.4          | 1.83        | 1.32        | 1.84             | 2.72             | 1.057             | 98.8        | 43.1   | 25.2   | 17.9             | 0.74             |         |                   |                   |                   |        |         |          | 69.8       | 30.2        | 0.59    |                |                |                 | 16.5             | 12.6            | 0.73             | 2.82             |                        |                   |                   |
| BDK5-1   | 卵石       | 0.60-0.90       |               |             |             |                  |                  |                   |             |        |        |                  |                  | 27.1    | 35.3              | 36.2              | 1.4               |        |         |          |            |             |         |                |                |                 |                  |                 |                  |                  |                        |                   |                   |
| BDK5-2   | 卵石       | 1.70-2.00       |               |             |             |                  |                  |                   |             |        |        |                  |                  | 58.5    | 16.7              | 24.8              |                   |        |         |          |            |             |         |                |                |                 |                  |                 |                  |                  |                        |                   |                   |
| BDK5-3   | 淤泥质粉质粘土  | 4.60-4.90       | 41.1          | 1.8         | 1.28        | 1.8              | 2.71             | 1.124             | 99.1        | 35.3   | 22.5   | 12.8             | 1.45             |         |                   |                   |                   |        |         |          |            |             | 0.75    | 13.5           | 9.5            |                 |                  | 0.96            | 2.21             | 1.773            | 1.696                  |                   |                   |
| BDK5-4   | 淤泥质粘土    | 6.70-7.00       | 49.1          | 1.73        | 1.16        | 1.74             | 2.73             | 1.353             | 99.1        | 46.8   | 26.9   | 19.9             | 1.12             |         |                   |                   |                   |        |         |          | 63.5       | 36.5        |         |                | 12.3           | 9.2             |                  |                 | 1.07             | 2.2              | 1.775                  | 2.096             |                   |
| BDK5-5   | 淤泥       | 8.70-9.00       | 55.3          | 1.68        | 1.08        | 1.69             | 2.75             | 1.542             | 98.6        | 52.7   | 28.5   | 24.2             | 1.11             |         |                   |                   |                   |        |         |          |            |             | 0.3     |                |                |                 | 13.1             | 10.9            | 1.44             | 1.76             | 1.278                  | 1.478             |                   |
| BDK5-6   | 淤泥质粘土    | 10.70-11.00     | 51.4          | 1.72        | 1.14        | 1.72             | 2.73             | 1.403             | 100         | 49.2   | 28.2   | 21               | 1.1              |         |                   |                   |                   |        |         |          |            |             |         |                | 10.2           | 8.8             |                  |                 | 1.13             | 2.13             | 1.122                  | 1.247             |                   |
| BDK5-7   | 淤泥质粘土    | 12.70-13.00     | 52.7          | 1.7         | 1.11        | 1.71             | 2.74             | 1.461             | 98.8        | 52     | 27.2   | 24.8             | 1.03             |         |                   |                   |                   |        |         |          |            |             |         |                | 10.6           | 9.1             |                  |                 | 1.17             | 2.1              | 0.933                  | 1.067             |                   |
| BDK5-8   | 淤泥质粘土    | 14.70-15.00     | 51.9          | 1.72        | 1.13        | 1.72             | 2.73             | 1.411             | 100         | 49.3   | 28     | 21.3             | 1.12             |         |                   |                   |                   |        |         |          | 49         | 51          |         | 0.22           |                |                 | 13.5             | 10.5            | 1.28             | 1.88             | 1.038                  | 1.137             |                   |
| BDK5-9   | 淤泥       | 16.70-17.00     | 58.1          | 1.66        | 1.05        | 1.67             | 2.75             | 1.619             | 98.7        | 53.3   | 29.3   | 24               | 1.2              |         |                   |                   |                   |        |         |          |            |             |         |                | 9.8            | 8.6             |                  |                 | 1.54             | 1.7              | 0.964                  | 1.001             |                   |
| BDK5-10  | 淤泥质粘土    | 18.70-19.00     | 52.8          | 1.7         | 1.11        | 1.71             | 2.74             | 1.463             | 98.9        | 50.8   | 27.3   | 23.5             | 1.09             |         |                   |                   |                   |        |         |          |            |             | 0.45    |                | 10.2           | 8.1             |                  |                 | 1.5              | 1.64             | 0.904                  | 0.877             |                   |
| BDK5-11  | 淤泥       | 20.70-21.00     | 59.9          | 1.66        | 1.04        | 1.66             | 2.75             | 1.649             | 99.9        | 53.6   | 29.2   | 24.4             | 1.26             |         |                   |                   |                   |        |         |          |            |             |         |                |                |                 | 11.6             | 9.9             | 1.59             | 1.67             | 1.078                  | 0.991             |                   |
| BDK5-12  | 淤泥       | 22.70-23.00     | 60.2          | 1.66        | 1.04        | 1.66             | 2.75             | 1.654             | 100         | 54.9   | 29.2   | 25.7             | 1.21             |         |                   |                   |                   |        |         |          | 46.5       | 53.5        |         | 0.081          | 5.6            | 3.8             |                  |                 | 1.53             | 1.74             | 1.03                   | 1.065             |                   |
| BDK5-13  | 淤泥       | 24.70-25.00     | 58.1          | 1.66        | 1.05        | 1.67             | 2.75             | 1.619             | 98.7        | 53     | 29.1   | 23.9             | 1.21             |         |                   |                   |                   |        |         |          |            |             |         |                | 6              | 3.5             |                  |                 | 0.42             | 6.24             | 2.107                  | 0.631             |                   |
| BDK5-14  | 淤泥       | 26.70-27.00     | 60.3          | 1.66        | 1.04        | 1.66             | 2.75             | 1.656             | 100         | 54.5   | 29.3   | 25.2             | 1.23             |         |                   |                   |                   |        |         |          |            |             | 0.093   |                |                |                 | 9.8              | 7.9             | 1.42             | 1.87             |                        |                   |                   |
| BDK5-15  | 淤泥       | 28.70-29.00     | 57.9          | 1.68        | 1.06        | 1.68             | 2.75             | 1.585             | 100         | 52.2   | 29.1   | 23.1             | 1.25             |         |                   |                   |                   |        |         |          |            |             |         |                | 5.5            | 3.9             |                  |                 | 1.34             | 1.93             | 1.765                  | 1.019             |                   |
| BDK5-16  | 淤泥       | 31.70-32.00     | 57.7          | 1.68        | 1.07        | 1.68             | 2.75             | 1.581             | 100         | 52.5   | 28.7   | 23.8             | 1.22             |         |                   |                   |                   |        |         |          | 49.5       | 50.5        |         | 0.15           |                |                 | 10.5             | 8.1             | 1.19             | 2.17             | 1.415                  | 0.96              |                   |
| BDK5-17  | 淤泥       | 34.70-35.00     | 56.9          | 1.68        | 1.07        | 1.68             | 2.75             | 1.568             | 99.8        | 52.7   | 29.2   | 23.5             | 1.18             |         |                   |                   |                   |        |         |          |            |             |         |                | 5.8            | 3.6             |                  |                 | 0.99             | 2.59             | 2.222                  | 1.28              |                   |
| BDK5-18  | 淤泥       | 37.70-38.00     | 54.6          | 1.7         | 1.1         | 1.7              | 2.75             | 1.501             | 100         | 52     | 28.3   | 23.7             | 1.11             |         |                   |                   |                   |        |         |          |            |             | 0.35    |                | 6.3            | 4.1             |                  |                 | 0.44             | 5.68             | 2.846                  | 2.041             |                   |
| BDK5-19  | 粉质粘土     | 40.60-40.90     | 29.3          | 1.92        | 1.48        | 1.93             | 2.7              | 0.818             | 96.7        | 32     | 21.2   | 10.8             | 0.75             |         |                   |                   |                   |        |         |          | 73.9       | 26.1        |         |                |                |                 | 25.6             | 16.2            | 0.52             | 3.5              | 1.234                  | 1.181             |                   |
| BDK5-20  | 粉质粘土     | 43.60-43.90     | 31.9          | 1.9         | 1.44        | 1.91             | 2.73             | 0.895             | 97.3        | 33.6   | 22.3   | 11.3             | 0.85             |         |                   |                   |                   |        |         |          |            |             |         | 0.87           | 18.6           | 12.6            |                  |                 | 0.36             | 5.26             | 1.671                  | 1.938             |                   |
| BDK5-21  | 粉质粘土     | 46.60-46.90     | 36.4          | 1.85        | 1.36        | 1.86             | 2.73             | 1.013             | 98.1        | 37.6   | 23.6   | 14               | 0.91             |         |                   |                   |                   |        |         |          |            |             |         |                | 20.3           | 13.2            |                  |                 | 0.58             | 3.47             | 1.156                  | 1.179             |                   |
| BDK5-22  | 粘土       | 49.60-49.90     | 39.7          | 1.83        | 1.31        | 1.83             | 2.73             | 1.084             | 100         | 41.1   | 23.2   | 17.9             | 0.92             |         |                   |                   |                   |        |         |          | 68         | 32          | 0.63    |                |                |                 | 20.6             | 14.6            | 0.46             | 4.53             | 1.946                  | 1.705             |                   |
| BDK5-23  | 粘土       | 52.60-52.90     | 41.1          | 1.79        | 1.27        | 1.8              | 2.73             | 1.152             | 97.4        | 43.3   | 25     | 18.3             | 0.88             |         |                   |                   |                   |        |         |          |            |             |         |                | 16.5           | 12.8            |                  |                 | 0.56             | 3.84             |                        |                   |                   |
| BDK6-1   | 卵石       | 0.30-0.60       |               |             |             |                  |                  |                   |             |        |        |                  |                  |         | 16                | 64.8              | 11.9              | 1.9    | 1       | 1        | 0.7        | 1.3         | 1.4     |                |                |                 |                  |                 |                  |                  |                        |                   |                   |
| BDK6-2   | 粉质粘土     | 1.60-1.90       | 21.7          | 2.05        | 1.68        | 2.07             | 2.72             | 0.615             | 96          | 32.5   | 20.5   | 12               | 0.1              |         |                   |                   |                   |        |         |          |            |             |         | 1.8            | 15             | 10.1            |                  |                 | 0.54             | 2.99             | 2.501                  | 1.961             |                   |
| BDK6-3   | 卵石       | 2.10-2.40       |               |             |             |                  |                  |                   |             |        |        |                  |                  |         | 63.8              | 7.8               | 1                 | 11.8   | 5       | 4.2      | 2.4        | 2           | 2       |                |                |                 |                  |                 |                  |                  |                        |                   |                   |
| BDK6-4   | 粉质粘土     | 4.20-4.50       | 34.2          | 1.88        | 1.4         | 1.89             | 2.72             | 0.942             | 98.8        | 34.6   | 21     | 13.6             | 0.97             |         |                   |                   |                   |        |         |          |            |             | 0.53    |                | 13.5           | 10.2            |                  |                 | 0.56             | 3.47             | 2.245                  | 2.632             |                   |
| BDK6-5   | 淤泥质粉质粘土  | 6.20-6.50       | 45.9          | 1.76        | 1.21        | 1.76             | 2.72             | 1.255             | 99.5        | 36.3   | 21.2   | 15.1             | 1.64             |         |                   |                   |                   |        |         |          |            |             | 60.3    | 39.7           |                |                 | 14.3             | 11              | 1.12             | 2.01             |                        |                   |                   |
| BDK6-6   | 淤泥质粉质粘土  | 8.20-8.50       | 49.3          | 1.73        | 1.16        | 1.73             | 2.73             | 1.356             | 99.3        | 45.2   | 28.2   | 17               | 1.24             |         |                   |                   |                   |        |         |          |            |             | 0.43    |                | 12.5           | 9.5             |                  |                 |                  |                  |                        |                   |                   |
| BDK6-7   | 淤泥       | 10.20-10.50     | 55.4          | 1.69        | 1.09        | 1.69             | 2.74             | 1.52              | 99.9        | 52.1   | 29.3   | 22.8             | 1.14             |         |                   |                   |                   |        |         |          |            |             |         |                | 10.5           | 7.5             |                  |                 | 1.41             | 1.79             | 1.163                  | 1.357             |                   |
| BDK6-8   | 淤泥质粘土    | 12.20-12.50     | 51.1          | 1.71        | 1.13        | 1.72             | 2.74             | 1.421             | 98.5        | 50.1   | 26.9   | 23.2             | 1.04             |         |                   |                   |                   |        |         |          |            |             |         | 0.063          |                |                 | 8.9              | 6.9             | 1.46             | 1.66             | 1.015                  | 1.068             |                   |
| BDK6-9   | 淤泥质粘土    | 14.20-14.50     | 52.2          | 1.7         | 1.12        | 1.71             | 2.74             | 1.453             | 98.4        | 51.1   | 29     | 22.1             | 1.05             |         |                   |                   |                   |        |         |          |            | 56.7        | 43.3    |                |                | 7.3             | 4.3              |                 |                  | 1.46             | 1.68                   |                   |                   |

平阳鳌江标准堤加固工程初步设计堤防地基土层室内土工试验综合成果表

附表3-4

| 岩土<br>编号 | 室内<br>定名 | 试样<br>深度<br>(m) | 天然<br>含水<br>率 | 湿<br>密<br>度       | 干<br>密<br>度       | 饱<br>和<br>密<br>度  | 土<br>粒<br>比<br>重 | 天然<br>孔<br>隙<br>比 | 饱<br>和<br>度    | 液<br>限         | 塑<br>限         | 塑<br>性<br>指<br>数 | 液<br>性<br>指<br>数 | 颗粒组成百分数 |      |      |       |        |         |          |            |             |         | 渗 透            |                        | 直 剪         |                  |                |                  | 固结（垂直）            |                    |                                      |                   |
|----------|----------|-----------------|---------------|-------------------|-------------------|-------------------|------------------|-------------------|----------------|----------------|----------------|------------------|------------------|---------|------|------|-------|--------|---------|----------|------------|-------------|---------|----------------|------------------------|-------------|------------------|----------------|------------------|-------------------|--------------------|--------------------------------------|-------------------|
|          |          |                 | ω             | ρ                 | ρ <sub>d</sub>    | ρ <sub>sat</sub>  | G <sub>s</sub>   | e <sub>0</sub>    | S <sub>r</sub> | ω <sub>L</sub> | ω <sub>p</sub> | I <sub>p</sub>   | I <sub>L</sub>   | >60     | >40  | >20  | 10~20 | 2.0~10 | 0.5~2.0 | 0.25~0.5 | 0.075~0.25 | 0.005~0.075 | 0~0.005 | 水平<br>渗透<br>系数 | 竖向<br>渗透<br>系数         | 粘聚力<br>(快剪) | 内摩<br>擦角<br>(快剪) | 粘聚力<br>(固快)    | 内摩<br>擦角<br>(固快) | 压缩<br>系数          | 压缩<br>模量           | 固结<br>系数<br>(MPa)                    |                   |
|          |          |                 | %             | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |                  |                   | %              | %              | %              |                  |                  | (单位:mm) |      |      |       |        |         |          |            |             |         | K <sub>h</sub> | K <sub>v</sub>         | q           | φ <sub>q</sub>   | c <sub>q</sub> | φ <sub>cq</sub>  | v <sub>1-2</sub>  | E <sub>sv1-2</sub> | C <sub>v0.2</sub>                    | C <sub>v0.4</sub> |
|          |          |                 | %             | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |                  |                   | %              | %              | %              | %                | %                | %       | %    | %    | %     | %      | %       | %        | %          | %           | %       | %              | ×10 <sup>-6</sup> cm/s | kPa         | 度                | kPa            | 度                | MPa <sup>-1</sup> | MPa                | ×10 <sup>-3</sup> cm <sup>2</sup> /s |                   |
| BDK6-10  | 淤泥质粘土    | 16.20-16.50     | 52.1          | 1.7               | 1.12              | 1.71              | 2.73             | 1.443             | 98.6           | 51             | 28.8           | 22.2             | 1.05             |         |      |      |       |        |         |          |            |             |         | 0.21           | 4.9                    | 3.1         |                  |                | 1.31             | 1.87              | 1.015              | 1.075                                |                   |
| BDK6-11  | 淤泥质粘土    | 18.20-18.50     | 47.8          | 1.75              | 1.18              | 1.75              | 2.72             | 1.297             | 100            | 45.5           | 26.2           | 19.3             | 1.12             |         |      |      |       |        |         |          |            |             |         |                |                        |             | 9.3              | 7.2            | 1.18             | 1.95              |                    |                                      |                   |
| BDK6-12  | 淤泥质粘土    | 20.20-20.50     | 51.2          | 1.71              | 1.13              | 1.72              | 2.74             | 1.423             | 98.6           | 49.5           | 27.2           | 22.3             | 1.08             |         |      |      |       |        |         |          |            |             | 0.45    |                | 4.3                    | 2.8         |                  |                | 1.36             | 1.78              |                    |                                      |                   |
| BDK6-13  | 淤泥质粘土    | 22.20-22.50     | 53.5          | 1.7               | 1.11              | 1.7               | 2.74             | 1.474             | 99.4           | 50.6           | 29.1           | 21.5             | 1.13             |         |      |      |       |        |         |          | 55         | 45          |         |                |                        | 10.1        | 7.8              | 1.44           | 1.72             | 1.321             | 1.107              |                                      |                   |
| BDK6-14  | 淤泥       | 24.20-24.50     | 54.7          | 1.69              | 1.09              | 1.69              | 2.74             | 1.508             | 99.4           | 53.1           | 29.3           | 23.8             | 1.07             |         |      |      |       |        |         |          |            |             |         | 0.063          | 5.6                    | 3.3         |                  |                | 1.37             | 1.83              | 1.25               | 1.202                                |                   |
| BDK6-15  | 淤泥       | 26.20-26.50     | 56.9          | 1.68              | 1.07              | 1.68              | 2.74             | 1.559             | 100            | 52.5           | 30             | 22.5             | 1.2              |         |      |      |       |        |         |          |            |             |         |                | 5.1                    | 3           |                  |                | 0.68             | 3.76              | 3.604              | 3.463                                |                   |
| BDK6-16  | 淤泥质粘土    | 28.20-28.50     | 51.3          | 1.7               | 1.12              | 1.71              | 2.73             | 1.43              | 98             | 50.6           | 29.2           | 21.4             | 1.03             |         |      |      |       |        |         |          |            |             | 0.69    |                |                        |             | 11.3             | 8.2            | 1.09             | 2.23              | 1.925              | 1.628                                |                   |
| BDK6-17  | 淤泥质粘土    | 31.20-31.50     | 52.6          | 1.7               | 1.11              | 1.71              | 2.74             | 1.46              | 98.7           | 51.6           | 29.9           | 21.7             | 1.05             |         |      |      |       |        |         |          | 51         | 49          |         |                | 10                     | 6.2         |                  |                | 1.09             | 2.26              | 2.604              | 1.623                                |                   |
| BDK6-18  | 粘土       | 34.20-34.50     | 50.4          | 1.72              | 1.14              | 1.72              | 2.72             | 1.378             | 99.5           | 51             | 27.5           | 23.5             | 0.97             |         |      |      |       |        |         |          |            |             |         | 0.45           | 12.2                   | 8.1         |                  |                | 1.12             | 2.12              | 2.079              | 1.483                                |                   |
| BDK6-19  | 粘土       | 37.20-37.50     | 47.1          | 1.76              | 1.2               | 1.76              | 2.73             | 1.282             | 100            | 50.3           | 27.8           | 22.5             | 0.86             |         |      |      |       |        |         |          |            |             |         |                |                        |             | 15.3             | 12.2           | 0.85             | 2.68              | 2.252              | 1.625                                |                   |
| BDK6-20  | 粉质粘土     | 40.10-40.40     | 29.4          | 1.93              | 1.49              | 1.94              | 2.71             | 0.817             | 97.5           | 35.3           | 22.3           | 13               | 0.55             |         |      |      |       |        |         |          |            |             | 0.89    |                | 16.6                   | 10.3        |                  |                | 0.52             | 3.49              | 2.229              | 2.109                                |                   |
| BDK6-21  | 粉质粘土     | 43.10-43.40     | 27.4          | 1.98              | 1.55              | 1.98              | 2.71             | 0.744             | 99.8           | 32.2           | 21             | 11.2             | 0.57             |         |      |      |       |        |         | 17.3     | 62.5       | 20.2        |         |                | 18                     | 15.3        |                  |                | 0.46             | 3.79              | 1.747              | 1.825                                |                   |
| BDK6-22  | 粘土       | 46.10-46.40     | 34.9          | 1.88              | 1.39              | 1.88              | 2.73             | 0.959             | 99.4           | 41.6           | 23.9           | 17.7             | 0.62             |         |      |      |       |        |         |          |            |             |         | 0.49           |                        |             | 18.3             | 13.5           | 0.56             | 3.5               | 1.829              | 1.566                                |                   |
| BDK6-23  | 粘土       | 49.10-49.40     | 37.4          | 1.85              | 1.35              | 1.85              | 2.73             | 1.028             | 99.4           | 43.5           | 25.9           | 17.6             | 0.65             |         |      |      |       |        |         |          |            |             |         |                |                        | 23          | 15               |                |                  | 0.24              | 8.45               | 4.036                                | 3.498             |
| BDK6-24  | 粉质粘土     | 52.10-52.40     | 32.8          | 1.9               | 1.43              | 1.9               | 2.71             | 0.894             | 99.4           | 36.2           | 22.6           | 13.6             | 0.75             |         |      |      |       |        |         |          | 66.8       | 33.2        | 0.68    |                |                        |             | 35.8             | 16.8           | 0.2              | 9.47              | 4.038              | 4.145                                |                   |
| DK7-1    | 卵石       | 1.60-1.90       |               |                   |                   |                   |                  |                   |                |                |                |                  |                  |         | 18.7 | 49.9 | 23.4  | 3.8    | 0.4     | 0.3      | 0.3        | 1.6         | 1.6     |                |                        |             |                  |                |                  |                   |                    |                                      |                   |
| DK7-2    | 淤泥质粘土    | 4.20-4.50       | 49.2          | 1.73              | 1.16              | 1.73              | 2.71             | 1.337             | 99.7           | 46.5           | 23.9           | 22.6             | 1.12             |         |      |      |       |        |         |          |            |             |         |                |                        | 12.8        | 10               |                |                  | 0.9               | 2.6                | 0.792                                | 0.995             |
| DK7-3    | 粉质粘土     | 5.70-6.00       | 36.8          | 1.84              | 1.35              | 1.85              | 2.73             | 1.03              | 97.6           | 38.3           | 23.2           | 15.1             | 0.9              |         |      |      |       |        |         |          |            | 58.2        | 41.8    | 0.69           |                        |             | 15.2             | 11.6           | 0.5              | 4.06              | 2.291              | 2.6                                  |                   |
| DK7-4    | 粘土       | 7.70-8.00       | 41.2          | 1.78              | 1.26              | 1.8               | 2.75             | 1.181             | 95.9           | 49.3           | 27.2           | 22.1             | 0.63             |         |      |      |       |        |         |          |            |             |         |                |                        | 12.5        | 10.2             |                |                  | 1.12              | 1.95               |                                      |                   |
| DK7-5    | 淤泥质粘土    | 9.70-10.00      | 50.5          | 1.71              | 1.14              | 1.72              | 2.74             | 1.412             | 98             | 48.3           | 26.8           | 21.5             | 1.1              |         |      |      |       |        |         |          |            |             |         | 0.16           |                        |             | 13.1             | 12.2           | 1.13             | 2.13              | 0.949              | 1.15                                 |                   |
| DK7-6    | 淤泥       | 12.70-13.00     | 58.1          | 1.67              | 1.06              | 1.67              | 2.75             | 1.603             | 99.6           | 53.2           | 30.5           | 22.7             | 1.22             |         |      |      |       |        |         |          |            |             |         |                |                        | 5.5         | 4.2              |                |                  | 1.65              | 1.58               |                                      |                   |
| DK7-7    | 淤泥       | 14.70-15.00     | 55.8          | 1.68              | 1.08              | 1.69              | 2.75             | 1.55              | 99             | 52.2           | 30.1           | 22.1             | 1.16             |         |      |      |       |        |         |          |            | 53.6        | 46.4    | 0.06           |                        | 6.3         | 4.5              |                |                  | 1.58              | 1.61               | 1.015                                | 0.919             |
| DK7-8    | 淤泥质粘土    | 16.70-17.00     | 52.4          | 1.7               | 1.12              | 1.71              | 2.74             | 1.456             | 98.6           | 50.6           | 28.2           | 22.4             | 1.08             |         |      |      |       |        |         |          |            |             |         |                |                        |             |                  | 11.1           | 10.7             | 1.38              | 1.78               |                                      |                   |
| DK8-1    | 粉质粘土     | 2.70-3.00       | 36.4          | 1.86              | 1.36              | 1.86              | 2.72             | 0.995             | 99.5           | 36.2           | 21.3           | 14.9             | 1.01             |         |      |      |       |        |         |          |            |             |         | 0.59           | 13.6                   | 11.6        |                  |                | 0.63             | 3.17              | 1.975              | 0.816                                |                   |
| DK8-2    | 粉质粘土     | 3.20-3.50       | 30.3          | 1.9               | 1.46              | 1.92              | 2.73             | 0.872             | 94.8           | 32.2           | 20.6           | 11.6             | 0.84             |         |      |      |       |        |         |          |            | 69.2        | 30.8    |                |                        |             | 15.8             | 13.2           | 0.45             | 4.16              | 2.35               | 2.497                                |                   |
| DK8-3    | 淤泥       | 5.70-6.00       | 66            | 1.56              | 0.94              | 1.6               | 2.75             | 1.926             | 94.2           | 55.9           | 30.8           | 25.1             | 1.4              |         |      |      |       |        |         |          |            |             | 0.07    |                | 4.6                    | 2.8         |                  |                | 2.04             | 1.43              |                    |                                      |                   |
| DK8-4    | 淤泥       | 7.70-8.00       | 60.5          | 1.66              | 1.03              | 1.66              | 2.75             | 1.659             | 100            | 53.6           | 28.7           | 24.9             | 1.28             |         |      |      |       |        |         |          |            |             |         |                |                        | 4.3         | 2.5              |                |                  | 1.31              | 2.03               | 1.267                                | 1.139             |
| DK8-5    | 淤泥       | 9.70-10.00      | 59.7          | 1.65              | 1.03              | 1.66              | 2.75             | 1.662             | 98.8           | 52.2           | 29.3           | 22.9             | 1.33             |         |      |      |       |        |         |          |            |             |         | 0.16           |                        |             | 8.6              | 6.3            | 1.68             | 1.58              | 1.212              | 1.095                                |                   |
| DK8-6    | 淤泥       | 11.70-12.00     | 54.6          | 1.67              | 1.08              | 1.69              | 2.75             | 1.546             | 97.1           | 51             | 27.7           | 23.3             | 1.15             |         |      |      |       |        |         |          |            |             |         |                |                        |             |                  |                | 1.44             | 1.77              |                    |                                      |                   |
| DK8-7    | 淤泥       | 13.70-14.00     | 52.1          | 1.66              | 1.09              | 1.69              | 2.75             | 1.52              | 94.3           | 50.6           | 28.9           | 21.7             | 1.07             |         |      |      |       |        |         |          |            |             | 0.12    |                | 6                      | 3.8         |                  |                | 1.57             | 1.61              | 1.047              | 1.061                                |                   |
| DK8-8    | 淤泥       | 15.70-16.00     | 60.1          | 1.64              | 1.02              | 1.65              | 2.75             | 1.685             | 98.1           | 55.9           | 29.5           | 26.4             | 1.16             |         |      |      |       |        |         |          |            |             |         |                |                        |             |                  | 7.5            | 5.2              | 1.63              | 1.65               |                                      |                   |
| DK8-9    | 淤泥       | 17.70-18.00     | 57.7          | 1.68              | 1.07              | 1.68              | 2.75             | 1.581             | 100            | 51.8           | 28.5           | 23.3             | 1.25             |         |      |      |       |        |         |          |            | 51.9        | 48.1    |                | 0.32                   | 5.5         | 3.5              |                |                  | 1.46              | 1.77               |                                      |                   |
| DK8-10   | 淤泥       | 19.70-20.00     | 59.6          | 1.66              | 1.04              | 1.66              | 2.75             | 1.644             | 99.7           | 53.3           | 28.5           | 24.8             | 1.25             |         |      |      |       |        |         |          |            |             |         |                |                        | 5.2         | 3.2              |                |                  | 1.45              | 1.82               | 1.098                                | 0.97              |
| DK8-11   | 淤泥       | 21.70-22.00     | 59.4          | 1.66              | 1.04              | 1.66              | 2.75             | 1.641             | 99.6           | 52.9           | 27.9           | 25               | 1.26             |         |      |      |       |        |         |          |            |             | 0.23    |                |                        |             | 8                | 6.8            | 1.41             | 1.87              |                    |                                      |                   |
| DK8-12   | 淤泥       | 23.70-24.00     | 61.4          | 1.65              | 1.02              | 1.65              | 2.73             | 1.67              | 100            | 55.3           | 28.9           | 26.4             | 1.23             |         |      |      |       |        |         |          |            |             |         |                |                        | 4.3         | 2.9              |                |                  | 1.25              | 2.14               | 1.473                                | 1.001             |
| DK8-13   | 淤泥       | 25.70-26.00     | 57.3          | 1.68              | 1.07              | 1.68              | 2.75             | 1.575             | 100            | 52.2           | 27.5           | 24.7             | 1.21             |         |      |      |       |        |         |          |            |             |         |                |                        | 5.6         | 3.8              |                |                  | 0.91              | 2.83               | 1.511                                | 0.978             |
| DK8-14   | 淤泥质粘土    | 27.70-28.00     | 51.7          | 1.72              | 1.13              | 1.72              | 2.75             | 1.425             | 99.7           | 49.8           | 28.8           | 21               | 1.09             |         |      |      |       |        |         |          |            |             |         | 0.07           |                        |             | 8.2              |                |                  |                   |                    |                                      |                   |

平阳鳌江标准堤加固工程初步设计堤防地基土层室内土工试验综合成果表

附表3-5

| 岩土<br>编号 | 室内<br>定名 | 试样<br>深度<br>(m) | 天然<br>含水<br>率 | 湿<br>密<br>度       | 干<br>密<br>度       | 饱<br>和<br>密<br>度  | 土<br>粒<br>比<br>重 | 天然<br>孔<br>隙<br>比 | 饱<br>和<br>度    | 液<br>限         | 塑<br>限         | 塑<br>性<br>指<br>数 | 液<br>性<br>指<br>数 | 颗粒组成百分数 |     |     |       |        |         |          |            |                |                | 渗 透            |                        | 直 剪            |                  |                  |                    | 固结（垂直）            |                   |                                      |       |
|----------|----------|-----------------|---------------|-------------------|-------------------|-------------------|------------------|-------------------|----------------|----------------|----------------|------------------|------------------|---------|-----|-----|-------|--------|---------|----------|------------|----------------|----------------|----------------|------------------------|----------------|------------------|------------------|--------------------|-------------------|-------------------|--------------------------------------|-------|
|          |          |                 | ω             | ρ                 | ρ <sub>d</sub>    | ρ <sub>sat</sub>  | G <sub>s</sub>   | e <sub>0</sub>    | S <sub>r</sub> | ω <sub>L</sub> | ω <sub>p</sub> | I <sub>p</sub>   | I <sub>L</sub>   | >60     | >40 | >20 | 10~20 | 2.0~10 | 0.5~2.0 | 0.25~0.5 | 0.075~0.25 | 0.005~0.075    | 0~0.005        | 水平<br>渗透<br>系数 | 竖向<br>渗透<br>系数         | 粘聚力<br>(快剪)    | 内摩<br>擦角<br>(快剪) | 粘聚力<br>(固快)      | 内摩<br>擦角<br>(固快)   | 压缩<br>系数          | 压缩<br>模量          | 固结<br>系数<br>(MPa)                    |       |
|          |          |                 | (单位:mm)       |                   |                   |                   |                  |                   |                |                |                |                  |                  |         |     |     |       |        |         |          |            | K <sub>h</sub> | K <sub>v</sub> | q              | φ <sub>q</sub>         | c <sub>q</sub> | φ <sub>cq</sub>  | v <sub>1-2</sub> | E <sub>sv1-2</sub> | C <sub>v0.2</sub> | C <sub>v0.4</sub> |                                      |       |
|          |          |                 | %             | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |                  |                   | %              | %              | %              | %                | %                | %       | %   | %   | %     | %      | %       | %        | %          | %              | %              | %              | ×10 <sup>-6</sup> cm/s | kPa            | 度                | kPa              | 度                  | MPa <sup>-1</sup> | MPa               | ×10 <sup>-3</sup> cm <sup>2</sup> /s |       |
| DK8-17   | 淤泥质粘土    | 34.70-35.00     | 54.2          | 1.7               | 1.1               | 1.7               | 2.75             | 1.494             | 99.7           | 51.9           | 27.6           | 24.3             | 1.09             |         |     |     |       |        |         |          | 50.1       | 49.9           |                | 0.19           |                        |                | 11.2             | 8.2              | 1.05               | 2.38              |                   |                                      |       |
| DK8-18   | 淤泥       | 37.70-38.00     | 59.4          | 1.66              | 1.04              | 1.66              | 2.75             | 1.641             | 99.6           | 52.2           | 26.9           | 25.3             | 1.28             |         |     |     |       |        |         |          |            |                |                |                | 5.2                    | 3.9            |                  |                  | 1.33               | 1.99              | 0.846             | 0.974                                |       |
| DK8-19   | 淤泥质粘土    | 38.70-39.00     | 53.3          | 1.69              | 1.1               | 1.7               | 2.75             | 1.495             | 98.1           | 50.9           | 27.3           | 23.6             | 1.1              |         |     |     |       |        |         |          |            |                | 0.16           |                | 8.3                    | 5.2            |                  |                  | 0.95               | 2.63              | 1.905             | 1.506                                |       |
| BDK9-1   |          | 1.10-1.40       |               |                   |                   |                   |                  |                   |                |                |                |                  |                  |         |     |     |       |        |         |          | 51.9       | 48.1           |                |                |                        |                |                  |                  |                    |                   |                   |                                      |       |
| BDK9-2   | 粉质粘土     | 2.20-2.50       | 37.1          | 1.85              | 1.35              | 1.85              | 2.72             | 1.016             | 99.3           | 39.3           | 25.8           | 13.5             | 0.84             |         |     |     |       |        |         |          |            |                |                |                |                        |                | 19.5             | 15.9             | 0.63               | 3.2               | 1.054             | 1.156                                |       |
| BDK9-3   | 粉质粘土     | 3.20-3.50       | 29.9          | 1.93              | 1.49              | 1.94              | 2.71             | 0.824             | 98.3           | 34.3           | 21.5           | 12.8             | 0.66             |         |     |     |       |        |         |          | 69.3       | 30.7           |                | 0.35           | 23.5                   | 12.2           |                  |                  | 0.45               | 4.05              | 1.29              | 3.477                                |       |
| BDK9-4   | 粉质粘土     | 5.20-5.50       | 34.4          | 1.89              | 1.41              | 1.89              | 2.72             | 0.934             | 100            | 39.2           | 23.1           | 16.1             | 0.7              |         |     |     |       |        |         |          |            |                |                |                | 16.3                   | 12.8           |                  |                  | 0.62               | 3.12              | 1.168             | 1.362                                |       |
| BDK9-5   | 淤泥       | 7.20-7.50       | 55.6          | 1.69              | 1.09              | 1.69              | 2.74             | 1.523             | 100            | 52.2           | 29.9           | 22.3             | 1.15             |         |     |     |       |        |         |          |            |                | 0.51           |                |                        |                | 12.1             | 10.9             | 1.05               | 2.4               | 1.519             | 1.741                                |       |
| BDK9-6   | 淤泥       | 9.20-9.50       | 61.3          | 1.65              | 1.02              | 1.65              | 2.75             | 1.688             | 99.8           | 55.6           | 32.5           | 23.1             | 1.25             |         |     |     |       |        |         |          |            |                |                |                | 5.6                    | 4.1            |                  |                  | 1.17               | 2.3               | 1.131             | 1.427                                |       |
| BDK9-7   | 淤泥质粘土    | 11.20-11.50     | 54            | 1.7               | 1.1               | 1.7               | 2.74             | 1.482             | 99.8           | 51.1           | 29.3           | 21.8             | 1.13             |         |     |     |       |        |         |          | 49.5       | 50.5           |                |                | 5.2                    | 3.6            |                  |                  | 1.22               | 2.04              | 1.122             | 2.153                                |       |
| BDK9-8   | 淤泥       | 13.20-13.50     | 61.1          | 1.65              | 1.02              | 1.65              | 2.75             | 1.685             | 99.7           | 55.5           | 32.4           | 23.1             | 1.24             |         |     |     |       |        |         |          |            |                |                | 0.093          |                        |                | 9.5              | 7.1              | 1.43               | 1.88              | 1.393             | 1.42                                 |       |
| BDK9-9   | 淤泥       | 15.20-15.50     | 59.4          | 1.66              | 1.04              | 1.66              | 2.75             | 1.641             | 99.6           | 53.9           | 30.3           | 23.6             | 1.23             |         |     |     |       |        |         |          |            |                |                |                |                        | 5.6            | 3.8              |                  |                    | 1.56              | 1.69              | 1.447                                | 1.417 |
| BDK9-10  | 淤泥质粘土    | 17.20-17.50     | 52.9          | 1.71              | 1.12              | 1.71              | 2.72             | 1.432             | 100            | 49.2           | 29.3           | 19.9             | 1.19             |         |     |     |       |        |         |          |            |                | 0.11           |                | 6.2                    | 4.3            |                  |                  | 1.31               | 1.86              | 1.29              | 1.331                                |       |
| BDK9-11  | 淤泥       | 19.20-19.50     | 57.8          | 1.67              | 1.06              | 1.67              | 2.75             | 1.599             | 99.4           | 53.6           | 30.6           | 23               | 1.18             |         |     |     |       |        |         |          | 46.5       | 53.5           |                |                |                        |                | 10.1             | 7.5              | 1.41               | 1.84              | 1.092             | 0.975                                |       |
| BDK9-12  | 淤泥质粘土    | 21.20-21.50     | 54            | 1.7               | 1.1               | 1.7               | 2.74             | 1.482             | 99.8           | 50.6           | 29.6           | 21               | 1.16             |         |     |     |       |        |         |          |            |                |                | 0.081          | 5.8                    | 3.5            |                  |                  | 1.5                | 1.66              | 1.221             | 0.906                                |       |
| BDK9-13  | 淤泥质粘土    | 23.20-23.50     | 52.8          | 1.71              | 1.12              | 1.71              | 2.72             | 1.431             | 100            | 49.3           | 28.3           | 21               | 1.17             |         |     |     |       |        |         |          |            |                |                |                |                        | 6.1            | 4.4              |                  |                    | 1.33              | 1.83              | 1.233                                | 1.369 |
| BDK9-14  | 淤泥       | 25.20-25.50     | 61.1          | 1.65              | 1.02              | 1.65              | 2.75             | 1.685             | 99.7           | 55.4           | 32.4           | 23               | 1.25             |         |     |     |       |        |         |          | 50.9       | 49.1           | 0.21           |                |                        |                | 9.3              | 7.2              | 1.58               | 1.7               | 1.447             | 1.372                                |       |
| BDK9-15  | 淤泥       | 27.20-27.50     | 57.9          | 1.67              | 1.06              | 1.67              | 2.75             | 1.6               | 99.5           | 53.3           | 31.3           | 22               | 1.21             |         |     |     |       |        |         |          |            |                |                |                |                        | 5.2            | 3.5              |                  |                    | 1.37              | 1.9               | 1.238                                | 1.257 |
| BDK9-16  | 淤泥       | 29.20-29.50     | 57.8          | 1.67              | 1.06              | 1.67              | 2.75             | 1.599             | 99.4           | 52.5           | 30.2           | 22.3             | 1.24             |         |     |     |       |        |         |          |            |                |                | 0.15           |                        |                | 10.3             | 7.6              | 1.27               | 2.05              | 1.08              | 1                                    |       |
| BDK9-17  | 淤泥       | 32.20-32.50     | 61.7          | 1.65              | 1.02              | 1.65              | 2.75             | 1.695             | 100            | 56             | 32.7           | 23.3             | 1.24             |         |     |     |       |        |         |          | 45.7       | 54.3           |                |                | 5.3                    | 3.7            |                  |                  | 0.99               | 2.72              | 2.913             | 0.869                                |       |
| BDK9-18  | 淤泥       | 35.20-35.50     | 58.5          | 1.66              | 1.05              | 1.67              | 2.75             | 1.626             | 99             | 54.2           | 29.8           | 24.4             | 1.18             |         |     |     |       |        |         |          |            |                | 0.29           |                | 6.1                    | 4.1            |                  |                  | 0.87               | 3.02              | 3.305             | 1.195                                |       |
| BDK9-19  | 粘土       | 38.10-38.40     | 53.6          | 1.7               | 1.11              | 1.7               | 2.71             | 1.449             | 100            | 54.6           | 28.5           | 26.1             | 0.96             |         |     |     |       |        |         |          |            |                |                |                |                        |                | 12.6             | 9.3              | 0.95               | 2.58              | 2.173             | 1.001                                |       |
| BDK9-20  |          | 41.10-41.40     | 23.5          | 2.02              | 1.64              | 2.03              | 2.7              | 0.651             | 97.5           |                |                |                  |                  |         |     |     |       |        |         |          | 88         | 12             |                | 320            | 16                     | 18.6           |                  |                  | 0.43               | 3.84              | 1.561             | 3.182                                |       |
| BDK9-21  |          | 43.70-44.00     | 21.1          | 2.05              | 1.69              | 2.06              | 2.68             | 0.583             | 97             |                |                |                  |                  |         |     |     |       |        |         | 20.3     | 66.2       | 13.5           |                |                |                        | 18.3           | 22.1             |                  |                    | 0.19              | 8.33              | 4.632                                | 5.024 |
| BDK9-22  | 粉质粘土     | 45.00-45.30     | 35.8          | 1.87              | 1.38              | 1.87              | 2.72             | 0.975             | 99.8           | 41.1           | 25.2           | 15.9             | 0.67             |         |     |     |       |        |         |          |            |                | 1.9            |                |                        |                | 28.6             | 15.3             | 0.44               | 4.49              | 1.327             | 1.557                                |       |
| BDK9-23  | 粘土       | 48.10-48.40     | 37.7          | 1.85              | 1.34              | 1.85              | 2.72             | 1.025             | 100            | 43.3           | 26             | 17.3             | 0.68             |         |     |     |       |        |         |          | 66.3       | 33.7           |                |                | 25.3                   | 13.2           |                  |                  | 0.32               | 6.33              | 2.077             | 2.24                                 |       |
| BDK9-24  | 粉质粘土     | 51.10-51.40     | 37.6          | 1.85              | 1.34              | 1.85              | 2.72             | 1.023             | 100            | 43.5           | 26.8           | 16.7             | 0.65             |         |     |     |       |        |         |          |            |                | 0.65           |                | 23.6                   | 12.8           |                  |                  | 0.41               | 4.93              | 1.798             | 1.039                                |       |
| BDK9-25  | 粘土       | 54.10-54.40     | 43.7          | 1.78              | 1.24              | 1.78              | 2.71             | 1.188             | 99.7           | 45.3           | 27.3           | 18               | 0.91             |         |     |     |       |        |         |          | 68.2       | 31.8           |                |                |                        |                | 32.2             | 16.8             | 0.34               | 6.43              | 4.756             | 1.971                                |       |
| BDK9-26  | 粉质粘土     | 57.10-57.40     | 39.4          | 1.83              | 1.31              | 1.83              | 2.71             | 1.064             | 100            | 43.2           | 26.5           | 16.7             | 0.77             |         |     |     |       |        |         |          |            |                |                | 0.53           | 22.8                   | 13.5           |                  |                  | 0.29               | 7.12              | 1.997             | 1.654                                |       |
| BDK10-1  |          | 1.20-1.50       |               |                   |                   |                   |                  |                   |                |                |                |                  |                  |         |     |     | 2.3   | 3      | 5.3     | 3.8      | 47.9       | 37.7           |                |                |                        |                |                  |                  |                    |                   |                   |                                      |       |
| BDK10-2  | 淤泥质粉质粘土  | 3.20-3.50       | 45.8          | 1.77              | 1.21              | 1.77              | 2.74             | 1.257             | 99.8           | 40.9           | 25.2           | 15.7             | 1.31             |         |     |     |       |        |         |          |            |                | 0.61           |                |                        |                | 13.5             | 11.1             | 0.83               | 2.72              | 1.136             | 1.376                                |       |
| BDK10-3  | 淤泥质粘土    | 5.20-5.50       | 52.1          | 1.71              | 1.12              | 1.71              | 2.74             | 1.437             | 99.3           | 45.9           | 26.9           | 19               | 1.33             |         |     |     |       |        |         |          | 46.5       | 53.5           |                |                | 10.2                   | 9.1            |                  |                  | 1.02               | 2.39              | 2.002             | 2.357                                |       |
| BDK10-4  | 淤泥       | 7.20-7.50       | 55.5          | 1.69              | 1.09              | 1.69              | 2.74             | 1.521             | 100            | 52.7           | 29             | 23.7             | 1.12             |         |     |     |       |        |         |          |            |                |                |                | 8.8                    | 6.2            |                  |                  | 0.77               | 3.27              | 1.108             | 1.361                                |       |
| BDK10-5  | 淤泥质粘土    | 9.20-9.50       | 53.5          | 1.7               | 1.11              | 1.7               | 2.74             | 1.474             | 99.4           | 50.6           | 28.6           | 22               | 1.13             |         |     |     |       |        |         |          |            |                | 0.33           |                |                        |                | 11.3             | 9.8              | 1.32               | 1.87              | 1.379             | 1.483                                |       |
| BDK10-6  | 淤泥       | 11.20-11.50     | 59.8          | 1.66              | 1.04              | 1.66              | 2.75             | 1.647             | 99.8           | 54.2           | 30.5           | 23.7             | 1.24             |         |     |     |       |        |         |          | 45.1       | 54.9           |                | 0.12           | 6.3                    | 4.1            |                  |                  | 1.62               | 1.63              | 1.431             | 1.346                                |       |
| BDK10-7  | 淤泥       | 13.20-13.50     | 60.3          | 1.65              | 1.03              | 1.66              | 2.75             | 1.672             | 99.2           | 54.7           | 31.9           | 22.8             | 1.25             |         |     |     |       |        |         |          |            |                |                |                | 5.2                    | 3.8            |                  |                  | 1.53               | 1.75              | 1.386             | 1.364                                |       |
| BDK10-8  | 淤泥       | 15.20-15.50     | 57            | 1.68              | 1.07              | 1.68              | 2.75             | 1.57              | 99.8           | 51.8           | 29.8           | 22               | 1.24             |         |     |     |       |        |         |          |            |                |                |                |                        |                | 9.3              | 7.3              | 1.67               | 1.54              | 1.369</           |                                      |       |

平阳鳌江标准堤加固工程初步设计堤防地基土层室内土工试验综合成果表

附表3-6

| 岩土<br>编号 | 室内<br>定名 | 试样<br>深度<br>(m) | 天然<br>含水<br>率 | 湿<br>密<br>度       | 干<br>密<br>度       | 饱<br>和<br>密<br>度  | 土<br>粒<br>比<br>重 | 天然<br>孔<br>隙<br>比 | 饱<br>和<br>度    | 液<br>限         | 塑<br>限         | 塑<br>性<br>指<br>数 | 液<br>性<br>指<br>数 | 颗粒组成百分数 |      |      |       |        |         |          |                        |             |         | 渗 透            |                | 直 剪         |                   |                |                                      | 固结（垂直）           |                    |                   |                   |
|----------|----------|-----------------|---------------|-------------------|-------------------|-------------------|------------------|-------------------|----------------|----------------|----------------|------------------|------------------|---------|------|------|-------|--------|---------|----------|------------------------|-------------|---------|----------------|----------------|-------------|-------------------|----------------|--------------------------------------|------------------|--------------------|-------------------|-------------------|
|          |          |                 | ω             | ρ                 | ρ <sub>d</sub>    | ρ <sub>sat</sub>  | G <sub>s</sub>   | e <sub>0</sub>    | S <sub>r</sub> | ω <sub>L</sub> | ω <sub>p</sub> | I <sub>p</sub>   | I <sub>L</sub>   | >60     | >40  | >20  | 10~20 | 2.0~10 | 0.5~2.0 | 0.25~0.5 | 0.075~0.25             | 0.005~0.075 | 0~0.005 | 水平<br>渗透<br>系数 | 竖向<br>渗透<br>系数 | 粘聚力<br>(快剪) | 内摩<br>擦角<br>(快剪)  | 粘聚力<br>(固快)    | 内摩<br>擦角<br>(固快)                     | 压缩<br>系数         | 压缩<br>模量           | 固结<br>系数<br>(MPa) |                   |
|          |          |                 | %             | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |                  |                   | %              | %              | %              |                  |                  | %       | %    | %    | %     | %      | %       | %        | %                      | %           | %       | K <sub>h</sub> | K <sub>v</sub> | q           | φ <sub>q</sub>    | c <sub>q</sub> | φ <sub>cq</sub>                      | v <sub>1-2</sub> | E <sub>sv1-2</sub> | C <sub>v0.2</sub> | C <sub>v0.4</sub> |
|          |          |                 | (单位:mm)       |                   |                   |                   |                  |                   |                |                |                |                  |                  |         |      |      |       |        |         |          | ×10 <sup>-6</sup> cm/s |             | kPa     | 度              | kPa            | 度           | MPa <sup>-1</sup> | MPa            | ×10 <sup>-3</sup> cm <sup>2</sup> /s |                  |                    |                   |                   |
| BDK10-11 | 淤泥       | 21.20-21.50     | 58.7          | 1.66              | 1.05              | 1.67              | 2.75             | 1.629             | 99.1           | 54.4           | 29.9           | 24.5             | 1.18             |         |      |      |       |        |         |          |                        |             |         | 0.13           |                |             | 10.8              | 7.8            | 1.44                                 | 1.83             | 1.158              | 1.279             |                   |
| BDK10-12 | 淤泥       | 23.20-23.50     | 61.7          | 1.65              | 1.02              | 1.65              | 2.75             | 1.695             | 100            | 56             | 32.7           | 23.3             | 1.24             |         |      |      |       |        |         |          |                        |             |         |                | 5.8            | 3.8         |                   |                | 1.37                                 | 1.97             | 1.564              | 1.056             |                   |
| BDK10-13 | 淤泥       | 25.20-25.50     | 65.7          | 1.62              | 0.98              | 1.62              | 2.75             | 1.813             | 99.7           | 58.4           | 30.7           | 27.7             | 1.26             |         |      |      |       |        |         |          | 46                     | 54          | 0.081   |                | 5.2            | 3.2         |                   |                | 1.6                                  | 1.76             | 1.165              | 1.054             |                   |
| BDK10-14 | 淤泥       | 27.20-27.50     | 62.7          | 1.63              | 1                 | 1.64              | 2.75             | 1.745             | 98.8           | 55.8           | 30.6           | 25.2             | 1.27             |         |      |      |       |        |         |          |                        |             |         | 0.072          |                |             | 9.2               | 6.7            | 1.3                                  | 2.11             | 2.187              | 0.967             |                   |
| BDK10-15 | 淤泥       | 29.20-29.50     | 59.3          | 1.66              | 1.04              | 1.66              | 2.75             | 1.639             | 99.5           | 53.8           | 30.3           | 23.5             | 1.23             |         |      |      |       |        |         |          |                        |             |         |                | 5.6            | 4.1         |                   |                | 1.3                                  | 2.03             | 1.177              | 1.102             |                   |
| BDK10-16 | 淤泥       | 32.20-32.50     | 63.4          | 1.63              | 1                 | 1.63              | 2.75             | 1.757             | 99.2           | 56.4           | 31.2           | 25.2             | 1.28             |         |      |      |       |        |         |          |                        |             |         |                | 5.2            | 3.6         |                   |                | 1.29                                 | 2.14             | 1.104              | 1.217             |                   |
| BDK10-17 | 淤泥       | 35.20-35.50     | 62.9          | 1.63              | 1                 | 1.64              | 2.75             | 1.748             | 98.9           | 56             | 30.2           | 25.8             | 1.27             |         |      |      |       |        |         |          | 45.9                   | 54.1        | 0.095   |                |                |             | 8.2               | 6.5            | 1.33                                 | 2.07             | 1.792              | 0.839             |                   |
| BDK10-18 | 淤泥       | 38.20-38.50     | 58.3          | 1.67              | 1.05              | 1.67              | 2.75             | 1.607             | 99.8           | 54.1           | 29.7           | 24.4             | 1.17             |         |      |      |       |        |         |          |                        |             |         | 0.26           | 5.5            | 3.5         |                   |                | 0.88                                 | 2.96             | 3.062              | 1.272             |                   |
| BDK10-19 | 粘土       | 41.10-41.40     | 43.7          | 1.79              | 1.25              | 1.79              | 2.72             | 1.184             | 100            | 43.9           | 26.5           | 17.4             | 0.99             |         |      |      |       |        |         |          |                        |             |         |                | 13.2           | 8.2         |                   |                | 0.84                                 | 2.6              | 1.028              | 1.054             |                   |
| BDK10-20 | 粉质粘土     | 44.10-44.40     | 23.9          | 2.03              | 1.64              | 2.03              | 2.7              | 0.648             | 99.6           | 31.2           | 19.9           | 11.3             | 0.35             |         |      |      |       |        | 10.2    | 63.5     | 26.3                   |             |         |                |                | 23.5        | 18.9              | 0.32           | 5.15                                 | 4.625            | 4.28               |                   |                   |
| BDK10-21 | 粉土       | 45.70-46.00     | 20.5          | 2.02              | 1.68              | 2.06              | 2.7              | 0.611             | 90.6           | 28.6           | 19.5           | 9.1              | 0.11             |         |      |      |       |        |         |          | 79.5                   | 20.5        | 0.73    |                | 20.3           | 15.5        |                   |                |                                      |                  |                    |                   |                   |
| BDK10-22 | 粉质粘土     | 47.10-47.40     | 36.3          | 1.85              | 1.36              | 1.86              | 2.74             | 1.019             | 97.6           | 39.3           | 23.2           | 16.1             | 0.81             |         |      |      |       | 5.6    | 9.3     | 62.2     | 22.9                   | 8.5         |         |                | 28.3           | 13.8        |                   |                | 0.32                                 | 6.31             | 4.662              | 4.466             |                   |
| BDK10-23 | 粉质粘土     | 50.10-50.40     | 38            | 1.83              | 1.33              | 1.84              | 2.72             | 1.051             | 98.3           | 43             | 26.2           | 16.8             | 0.7              |         |      |      |       |        |         |          |                        |             |         |                | 25.3           | 12.1        |                   |                | 0.78                                 | 2.63             |                    |                   |                   |
| BDK10-24 | 粉质粘土     | 53.10-53.40     | 37.9          | 1.85              | 1.34              | 1.85              | 2.72             | 1.028             | 100            | 41.3           | 26.9           | 14.4             | 0.76             |         |      |      |       |        |         |          |                        |             |         |                | 0.59           |             |                   | 21.6           | 15.3                                 | 0.49             | 4.14               | 0.706             | 0.999             |
| BDK11-1  | 卵石       | 1.10-1.40       |               |                   |                   |                   |                  |                   |                |                |                |                  |                  | 45.2    | 29.7 | 25.1 |       |        |         |          |                        |             |         |                |                |             |                   |                |                                      |                  |                    |                   |                   |
| BDK11-2  | 粉质粘土     | 3.20-3.50       | 35.6          | 1.87              | 1.38              | 1.87              | 2.72             | 0.972             | 99.6           | 41.3           | 25.6           | 15.7             | 0.64             |         |      |      |       |        |         |          |                        |             | 0.69    |                | 14.6           | 9.5         |                   |                | 0.65                                 | 3.03             | 1.333              | 1.501             |                   |
| BDK11-3  | 淤泥质粉质粘土  | 5.20-5.50       | 38.4          | 1.83              | 1.32              | 1.84              | 2.72             | 1.057             | 98.8           | 36.8           | 22.3           | 14.5             | 1.11             |         |      |      |       |        |         |          | 70.3                   | 29.7        |         | 0.63           |                |             | 18.3              | 14.3           | 0.63                                 | 3.27             | 1.296              | 1.546             |                   |
| BDK11-4  | 淤泥质粘土    | 7.20-7.50       | 45.4          | 1.77              | 1.22              | 1.77              | 2.72             | 1.234             | 100            | 43.8           | 26.2           | 17.6             | 1.09             |         |      |      |       |        |         |          |                        |             |         |                | 13.8           | 9.2         |                   |                | 0.87                                 | 2.57             | 1.85               | 2.863             |                   |
| BDK11-5  | 淤泥质粘土    | 9.20-9.50       | 53.9          | 1.7               | 1.1               | 1.7               | 2.74             | 1.481             | 99.8           | 50.2           | 29.2           | 21               | 1.18             |         |      |      |       |        |         |          |                        |             | 0.089   |                | 10             | 6.6         |                   |                | 1.41                                 | 1.76             | 1.151              | 1.243             |                   |
| BDK11-6  | 淤泥       | 11.20-11.50     | 63.4          | 1.63              | 1                 | 1.63              | 2.75             | 1.757             | 99.2           | 56.4           | 31.6           | 24.8             | 1.28             |         |      |      |       |        |         |          | 43.9                   | 56.1        |         |                |                |             | 9.2               | 7.7            | 1.66                                 | 1.66             | 1.053              | 1.155             |                   |
| BDK11-7  | 淤泥       | 13.20-13.50     | 59.8          | 1.66              | 1.04              | 1.66              | 2.75             | 1.647             | 99.8           | 54.2           | 30.5           | 23.7             | 1.24             |         |      |      |       |        |         |          |                        |             |         | 0.28           | 5.3            | 3.5         |                   |                | 1.42                                 | 1.86             | 1.122              | 1.16              |                   |
| BDK11-8  | 淤泥质粘土    | 15.20-15.50     | 52            | 1.71              | 1.13              | 1.71              | 2.72             | 1.418             | 99.8           | 45.6           | 27.5           | 18.1             | 1.35             |         |      |      |       |        |         |          |                        |             |         |                | 6.5            | 4.6         |                   |                | 1.46                                 | 1.66             | 1.044              | 1.005             |                   |
| BDK11-9  | 淤泥       | 17.20-17.50     | 57.8          | 1.67              | 1.06              | 1.67              | 2.75             | 1.599             | 99.4           | 52.9           | 31             | 21.9             | 1.22             |         |      |      |       |        |         |          |                        |             | 0.097   |                |                |             | 9.5               | 7.5            | 1.43                                 | 1.82             | 1.092              | 1.09              |                   |
| BDK11-10 | 淤泥       | 19.20-19.50     | 56.8          | 1.68              | 1.07              | 1.68              | 2.75             | 1.567             | 99.7           | 52.2           | 30.2           | 22               | 1.21             |         |      |      |       |        |         |          | 45                     | 55          |         |                | 5.5            | 4.5         |                   |                | 1.31                                 | 1.96             | 1.202              | 1.206             |                   |
| BDK11-11 | 淤泥       | 21.20-21.50     | 59.1          | 1.66              | 1.04              | 1.66              | 2.75             | 1.636             | 99.4           | 53.6           | 30.1           | 23.5             | 1.23             |         |      |      |       |        |         |          |                        |             |         | 0.081          | 5.2            | 3.7         |                   |                | 1.44                                 | 1.83             | 1.138              | 1.044             |                   |
| BDK11-12 | 淤泥       | 23.20-23.50     | 61.5          | 1.65              | 1.02              | 1.65              | 2.75             | 1.692             | 100            | 55.8           | 32.6           | 23.2             | 1.25             |         |      |      |       |        |         |          |                        |             |         |                |                |             | 9                 | 6.5            | 1.41                                 | 1.91             | 1.231              | 1.153             |                   |
| BDK11-13 | 淤泥       | 25.20-25.50     | 59.5          | 1.66              | 1.04              | 1.66              | 2.75             | 1.642             | 99.6           | 53.9           | 30.3           | 23.6             | 1.24             |         |      |      |       |        |         |          | 46.9                   | 53.1        | 0.087   |                | 5.2            | 3.7         |                   |                | 1.31                                 | 2.02             | 3.523              | 0.755             |                   |
| BDK11-14 | 淤泥       | 27.20-27.50     | 59.6          | 1.66              | 1.04              | 1.66              | 2.75             | 1.644             | 99.7           | 54             | 30.4           | 23.6             | 1.24             |         |      |      |       |        |         |          |                        |             |         |                | 5.6            | 4.1         |                   |                | 1.2                                  | 2.2              | 1.373              | 1.204             |                   |
| BDK11-15 | 淤泥       | 29.20-29.50     | 62.2          | 1.63              | 1                 | 1.64              | 2.75             | 1.737             | 98.5           | 55.3           | 30.6           | 24.7             | 1.28             |         |      |      |       |        |         |          |                        |             |         | 0.13           |                |             | 8.9               | 6.2            | 1.41                                 | 1.94             | 1.445              | 1.131             |                   |
| BDK11-16 | 淤泥       | 32.10-32.40     | 61.4          | 1.65              | 1.02              | 1.65              | 2.75             | 1.69              | 99.9           | 55.7           | 32.5           | 23.2             | 1.25             |         |      |      |       |        |         |          | 46.5                   | 53.5        |         |                | 5              | 3.3         |                   |                | 1.4                                  | 1.92             | 1.177              | 1.081             |                   |
| BDK11-17 | 淤泥       | 35.10-35.40     | 59.3          | 1.66              | 1.04              | 1.66              | 2.75             | 1.639             | 99.5           | 53.8           | 30.2           | 23.6             | 1.23             |         |      |      |       |        |         |          |                        |             | 0.28    |                | 5.8            | 3.9         |                   |                | 1.36                                 | 1.94             | 1.28               | 1.109             |                   |
| BDK11-18 | 淤泥       | 38.10-38.40     | 56.6          | 1.68              | 1.07              | 1.68              | 2.75             |                   |                |                |                |                  |                  |         |      |      |       |        |         |          |                        |             |         |                |                |             |                   |                |                                      |                  |                    |                   |                   |

平阳鳌江标准堤加固工程初步设计堤防地基土层室内土工试验综合成果表

附表3-7

| 岩土<br>编号 | 室内<br>定名 | 试样<br>深度<br>(m) | 天然<br>含水<br>率 | 湿<br>密<br>度 | 干<br>密<br>度    | 饱<br>和<br>密<br>度 | 土<br>粒<br>比<br>重 | 天然<br>孔<br>隙<br>比 | 饱<br>和<br>度    | 液<br>限         | 塑<br>限         | 塑<br>性<br>指<br>数 | 液<br>性<br>指<br>数 | 颗粒组成百分数 |      |      |       |        |         |          |            |             |         | 渗 透            |                | 直 剪         |                  |             |                  | 固结（垂直）   |          |                   |                |       |                |                |                 |                  |                    |                   |                   |
|----------|----------|-----------------|---------------|-------------|----------------|------------------|------------------|-------------------|----------------|----------------|----------------|------------------|------------------|---------|------|------|-------|--------|---------|----------|------------|-------------|---------|----------------|----------------|-------------|------------------|-------------|------------------|----------|----------|-------------------|----------------|-------|----------------|----------------|-----------------|------------------|--------------------|-------------------|-------------------|
|          |          |                 | ω             | ρ           | ρ <sub>d</sub> | ρ <sub>sat</sub> | G <sub>s</sub>   | e <sub>0</sub>    | S <sub>r</sub> | ω <sub>L</sub> | ω <sub>p</sub> | I <sub>p</sub>   | I <sub>L</sub>   | >60     | >40  | >20  | 10~20 | 2.0~10 | 0.5~2.0 | 0.25~0.5 | 0.075~0.25 | 0.005~0.075 | 0~0.005 | 水平<br>渗透<br>系数 | 竖向<br>渗透<br>系数 | 粘聚力<br>(快剪) | 内摩<br>擦角<br>(快剪) | 粘聚力<br>(固快) | 内摩<br>擦角<br>(固快) | 压缩<br>系数 | 压缩<br>模量 | 固结<br>系数<br>(MPa) |                |       |                |                |                 |                  |                    |                   |                   |
|          |          |                 |               |             |                |                  |                  |                   |                |                |                |                  |                  | (单位:mm) |      |      |       |        |         |          |            |             |         |                |                |             |                  |             |                  |          |          | K <sub>h</sub>    | K <sub>v</sub> | q     | φ <sub>q</sub> | c <sub>q</sub> | φ <sub>cq</sub> | v <sub>1-2</sub> | E <sub>sv1-2</sub> | C <sub>v0.2</sub> | C <sub>v0.4</sub> |
|          |          |                 |               |             |                |                  |                  |                   |                |                |                |                  |                  | %       | %    | %    | %     | %      | %       | %        | %          | %           | %       |                |                |             |                  |             |                  |          |          | %                 | %              | %     | %              | %              | %               | %                | %                  | %                 | %                 |
| DK12-2   | 粉质粘土     | 5.20-5.50       | 32.6          | 1.9         | 1.43           | 1.91             | 2.73             | 0.905             | 98.3           | 35.1           | 22.1           | 13               | 0.81             |         |      |      |       |        |         |          |            |             |         |                |                |             | 15.6             | 12.2        |                  |          | 0.51     | 3.74              | 2.678          | 2.635 |                |                |                 |                  |                    |                   |                   |
| DK12-3   | 粉质粘土     | 6.70-7.00       | 27.5          | 1.98        | 1.55           | 1.98             | 2.72             | 0.752             | 99.5           | 37.2           | 23.5           | 13.7             | 0.29             |         |      |      |       |        |         |          |            |             | 0.75    |                |                |             | 28.9             | 15.5        | 0.42             | 4.17     | 3.132    | 3.512             |                |       |                |                |                 |                  |                    |                   |                   |
| DK12-4   | 淤泥质粘土    | 8.70-9.00       | 49            | 1.72        | 1.15           | 1.73             | 2.74             | 1.374             | 97.7           | 45.3           | 26.8           | 18.5             | 1.2              |         |      |      |       |        |         |          | 55.3       | 44.7        |         | 0.08           | 11.6           | 9.3         |                  |             | 0.89             | 2.67     | 2.716    | 2.919             |                |       |                |                |                 |                  |                    |                   |                   |
| DK12-5   | 淤泥质粘土    | 10.70-11.00     | 53.7          | 1.7         | 1.11           | 1.7              | 2.75             | 1.486             | 99.4           | 51.1           | 27.9           | 23.2             | 1.11             |         |      |      |       |        |         |          |            |             |         |                |                | 9.5         | 7.3              |             |                  | 1.19     | 2.09     | 1.484             | 1.699          |       |                |                |                 |                  |                    |                   |                   |
| DK12-6   | 淤泥质粘土    | 12.70-13.00     | 53.6          | 1.7         | 1.11           | 1.7              | 2.75             | 1.485             | 99.3           | 50.6           | 27.5           | 23.1             | 1.13             |         |      |      |       |        |         |          |            |             | 0.09    |                |                |             | 9.2              | 6.5         | 1.33             | 1.87     |          |                   |                |       |                |                |                 |                  |                    |                   |                   |
| DK12-7   | 淤泥       | 14.70-15.00     | 61.3          | 1.65        | 1.02           | 1.65             | 2.75             | 1.688             | 99.8           | 55.6           | 30.6           | 25               | 1.23             |         |      |      |       |        |         |          |            |             |         |                |                | 6.8         | 3.8              |             |                  | 1.45     | 1.85     | 0.983             | 1.076          |       |                |                |                 |                  |                    |                   |                   |
| DK13-1   | 粉质粘土     | 2.20-2.50       | 28.6          | 1.96        | 1.52           | 1.96             | 2.72             | 0.785             | 99.1           | 33.9           | 21.3           | 12.6             | 0.58             |         |      |      |       |        |         |          | 53.6       | 46.4        |         | 0.58           | 22.1           | 11.3        |                  |             | 0.45             | 3.97     |          |                   |                |       |                |                |                 |                  |                    |                   |                   |
| DK13-2   | 粉质粘土     | 5.20-5.50       | 30.5          | 1.93        | 1.48           | 1.94             | 2.73             | 0.846             | 98.4           | 36.2           | 22.8           | 13.4             | 0.57             |         |      |      |       |        |         |          |            |             |         |                |                |             |                  | 25.6        | 14.3             | 0.4      | 4.61     | 1.422             | 1.724          |       |                |                |                 |                  |                    |                   |                   |
| DK13-3   | 淤泥质粉质粘土  | 6.70-7.00       | 38.5          | 1.83        | 1.32           | 1.84             | 2.72             | 1.059             | 98.9           | 37.1           | 23.1           | 14               | 1.1              |         |      |      |       |        |         |          |            |             | 0.28    |                | 15.9           | 10.2        |                  |             | 0.66             | 3.12     |          |                   |                |       |                |                |                 |                  |                    |                   |                   |
| DK13-4   | 淤泥质粉质粘土  | 8.70-9.00       | 41.3          | 1.8         | 1.27           | 1.81             | 2.73             | 1.143             | 98.6           | 39.2           | 25.1           | 14.1             | 1.15             |         |      |      |       |        |         |          | 62.2       | 37.8        |         |                | 13.2           | 9.1         |                  |             | 1.05             | 2.04     | 1.35     | 1.543             |                |       |                |                |                 |                  |                    |                   |                   |
| DK13-5   | 淤泥       | 10.70-11.00     | 58.9          | 1.65        | 1.04           | 1.66             | 2.75             | 1.648             | 98.3           | 53.1           | 29.3           | 23.8             | 1.24             |         |      |      |       |        |         |          |            |             |         | 0.11           |                |             | 8.9              | 6.2         | 1.46             | 1.81     | 1.082    | 1.2               |                |       |                |                |                 |                  |                    |                   |                   |
| DK13-6   | 淤泥       | 12.70-13.00     | 57            | 1.65        | 1.05           | 1.67             | 2.75             | 1.617             | 97             | 52.2           | 28.1           | 24.1             | 1.2              |         |      |      |       |        |         |          |            |             |         |                |                | 5.3         | 3.2              |             |                  | 1.39     | 1.88     |                   |                |       |                |                |                 |                  |                    |                   |                   |
| DK13-7   | 淤泥       | 14.70-15.00     | 54.6          | 1.65        | 1.07           | 1.68             | 2.74             | 1.567             | 95.5           | 51.9           | 27.9           | 24               | 1.11             |         |      |      |       |        |         |          | 52         | 48          | 0.19    |                | 6              | 3.9         |                  |             | 1.52             | 1.69     |          |                   |                |       |                |                |                 |                  |                    |                   |                   |
| DK13-8   | 淤泥       | 16.70-17.00     | 54.3          | 1.65        | 1.07           | 1.68             | 2.75             | 1.572             | 95             | 52.3           | 26.8           | 25.5             | 1.08             |         |      |      |       |        |         |          |            |             |         |                |                |             |                  | 10.1        | 8.3              | 1.89     | 1.36     | 1.153             | 0.914          |       |                |                |                 |                  |                    |                   |                   |
| DK13-9   | 淤泥       | 18.70-19.00     | 55.8          | 1.65        | 1.06           | 1.67             | 2.74             | 1.587             | 96.3           | 53.2           | 29.3           | 23.9             | 1.11             |         |      |      |       |        |         |          |            |             |         | 0.35           | 6.3            | 4.3         |                  |             | 1.47             | 1.76     |          |                   |                |       |                |                |                 |                  |                    |                   |                   |
| DK13-10  | 淤泥质粘土    | 20.70-21.00     | 54.2          | 1.7         | 1.1            | 1.7              | 2.75             | 1.494             | 99.7           | 51.9           | 28.2           | 23.7             | 1.1              |         |      |      |       |        |         |          |            |             |         |                |                | 5.6         | 4.5              |             |                  | 1.38     | 1.81     | 0.904             | 0.801          |       |                |                |                 |                  |                    |                   |                   |
| DK13-11  | 淤泥       | 22.70-23.00     | 57            | 1.68        | 1.07           | 1.68             | 2.75             | 1.57              | 99.8           | 53.5           | 27.8           | 25.7             | 1.14             |         |      |      |       |        |         |          | 55         | 45          | 0.09    |                |                |             | 9                | 7.5         | 1.6              | 1.61     |          |                   |                |       |                |                |                 |                  |                    |                   |                   |
| DK13-12  | 淤泥       | 24.70-25.00     | 58            | 1.67        | 1.06           | 1.67             | 2.75             | 1.602             | 99.6           | 55.3           | 29.2           | 26.1             | 1.1              |         |      |      |       |        |         |          |            |             |         | 0.1            | 5.3            | 4           |                  |             | 1.53             | 1.7      | 1.31     | 0.79              |                |       |                |                |                 |                  |                    |                   |                   |
| DK13-13  | 淤泥       | 26.70-27.00     | 59.5          | 1.65        | 1.03           | 1.66             | 2.75             | 1.658             | 98.7           | 52.8           | 28.8           | 24               | 1.28             |         |      |      |       |        |         |          |            |             |         |                |                | 5.8         | 3.2              |             |                  | 1.48     | 1.8      |                   |                |       |                |                |                 |                  |                    |                   |                   |
| DK13-14  | 淤泥       | 28.70-29.00     | 56.4          | 1.69        | 1.08           | 1.69             | 2.75             | 1.545             | 100            | 53.9           | 29.9           | 24               | 1.1              |         |      |      |       |        |         |          | 51         | 49          |         |                |                |             | 8.1              | 6.5         | 1.41             | 1.8      | 0.989    | 0.825             |                |       |                |                |                 |                  |                    |                   |                   |
| DK13-15  | 淤泥       | 30.70-31.00     | 57.1          | 1.68        | 1.07           | 1.68             | 2.75             | 1.572             | 99.9           | 52.7           | 28.7           | 24               | 1.18             |         |      |      |       |        |         |          |            |             | 0.07    |                | 5.2            | 3.6         |                  |             | 1.45             | 1.77     |          |                   |                |       |                |                |                 |                  |                    |                   |                   |
| DK13-16  | 淤泥       | 33.70-34.00     | 55.3          | 1.69        | 1.09           | 1.69             | 2.75             | 1.527             | 99.6           | 52.9           | 29.2           | 23.7             | 1.1              |         |      |      |       |        |         |          |            |             |         |                |                | 6.3         | 3.5              |             |                  | 1.03     | 2.45     | 2.605             | 0.871          |       |                |                |                 |                  |                    |                   |                   |
| DK13-17  | 淤泥       | 36.70-37.00     | 55            | 1.7         | 1.1            | 1.7              | 2.75             | 1.507             | 100            | 51.8           | 28.3           | 23.5             | 1.14             |         |      |      |       |        |         |          | 53.9       | 46.1        |         | 0.09           |                |             | 9.9              | 7.6         | 1.19             | 2.11     |          |                   |                |       |                |                |                 |                  |                    |                   |                   |
| DK13-18  | 淤泥质粘土    | 38.70-39.00     | 53.4          | 1.7         | 1.11           | 1.7              | 2.74             | 1.472             | 99.4           | 52.2           | 29.2           | 23               | 1.05             |         |      |      |       |        |         |          |            |             |         |                |                | 9.2         | 5.9              |             |                  | 1.18     | 2.1      | 1.261             | 0.958          |       |                |                |                 |                  |                    |                   |                   |
| BDK14-1  | 卵石       | 0.50-0.80       |               |             |                |                  |                  |                   |                |                |                |                  |                  |         |      | 57.8 | 39.2  | 1.7    | 0.3     | 0.1      | 0.1        |             | 0.4     | 0.4            |                |             |                  |             |                  |          |          |                   |                |       |                |                |                 |                  |                    |                   |                   |
| BDK14-2  | 卵石       | 2.00-2.30       |               |             |                |                  |                  |                   |                |                |                |                  |                  | 86.5    | 12.2 | 1    | 0.1   | 0.2    |         |          |            |             |         |                |                |             |                  |             |                  |          |          |                   |                |       |                |                |                 |                  |                    |                   |                   |
| BDK14-3  | 粉质粘土     | 2.70-3.00       | 35.3          | 1.86        | 1.37           | 1.87             | 2.73             | 0.986             | 97.8           | 36.9           | 22.6           | 14.3             | 0.89             |         |      |      |       |        |         |          |            |             |         |                |                |             |                  | 23          | 15.5             | 0.51     | 3.89     |                   |                |       |                |                |                 |                  |                    |                   |                   |
| BDK14-4  | 粉质粘土     | 4.70-5.00       | 35.2          | 1.86        | 1.38           | 1.87             | 2.71             | 0.97              | 98.4           | 35.2           | 21.8           | 13.4             | 1                |         |      |      |       |        |         |          |            |             |         |                |                | 15          | 12.2             |             |                  | 0.61     | 3.23     | 2.04              | 2.411          |       |                |                |                 |                  |                    |                   |                   |
| BDK14-5  | 淤泥质粘土    | 6.70-7.00       | 52            | 1.72        | 1.13           | 1.72             | 2.74             | 1.421             | 100            | 49.5           | 28             | 21.5             | 1.12             |         |      |      |       |        |         |          |            |             | 0.4     |                | 11.6           | 10.3        |                  |             | 1.11             | 2.18     | 1.431    | 1.546             |                |       |                |                |                 |                  |                    |                   |                   |
| BDK14-6  | 淤泥质粘土    | 8.70-9.00       | 52.5          | 1.71        | 1.12           | 1.71             | 2.74             | 1.444             | 99.6           | 51.3           | 28.2           | 23.1             | 1.05             |         |      |      |       |        |         |          |            |             |         | 0.16           |                |             | 12.2             | 10.3        | 1.44             | 1.7      |          |                   |                |       |                |                |                 |                  |                    |                   |                   |
| BDK14-7  | 淤泥质粘土    | 10.70-11.00     | 53.5          | 1.7         | 1.11           | 1.7              | 2.74             | 1.474             | 99.4           | 52.2           | 29.2           | 23               | 1.06             |         |      |      |       |        |         |          |            |             |         |                |                | 8.6         | 5.5              |             |                  | 1.36     | 1.82     | 1.008             | 1.16           |       |                |                |                 |                  |                    |                   |                   |
| BDK14-8  | 淤泥质粘土    | 12.70-13.00     | 51            | 1.72        | 1.14           | 1.72             | 2.74             | 1.405             | 99.4           | 48.3           | 26.5           | 21.8             | 1.12             |         |      |      |       |        |         |          | 48.3       | 51.7        |         |                | 9.3            | 6           |                  |             | 2.54             | 0.95     | 1.416    | 1.151             |                |       |                |                |                 |                  |                    |                   |                   |
| BDK14-9  | 淤泥       | 14.70-15.00     | 57.2          | 1.68        | 1.07           | 1.68             | 2.75             | 1.573             | 100            | 52.5           | 29.3           | 23.2             | 1.2              |         |      |      |       |        |         |          |            |             | 0.089   |                |                |             | 10.2             | 8.8         | 1.58             | 1.63     |          |                   |                |       |                |                |                 |                  |                    |                   |                   |
| BDK14-10 | 淤泥质粘土    | 16.70-17.00     | 52.3          | 1.72        | 1.13           | 1.72             | 2.74             | 1.426             | 100            | 49.5           | 27.3           | 22.2             | 1.13             |         |      |      |       |        |         |          |            |             |         |                |                | 8.5         | 5.6              |             |                  | 1.28     | 1.9      | 1.093             | 1.006          |       |                |                |                 |                  |                    |                   |                   |
| BDK14-11 | 淤泥       | 18.70-19.00     | 55.2          | 1.7         | 1.1            | 1.7              | 2.75             | 1.511             | 100            | 52             | 28.1           | 23.9             | 1.13             |         |      |      |       |        |         |          |            |             |         | 0.12           |                |             | 9.8              | 7.3         | 1.4              | 1.79     | 1.266    | 1.318             |                |       |                |                |                 |                  |                    |                   |                   |
| BDK14-12 | 淤泥质粘土    | 20.70-21.00     | 54            | 1.7         | 1.1            | 1.7              | 2.75             | 1.491             | 99.6           | 51.8           | 28.3           | 23.5             | 1.09             |         |      |      |       |        |         |          | 48.9       | 51.1        |         |                | 6.6            | 4.5         |                  |             | 1.32             | 1.89     | 1.236    | 1.186             |                |       |                |                |                 |                  |                    |                   |                   |
| BDK14-13 | 淤泥       | 22.70-23.00     | 54.7          | 1.7         | 1.1            | 1.7              | 2.75             | 1.502             | 100            | 52.2           | 28.9           | 23.3             | 1.11             |         |      |      |       |        |         |          |            |             | 0.23    |                | 7.1            | 4.9         |                  |             | 1.42             | 1.76     | 1.154    | 0.816             |                |       |                |                |                 |                  |                    |                   |                   |
| BDK14-14 | 淤泥       | 24.70-25.00     | 55.7          | 1.68        | 1.08           | 1.69             | 2.75             | 1.549             | 98.9           | 52.5           | 28.2           | 24.3             | 1.13             |         |      |      |       |        |         |          |            |             |         | 0.19           |                |             | 10               | 7.5         | 1.44             | 1.77     | 1.078    | 0.726             |                |       |                |                |                 |                  |                    |                   |                   |
| BDK14-15 | 淤泥       | 26.70-27.00     | 57.4          | 1.68        | 1.07           | 1.68             | 2.75             | 1.576             | 100            | 52.9           | 29.5           | 23.4             | 1.19             |         |      |      | </    |        |         |          |            |             |         |                |                |             |                  |             |                  |          |          |                   |                |       |                |                |                 |                  |                    |                   |                   |

附表3-8

| 岩土<br>编号 | 室内<br>定名 | 试样<br>深度<br>(m) | 天然<br>含水<br>率 | 湿<br>密<br>度 | 干<br>密<br>度 | 饱<br>和<br>密<br>度 | 土<br>粒<br>比<br>重 | 天然<br>孔<br>隙<br>比 | 饱<br>和<br>度 | 液<br>限 | 塑<br>限 | 塑<br>性<br>指<br>数 | 液<br>性<br>指<br>数 | 颗粒组成百分数 |      |      |       |        |         |          |            |             |         | 渗 透            |                | 直 剪                    |                  |                |                  | 固结（垂直）           |                    |                   |                                      |
|----------|----------|-----------------|---------------|-------------|-------------|------------------|------------------|-------------------|-------------|--------|--------|------------------|------------------|---------|------|------|-------|--------|---------|----------|------------|-------------|---------|----------------|----------------|------------------------|------------------|----------------|------------------|------------------|--------------------|-------------------|--------------------------------------|
|          |          |                 |               |             |             |                  |                  |                   |             |        |        |                  |                  | >60     | >40  | >20  | 10~20 | 2.0~10 | 0.5~2.0 | 0.25~0.5 | 0.075~0.25 | 0.005~0.075 | 0~0.005 | 水平<br>渗透<br>系数 | 竖向<br>渗透<br>系数 | 粘聚力<br>(快剪)            | 内摩<br>擦角<br>(快剪) | 粘聚力<br>(固快)    | 内摩<br>擦角<br>(固快) | 压缩<br>系数         | 压缩<br>模量           | 固结<br>系数<br>(MPa) |                                      |
|          |          |                 |               |             |             |                  |                  |                   |             |        |        |                  |                  | (单位:mm) |      |      |       |        |         |          |            |             |         | K <sub>h</sub> | K <sub>v</sub> | q                      | φ <sub>q</sub>   | c <sub>q</sub> | φ <sub>cq</sub>  | v <sub>1-2</sub> | E <sub>sv1-2</sub> | C <sub>v0.2</sub> | C <sub>v0.4</sub>                    |
|          |          |                 |               |             |             |                  |                  |                   |             |        |        |                  |                  | %       | %    | %    | %     | %      | %       | %        | %          | %           | %       | %              | %              | ×10 <sup>-6</sup> cm/s | kPa              | 度              | kPa              | 度                | MPa <sup>-1</sup>  | MPa               | ×10 <sup>-3</sup> cm <sup>2</sup> /s |
| BDK14-16 | 淤泥       | 28.70-29.00     | 58.4          | 1.66        | 1.05        | 1.67             | 2.75             | 1.624             | 98.9        | 53.1   | 28.6   | 24.5             | 1.22             |         |      |      |       |        |         | 46.8     | 53.2       |             |         |                |                | 9.1                    | 7.2              | 1.55           | 1.69             | 4.292            | 0.582              |                   |                                      |
| BDK14-17 | 淤泥       | 31.70-32.00     | 59.5          | 1.66        | 1.04        | 1.66             | 2.75             | 1.642             | 99.6        | 53.2   | 29.3   | 23.9             | 1.26             |         |      |      |       |        |         |          |            | 0.85        |         | 5.8            | 4.4            |                        |                  | 1.38           | 1.92             | 1.372            | 1.08               |                   |                                      |
| BDK14-18 | 淤泥质粘土    | 34.70-35.00     | 52.9          | 1.7         | 1.11        | 1.71             | 2.74             | 1.464             | 99          | 52.1   | 26.8   | 25.3             | 1.03             |         |      |      |       |        |         |          |            |             | 0.87    | 9.1            | 6              |                        |                  | 1.03           | 2.39             | 1.226            | 0.859              |                   |                                      |
| BDK14-19 | 粘土       | 37.70-38.00     | 52.8          | 1.7         | 1.11        | 1.71             | 2.74             | 1.463             | 98.9        | 53.2   | 27.5   | 25.7             | 0.98             |         |      |      |       |        |         |          |            |             |         |                |                | 12.2                   | 9.5              | 1.1            | 2.24             | 1.104            | 0.861              |                   |                                      |
| BDK14-20 | 粘土       | 40.70-41.00     | 48.4          | 1.75        | 1.18        | 1.75             | 2.73             | 1.315             | 100         | 52.2   | 26.3   | 25.9             | 0.85             |         |      |      |       |        |         | 77       | 23         |             |         | 11.6           | 9.3            |                        |                  | 0.99           | 2.34             | 1.131            | 1.046              |                   |                                      |
| BDK14-21 | 粉土       | 43.60-43.90     | 26.8          | 1.97        | 1.55        | 1.97             | 2.68             | 0.725             | 99.1        | 28.6   | 19.5   | 9.1              | 0.8              |         |      |      |       |        |         |          |            | 290         |         | 18             | 20.3           |                        |                  | 0.32           | 5.39             | 4.248            | 4.212              |                   |                                      |
| BDK14-22 | 中砂       | 45.10-45.40     | 29            | 1.93        | 1.5         | 1.94             | 2.68             | 0.791             | 98.2        |        |        |                  |                  |         |      |      | 0.3   | 64.9   | 16.2    | 11.2     | 7.4        |             | 690     |                |                | 9                      | 30.3             | 0.15           | 11.94            | 4.838            | 1.265              |                   |                                      |
| BDK14-23 |          | 46.50-46.80     | 28            | 1.95        | 1.52        | 1.95             | 2.68             | 0.759             | 98.8        |        |        |                  |                  |         |      | 2.1  | 8.1   | 26.2   | 8.1     | 44.4     | 11.1       |             |         | 16             | 19.5           |                        |                  | 0.29           | 6.07             | 4.439            | 4.618              |                   |                                      |
| BDK14-24 | 粉土       | 48.10-48.40     | 28.9          | 1.95        | 1.51        | 1.95             | 2.7              | 0.785             | 99.4        | 31     | 21.5   | 9.5              | 0.78             |         |      |      |       |        |         | 90.5     | 9.5        | 77          |         | 18             | 20.6           |                        |                  | 0.25           | 7.14             | 4.85             | 5.088              |                   |                                      |
| BDK14-25 |          | 49.60-49.90     |               |             |             |                  |                  |                   |             |        |        |                  |                  |         |      |      |       |        |         |          |            |             |         |                |                |                        |                  |                |                  |                  |                    |                   |                                      |
| BDK14-26 | 粉土       | 51.10-51.40     | 18.9          | 2.11        | 1.77        | 2.11             | 2.69             | 0.516             | 98.6        | 25.9   | 18     | 7.9              | 0.11             |         |      |      |       |        |         | 86.2     | 13.8       |             |         |                |                | 19.5                   | 23.2             | 0.24           | 6.32             | 4.853            | 4.68               |                   |                                      |
| BDK14-27 | 粉质粘土     | 54.10-54.40     | 32.4          | 1.91        | 1.44        | 1.91             | 2.72             | 0.885             | 99.5        | 35.3   | 23.2   | 12.1             | 0.76             |         |      |      |       |        |         | 79.5     | 20.5       |             |         | 25.3           | 13.5           |                        |                  | 0.32           | 5.89             | 1.452            | 1.492              |                   |                                      |
| BDK14-28 | 粉质粘土     | 57.10-57.40     | 33.7          | 1.9         | 1.42        | 1.9              | 2.73             | 0.921             | 99.9        | 35.8   | 22.6   | 13.2             | 0.84             |         |      |      |       |        |         |          |            |             |         |                |                | 32.3                   | 16.2             | 0.44           | 4.37             | 1.315            | 1.487              |                   |                                      |
| DK16-1   | 卵石       | 1.40-1.70       |               |             |             |                  |                  |                   |             |        |        |                  |                  |         | 16.9 | 52.9 | 10.6  | 12.3   | 3.6     | 1.6      | 1          | 0.5         | 0.6     |                |                |                        |                  |                |                  |                  |                    |                   |                                      |
| DK16-2   | 淤泥质粘土    | 3.40-3.70       | 45.2          | 1.75        | 1.21        | 1.76             | 2.72             | 1.257             | 97.8        | 43.2   | 26     | 17.2             | 1.12             |         |      |      |       |        |         |          |            | 0.82        |         |                |                | 15.6                   | 13.2             | 0.92           | 2.45             | 1.427            | 1.2                |                   |                                      |
| DK16-3   | 淤泥       | 5.40-5.70       | 58.8          | 1.65        | 1.04        | 1.66             | 2.75             | 1.647             | 98.2        | 53.9   | 29.6   | 24.3             | 1.2              |         |      |      |       |        |         |          | 50.9       | 49.1        |         |                | 6.5            | 4.9                    |                  |                | 1.32             | 2.01             | 1.08               | 1.092             |                                      |
| DK16-4   | 淤泥       | 7.40-7.70       | 61.8          | 1.63        | 1.01        | 1.64             | 2.75             | 1.73              | 98.3        | 56.3   | 29.5   | 26.8             | 1.21             |         |      |      |       |        |         |          |            |             | 0.06    | 5.3            | 3.2            |                        |                  | 1.17           | 2.33             | 1.148            | 1.179              |                   |                                      |
| DK16-5   | 淤泥       | 9.40-9.70       | 69.6          | 1.6         | 0.94        | 1.6              | 2.75             | 1.915             | 99.9        | 56.2   | 30.7   | 25.5             | 1.53             |         |      |      |       |        |         |          |            |             |         |                |                | 7.9                    | 5.8              | 1.76           | 1.66             | 1.479            | 1.554              |                   |                                      |
| DK16-6   | 淤泥       | 11.40-11.70     | 63.8          | 1.63        | 1           | 1.63             | 2.75             | 1.763             | 99.5        | 56.2   | 29.3   | 26.9             | 1.28             |         |      |      |       |        |         | 55       | 45         | 0.11        |         | 4.9            | 3.1            |                        |                  | 1.99           | 1.39             | 0.76             | 0.824              |                   |                                      |
| DK16-7   | 淤泥       | 13.40-13.70     | 64.6          | 1.62        | 0.98        | 1.63             | 2.75             | 1.794             | 99          | 57     | 30.6   | 26.4             | 1.29             |         |      |      |       |        |         |          |            |             |         | 4.3            | 2.6            |                        |                  | 1.24           | 2.25             | 1.843            | 2.006              |                   |                                      |
| DK16-8   | 淤泥质粘土    | 15.40-15.70     | 54            | 1.7         | 1.1         | 1.7              | 2.74             | 1.482             | 99.8        | 50.6   | 27.1   | 23.5             | 1.14             |         |      |      |       |        |         |          |            |             | 0.16    | 9.2            | 6.8            |                        |                  | 1.52           | 1.63             | 1.12             | 1.228              |                   |                                      |
| DK16-9   | 淤泥       | 17.90-18.20     | 63.6          | 1.63        | 1           | 1.63             | 2.75             | 1.76              | 99.4        | 55.1   | 29.5   | 25.6             | 1.33             |         |      |      |       |        |         | 51       | 49         |             |         |                |                | 8.2                    | 6.5              | 1.42           | 1.94             | 1.1              | 0.989              |                   |                                      |
| DK16-10  | 淤泥       | 20.40-20.70     | 61.9          | 1.65        | 1.02        | 1.65             | 2.75             | 1.698             | 100         | 53.9   | 30     | 23.9             | 1.33             |         |      |      |       |        |         |          |            | 0.25        |         | 5              | 3.5            |                        |                  | 1.6            | 1.69             | 1.26             | 1.063              |                   |                                      |
| DK16-11  | 淤泥       | 22.40-22.70     | 60.3          | 1.65        | 1.03        | 1.66             | 2.75             | 1.672             | 99.2        | 56.8   | 31.1   | 25.7             | 1.14             |         |      |      |       |        |         |          |            |             |         |                | 6.8            | 5.1                    |                  |                | 0.76             | 3.52             | 1.643              | 0.116             |                                      |
| DK16-12  | 淤泥       | 24.40-24.70     | 59.4          | 1.66        | 1.04        | 1.66             | 2.75             | 1.641             | 99.6        | 56     | 30     | 26               | 1.13             |         |      |      |       |        |         |          |            |             | 0.13    |                |                | 10.6                   | 8.5              |                |                  |                  |                    |                   |                                      |
| DK16-13  | 淤泥       | 26.40-26.70     | 56.6          | 1.67        | 1.07        | 1.68             | 2.74             | 1.569             | 98.8        | 52.8   | 27.8   | 25               | 1.15             |         |      |      |       |        |         | 52.5     | 47.5       |             |         | 6.5            | 4.3            |                        |                  | 0.43           | 5.97             | 3.346            | 2.607              |                   |                                      |
| DK16-14  | 淤泥       | 28.40-28.70     | 61.8          | 1.65        | 1.02        | 1.65             | 2.75             | 1.697             | 100         | 57     | 29.1   | 27.9             | 1.17             |         |      |      |       |        |         |          |            | 0.09        |         |                |                | 9                      | 7.3              | 1.28           | 2.11             | 0.94             | 0.854              |                   |                                      |
| DK16-15  | 淤泥       | 30.40-30.70     | 61.2          | 1.65        | 1.02        | 1.65             | 2.75             | 1.687             | 99.8        | 55.2   | 29.3   | 25.9             | 1.23             |         |      |      |       |        |         |          |            |             |         | 5.1            | 3.5            |                        |                  | 1.29           | 2.08             | 1.044            | 0.845              |                   |                                      |
| DK16-16  | 淤泥       | 34.40-34.70     | 58.7          | 1.67        | 1.05        | 1.67             | 2.75             | 1.613             | 100         | 54.7   | 28.3   | 26.4             | 1.15             |         |      |      |       |        |         |          |            |             | 0.36    |                |                | 10.7                   | 8.9              | 1.28           | 2.04             | 1.759            | 0.863              |                   |                                      |
| DK16-17  | 淤泥       | 36.90-37.20     | 62.4          | 1.63        | 1           | 1.64             | 2.75             | 1.74              | 98.6        | 53.8   | 29.7   | 24.1             | 1.36             |         |      |      |       |        |         | 46.8     | 53.2       |             |         | 5.2            | 3.8            |                        |                  | 1.39           | 1.97             | 1.705            | 1.287              |                   |                                      |
| DK16-18  | 粉土       | 39.40-39.70     | 22.5          | 2.03        | 1.66        | 2.04             | 2.69             | 0.623             | 97.1        | 26.8   | 19.5   | 7.3              | 0.41             |         |      |      |       |        |         |          |            | 60          |         | 16             | 18.3           |                        |                  | 0.21           | 7.73             | 3.053            | 3.358              |                   |                                      |
| DK16-19  | 淤泥       | 43.40-43.70     | 58.8          | 1.65        | 1.04        | 1.66             | 2.75             | 1.647             | 98.2        | 52.1   | 28.8   | 23.3             | 1.29             |         |      |      |       |        |         |          |            |             |         |                |                | 10.1                   | 8.2              | 1.5            | 1.76             | 3.116            | 0.872              |                   |                                      |
| DK16-20  | 粉质粘土     | 47.40-47.70     | 37.6          | 1.83        | 1.33        | 1.84             | 2.71             | 1.038             | 98.2        | 38.3   | 23.8   | 14.5             | 0.95             |         |      |      |       |        |         |          |            | 8.6         | 15      | 9.5            |                |                        |                  | 0.64           | 3.18             | 1.101            | 1.322              |                   |                                      |
| DK16-21  | 粉质粘土     | 51.40-51.70     | 38.5          | 1.8         | 1.3         | 1.82             | 2.71             | 1.085             | 96.1        | 39.5   | 25.5   | 14               | 0.93             |         |      |      |       |        |         | 68.3     | 31.7       |             |         |                |                | 18.2                   | 13.2             | 0.52           | 4.01             | 1.365            | 1.553              |                   |                                      |
| BDK17-1  | 卵石       | 2.20-2.50       |               |             |             |                  |                  |                   |             |        |        |                  |                  |         | 14   | 76.5 | 4     | 2.4    | 0.5     | 0.4      | 0.5        | 0.9         | 0.8     |                |                |                        |                  |                |                  |                  |                    |                   |                                      |
| BDK17-2  | 淤泥质粉质粘土  | 4.20-4.50       | 42.4          | 1.79        | 1.26        | 1.8              | 2.73             | 1.172             | 98.8        | 38.7   | 24.4   | 14.3             | 1.26             |         |      |      |       |        |         |          |            |             | 0.52    | 13.5           | 10.6           |                        |                  | 0.79           | 2.75             | 1.549            | 1.954              |                   |                                      |
| BDK17-3  | 淤泥质粉质粘土  | 6.20-6.50       | 40.3          | 1.82        | 1.3         | 1.82             | 2.73             | 1.104             | 99.6        | 38.2   | 23.2   | 15               | 1.14             |         |      |      |       |        |         |          |            |             |         |                | 12.8           | 10.2                   |                  |                | 0.71             | 2.96             | 1.558              | 1.899             |                                      |
| BDK17-4  | 淤泥质粉质粘土  | 8.20-8.50       | 48.2          | 1.75        | 1.18        | 1.75             | 2.74             | 1.32              | 100         | 42.3   | 26.6   | 15.7             | 1.38             |         |      |      |       |        |         |          |            | 0.61        |         |                |                | 13.8                   | 12.3             | 1.07           | 2.17             | 1.502            | 1.639              |                   |                                      |
| BDK17-5  | 淤泥质粘土    | 10.20-10.50     | 53.7          | 1.7         | 1.11        | 1.7              | 2.74             | 1.477             | 99.6        | 49.3   | 28.6   | 20.7             | 1.21             |         |      |      |       |        |         |          |            |             |         |                | 5.8            | 4.3                    |                  |                |                  |                  |                    |                   |                                      |

平阳鳌江标准堤加固工程初步设计堤防地基土层室内土工试验综合成果表

附表3-9

| 岩土<br>编号 | 室内<br>定名 | 试样<br>深度<br>(m) | 天然<br>含水<br>率 | 湿<br>密<br>度 | 干<br>密<br>度    | 饱<br>和<br>密<br>度 | 土<br>粒<br>比<br>重 | 天然<br>孔<br>隙<br>比 | 饱<br>和<br>度    | 液<br>限         | 塑<br>限         | 塑<br>性<br>指<br>数 | 液<br>性<br>指<br>数 | 颗粒组成百分数 |                   |                   |                   |        |         |          |            |             |         | 渗 透            |                | 直 剪         |                  |                |                  | 固结（垂直）           |                    |                   |                   |
|----------|----------|-----------------|---------------|-------------|----------------|------------------|------------------|-------------------|----------------|----------------|----------------|------------------|------------------|---------|-------------------|-------------------|-------------------|--------|---------|----------|------------|-------------|---------|----------------|----------------|-------------|------------------|----------------|------------------|------------------|--------------------|-------------------|-------------------|
|          |          |                 | ω             | ρ           | ρ <sub>d</sub> | ρ <sub>sat</sub> | G <sub>s</sub>   | e <sub>0</sub>    | S <sub>r</sub> | ω <sub>L</sub> | ω <sub>p</sub> | I <sub>p</sub>   | I <sub>L</sub>   | >60     | >40               | >20               | 10~20             | 2.0~10 | 0.5~2.0 | 0.25~0.5 | 0.075~0.25 | 0.005~0.075 | 0~0.005 | 水平<br>渗透<br>系数 | 竖向<br>渗透<br>系数 | 粘聚力<br>(快剪) | 内摩<br>擦角<br>(快剪) | 粘聚力<br>(固快)    | 内摩<br>擦角<br>(固快) | 压缩<br>系数         | 压缩<br>模量           | 固结<br>系数<br>(MPa) |                   |
|          |          |                 |               |             |                |                  |                  |                   |                |                |                |                  |                  | (单位:mm) |                   |                   |                   |        |         |          |            |             |         | K <sub>h</sub> | K <sub>v</sub> | q           | φ <sub>q</sub>   | c <sub>q</sub> | φ <sub>cq</sub>  | v <sub>1-2</sub> | E <sub>sv1-2</sub> | C <sub>v0.2</sub> | C <sub>v0.4</sub> |
|          |          |                 |               |             |                |                  |                  |                   |                |                |                |                  |                  | %       | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |        |         | %        | %          | %           | %       | %              | %              | %           | %                | %              | %                | %                | %                  | %                 | %                 |
| BDK17-6  | 淤泥       | 12.20-12.50     | 59            | 1.66        | 1.04           | 1.66             | 2.75             | 1.634             | 99.3           | 53.5           | 30.1           | 23.4             | 1.24             |         |                   |                   |                   |        |         |          | 46.7       | 53.3        |         |                | 5.2            | 3.6         |                  |                | 1.53             | 1.72             | 1.394              | 1.624             |                   |
| BDK17-7  | 淤泥       | 14.20-14.50     | 57.1          | 1.68        | 1.07           | 1.68             | 2.75             | 1.572             | 99.9           | 51.6           | 29.6           | 22               | 1.25             |         |                   |                   |                   |        |         |          |            |             |         | 0.077          |                |             | 10.9             | 7.9            | 1.39             | 1.85             | 1.382              | 1.426             |                   |
| BDK17-8  | 淤泥       | 16.20-16.50     | 54.9          | 1.69        | 1.09           | 1.69             | 2.74             | 1.511             | 99.5           | 53.2           | 29.3           | 23.9             | 1.07             |         |                   |                   |                   |        |         |          |            |             |         |                | 6.1            | 4.5         |                  |                | 1.52             | 1.65             | 1.223              | 1.309             |                   |
| BDK17-9  | 淤泥       | 18.20-18.50     | 57            | 1.68        | 1.07           | 1.68             | 2.75             | 1.57              | 99.8           | 53             | 29.2           | 23.8             | 1.17             |         |                   |                   |                   |        |         |          |            |             | 0.11    |                | 5.5            | 4.1         |                  |                | 1.6              | 1.61             | 1.324              | 1.362             |                   |
| BDK17-10 | 淤泥       | 20.20-20.50     | 57.8          | 1.67        | 1.06           | 1.67             | 2.75             | 1.599             | 99.4           | 53.9           | 30.1           | 23.8             | 1.16             |         |                   |                   |                   |        |         |          | 45         | 55          |         |                |                |             | 9                | 7.1            | 1.38             | 1.88             | 1.163              | 1.142             |                   |
| BDK17-11 | 淤泥       | 22.20-22.50     | 59.5          | 1.66        | 1.04           | 1.66             | 2.75             | 1.642             | 99.6           | 54             | 30.4           | 23.6             | 1.23             |         |                   |                   |                   |        |         |          |            |             |         | 0.08           | 5.2            | 3.5         |                  |                | 1.45             | 1.82             | 1.054              | 0.808             |                   |
| BDK17-12 | 淤泥       | 24.20-24.50     | 58.5          | 1.66        | 1.05           | 1.67             | 2.75             | 1.626             | 99             | 54.3           | 29.9           | 24.4             | 1.17             |         |                   |                   |                   |        |         |          |            |             |         |                | 5.1            | 3.3         |                  |                | 1.38             | 1.9              | 1.212              | 1.089             |                   |
| BDK17-13 | 淤泥       | 26.20-26.50     | 63.6          | 1.63        | 1              | 1.63             | 2.75             | 1.76              | 99.4           | 56.6           | 31.5           | 25.1             | 1.28             |         |                   |                   |                   |        |         |          |            |             | 0.093   |                |                |             | 8.6              | 6.3            | 2.57             | 1.07             | 1.237              | 0.633             |                   |
| BDK17-14 | 淤泥       | 28.20-28.50     | 59.5          | 1.66        | 1.04           | 1.66             | 2.75             | 1.642             | 99.6           | 53.9           | 30.3           | 23.6             | 1.24             |         |                   |                   |                   |        |         |          | 49.5       | 50.5        |         |                | 5.3            | 3.9         |                  |                | 1.3              | 2.03             | 1.372              | 1.02              |                   |
| BDK17-15 | 淤泥       | 30.20-30.50     | 62            | 1.63        | 1.01           | 1.64             | 2.75             | 1.733             | 98.4           | 55.1           | 33             | 22.1             | 1.31             |         |                   |                   |                   |        |         |          |            |             |         | 0.12           |                |             | 8.5              | 6.9            | 1.38             | 1.98             | 1.585              | 1.235             |                   |
| BDK17-16 | 淤泥       | 33.20-33.50     | 56.4          | 1.68        | 1.07           | 1.68             | 2.75             | 1.56              | 99.4           | 52.6           | 32             | 20.6             | 1.18             |         |                   |                   |                   |        |         |          |            |             |         |                | 5.6            | 4.1         |                  |                | 1.15             | 2.23             | 2.126              | 1.02              |                   |
| BDK17-17 | 淤泥       | 36.20-36.50     | 56.3          | 1.69        | 1.08           | 1.69             | 2.75             | 1.543             | 100            | 53.9           | 30.2           | 23.7             | 1.1              |         |                   |                   |                   |        |         |          | 46.8       | 53.2        | 0.073   |                |                |             | 10.1             | 7.7            | 1                | 2.54             | 2.211              | 1.304             |                   |
| BDK17-18 | 淤泥       | 39.20-39.50     | 57.4          | 1.68        | 1.07           | 1.68             | 2.75             | 1.576             | 100            | 54.6           | 29.9           | 24.7             | 1.11             |         |                   |                   |                   |        |         |          |            |             |         |                |                | 8.2         | 6.3              |                |                  | 1.04             | 2.48               | 1.942             | 1.19              |
| BDK17-19 | 粉质粘土     | 41.20-41.50     | 40.9          | 1.81        | 1.28           | 1.81             | 2.73             | 1.125             | 99.2           | 43             | 26.5           | 16.5             | 0.87             |         |                   |                   |                   |        |         |          |            |             |         | 0.58           | 23.9           | 15.1        |                  |                | 0.71             | 2.99             |                    |                   |                   |
| BDK17-20 | 粘土       | 42.20-42.50     | 44            | 1.77        | 1.23           | 1.78             | 2.73             | 1.221             | 98.4           | 45             | 26.9           | 18.1             | 0.94             |         |                   |                   |                   |        |         |          | 69.5       | 30.5        |         | 0.35           | 11.3           | 9.5         |                  |                | 0.76             | 2.92             |                    |                   |                   |
| BDK17-21 | 粉质粘土     | 45.20-45.50     | 32.8          | 1.9         | 1.43           | 1.9              | 2.72             | 0.901             | 99             | 36.3           | 23.5           | 12.8             | 0.73             |         |                   |                   |                   |        |         |          |            |             |         |                |                |             |                  | 19.3           | 14.6             | 0.46             | 4.13               | 1.436             | 1.679             |
| BDK17-22 | 粉质粘土     | 48.20-48.50     | 38.7          | 1.83        | 1.32           | 1.84             | 2.73             | 1.069             | 98.8           | 43.5           | 26.8           | 16.7             | 0.71             |         |                   |                   |                   |        |         |          | 65.3       | 34.7        |         |                | 18.2           | 12.5        |                  |                | 0.51             | 4.06             | 1.023              | 1.246             |                   |
| BDK17-23 | 粘土       | 51.20-51.50     | 38.1          | 1.83        | 1.33           | 1.84             | 2.72             | 1.053             | 98.5           | 43.6           | 26.3           | 17.3             | 0.68             |         |                   |                   |                   |        |         |          |            |             |         | 0.43           | 20.3           | 12.1        |                  |                | 0.46             | 4.46             | 1.195              | 1.4               |                   |
| BDK17-24 | 粉质粘土     | 54.20-54.50     | 39.2          | 1.83        | 1.31           | 1.83             | 2.73             | 1.077             | 99.4           | 43.3           | 26.9           | 16.4             | 0.75             |         |                   |                   |                   |        |         |          | 63.5       | 36.5        | 0.63    |                |                |             | 26.3             | 15.5           | 0.47             | 4.42             | 1.331              | 1.312             |                   |
| BDK17-25 | 粉质粘土     | 57.20-57.50     | 37            | 1.86        | 1.36           | 1.86             | 2.72             | 1.003             | 100            | 43.2           | 26.8           | 16.4             | 0.62             |         |                   |                   |                   |        |         |          |            |             |         |                | 22.5           | 11.8        |                  |                | 0.43             | 4.66             | 1.139              | 0.809             |                   |
| BDK17-26 | 粉质粘土     | 60.20-60.50     | 37.4          | 1.85        | 1.35           | 1.85             | 2.72             | 1.02              | 99.7           | 43.2           | 26.9           | 16.3             | 0.64             |         |                   |                   |                   |        |         |          | 70.5       | 29.5        |         |                | 21.5           | 12.2        |                  |                | 0.45             | 4.49             | 1.321              | 1.674             |                   |
| BDK19-1  | 卵石       | 1.20-1.50       |               |             |                |                  |                  |                   |                |                |                |                  |                  |         | 26                | 52.4              | 4.3               | 1      | 0.3     | 0.4      | 0.3        | 7.4         | 7.9     |                |                |             |                  |                |                  |                  |                    |                   |                   |
| BDK19-2  | 粉质粘土     | 3.20-3.50       | 27.5          | 1.96        | 1.54           | 1.97             | 2.72             | 0.769             | 97.2           | 35.3           | 22.3           | 13               | 0.4              |         |                   |                   |                   |        |         |          |            |             |         | 0.79           | 15.1           | 12.2        |                  |                | 0.45             | 3.93             | 2.828              | 2.826             |                   |
| BDK19-3  | 粉质粘土     | 5.20-5.50       | 24.9          | 2.02        | 1.62           | 2.02             | 2.71             | 0.676             | 99.9           | 32.8           | 21.8           | 11               | 0.28             |         |                   |                   |                   |        |         |          | 70.5       | 29.5        |         |                |                |             | 18.2             | 14.3           | 0.31             | 5.41             | 3.157              | 3.033             |                   |
| BDK19-4  | 淤泥质粉质粘土  | 7.70-8.00       | 37.5          | 1.85        | 1.35           | 1.85             | 2.71             | 1.014             | 100            | 33.5           | 21.3           | 12.2             | 1.33             |         |                   |                   |                   |        |         |          |            |             | 0.32    |                | 13.1           | 10.1        |                  |                | 0.81             | 2.49             | 1.917              | 2.149             |                   |
| BDK19-5  | 淤泥质粉质粘土  | 9.70-10.00      | 48.2          | 1.73        | 1.17           | 1.74             | 2.71             | 1.322             | 98.8           | 41.1           | 26.9           | 14.2             | 1.5              |         |                   |                   |                   |        |         |          |            |             |         | 0              | 12.1           | 9.8         |                  |                | 1.11             | 2.09             | 2.382              | 2.503             |                   |
| BDK19-6  | 淤泥质粘土    | 11.70-12.00     | 51.9          | 1.7         | 1.12           | 1.71             | 2.73             | 1.439             | 98.4           | 50.2           | 28.2           | 22               | 1.08             |         |                   |                   |                   |        |         |          |            |             | 0.35    |                |                |             | 12.2             | 9.8            | 1.41             | 1.73             | 1.434              | 1.551             |                   |
| BDK19-7  | 淤泥质粘土    | 13.70-14.00     | 47.1          | 1.75        | 1.19           | 1.75             | 2.73             | 1.295             | 99.3           | 43             | 25.3           | 17.7             | 1.23             |         |                   |                   |                   |        |         |          | 59.5       | 40.5        |         |                | 10.1           | 7.8         |                  |                | 1.41             | 1.63             | 1.207              | 1.326             |                   |
| BDK19-8  | 淤泥质粉质粘土  | 15.70-16.00     | 47.3          | 1.75        | 1.19           | 1.75             | 2.73             | 1.298             | 99.5           | 43.3           | 26.5           | 16.8             | 1.24             |         |                   |                   |                   |        |         |          |            |             |         | 0.35           | 11.1           | 7.6         |                  |                | 1.04             | 2.21             | 1.868              | 1.952             |                   |
| BDK19-9  | 淤泥质粘土    | 17.70-18.00     | 47.9          | 1.75        | 1.18           | 1.75             | 2.73             | 1.307             | 100            | 45             | 27.3           | 17.7             | 1.16             |         |                   |                   |                   |        |         |          |            |             |         |                |                |             | 12.8             | 9.2            | 1.36             | 1.7              | 1.281              | 1.398             |                   |
| BDK19-10 | 淤泥质粘土    | 19.70-20.00     | 54.3          | 1.7         | 1.1            | 1.7              | 2.74             | 1.487             | 100            | 51.1           | 29.2           | 21.9             | 1.15             |         |                   |                   |                   |        |         |          |            |             | 0.089   |                | 5.8            | 4.3         |                  |                | 1.43             | 1.74             | 1.459              | 1.406             |                   |
| BDK19-11 | 淤泥质粘土    | 21.70-22.00     | 53.9          | 1.7         | 1.1            | 1.7              | 2.74             | 1.481             | 99.8           | 51.1           | 29.5           | 21.6             | 1.13             |         |                   |                   |                   |        |         |          | 51.1       | 48.9        |         |                | 6.2            | 4.1         |                  |                | 1.51             | 1.64             | 1.409              | 1.244             |                   |
| BDK19-12 | 淤泥质粘土    | 23.70-24.00     | 42.3          | 1.79        | 1.26           | 1.8              | 2.73             | 1.17              | 98.7           | 40.9           | 23             | 17.9             | 1.08             |         |                   |                   |                   |        |         |          |            |             |         | 0.32           |                |             | 13.5             | 10.3           | 1.05             | 2.07             | 1.785              | 1.818             |                   |
| BDK19-13 | 淤泥质粘土    | 25.70-26.00     | 51.2          | 1.7         | 1.12           | 1.71             | 2.73             | 1.428             | 97.9           | 50.3           | 28.2           | 22.1             | 1.04             |         |                   |                   |                   |        |         |          |            |             |         |                | 8.6            | 4.6         |                  |                | 1                | 2.43             | 1.674              | 1.439             |                   |
| BDK19-14 | 淤泥质粘土    | 27.70-28.00     | 52.1          | 1.7         | 1.12           | 1.71             | 2.74             | 1.451             | 98.3           | 51.9           | 28.5           | 23.4             | 1.01             |         |                   |                   |                   |        |         |          |            |             | 0.36    |                | 7.3            | 5.2         |                  |                | 1.4              | 1.75             |                    |                   |                   |
| BDK19-15 | 淤泥质粘土    | 29.70-30.00     | 53.6          | 1.7         | 1.11           | 1.7              | 2.74             | 1.476             | 99.5           | 52.2           | 29.2           | 23               | 1.06             |         |                   |                   |                   |        |         |          | 58.7       | 41.3        |         |                |                |             | 11.1             | 9              | 1                | 2.48             | 2.515              | 1.303             |                   |
| BDK19-16 | 淤泥质粘土    | 32.70-33.00     | 50.2          | 1.73        | 1.15           | 1.73             | 2.73             | 1.37              | 100            | 46.9           | 26.9           | 20               | 1.16             |         |                   |                   |                   |        |         |          |            |             |         |                |                |             |                  |                |                  |                  |                    |                   |                   |

平阳鳌江标准堤加固工程初步设计堤防地基土层室内土工试验综合成果表

附表3-10

| 岩土<br>编号 | 室内<br>定名 | 试样<br>深度<br>(m) | 天然<br>含水<br>率 | 湿<br>密<br>度 | 干<br>密<br>度    | 饱<br>和<br>密<br>度 | 土<br>粒<br>比<br>重 | 天然<br>孔<br>隙<br>比 | 饱<br>和<br>度    | 液<br>限         | 塑<br>限         | 塑<br>性<br>指<br>数 | 液<br>性<br>指<br>数 | 颗粒组成百分数 |                   |                   |                   |        |         |          |            |             |         | 渗 透            |                | 直 剪         |                  |                |                  | 固结（垂直）           |                    |                   |                   |
|----------|----------|-----------------|---------------|-------------|----------------|------------------|------------------|-------------------|----------------|----------------|----------------|------------------|------------------|---------|-------------------|-------------------|-------------------|--------|---------|----------|------------|-------------|---------|----------------|----------------|-------------|------------------|----------------|------------------|------------------|--------------------|-------------------|-------------------|
|          |          |                 | ω             | ρ           | ρ <sub>d</sub> | ρ <sub>sat</sub> | G <sub>s</sub>   | e <sub>0</sub>    | S <sub>r</sub> | ω <sub>L</sub> | ω <sub>p</sub> | I <sub>p</sub>   | I <sub>L</sub>   | >60     | >40               | >20               | 10~20             | 2.0~10 | 0.5~2.0 | 0.25~0.5 | 0.075~0.25 | 0.005~0.075 | 0~0.005 | 水平<br>渗透<br>系数 | 竖向<br>渗透<br>系数 | 粘聚力<br>(快剪) | 内摩<br>擦角<br>(快剪) | 粘聚力<br>(固快)    | 内摩<br>擦角<br>(固快) | 压缩<br>系数         | 压缩<br>模量           | 固结<br>系数<br>(MPa) |                   |
|          |          |                 |               |             |                |                  |                  |                   |                |                |                |                  |                  | (单位:mm) |                   |                   |                   |        |         |          |            |             |         | K <sub>h</sub> | K <sub>v</sub> | q           | φ <sub>q</sub>   | c <sub>q</sub> | φ <sub>cq</sub>  | v <sub>1-2</sub> | E <sub>sv1-2</sub> | C <sub>v0.2</sub> | C <sub>v0.4</sub> |
|          |          |                 |               |             |                |                  |                  |                   |                |                |                |                  |                  | %       | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |        |         | %        | %          | %           |         |                | %              | %           | %                | %              | %                | %                | %                  | %                 | %                 |
| BDK19-19 | 粉质粘土     | 41.10-41.40     | 21.3          | 2.07        | 1.71           | 2.07             | 2.7              | 0.582             | 98.8           | 30.6           | 19.8           | 10.8             | 0.14             |         |                   |                   |                   |        |         |          | 82.5       | 17.5        |         |                | 18             | 15.1        |                  |                | 0.24             | 6.59             | 3.333              | 3.662             |                   |
| BDK19-20 | 粉质粘土     | 44.10-44.40     | 29            | 1.96        | 1.52           | 1.96             | 2.72             | 0.79              | 99.8           | 36.1           | 23.6           | 12.5             | 0.43             |         |                   |                   |                   |        |         |          |            |             | 0.68    | 15.3           | 11.2           |             |                  | 0.62           | 2.89             |                  |                    |                   |                   |
| BDK19-21 | 粉质粘土     | 47.10-47.40     | 31.4          | 1.92        | 1.46           | 1.92             | 2.72             | 0.862             | 99.1           | 36.3           | 22.5           | 13.8             | 0.64             |         |                   |                   |                   |        |         |          |            |             |         |                |                | 18.6        | 13.9             | 0.47           | 3.96             | 1.753            | 1.865              |                   |                   |
| BDK19-22 | 粘土       | 50.10-50.40     | 34.3          | 1.88        | 1.4            | 1.89             | 2.72             | 0.943             | 98.9           | 43.5           | 24.5           | 19               | 0.52             |         |                   |                   |                   |        |         | 68       | 32         | 0.69        |         | 13.5           | 10.8           |             |                  | 0.42           | 4.63             | 1.956            | 2.004              |                   |                   |
| BDK19-23 | 粉质粘土     | 53.10-53.40     | 33.2          | 1.9         | 1.43           | 1.9              | 2.71             | 0.9               | 100            | 36.5           | 23.2           | 13.3             | 0.75             |         |                   |                   |                   |        |         |          |            |             |         |                |                | 16.2        | 12.2             | 0.4            | 4.75             | 1.584            | 1.663              |                   |                   |
| BDK20-1  | 淤泥       | 0.50-0.80       | 60.1          | 1.66        | 1.04           | 1.66             | 2.75             | 1.652             | 100            | 54.5           | 28.9           | 25.6             | 1.22             |         |                   |                   |                   |        |         | 47.5     | 52.5       |             |         | 5              | 3.6            |             |                  |                |                  |                  |                    |                   |                   |
| BDK20-2  | 淤泥质粘土    | 2.10-2.40       | 51.2          | 1.72        | 1.14           | 1.72             | 2.73             | 1.4               | 99.8           | 49             | 26.9           | 22.1             | 1.1              |         |                   |                   |                   |        |         |          |            | 0.26        |         | 9              | 6.5            |             |                  | 1.43           | 1.68             | 1.302            | 1.465              |                   |                   |
| BDK20-3  | 淤泥       | 4.10-4.40       | 54.8          | 1.7         | 1.1            | 1.7              | 2.75             | 1.504             | 100            | 52.8           | 28.3           | 24.5             | 1.08             |         |                   |                   |                   |        |         |          |            |             | 0.18    |                |                | 10.6        | 9.8              | 1.41           | 1.78             | 1.29             | 1.278              |                   |                   |
| BDK20-4  | 卵石       | 6.10-6.40       |               |             |                |                  |                  |                   |                |                |                |                  |                  | 33      | 64.7              | 1                 |                   | 0.2    | 0.2     | 0.1      | 0.4        | 0.4         |         |                |                |             |                  |                |                  |                  |                    |                   |                   |
| BDK20-5  | 淤泥       | 8.10-8.40       | 58.8          | 1.66        | 1.05           | 1.67             | 2.75             | 1.631             | 99.2           | 53.3           | 29.5           | 23.8             | 1.23             |         |                   |                   |                   |        |         |          |            | 0.85        |         | 6.5            | 5              |             |                  | 1.57           | 1.68             | 1.22             | 1.45               |                   |                   |
| BDK20-6  | 淤泥       | 10.10-10.40     | 56.4          | 1.68        | 1.07           | 1.68             | 2.75             | 1.56              | 99.4           | 52.8           | 29             | 23.8             | 1.15             |         |                   |                   |                   |        |         |          |            |             |         |                |                | 9.8         | 7.7              | 1.16           | 2.21             | 1.121            | 1.228              |                   |                   |
| BDK20-7  | 淤泥       | 12.10-12.40     | 56.2          | 1.68        | 1.08           | 1.68             | 2.75             | 1.557             | 99.3           | 52.3           | 28             | 24.3             | 1.16             |         |                   |                   |                   |        |         | 45       | 55         |             | 0.88    | 5.9            | 4.6            |             |                  | 1.24           | 2.06             | 1.15             | 1.353              |                   |                   |
| BDK20-8  | 淤泥       | 14.10-14.40     | 56.3          | 1.68        | 1.07           | 1.68             | 2.75             | 1.558             | 99.3           | 52.5           | 28.6           | 23.9             | 1.16             |         |                   |                   |                   |        |         |          |            |             |         |                | 6.3            | 4.4         |                  |                | 1.28             | 2                | 1.556              | 1.484             |                   |
| BDK20-9  | 淤泥质粘土    | 16.10-16.40     | 54.4          | 1.7         | 1.1            | 1.7              | 2.75             | 1.498             | 99.9           | 52.6           | 28.6           | 24               | 1.08             |         |                   |                   |                   |        |         |          |            | 0.27        |         |                |                | 10.1        | 8.1              | 1.32           | 1.89             | 1.165            | 1.192              |                   |                   |
| BDK20-10 | 淤泥质粘土    | 18.10-18.40     | 52.7          | 1.7         | 1.11           | 1.71             | 2.74             | 1.461             | 98.8           | 50.6           | 26.9           | 23.7             | 1.09             |         |                   |                   |                   |        |         |          |            |             |         |                | 6.8            | 5           |                  |                | 2.59             | 0.95             |                    |                   |                   |
| BDK20-11 | 淤泥       | 20.10-20.40     | 55.1          | 1.7         | 1.1            | 1.7              | 2.75             | 1.509             | 100            | 52.6           | 28             | 24.6             | 1.1              |         |                   |                   |                   |        |         |          |            |             | 0.23    | 5.9            | 4.5            |             |                  | 1.39           | 1.8              | 1.066            | 0.392              |                   |                   |
| BDK20-12 | 淤泥       | 22.10-22.40     | 57.7          | 1.68        | 1.07           | 1.68             | 2.75             | 1.581             | 100            | 53.9           | 29.1           | 24.8             | 1.15             |         |                   |                   |                   |        |         | 46.9     | 53.1       |             |         |                |                | 9.2         | 7                | 1.59           | 1.62             | 1.671            | 0.85               |                   |                   |
| BDK20-13 | 淤泥       | 24.10-24.40     | 61            | 1.63        | 1.01           | 1.64             | 2.75             | 1.716             | 97.7           | 53.2           | 29.6           | 23.6             | 1.33             |         |                   |                   |                   |        |         |          |            | 0.089       |         | 5              | 3.9            |             |                  | 0.44           | 6.17             | 5.043            | 0.694              |                   |                   |
| BDK20-14 | 淤泥       | 26.10-26.40     | 65.1          | 1.63        | 0.99           | 1.63             | 2.75             | 1.785             | 100            | 53.9           | 29.7           | 24.2             | 1.46             |         |                   |                   |                   |        |         |          |            |             |         |                | 4.5            | 3.2         |                  |                | 0.46             | 6.05             | 2.691              | 0.94              |                   |
| BDK20-15 | 淤泥       | 28.10-28.40     | 60.1          | 1.66        | 1.04           | 1.66             | 2.75             | 1.652             | 100            | 54.1           | 28.8           | 25.3             | 1.24             |         |                   |                   |                   |        |         |          |            |             | 0.073   |                |                | 8.9         | 6.5              | 0.51           | 5.2              | 2.038            | 0.61               |                   |                   |
| BDK20-16 | 淤泥       | 30.10-30.40     | 61.7          | 1.63        | 1.01           | 1.64             | 2.75             | 1.728             | 98.2           | 53.1           | 28.9           | 24.2             | 1.36             |         |                   |                   |                   |        |         | 45.5     | 54.5       |             |         | 4.6            | 3.5            |             |                  | 0.59           | 4.62             | 1.699            | 0.656              |                   |                   |
| BDK20-17 | 淤泥       | 33.10-33.40     | 59.2          | 1.66        | 1.04           | 1.66             | 2.75             | 1.637             | 99.4           | 54.6           | 29.8           | 24.8             | 1.19             |         |                   |                   |                   |        |         |          |            | 0.088       |         | 5.8            | 3.9            |             |                  | 0.51           | 5.17             | 1.958            | 0.757              |                   |                   |
| BDK20-18 | 粉质粘土     | 36.10-36.40     | 34.8          | 1.88        | 1.39           | 1.88             | 2.72             | 0.95              | 99.6           | 35.3           | 23.2           | 12.1             | 0.96             |         |                   |                   |                   |        |         |          |            |             | 0.73    |                |                | 18.6        | 13.5             | 0.33           | 5.91             |                  |                    |                   |                   |
| BDK20-19 | 粉质粘土     | 37.20-37.50     | 38.9          | 1.83        | 1.32           | 1.83             | 2.72             | 1.065             | 99.4           | 40.6           | 23.6           | 17               | 0.9              |         |                   |                   |                   |        |         |          |            |             |         |                | 15.3           | 11.6        |                  |                | 0.3              | 6.88             | 1.242              | 1.16              |                   |
| BDK20-20 | 粉质粘土     | 39.10-39.40     | 35.4          | 1.87        | 1.38           | 1.88             | 2.73             | 0.977             | 98.9           | 36.2           | 22.2           | 14               | 0.94             |         |                   |                   |                   |        |         | 68.8     | 31.2       |             |         | 14.3           | 12.2           |             |                  | 0.52           | 3.8              |                  |                    |                   |                   |
| BDK20-21 | 粉质粘土     | 42.10-42.40     | 38.5          | 1.83        | 1.32           | 1.84             | 2.73             | 1.066             | 98.6           | 39.9           | 23.9           | 16               | 0.91             |         |                   |                   |                   |        |         |          |            | 0.55        |         |                |                | 23.2        | 15.6             | 0.3            | 6.89             | 1.318            | 0.651              |                   |                   |
| BDK20-22 | 粉质粘土     | 45.10-45.40     | 33.8          | 1.9         | 1.42           | 1.9              | 2.72             | 0.915             | 100            | 36.2           | 22.5           | 13.7             | 0.82             |         |                   |                   |                   |        |         | 77.9     | 22.1       |             | 0.38    | 15.6           | 11.8           |             |                  | 0.22           | 8.71             | 1.5              | 0.702              |                   |                   |
| BDK20-23 | 粘土       | 48.10-48.40     | 44.8          | 1.78        | 1.23           | 1.78             | 2.74             | 1.229             | 99.9           | 45.9           | 26.3           | 19.6             | 0.94             |         |                   |                   |                   |        |         |          |            |             |         | 13.8           | 10.2           |             |                  | 0.6            | 3.71             |                  |                    |                   |                   |
| BDK20-24 | 粘土       | 51.10-51.40     | 41.5          | 1.78        | 1.26           | 1.8              | 2.72             | 1.162             | 97.1           | 45.6           | 26             | 19.6             | 0.79             |         |                   |                   |                   |        |         |          |            |             |         |                |                |             | 18.2             | 14.3           | 0.43             | 5.03             |                    |                   |                   |
| BDK20-25 | 粘土       | 54.70-55.00     | 37.7          | 1.83        | 1.33           | 1.84             | 2.73             | 1.054             | 97.6           | 43.2           | 25.6           | 17.6             | 0.69             |         |                   |                   |                   |        |         | 66.5     | 33.5       | 0.6         |         | 16.3           | 12.3           |             |                  | 0.4            | 5.14             | 1.022            | 1.609              |                   |                   |
| DK21-1   | 卵石       | 1.50-1.80       |               |             |                |                  |                  |                   |                |                |                |                  |                  |         | 15.5              | 75.8              | 8.5               | 0.1    |         | 0.1      |            |             |         |                |                |             |                  |                |                  |                  |                    |                   |                   |
| DK21-2   | 淤泥质粉质粘土  | 5.30-5.60       | 38.5          | 1.83        | 1.32           | 1.84             | 2.72             | 1.059             | 98.9           | 36.5           | 22.1           | 14.4             | 1.14             |         |                   |                   |                   |        |         |          | 56.5       | 43.5        | 0.1     |                | 12.1           | 8.3         |                  |                | 0.68             | 3.03             |                    |                   |                   |
| DK21-3   |          | 淤泥              | 6.70-7.00     | 60.1        | 1.65           | 1.03             | 1.66             | 2.75              | 1.668          | 99.1           | 55.2           | 30.1             | 25.1             | 1.2     |                   |                   |                   |        |         |          |            |             |         |                |                | 8.8         | 6.5              | 1.37           | 1.95             | 1.399            | 1.049              |                   |                   |
| DK21-4   | 淤泥       | 8.70-9.00       | 58.9          | 1.67        | 1.05           | 1.67             | 2.75             | 1.617             | 100            | 53.5           | 29.5           | 24               | 1.23             |         |                   |                   |                   |        |         |          |            |             | 0.09    | 4.6            | 3.5            |             |                  | 1.41           | 1.86             |                  |                    |                   |                   |
| DK21-5   | 淤泥       | 10.70-11.00     | 64.6          | 1.63        | 0.99           | 1.63             | 2.75             | 1.777             | 100            | 56.9           | 30.9           | 26               | 1.3              |         |                   |                   |                   |        |         | 55.2     | 44.8       |             |         | 3.8            | 2.1            |             |                  | 1.49           | 1.86             | 0.939            | 1.061              |                   |                   |
| DK21-6   | 淤泥       | 12.70-13.00     | 57.7          | 1.68        | 1.07           | 1.68             | 2.75             | 1.581             | 100            | 52.2           | 29             | 23.2             | 1.24             |         |                   |                   |                   |        |         |          |            | 0.07        |         |                |                | 9.3         | 6.9              | 1.37           | 1.88             |                  |                    |                   |                   |
| DK21-7   | 淤泥       | 14.70-15.00     | 58.9          | 1.67        | 1.05           | 1.67             | 2.75             | 1.617             | 100            | 53.3           | 28.8           | 24.5             | 1.23             |         |                   |                   |                   |        |         |          |            |             |         |                | 5.2            | 3.8         |                  |                | 1.47             | 1.78             | 1.014              | 1.079             |                   |
| DK21-8   | 淤泥       | 16.70-17.00     | 56.9          | 1.68        | 1.07           | 1.68             | 2.75             | 1.568             | 99.8           | 51             | 29.1           | 21.9             | 1.27             |         |                   |                   |                   |        |         |          |            |             | 0.33    | 5.6            | 4.1            |             |                  | 1.48           | 1.74             |                  |                    |                   |                   |
| DK21-9   | 淤泥       | 18.70-19.00     | 55.8          | 1.67        | 1.07           | 1.68             | 2.75             | 1.566             | 98             | 52.5           |                |                  |                  |         |                   |                   |                   |        |         |          |            |             |         |                |                |             |                  |                |                  |                  |                    |                   |                   |

平阳鳌江标准堤加固工程初步设计堤防地基土层室内土工试验综合成果表

附表3-11

| 岩土<br>编号 | 室内<br>定名 | 试样<br>深度<br>(m) | 天然<br>含水<br>率 | 湿<br>密<br>度       | 干<br>密<br>度       | 饱<br>和<br>密<br>度  | 土<br>粒<br>比<br>重 | 天然<br>孔<br>隙<br>比 | 饱<br>和<br>度    | 液<br>限         | 塑<br>限         | 塑<br>性<br>指<br>数 | 液<br>性<br>指<br>数 | 颗粒组成百分数 |      |      |       |        |         |          |            |             |         | 渗 透            |                        | 直 剪         |                  |                |                  | 固结（垂直）            |                    |                                      |                   |
|----------|----------|-----------------|---------------|-------------------|-------------------|-------------------|------------------|-------------------|----------------|----------------|----------------|------------------|------------------|---------|------|------|-------|--------|---------|----------|------------|-------------|---------|----------------|------------------------|-------------|------------------|----------------|------------------|-------------------|--------------------|--------------------------------------|-------------------|
|          |          |                 | ω             | ρ                 | ρ <sub>d</sub>    | ρ <sub>sat</sub>  | G <sub>s</sub>   | e <sub>0</sub>    | S <sub>r</sub> | ω <sub>L</sub> | ω <sub>p</sub> | I <sub>p</sub>   | I <sub>L</sub>   | >60     | >40  | >20  | 10~20 | 2.0~10 | 0.5~2.0 | 0.25~0.5 | 0.075~0.25 | 0.005~0.075 | 0~0.005 | 水平<br>渗透<br>系数 | 竖向<br>渗透<br>系数         | 粘聚力<br>(快剪) | 内摩<br>擦角<br>(快剪) | 粘聚力<br>(固快)    | 内摩<br>擦角<br>(固快) | 压缩<br>系数          | 压缩<br>模量           | 固结<br>系数<br>(MPa)                    |                   |
|          |          |                 | %             | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |                  |                   | %              | %              | %              |                  |                  | (单位:mm) |      |      |       |        |         |          |            |             |         | K <sub>h</sub> | K <sub>v</sub>         | q           | φ <sub>q</sub>   | c <sub>q</sub> | φ <sub>cq</sub>  | v <sub>1-2</sub>  | E <sub>sv1-2</sub> | C <sub>v0.2</sub>                    | C <sub>v0.4</sub> |
|          |          |                 | %             | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |                  |                   | %              | %              | %              | %                | %                | %       | %    | %    | %     | %      | %       | %        | %          | %           | %       | %              | ×10 <sup>-6</sup> cm/s | kPa         | 度                | kPa            | 度                | MPa <sup>-1</sup> | MPa                | ×10 <sup>-3</sup> cm <sup>2</sup> /s |                   |
| DK21-10  | 淤泥       | 20.70-21.00     | 58.5          | 1.67              | 1.05              | 1.67              | 2.75             | 1.61              | 99.9           | 53.7           | 29.5           | 24.2             | 1.2              |         |      |      |       |        |         |          |            |             | 0.36    |                | 5.3                    | 3.5         |                  |                | 1.5              | 1.74              |                    |                                      |                   |
| DK21-11  | 淤泥       | 22.70-23.00     | 61.1          | 1.65              | 1.02              | 1.65              | 2.75             | 1.685             | 99.7           | 55.2           | 30.7           | 24.5             | 1.24             |         |      |      |       |        |         |          |            |             |         |                | 4.6                    | 3           |                  |                | 1.44             | 1.87              |                    |                                      |                   |
| DK21-12  | 淤泥       | 24.70-25.00     | 66.3          | 1.62              | 0.97              | 1.62              | 2.75             | 1.823             | 100            | 56.9           | 29.3           | 27.6             | 1.34             |         |      |      |       |        |         |          |            |             |         | 0.06           |                        |             | 8                | 6.1            | 1.51             | 1.87              | 1.12               | 0.918                                |                   |
| DK21-13  | 淤泥       | 26.70-27.00     | 62.5          | 1.63              | 1                 | 1.64              | 2.75             | 1.742             | 98.7           | 53.7           | 28.8           | 24.9             | 1.35             |         |      |      |       |        |         |          | 51.6       | 48.4        |         |                | 4.3                    | 2.5         |                  |                | 0.52             | 5.27              |                    |                                      |                   |
| DK21-14  | 淤泥       | 28.70-29.00     | 63.5          | 1.63              | 1                 | 1.63              | 2.75             | 1.758             | 99.3           | 56.1           | 29.3           | 26.8             | 1.28             |         |      |      |       |        |         |          |            |             |         |                | 3.8                    | 2.1         |                  |                | 1.39             | 1.98              | 0.875              | 0.949                                |                   |
| DK21-15  | 淤泥       | 30.70-31.00     | 59.6          | 1.66              | 1.04              | 1.66              | 2.75             | 1.644             | 99.7           | 54.6           | 29.5           | 25.1             | 1.2              |         |      |      |       |        |         |          |            | 0.16        |         |                |                        | 7.9         | 6.5              | 1.07           | 2.47             |                   |                    |                                      |                   |
| DK21-16  | 淤泥       | 33.70-34.00     | 61.6          | 1.65              | 1.02              | 1.65              | 2.75             | 1.693             | 100            | 55.2           | 30.2           | 25               | 1.26             |         |      |      |       |        |         |          |            |             |         |                | 3.8                    | 2.6         |                  |                | 1.06             | 2.54              |                    |                                      |                   |
| DK21-17  | 淤泥       | 36.70-37.00     | 62.4          | 1.63              | 1                 | 1.64              | 2.75             | 1.74              | 98.6           | 56.8           | 31.1           | 25.7             | 1.22             |         |      |      |       |        |         |          | 52.7       | 47.3        |         |                | 3.6                    | 2.2         |                  |                | 1.04             | 2.63              | 0.789              | 0.825                                |                   |
| DK21-18  | 粘土       | 39.70-40.00     | 45.4          | 1.78              | 1.22              | 1.78              | 2.74             | 1.238             | 100            | 49.3           | 28.2           | 21.1             | 0.82             |         |      |      |       |        |         |          |            |             | 0.5     |                |                        |             | 15.3             | 10.1           | 0.84             | 2.66              |                    |                                      |                   |
| DK21-19  | 粘土       | 42.70-43.00     | 44.9          | 1.78              | 1.23              | 1.78              | 2.73             | 1.222             | 100            | 46.9           | 27.2           | 19.7             | 0.9              |         |      |      |       |        |         |          | 50.2       | 49.8        |         | 0.19           | 13.2                   | 8.7         |                  |                | 0.72             | 3.09              | 1.613              | 1.567                                |                   |
| DK21-20  | 粘土       | 45.70-46.00     | 40.3          | 1.83              | 1.3               | 1.83              | 2.74             | 1.101             | 100            | 45.3           | 26.5           | 18.8             | 0.73             |         |      |      |       |        |         |          |            |             |         |                | 15                     | 10.3        |                  |                | 0.68             | 3.09              |                    |                                      |                   |
| DK21-21  | 粘土       | 48.70-49.00     | 37.8          | 1.83              | 1.33              | 1.84              | 2.72             | 1.048             | 98.1           | 43.2           | 26.1           | 17.1             | 0.68             |         |      |      |       |        |         |          |            | 0.58        |         |                |                        | 18.3        | 13.5             | 0.56           | 3.66             | 1.443             | 1.588              |                                      |                   |
| DK21-22  | 粉质粘土     | 51.70-52.00     | 39.7          | 1.83              | 1.31              | 1.83              | 2.73             | 1.084             | 100            | 42.1           | 25.1           | 17               | 0.86             |         |      |      |       |        |         |          | 61.5       | 38.5        |         |                | 15.6                   | 11          |                  |                | 0.51             | 4.09              |                    |                                      |                   |
| BDK22-1  | 卵石       | 2.10-2.40       |               |                   |                   |                   |                  |                   |                |                |                |                  |                  |         | 46.4 | 27.7 | 4.2   | 2.1    | 0.6     | 4.2      | 2.3        | 6.1         | 6.4     |                |                        |             |                  |                |                  |                   |                    |                                      |                   |
| BDK22-2  | 粉质粘土     | 2.60-2.90       | 29.1          | 1.96              | 1.52              | 1.96              | 2.71             | 0.785             | 100            | 35.3           | 22.1           | 13.2             | 0.53             |         |      |      |       |        |         |          |            |             |         | 0.51           | 16.8                   | 13.5        |                  |                | 0.53             | 3.37              | 2.213              | 1.435                                |                   |
| BDK22-3  | 卵石       | 4.30-4.60       |               |                   |                   |                   |                  |                   |                |                |                |                  |                  |         | 75   | 2.3  | 0.1   | 0.1    |         | 0.2      | 0.3        | 10.7        | 11.3    |                |                        |             |                  |                |                  |                   |                    |                                      |                   |
| BDK22-4  | 淤泥质粉质粘土  | 6.30-6.60       | 41.9          | 1.77              | 1.25              | 1.79              | 2.73             | 1.189             | 96.2           | 40.6           | 24.6           | 16               | 1.08             |         |      |      |       |        |         |          |            |             | 0.63    |                |                        |             | 12.2             | 10.6           | 0.93             | 2.35              |                    |                                      |                   |
| BDK22-5  | 淤泥       | 8.30-8.60       | 54.4          | 1.68              | 1.09              | 1.69              | 2.75             | 1.527             | 97.9           | 49             | 26.5           | 22.5             | 1.24             |         |      |      |       |        |         |          |            | 60          | 40      |                |                        | 8.3         | 6.5              |                |                  | 1.33              | 1.9                | 1.166                                | 1.28              |
| BDK22-6  | 淤泥       | 10.30-10.60     | 53.5          | 1.68              | 1.09              | 1.7               | 2.74             | 1.504             | 97.5           | 50.3           | 27.5           | 22.8             | 1.14             |         |      |      |       |        |         |          |            |             |         | 0.35           | 8.2                    | 6.1         |                  |                | 1.37             | 1.83              | 1.274              | 1.28                                 |                   |
| BDK22-7  | 淤泥       | 12.30-12.60     | 57.6          | 1.67              | 1.06              | 1.67              | 2.75             | 1.595             | 99.3           | 53             | 28.9           | 24.1             | 1.19             |         |      |      |       |        |         |          |            |             |         |                |                        |             | 9.8              | 9.2            | 1.54             | 1.68              | 1.327              | 1.505                                |                   |
| BDK22-8  | 淤泥       | 14.30-14.60     | 70.3          | 1.6               | 0.94              | 1.6               | 2.75             | 1.927             | 100            | 64.7           | 33.6           | 31.1             | 1.18             |         |      |      |       |        |         |          |            |             | 0.33    |                | 5.2                    | 3.1         |                  |                | 1.61             | 1.82              |                    |                                      |                   |
| BDK22-9  | 淤泥       | 16.30-16.60     | 57.4          | 1.67              | 1.06              | 1.68              | 2.75             | 1.592             | 99.2           | 53.2           | 29.5           | 23.7             | 1.18             |         |      |      |       |        |         |          |            | 56          | 44      |                |                        | 6.9         | 4.6              |                |                  | 1.45              | 1.79               |                                      |                   |
| BDK22-10 | 淤泥       | 18.30-18.60     | 62.5          | 1.63              | 1                 | 1.64              | 2.75             | 1.742             | 98.7           | 57.5           | 29.9           | 27.6             | 1.18             |         |      |      |       |        |         |          |            |             |         | 0.081          |                        |             | 8.9              | 6.1            | 1.48             | 1.85              | 1.225              | 1.074                                |                   |
| BDK22-11 | 淤泥       | 20.30-20.60     | 55.1          | 1.68              | 1.08              | 1.69              | 2.75             | 1.539             | 98.5           | 52.6           | 28.3           | 24.3             | 1.1              |         |      |      |       |        |         |          |            |             |         |                |                        | 7.6         | 4.6              |                |                  | 1.19              | 2.13               | 1.132                                | 1.042             |
| BDK22-12 | 淤泥       | 22.30-22.60     | 60.1          | 1.63              | 1.02              | 1.65              | 2.75             | 1.701             | 97.2           | 55.3           | 28.7           | 26.6             | 1.18             |         |      |      |       |        |         |          |            |             | 0.13    |                | 5.5                    | 3.9         |                  |                | 1.54             | 1.75              | 1.033              | 0.95                                 |                   |
| BDK22-13 | 淤泥       | 24.30-24.60     | 60.5          | 1.63              | 1.02              | 1.65              | 2.75             | 1.708             | 97.4           | 55.7           | 28.9           | 26.8             | 1.18             |         |      |      |       |        |         |          |            |             |         |                |                        |             | 9.5              | 8.3            | 1.38             | 1.96              |                    |                                      |                   |
| BDK22-14 | 淤泥       | 26.30-26.60     | 60.3          | 1.63              | 1.02              | 1.65              | 2.75             | 1.704             | 97.3           | 55.5           | 28.8           | 26.7             | 1.18             |         |      |      |       |        |         |          |            | 49.9        | 50.1    |                | 0.32                   | 5.6         | 3.5              |                |                  | 1.54              | 1.76               |                                      |                   |
| BDK22-15 | 淤泥       | 28.30-28.60     | 59.7          | 1.63              | 1.02              | 1.65              | 2.75             | 1.694             | 96.9           | 55             | 28.6           | 26.4             | 1.18             |         |      |      |       |        |         |          |            |             |         |                |                        | 5.6         | 3.6              |                |                  | 1.83              | 1.47               | 1.24                                 | 1.345             |
| BDK22-16 | 淤泥       | 30.30-30.60     | 64.1          | 1.63              | 0.99              | 1.63              | 2.75             | 1.769             | 99.7           | 59             | 30.6           | 28.4             | 1.18             |         |      |      |       |        |         |          |            |             | 0.088   |                |                        |             | 9                | 7.5            | 1.63             | 1.7               | 1.875              | 2.099                                |                   |
| BDK22-17 | 淤泥       | 33.30-33.60     | 62.3          | 1.63              | 1                 | 1.64              | 2.75             | 1.738             | 98.6           | 57.4           | 29.8           | 27.6             | 1.18             |         |      |      |       |        |         |          |            |             |         | 0.092          | 5.3                    | 4           |                  |                | 1.47             | 1.86              | 1.231              | 1.348                                |                   |
| BDK22-18 | 淤泥       | 36.30-36.60     | 56.8          | 1.66              | 1.06              | 1.67              | 2.75             | 1.598             | 97.8           | 53.9           | 29.3           | 24.6             | 1.12             |         |      |      |       |        |         |          |            |             |         |                |                        | 6.8         | 5.1              |                |                  | 1.37              | 1.9                |                                      |                   |
| BDK22-19 | 淤泥质粉质粘土  | 39.30-39.60     | 38.9          | 1.82              | 1.31              | 1.83              | 2.72             | 1.076             | 98.3           | 37.6           | 22.6           | 15               | 1.09             |         |      |      |       |        |         |          |            | 69.5        | 30.5    |                |                        |             | 15.3             | 12.8           | 0.77             | 2.7               | 1.944              | 0.986                                |                   |
| BDK22-20 | 粉质粘土     | 42.30-42.60     | 39.1          | 1.81              | 1.3               | 1.82              | 2.73             | 1.098             | 97.2           | 39.9           | 23.2           | 16.7             | 0.95             |         |      |      |       |        |         |          |            |             | 0.56    |                | 16                     | 11.5        |                  |                | 0.93             | 2.26              |                    |                                      |                   |
| BDK22-21 | 粉土       | 45.30-45.60     | 27.8          | 1.96              | 1.53              | 1.96              | 2.68             | 0.747             | 99.7           | 29.5           | 20             | 9.5              | 0.82             |         |      |      |       |        |         |          |            |             |         |                | 23                     | 15.8        |                  |                | 0.3              | 5.82              | 2.623              | 2.057                                |                   |
| BDK22-22 | 粘土       | 48.30-48.60     | 38.4          | 1.82              | 1.32              | 1.83              | 2.73             | 1.076             | 97.4           | 40.6           | 23.2           | 17.4             | 0.87             |         |      |      |       |        |         |          |            |             |         | 0.45           |                        |             | 18.3             | 13.5           | 0.69             | 3.01              |                    |                                      |                   |
| BDK22-23 | 粉质粘土     | 51.30-51.60     | 36.8          | 1.85              | 1.35              | 1.86              | 2.72             | 1.011             | 99             | 38.9           | 23.6           | 15.3             | 0.86             |         |      |      |       |        |         |          |            | 63.5        | 36.5    |                |                        | 22.3        | 13.2             |                |                  | 0.5               | 4.02               | 2.028                                | 1.179             |
| BDK22-24 | 粘土       | 54.30-54.60     | 40.1          | 1.8               | 1.28              | 1.82              | 2.74             | 1.133             | 97             | 43.2           | 25.2           | 18               | 0.83             |         |      |      |       |        |         |          |            |             | 0.53    |                |                        |             | 25               | 13             | 0.69             | 3.09              | 2.834              | 1.514                                |                   |
| DK24-1   | 淤泥       | 1.20-1.50       | 60.9          | 1.65              | 1.03              | 1.65              | 2.75             | 1.682             | 99.6           | 53.3           | 28.2           | 25.1             | 1.3              |         |      |      |       |        |         |          |            |             |         | 0.11           | 3.2                    | 2.1         |                  |                | 1.5              | 1.79              | 1.056              | 1.253                                |                   |
| DK24-2   | 淤泥质粉质粘土  | 3.20-3.50       | 37.6          |                   |                   |                   |                  |                   |                |                |                |                  |                  |         |      |      |       |        |         |          |            |             |         |                |                        |             |                  |                |                  |                   |                    |                                      |                   |

附表3-12

| 岩土<br>编号 | 室内<br>定名          | 试样<br>深度<br>(m)   | 天然<br>含水<br>率     | 湿<br>密<br>度    | 干<br>密<br>度    | 饱<br>和<br>密<br>度 | 土<br>粒<br>比<br>重 | 天然<br>孔<br>隙<br>比 | 饱<br>和<br>度    | 液<br>限         | 塑<br>限  | 塑<br>性<br>指<br>数 | 液<br>性<br>指<br>数 | 颗粒组成百分数 |     |     |       |        |         |          |                        |                |         | 渗 透            |                | 直 剪               |                  |                                      |                   | 固 结（垂直）           |          |                   |                    |                   |                   |
|----------|-------------------|-------------------|-------------------|----------------|----------------|------------------|------------------|-------------------|----------------|----------------|---------|------------------|------------------|---------|-----|-----|-------|--------|---------|----------|------------------------|----------------|---------|----------------|----------------|-------------------|------------------|--------------------------------------|-------------------|-------------------|----------|-------------------|--------------------|-------------------|-------------------|
|          |                   |                   |                   |                |                |                  |                  |                   |                |                |         |                  |                  | >60     | >40 | >20 | 10~20 | 2.0~10 | 0.5~2.0 | 0.25~0.5 | 0.075~0.25             | 0.005~0.075    | 0~0.005 | 水平<br>渗透<br>系数 | 竖向<br>渗透<br>系数 | 粘聚<br>力<br>(快剪)   | 内摩<br>擦角<br>(快剪) | 粘聚<br>力<br>(固快)                      | 内摩<br>擦角<br>(固快)  | 压缩<br>系数          | 压缩<br>模量 | 固结<br>系数<br>(MPa) |                    |                   |                   |
|          |                   |                   |                   |                |                |                  |                  |                   |                |                |         |                  |                  |         |     |     |       |        |         |          |                        |                |         |                |                |                   |                  |                                      |                   |                   |          | v <sub>1-2</sub>  | E <sub>sv1-2</sub> | C <sub>v0.2</sub> | C <sub>v0.4</sub> |
|          |                   |                   |                   |                |                |                  |                  |                   |                |                |         |                  |                  |         |     |     |       |        |         |          |                        |                |         |                |                |                   |                  |                                      |                   |                   |          |                   |                    |                   |                   |
| ω        | ρ                 | ρ <sub>d</sub>    | ρ <sub>sat</sub>  | G <sub>s</sub> | e <sub>0</sub> | S <sub>r</sub>   | ω <sub>L</sub>   | ω <sub>p</sub>    | I <sub>p</sub> | I <sub>L</sub> | (单位:mm) |                  |                  |         |     |     |       |        |         |          | K <sub>h</sub>         | K <sub>v</sub> | q       | φ <sub>q</sub> | c <sub>q</sub> | φ <sub>cq</sub>   | v <sub>1-2</sub> | E <sub>sv1-2</sub>                   | C <sub>v0.2</sub> | C <sub>v0.4</sub> |          |                   |                    |                   |                   |
| %        | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |                |                | %                | %                | %                 | %              | %              | %       | %                | %                | %       | %   | %   | %     | %      | %       | %        | ×10 <sup>-6</sup> cm/s | kPa            | 度       | kPa            | 度              | MPa <sup>-1</sup> | MPa              | ×10 <sup>-3</sup> cm <sup>2</sup> /s |                   |                   |          |                   |                    |                   |                   |
| DK24-3   | 淤泥                | 5.20-5.50         | 55.1              | 1.69           | 1.09           | 1.69             | 2.74             | 1.515             | 99.7           | 52.1           | 29      | 23.1             | 1.13             |         |     |     |       |        |         |          | 52.1                   | 47.9           | 0.086   |                | 5.2            | 3.5               |                  |                                      | 1.35              | 1.86              |          |                   |                    |                   |                   |
| DK24-4   | 淤泥质粘土             | 7.20-7.50         | 52.1              | 1.7            | 1.12           | 1.71             | 2.74             | 1.451             | 98.3           | 50.1           | 29.2    | 20.9             | 1.1              |         |     |     |       |        |         |          |                        |                |         |                |                |                   | 11.1             | 9.5                                  | 1.16              | 2.11              | 1.243    | 1.169             |                    |                   |                   |
| DK24-5   | 淤泥                | 9.20-9.50         | 59.8              | 1.65           | 1.03           | 1.66             | 2.75             | 1.663             | 98.9           | 52.6           | 29.3    | 23.3             | 1.31             |         |     |     |       |        |         |          |                        |                | 0.073   | 5.5            | 3.6            |                   |                  | 1.51                                 | 1.76              |                   |          |                   |                    |                   |                   |
| DK24-6   | 淤泥质粘土             | 11.20-11.50       | 52.2              | 1.7            | 1.12           | 1.71             | 2.74             | 1.453             | 98.4           | 50.6           | 29      | 21.6             | 1.07             |         |     |     |       |        |         |          |                        |                |         | 6.1            | 3.8            |                   |                  | 1.26                                 | 1.95              | 1.787             | 1.212    |                   |                    |                   |                   |
| DK24-7   | 淤泥                | 13.20-13.50       | 61.2              | 1.65           | 1.02           | 1.65             | 2.75             | 1.687             | 99.8           | 54.1           | 28.9    | 25.2             | 1.28             |         |     |     |       |        |         | 46.1     | 53.9                   | 0.28           |         |                |                | 9.5               | 7.7              | 1.53                                 | 1.76              |                   |          |                   |                    |                   |                   |
| DK24-8   | 淤泥                | 15.20-15.50       | 54.8              | 1.69           | 1.09           | 1.69             | 2.74             | 1.51              | 99.5           | 52             | 29.5    | 22.5             | 1.12             |         |     |     |       |        |         |          |                        | 0              |         | 5.6            | 3.7            |                   |                  | 1.71                                 | 1.47              | 0.961             | 1.047    |                   |                    |                   |                   |
| DK24-9   | 淤泥质粘土             | 17.20-17.50       | 52.9              | 1.7            | 1.11           | 1.71             | 2.74             | 1.464             | 99             | 50.8           | 29      | 21.8             | 1.1              |         |     |     |       |        |         |          |                        |                | 0.26    | 6.3            | 3.5            |                   |                  | 1.46                                 | 1.69              |                   |          |                   |                    |                   |                   |
| DK24-10  | 淤泥                | 19.20-19.50       | 61                | 1.65           | 1.02           | 1.65             | 2.75             | 1.683             | 99.7           | 54             | 27.6    | 26.4             | 1.27             |         |     |     |       |        |         |          |                        |                |         |                |                | 9.1               | 7.2              | 1.46                                 | 1.84              | 1.098             | 0.921    |                   |                    |                   |                   |
| DK24-11  | 淤泥                | 21.20-21.50       | 60                | 1.65           | 1.03           | 1.66             | 2.75             | 1.667             | 99             | 52.5           | 28.5    | 24               | 1.31             |         |     |     |       |        |         | 47.5     | 52.5                   |                |         | 4.9            | 3              |                   |                  | 1.44                                 | 1.85              |                   |          |                   |                    |                   |                   |
| DK24-12  | 淤泥                | 23.20-23.50       | 57.3              | 1.68           | 1.07           | 1.68             | 2.74             | 1.565             | 100            | 52.8           | 30      | 22.8             | 1.2              |         |     |     |       |        |         |          |                        |                | 0.15    |                |                | 10.2              | 7.9              | 1.35                                 | 1.9               | 1.408             | 0.921    |                   |                    |                   |                   |
| DK24-13  | 淤泥                | 25.20-25.50       | 60.6              | 1.65           | 1.03           | 1.65             | 2.75             | 1.677             | 99.4           | 53.1           | 29      | 24.1             | 1.31             |         |     |     |       |        |         | 46.8     | 53.2                   |                |         |                |                | 8.8               | 6.9              | 1.44                                 | 1.86              |                   |          |                   |                    |                   |                   |
| DK24-14  | 淤泥                | 27.20-27.50       | 60.4              | 1.65           | 1.03           | 1.65             | 2.75             | 1.673             | 99.3           | 53             | 28.7    | 24.3             | 1.3              |         |     |     |       |        |         |          |                        | 0.17           |         | 3.8            | 2.2            |                   |                  | 1.53                                 | 1.75              | 1.316             | 1.218    |                   |                    |                   |                   |
| DK24-15  | 淤泥                | 29.20-29.50       | 61.6              | 1.64           | 1.01           | 1.65             | 2.75             | 1.71              | 99.1           | 55.2           | 30      | 25.2             | 1.25             |         |     |     |       |        |         |          |                        |                |         |                |                | 8.5               | 6.2              | 1.52                                 | 1.78              |                   |          |                   |                    |                   |                   |
| DK24-16  | 淤泥                | 32.20-32.50       | 59                | 1.67           | 1.05           | 1.67             | 2.75             | 1.618             | 100            | 53.3           | 29.5    | 23.8             | 1.24             |         |     |     |       |        |         |          |                        |                | 0.075   | 5              | 3.2            |                   |                  | 1.86                                 | 1.41              | 1.223             | 1.283    |                   |                    |                   |                   |
| DK24-17  | 淤泥                | 35.20-35.50       | 66.7              | 1.61           | 0.97           | 1.61             | 2.75             | 1.847             | 99.3           | 53.2           | 29.8    | 23.4             | 1.58             |         |     |     |       |        |         |          |                        |                |         | 3              | 2              |                   |                  | 2.08                                 | 1.37              |                   |          |                   |                    |                   |                   |
| DK24-18  | 粉土                | 38.10-38.40       | 29.5              | 1.93           | 1.49           | 1.94             | 2.7              | 0.812             | 98.1           | 30.1           | 22.3    | 7.8              | 0.92             |         |     |     |       |        |         | 86.5     | 13.5                   | 63             |         | 15             | 18.6           |                   |                  | 0.17                                 | 10.66             | 3.308             | 1.41     |                   |                    |                   |                   |
| DK24-19  | 粉质粘土              | 41.10-41.40       | 25.8              | 2.01           | 1.6            | 2.01             | 2.72             | 0.702             | 99.9           | 36.8           | 22.2    | 14.6             | 0.25             |         |     |     |       |        |         |          |                        |                |         |                |                | 23.2              | 10.6             | 0.34                                 | 5.01              |                   |          |                   |                    |                   |                   |
| DK24-20  | 粉质粘土              | 44.10-44.40       | 30.3              | 1.93           | 1.48           | 1.94             | 2.72             | 0.836             | 98.5           | 36.2           | 23.2    | 13               | 0.55             |         |     |     |       |        |         |          |                        |                | 0.46    | 15.6           | 11.3           |                   |                  | 0.62                                 | 2.96              | 1.298             | 1.26     |                   |                    |                   |                   |
| DK24-21  | 粉土                | 47.10-47.40       | 34.7              | 1.88           | 1.4            | 1.88             | 2.7              | 0.935             | 100            | 29.5           | 20.2    | 9.3              | 1.56             |         |     |     |       |        |         | 88       | 12                     |                |         |                |                | 18                | 23.2             | 0.27                                 | 7.17              | 3.784             | 1.279    |                   |                    |                   |                   |
| DK24-22  | 粘土                | 50.10-50.40       | 41                | 1.81           | 1.28           | 1.81             | 2.71             | 1.111             | 100            | 44.6           | 25.6    | 19               | 0.81             |         |     |     |       |        |         |          |                        | 0.78           |         | 13.9           | 10.9           |                   |                  | 0.54                                 | 3.91              |                   |          |                   |                    |                   |                   |
| DK24-23  | 粘土                | 53.10-53.40       | 42                | 1.8            | 1.27           | 1.8              | 2.72             | 1.146             | 99.7           | 45.3           | 25.8    | 19.5             | 0.83             |         |     |     |       |        |         |          |                        |                |         | 14.3           | 11.6           |                   |                  | 0.61                                 | 3.52              | 1.141             | 1.011    |                   |                    |                   |                   |
| DK25-1   | 淤泥                | 1.90-2.20         | 60                | 1.65           | 1.03           | 1.66             | 2.75             | 1.667             | 99             | 55.9           | 30.2    | 25.7             | 1.16             |         |     |     |       |        |         | 50.5     | 49.5                   |                |         | 4.3            | 2.6            |                   |                  |                                      |                   |                   |          |                   |                    |                   |                   |
| DK25-2   | 淤泥                | 4.40-4.70         | 57                | 1.68           | 1.07           | 1.68             | 2.74             | 1.561             | 100            | 53.6           | 29.5    | 24.1             | 1.14             |         |     |     |       |        |         |          |                        |                | 0.16    | 5.1            | 3.2            |                   |                  |                                      |                   |                   |          |                   |                    |                   |                   |
| DK25-3   | 淤泥                | 6.40-6.70         | 58                | 1.65           | 1.04           | 1.66             | 2.73             | 1.614             | 98.1           | 55.3           | 29.8    | 25.5             | 1.11             |         |     |     |       |        |         |          |                        |                |         |                |                | 7.9               | 6.3              | 1.63                                 | 1.6               | 0.73              | 0.663    |                   |                    |                   |                   |
| DK25-4   | 淤泥                | 8.40-8.70         | 54.6              | 1.69           | 1.09           | 1.69             | 2.74             | 1.507             | 99.3           | 52.1           | 30.1    | 22               | 1.11             |         |     |     |       |        |         | 52.2     | 47.8                   | 0.31           |         | 5.5            | 3.6            |                   |                  | 1.4                                  | 1.79              |                   |          |                   |                    |                   |                   |
| DK25-5   | 淤泥                | 10.40-10.70       | 54.8              | 1.69           | 1.09           | 1.69             | 2.75             | 1.519             | 99.2           | 51.9           | 28.6    | 23.3             | 1.12             |         |     |     |       |        |         |          |                        |                |         | 5.9            | 4.1            |                   |                  | 1.51                                 | 1.67              | 0.864             | 0.966    |                   |                    |                   |                   |
| DK25-6   | 淤泥                | 12.40-12.70       | 58                | 1.65           | 1.04           | 1.66             | 2.75             | 1.633             | 97.7           | 53.5           | 29.2    | 24.3             | 1.19             |         |     |     |       |        |         |          |                        |                | 0.08    |                |                | 8.2               | 6                | 1.6                                  | 1.65              | 1.007             | 0.728    |                   |                    |                   |                   |
| DK25-7   | 淤泥                | 14.40-14.70       | 56.7              | 1.68           | 1.07           | 1.68             | 2.75             | 1.565             | 99.6           | 52.2           | 30.7    | 21.5             | 1.21             |         |     |     |       |        |         | 50.3     | 49.7                   |                |         | 5.2            | 3.8            |                   |                  | 1.48                                 | 1.73              |                   |          |                   |                    |                   |                   |
| DK25-8   | 淤泥                | 16.40-16.70       | 61.3              | 1.65           | 1.02           | 1.65             | 2.75             | 1.688             | 99.8           | 55.7           | 30.2    | 25.5             | 1.22             |         |     |     |       |        |         |          |                        | 0.05           |         | 5.9            | 3.6            |                   |                  | 1.72                                 | 1.56              | 0.972             | 1.031    |                   |                    |                   |                   |
| DK25-9   | 淤泥                | 18.40-18.70       | 53.9              | 1.69           | 1.1            | 1.7              | 2.75             | 1.504             | 98.5           | 51.3           | 28.6    | 22.7             | 1.11             |         |     |     |       |        |         |          |                        |                |         |                |                | 9.6               | 6.8              |                                      |                   |                   |          |                   |                    |                   |                   |
| DK25-10  | 淤泥                | 20.40-20.70       | 61                | 1.65           | 1.02           | 1.65             | 2.75             | 1.683             | 99.7           | 55.3           | 30.2    | 25.1             | 1.23             |         |     |     |       |        |         | 53.3     | 46.7                   |                | 0.18    | 4.6            | 3.2            |                   |                  |                                      |                   |                   |          |                   |                    |                   |                   |
| DK25-11  | 淤泥                | 22.40-22.70       | 67                | 1.62           | 0.97           | 1.62             | 2.75             | 1.835             | 100            | 53.9           | 29.3    | 24.6             | 1.53             |         |     |     |       |        |         |          |                        |                |         | 4.3            | 2.9            |                   |                  |                                      |                   | 1.021             | 0.964    |                   |                    |                   |                   |
| DK25-12  | 淤泥                | 24.40-24.70       | 63.1              | 1.63           | 1              | 1.64             | 2.75             | 1.752             | 99.1           | 52.2           | 28.9    | 23.3             | 1.47             |         |     |     |       |        |         |          |                        | 0.06           |         |                |                | 7.6               | 5.9              |                                      |                   |                   |          |                   |                    |                   |                   |
| DK25-13  | 淤泥                | 26.40-26.70       | 66.6              | 1.62           | 0.97           | 1.62             | 2.75             | 1.828             | 100            | 55.6           | 30.6    | 25               | 1.44             |         |     |     |       |        |         | 54.5     | 45.5                   |                |         | 3.8            | 2              |                   |                  |                                      |                   | 0.918             | 0.951    |                   |                    |                   |                   |
| DK25-14  | 淤泥                | 28.40-28.70       | 62.7              | 1.63           | 1              | 1.64             | 2.75             | 1.745             | 98.8           | 51.8           | 28.1    | 23.7             | 1.46             |         |     |     |       |        |         |          |                        |                |         | 4.6            | 2.6            |                   |                  |                                      |                   |                   |          |                   |                    |                   |                   |
| DK25-15  | 淤泥                | 30.40-30.70       | 61                | 1.65           | 1.02           | 1.65             | 2.75             | 1.683             | 99.7           | 53.9           | 30.2    | 23.7             | 1.3              |         |     |     |       |        |         |          |                        |                |         |                |                | 8                 | 6.3              |                                      |                   |                   |          |                   |                    |                   |                   |
| DK25-16  | 淤泥                | 34.40-34.70       | 63                | 1.63           | 1              | 1.64             | 2.75             | 1.75              | 99             | 55.2           | 29.9    | 25.3             | 1.31             |         |     |     |       |        |         | 49       | 51                     |                | 0.21    | 4.1            | 2.6            |                   |                  |                                      |                   | 1.398             | 1.205    |                   |                    |                   |                   |
| DK25-17  | 淤泥                | 37.90-38.20       | 56.4              | 1.69           | 1.08           | 1.69             | 2.75             | 1.545             | 100            | 52.8           | 28.9    | 23.9             | 1.15             |         |     |     |       |        |         |          |                        |                |         | 5.3            | 3.5            |                   |                  |                                      |                   |                   |          |                   |                    |                   |                   |
| DK25-18  | 粘土                | 41.90-42.20       | 37                | 1.83           | 1.34           | 1.85             | 2.75             | 1.059             | 96.1           | 45.3           | 26.2    | 19.1             | 0.57             |         |     |     |       |        |         |          |                        |                | 0.32    |                |                | 14.3              | 11.2             |                                      |                   | 2.012             | 2.286    |                   |                    |                   |                   |

附表3-13

| 岩土<br>编号 | 室内<br>定名 | 试样<br>深度<br>(m) | 天然<br>含水<br>率 | 湿<br>密<br>度 | 干<br>密<br>度 | 饱<br>和<br>密<br>度 | 土<br>粒<br>比<br>重 | 天然<br>孔<br>隙<br>比 | 饱<br>和<br>度 | 液<br>限 | 塑<br>限 | 塑<br>性<br>指<br>数 | 液<br>性<br>指<br>数 | 颗粒组成百分数 |      |      |       |        |         |          |            |             |         | 渗 透            |                | 直 剪                    |                  |                 |                  | 固结（垂直）           |                    |                   |                                      |
|----------|----------|-----------------|---------------|-------------|-------------|------------------|------------------|-------------------|-------------|--------|--------|------------------|------------------|---------|------|------|-------|--------|---------|----------|------------|-------------|---------|----------------|----------------|------------------------|------------------|-----------------|------------------|------------------|--------------------|-------------------|--------------------------------------|
|          |          |                 |               |             |             |                  |                  |                   |             |        |        |                  |                  | >60     | >40  | >20  | 10~20 | 2.0~10 | 0.5~2.0 | 0.25~0.5 | 0.075~0.25 | 0.005~0.075 | 0~0.005 | 水平<br>渗透<br>系数 | 竖向<br>渗透<br>系数 | 粘聚<br>力<br>(快剪)        | 内摩<br>擦角<br>(快剪) | 粘聚<br>力<br>(固快) | 内摩<br>擦角<br>(固快) | 压缩<br>系数         | 压缩<br>模量           | 固结<br>系数<br>(MPa) |                                      |
|          |          |                 |               |             |             |                  |                  |                   |             |        |        |                  |                  | (单位:mm) |      |      |       |        |         |          |            |             |         | K <sub>h</sub> | K <sub>v</sub> | q                      | φ <sub>q</sub>   | c <sub>q</sub>  | φ <sub>cq</sub>  | v <sub>1-2</sub> | E <sub>sv1-2</sub> | C <sub>v0.2</sub> | C <sub>v0.4</sub>                    |
|          |          |                 |               |             |             |                  |                  |                   |             |        |        |                  |                  | %       | %    | %    | %     | %      | %       | %        | %          | %           | %       | %              | %              | ×10 <sup>-6</sup> cm/s | kPa              | 度               | kPa              | 度                | MPa <sup>-1</sup>  | MPa               | ×10 <sup>-3</sup> cm <sup>2</sup> /s |
| DK25-19  | 粘土       | 45.90-46.20     | 36.7          | 1.85        | 1.35        | 1.86             | 2.75             | 1.032             | 97.8        | 46.2   | 27.3   | 18.9             | 0.5              |         |      |      |       |        |         | 53.2     | 46.8       |             |         | 11.2           | 8.9            |                        |                  |                 |                  |                  |                    |                   |                                      |
| DK25-20  | 粉质粘土     | 49.90-50.20     | 36.5          | 1.85        | 1.36        | 1.86             | 2.75             | 1.029             | 97.5        | 43.3   | 26.8   | 16.5             | 0.59             |         |      |      |       |        |         |          |            | 0.81        |         | 12.9           | 9.3            |                        |                  |                 |                  |                  | 1.494              | 1.354             |                                      |
| DK25-21  | 粉土       | 53.40-53.70     | 23.1          | 2.02        | 1.64        | 2.03             | 2.7              | 0.645             | 96.6        | 28.6   | 19.3   | 9.3              | 0.41             |         |      |      |       |        |         | 86.3     | 13.7       | 61          |         |                |                | 18                     | 23.6             |                 |                  |                  |                    |                   |                                      |
| DK26-1   | 粉质粘土     | 3.70-4.00       | 32.3          | 1.9         | 1.44        | 1.91             | 2.72             | 0.894             | 98.3        | 35.3   | 20.8   | 14.5             | 0.79             |         |      |      |       |        |         |          |            | 0.6         |         | 16             | 10.6           |                        |                  |                 | 0.5              | 3.79             | 3.375              | 3.486             |                                      |
| DK26-2   | 淤泥       | 6.70-7.00       | 61.1          | 1.65        | 1.02        | 1.65             | 2.75             | 1.685             | 99.7        | 54.8   | 29.5   | 25.3             | 1.25             |         |      |      |       |        |         |          |            |             |         | 5.3            | 3.3            |                        |                  |                 | 1.29             | 2.08             | 0.672              | 0.736             |                                      |
| DK26-3   | 淤泥       | 8.70-9.00       | 57            | 1.68        | 1.07        | 1.68             | 2.75             | 1.57              | 99.8        | 52.1   | 28.3   | 23.8             | 1.21             |         |      |      |       |        |         |          |            | 0.17        |         |                |                | 9.8                    | 7.3              | 1.24            | 2.07             | 1.906            | 1.935              |                   |                                      |
| DK26-4   | 粉质粘土     | 10.70-11.00     | 30.8          | 1.93        | 1.48        | 1.93             | 2.72             | 0.843             | 99.3        | 35.3   | 21.5   | 13.8             | 0.67             |         |      |      |       |        |         | 66.5     | 33.5       |             |         | 13.2           | 9              |                        |                  |                 | 0.88             | 2.1              | 1.241              | 1.168             |                                      |
| DK26-5   |          | 12.70-13.00     |               |             |             |                  |                  |                   |             |        |        |                  |                  |         |      |      |       |        |         |          |            |             |         |                |                |                        |                  |                 |                  |                  |                    |                   |                                      |
| DK26-6   | 淤泥       | 14.70-15.00     | 58.5          | 1.66        | 1.05        | 1.67             | 2.75             | 1.626             | 99          | 52.2   | 29.6   | 22.6             | 1.28             |         |      |      |       |        |         |          |            |             |         |                | 5.8            | 4.3                    |                  |                 |                  | 1.44             | 1.82               | 1.009             | 1.162                                |
| DK26-7   | 淤泥       | 16.70-17.00     | 58.6          | 1.66        | 1.05        | 1.67             | 2.75             | 1.627             | 99          | 53.9   | 28.9   | 25               | 1.19             |         |      |      |       |        |         | 47.3     | 52.7       |             | 0.15    |                |                | 9.5                    | 7.1              | 1.26            | 2.09             | 1.644            | 1.619              |                   |                                      |
| DK26-8   | 淤泥       | 18.70-19.00     | 58.3          | 1.66        | 1.05        | 1.67             | 2.75             | 1.622             | 98.8        | 53.6   | 28.3   | 25.3             | 1.19             |         |      |      |       |        |         |          |            |             |         | 5.6            | 3.9            |                        |                  |                 | 1.14             | 2.3              | 2.106              | 2.067             |                                      |
| DK26-9   | 淤泥       | 20.70-21.00     | 63.9          | 1.63        | 0.99        | 1.63             | 2.75             | 1.765             | 99.6        | 55.3   | 30.2   | 25.1             | 1.34             |         |      |      |       |        |         |          |            | 0.18        |         | 4.6            | 3              |                        |                  |                 | 1.43             | 1.93             | 1.958              | 1.186             |                                      |
| DK26-10  | 淤泥质粘土    | 22.70-23.00     | 52.8          | 1.7         | 1.11        | 1.71             | 2.73             | 1.454             | 99.2        | 49.5   | 27     | 22.5             | 1.15             |         |      |      |       |        |         |          |            |             | 0.23    |                |                | 12.5                   | 10.2             | 1.12            | 2.19             | 1.064            | 1.235              |                   |                                      |
| DK26-11  | 淤泥       | 24.70-25.00     | 58            | 1.66        | 1.05        | 1.67             | 2.75             | 1.617             | 98.6        | 52.8   | 27.9   | 24.9             | 1.21             |         |      |      |       |        |         | 49.5     | 50.5       |             |         | 5.3            | 4              |                        |                  |                 | 1.27             | 2.06             | 1.261              | 1.024             |                                      |
| DK26-12  | 淤泥       | 26.70-27.00     | 56.5          | 1.67        | 1.07        | 1.68             | 2.74             | 1.568             | 98.7        | 52.3   | 29.2   | 23.1             | 1.18             |         |      |      |       |        |         |          |            | 0.08        |         |                |                | 11.8                   | 10.1             | 1.02            | 2.52             | 1.959            | 0.968              |                   |                                      |
| DK26-13  | 淤泥       | 28.70-29.00     | 61.1          | 1.65        | 1.02        | 1.65             | 2.75             | 1.685             | 99.7        | 55.1   | 29.9   | 25.2             | 1.24             |         |      |      |       |        |         |          |            |             |         |                | 5.6            | 3.4                    |                  |                 |                  | 1.58             | 1.7                | 1.127             | 1.114                                |
| DK26-14  | 淤泥       | 32.20-32.50     | 59.2          | 1.66        | 1.04        | 1.66             | 2.75             | 1.637             | 99.4        | 52.8   | 29.1   | 23.7             | 1.27             |         |      |      |       |        |         |          |            |             | 0.32    | 5.8            | 4.6            |                        |                  |                 | 1.38             | 1.91             | 1.074              | 1.121             |                                      |
| DK26-15  | 淤泥       | 36.20-36.50     | 63.9          | 1.63        | 0.99        | 1.63             | 2.75             | 1.765             | 99.6        | 56.9   | 30.1   | 26.8             | 1.26             |         |      |      |       |        |         | 46.6     | 53.4       |             |         |                |                | 8.6                    | 6.5              | 0.63            | 4.39             | 2.635            | 0.944              |                   |                                      |
| DK26-16  | 粘土       | 40.20-40.50     | 42.1          | 1.8         | 1.27        | 1.8              | 2.72             | 1.147             | 99.8        | 45.6   | 28     | 17.6             | 0.8              |         |      |      |       |        |         |          |            | 0.21        |         | 15.3           | 9.2            |                        |                  |                 | 0.58             | 3.7              | 1.534              | 1.223             |                                      |
| DK26-17  | 粘土       | 44.20-44.50     | 41.6          | 1.81        | 1.28        | 1.81             | 2.72             | 1.128             | 100         | 45.3   | 26.2   | 19.1             | 0.81             |         |      |      |       |        |         |          |            |             |         |                |                | 14.5                   | 12.2             | 0.61            | 3.49             | 1.417            | 1.114              |                   |                                      |
| DK26-18  | 粉质粘土     | 48.20-48.50     | 40.6          | 1.81        | 1.29        | 1.81             | 2.72             | 1.113             | 99.2        | 43.2   | 26.8   | 16.4             | 0.84             |         |      |      |       |        |         |          |            |             |         | 15.3           | 9.8            |                        |                  |                 | 0.67             | 3.15             | 1.016              | 1.121             |                                      |
| DK26-19  | 粉质粘土     | 52.20-52.50     | 22.5          | 2.03        | 1.66        | 2.04             | 2.7              | 0.629             | 96.5        | 32.2   | 20.6   | 11.6             | 0.16             |         |      |      |       |        |         | 73.7     | 26.3       |             | 5.2     |                |                | 18.2                   | 19.8             | 0.28            | 5.82             | 1.89             | 2.574              |                   |                                      |
| DK27-1   | 卵石       | 0.50-0.80       |               |             |             |                  |                  |                   |             |        |        |                  |                  |         | 31.2 | 50.9 | 8.5   | 2.6    | 1.6     | 1.1      | 0.5        | 1.8         | 1.8     |                |                |                        |                  |                 |                  |                  |                    |                   |                                      |
| DK27-2   | 粉质粘土     | 2.10-2.40       | 32.3          | 1.92        | 1.45        | 1.92             | 2.72             | 0.874             | 100         | 35.2   | 22.3   | 12.9             | 0.78             |         |      |      |       |        |         |          |            | 0.63        |         | 16             | 11             |                        |                  |                 | 0.5              | 3.75             | 1.063              | 1.31              |                                      |
| DK27-3   | 淤泥质粉质粘土  | 4.10-4.40       | 41.3          | 1.81        | 1.28        | 1.81             | 2.73             | 1.131             | 99.7        | 40.3   | 23.9   | 16.4             | 1.06             |         |      |      |       |        |         |          |            |             |         |                |                | 13.1                   | 11.9             | 0.92            | 2.32             | 1.093            | 1.143              |                   |                                      |
| DK27-4   | 粉质粘土     | 6.10-6.40       | 28            | 1.98        | 1.55        | 1.98             | 2.73             | 0.765             | 99.9        | 35.6   | 19.5   | 16.1             | 0.53             |         |      |      |       |        |         | 69       | 31         |             | 7.9     | 18.5           | 12.6           |                        |                  |                 | 0.4              | 4.41             | 1.24               | 1.388             |                                      |
| DK27-5   | 粉质粘土     | 7.10-7.40       | 33.9          | 1.88        | 1.4         | 1.89             | 2.73             | 0.944             | 98          | 35.6   | 21.2   | 14.4             | 0.88             |         |      |      |       |        |         |          |            |             |         |                |                | 16.3                   | 12.2             | 0.67            | 2.9              | 1.654            | 1.876              |                   |                                      |
| DK27-6   | 淤泥质粘土    | 9.10-9.40       | 44.9          | 1.77        | 1.22        | 1.78             | 2.75             | 1.251             | 98.7        | 43.1   | 25     | 18.1             | 1.1              |         |      |      |       |        |         |          |            | 0.35        |         | 12.6           | 8.6            |                        |                  |                 | 1.02             | 2.21             | 1.662              | 1.86              |                                      |
| DK27-7   | 淤泥质粘土    | 11.10-11.40     | 50.6          | 1.73        | 1.15        | 1.73             | 2.75             | 1.394             | 99.8        | 47.1   | 25     | 22.1             | 1.16             |         |      |      |       |        |         | 59.3     | 40.7       |             | 0.19    | 9.8            | 7.9            |                        |                  |                 | 1.28             | 1.87             | 1.372              | 1.439             |                                      |
| DK27-8   | 淤泥质粘土    | 13.10-13.40     | 46.2          | 1.76        | 1.2         | 1.76             | 2.74             | 1.276             | 99.2        | 43.2   | 25     | 18.2             | 1.16             |         |      |      |       |        |         |          |            |             |         |                |                | 13.2                   | 10.9             | 1.09            | 2.09             | 1.425            | 1.578              |                   |                                      |
| DK27-9   | 淤泥       | 15.10-15.40     | 56.3          | 1.67        | 1.07        | 1.68             | 2.75             | 1.574             | 98.4        | 52.6   | 28     | 24.6             | 1.15             |         |      |      |       |        |         |          |            |             |         | 7              | 5.1            |                        |                  |                 | 1.49             | 1.73             | 1.281              | 1.341             |                                      |
| DK27-10  | 淤泥质粘土    | 17.10-17.40     | 48            | 1.72        | 1.16        | 1.74             | 2.75             | 1.366             | 96.6        | 45.6   | 25.1   | 20.5             | 1.12             |         |      |      |       |        |         | 53.5     | 46.5       | 0.43        |         |                |                | 14.6                   | 11.3             | 1.42            | 1.67             | 1.331            | 1.381              |                   |                                      |
| DK27-11  | 淤泥质粘土    | 19.10-19.40     | 50.7          | 1.72        | 1.14        | 1.73             | 2.75             | 1.409             | 98.9        | 49.5   | 25.6   | 23.9             | 1.05             |         |      |      |       |        |         |          |            | 0.15        | 10.6    | 7.6            |                |                        |                  | 1.4             | 1.72             | 1.621            | 1.45               |                   |                                      |
| DK27-12  | 淤泥质粘土    | 22.20-22.50     | 52.7          | 1.7         | 1.11        | 1.71             | 2.74             | 1.461             | 98.8        | 48.2   | 27.5   | 20.7             | 1.22             |         |      |      |       |        |         | 55.2     | 44.8       |             |         | 8.2            | 6.8            |                        |                  |                 | 1.65             | 1.49             |                    |                   |                                      |
| DK27-13  | 淤泥       | 24.20-24.50     | 56.2          | 1.67        | 1.07        | 1.68             | 2.75             | 1.572             | 98.3        | 52.6   | 28.9   | 23.7             | 1.15             |         |      |      |       |        |         |          |            |             | 0.082   | 6.9            | 5.3            |                        |                  |                 | 1.38             | 1.86             |                    |                   |                                      |
| DK27-14  | 淤泥       | 26.20-26.50     | 55.3          | 1.68        | 1.08        | 1.69             | 2.75             | 1.542             | 98.6        | 52.2   | 28.5   | 23.7             | 1.13             |         |      |      |       |        |         |          |            |             |         |                |                | 10.3                   | 8.5              | 1.36            | 1.87             | 1.171            | 1.207              |                   |                                      |
| DK27-15  | 淤泥       | 28.20-28.50     | 58.7          | 1.67        | 1.05        | 1.67             | 2.75             | 1.613             | 100         | 54     | 28.1   | 25.9             | 1.18             |         |      |      |       |        |         | 47.3     | 52.7       | 0.1         |         | 6              | 4.1            |                        |                  |                 | 1.5              | 1.74             | 1.446              | 1.521             |                                      |
| DK27-16  | 淤泥       | 30.20-30.50     | 58.6          | 1.67        | 1.05        | 1.67             | 2.75             | 1.612             | 100         | 53.9   | 29.3   | 24.6             | 1.19             |         |      |      |       |        |         |          |            |             |         |                |                | 10                     | 7.6              | 1.46            | 1.79             | 1.421            | 1.077              |                   |                                      |
| DK27-17  | 淤泥质粘土    | 33.20-33.50     | 49.7          | 1.71        | 1.14        | 1.72             | 2.73             | 1.39              | 97.6        | 48.6   | 26     | 22.6             | 1.05             |         |      |      |       |        |         |          |            |             | 0.35    | 11.3           | 9.5            |                        |                  |                 | 0.86             | 2.78             | 1.257              | 1.331             |                                      |

附表3-14

[illegible]

**附表3-15**

[illegible]

平阳鳌江标准堤加固工程初步设计堤防地基土层室内土工试验综合成果表

附表3-16

| 岩土<br>编号 | 室内<br>定名 | 试样<br>深度<br>(m) | 天然<br>含水<br>率 | 湿<br>密<br>度       | 干<br>密<br>度       | 饱<br>和<br>密<br>度  | 土<br>粒<br>比<br>重 | 天然<br>孔<br>隙<br>比 | 饱<br>和<br>度    | 液<br>限         | 塑<br>限         | 塑<br>性<br>指<br>数 | 液<br>性<br>指<br>数 | 颗粒组成百分数 |     |      |       |        |         |          |            |             |         | 渗 透            |                        | 直 剪         |                  |                |                  | 固结（垂直）           |                    |                   |                                      |
|----------|----------|-----------------|---------------|-------------------|-------------------|-------------------|------------------|-------------------|----------------|----------------|----------------|------------------|------------------|---------|-----|------|-------|--------|---------|----------|------------|-------------|---------|----------------|------------------------|-------------|------------------|----------------|------------------|------------------|--------------------|-------------------|--------------------------------------|
|          |          |                 | ω             | ρ                 | ρ <sub>d</sub>    | ρ <sub>sat</sub>  | G <sub>s</sub>   | e <sub>0</sub>    | S <sub>r</sub> | ω <sub>L</sub> | ω <sub>p</sub> | I <sub>p</sub>   | I <sub>L</sub>   | >60     | >40 | >20  | 10~20 | 2.0~10 | 0.5~2.0 | 0.25~0.5 | 0.075~0.25 | 0.005~0.075 | 0~0.005 | 水平<br>渗透<br>系数 | 竖向<br>渗透<br>系数         | 粘聚力<br>(快剪) | 内摩<br>擦角<br>(快剪) | 粘聚力<br>(固快)    | 内摩<br>擦角<br>(固快) | 压缩<br>系数         | 压缩<br>模量           | 固结<br>系数<br>(MPa) |                                      |
|          |          |                 | %             | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |                  |                   | %              | %              | %              |                  |                  | (单位:mm) |     |      |       |        |         |          |            |             |         | K <sub>h</sub> | K <sub>v</sub>         | q           | φ <sub>q</sub>   | c <sub>q</sub> | φ <sub>cq</sub>  | v <sub>1-2</sub> | E <sub>sv1-2</sub> | C <sub>v0.2</sub> | C <sub>v0.4</sub>                    |
|          |          |                 | %             | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |                  |                   | %              | %              | %              | %                | %                | %       | %   | %    | %     | %      | %       | %        | %          | %           | %       | %              | ×10 <sup>-6</sup> cm/s |             | kPa              | 度              | kPa              | 度                | MPa <sup>-1</sup>  | MPa               | ×10 <sup>-3</sup> cm <sup>2</sup> /s |
| BDK30-15 | 淤泥       | 29.70-30.00     | 65.5          | 1.63              | 0.98              | 1.63              | 2.75             | 1.792             | 100            | 53.7           | 29.5           | 24.2             | 1.49             |         |     |      |       |        |         |          | 48.1       | 51.9        |         | 0.11           | 5.5                    | 3.6         |                  |                | 1.08             | 2.59             | 2.75               | 1.489             |                                      |
| BDK30-16 | 淤泥       | 32.70-33.00     | 60.5          | 1.66              | 1.03              | 1.66              | 2.75             | 1.659             | 100            | 54.3           | 29.8           | 24.5             | 1.25             |         |     |      |       |        |         |          |            |             |         |                | 6.2                    | 4.5         |                  |                | 1.25             | 2.13             | 2.161              | 1.043             |                                      |
| BDK30-17 | 淤泥       | 35.70-36.00     | 60.1          | 1.66              | 1.04              | 1.66              | 2.75             | 1.652             | 100            | 54.3           | 28.7           | 25.6             | 1.23             |         |     |      |       |        |         |          |            |             | 0.081   |                |                        |             | 10.3             | 8.2            | 0.98             | 2.71             | 2.301              | 1.528             |                                      |
| BDK30-18 | 砾砂       | 38.70-39.00     | 31.5          | 1.91              | 1.45              | 1.92              | 2.71             | 0.866             | 98.6           |                |                |                  |                  |         |     | 41.2 | 13.1  | 7.5    | 2.6     | 13.2     | 22.4       |             |         | 13.2           | 16.5                   |             |                  | 0.53           | 3.52             | 4.366            | 3.786              |                   |                                      |
| BDK30-19 | 粘土       | 41.70-42.00     | 41.5          | 1.78              | 1.26              | 1.8               | 2.72             | 1.162             | 97.1           | 46             | 26.8           | 19.2             | 0.77             |         |     |      |       |        |         |          |            |             | 0.61    | 15.3           | 11.5                   |             |                  | 0.8            | 2.7              |                  |                    |                   |                                      |
| BDK30-20 | 粉质粘土     | 44.70-45.00     | 23.6          | 2.03              | 1.64              | 2.03              | 2.69             | 0.638             | 99.5           | 32.2           | 20.6           | 11.6             | 0.26             |         |     |      |       |        |         | 23.5     | 57.9       | 18.6        |         |                |                        | 22.2        | 16.8             | 0.28           | 5.85             | 4.499            | 4.323              |                   |                                      |
| BDK30-21 | 粘土       | 47.70-48.00     | 39.3          | 1.83              | 1.31              | 1.83              | 2.73             | 1.078             | 99.5           | 43.3           | 25.3           | 18               | 0.78             |         |     |      |       |        |         |          |            |             |         |                | 16.3                   | 12.3        |                  |                | 0.57             | 3.65             | 1.039              | 0.571             |                                      |
| BDK30-22 | 粘土       | 50.70-51.00     | 41.4          | 1.78              | 1.26              | 1.8               | 2.73             | 1.169             | 96.7           | 45.3           | 25.5           | 19.8             | 0.8              |         |     |      |       |        |         | 65.3     | 34.7       |             | 0.65    | 15.3           | 11.5                   |             |                  | 0.62           | 3.5              |                  |                    |                   |                                      |
| BDK30-23 | 粘土       | 53.70-54.00     | 42.6          | 1.78              | 1.25              | 1.79              | 2.73             | 1.187             | 98             | 43.8           | 25.5           | 18.3             | 0.93             |         |     |      |       |        |         |          |            | 0.39        |         |                |                        | 18.3        | 14.6             | 0.79           | 2.77             | 2.251            | 0.426              |                   |                                      |
| BDK30-24 | 粘土       | 56.70-57.00     | 43.2          | 1.78              | 1.24              | 1.79              | 2.73             | 1.196             | 98.6           | 46.6           | 26.3           | 20.3             | 0.83             |         |     |      |       |        |         | 63.8     | 36.2       |             |         | 16.3           | 11.8                   |             |                  | 0.44           | 4.99             | 2.125            | 1.197              |                   |                                      |
| BDK30-25 | 粘土       | 59.70-60.00     | 43.3          | 1.78              | 1.24              | 1.79              | 2.73             | 1.198             | 98.7           | 45.6           | 25.9           | 19.7             | 0.88             |         |     |      |       |        |         |          |            |             |         |                | 15.5                   | 12.2        |                  |                | 0.46             | 4.78             | 1.465              | 0.946             |                                      |
| BDK31-1  | 卵石       | 1.00-1.30       |               |                   |                   |                   |                  |                   |                |                |                |                  |                  | 95.9    | 3.8 |      | 0.1   | 0.2    |         |          |            |             |         |                |                        |             |                  |                |                  |                  |                    |                   |                                      |
| BDK31-2  | 淤泥质粉质粘土  | 2.70-3.00       | 40.3          | 1.81              | 1.29              | 1.82              | 2.72             | 1.108             | 98.9           | 36.3           | 22.2           | 14.1             | 1.28             |         |     |      |       |        |         |          |            | 0.78        |         |                |                        | 12.5        | 10.2             | 0.67           | 3.15             | 1.185            | 1.533              |                   |                                      |
| BDK31-3  | 淤泥       | 4.70-5.00       | 57.5          | 1.68              | 1.07              | 1.68              | 2.75             | 1.578             | 100            | 52.8           | 28.8           | 24               | 1.2              |         |     |      |       |        |         |          | 43.3       | 56.7        |         |                | 6.5                    | 5.2         |                  |                | 1.22             | 2.11             | 1.444              | 1.529             |                                      |
| BDK31-4  | 淤泥质粘土    | 6.70-7.00       | 53.6          | 1.7               | 1.11              | 1.7               | 2.75             | 1.485             | 99.3           | 52             | 29             | 23               | 1.07             |         |     |      |       |        |         |          |            |             |         |                | 7.8                    | 5.6         |                  |                | 1.21             | 2.05             | 1.231              | 1.325             |                                      |
| BDK31-5  | 淤泥       | 8.70-9.00       | 55.9          | 1.68              | 1.08              | 1.69              | 2.75             | 1.552             | 99.1           | 52.9           | 29.3           | 23.6             | 1.13             |         |     |      |       |        |         |          |            | 0.51        |         |                |                        | 9.8         | 7.5              |                |                  |                  |                    |                   |                                      |
| BDK31-6  | 淤泥质粘土    | 10.70-11.00     | 54.1          | 1.7               | 1.1               | 1.7               | 2.75             | 1.493             | 99.7           | 51.6           | 28.3           | 23.3             | 1.11             |         |     |      |       |        |         |          |            |             | 0.28    | 8.2            | 5.5                    |             |                  | 1.15           | 2.17             | 2.269            | 0.989              |                   |                                      |
| BDK31-7  | 淤泥       | 12.70-13.00     | 54.8          | 1.7               | 1.1               | 1.7               | 2.75             | 1.504             | 100            | 53.2           | 28             | 25.2             | 1.06             |         |     |      |       |        |         |          | 44.4       | 55.6        |         |                | 7.6                    | 5.3         |                  |                | 1.16             | 2.16             | 1.161              | 1.329             |                                      |
| BDK31-8  | 淤泥质粘土    | 14.70-15.00     | 52.4          | 1.71              | 1.12              | 1.71              | 2.74             | 1.442             | 99.6           | 49.5           | 27.2           | 22.3             | 1.13             |         |     |      |       |        |         |          |            |             |         |                |                        | 10.5        | 8.1              | 1.63           | 1.5              | 1.213            | 1.269              |                   |                                      |
| BDK31-9  | 淤泥       | 16.70-17.00     | 60.4          | 1.66              | 1.03              | 1.66              | 2.75             | 1.657             | 100            | 54.3           | 29.5           | 24.8             | 1.25             |         |     |      |       |        |         |          |            | 0.08        |         |                | 5.3                    | 4           |                  |                | 1.45             | 1.83             | 1.22               | 1.337             |                                      |
| BDK31-10 | 淤泥       | 18.70-19.00     | 59.4          | 1.66              | 1.04              | 1.66              | 2.75             | 1.641             | 99.6           | 53.9           | 29.8           | 24.1             | 1.23             |         |     |      |       |        |         |          |            |             | 0.079   | 5.1            | 3.8                    |             |                  | 1.58           | 1.67             | 1.375            | 1.304              |                   |                                      |
| BDK31-11 | 淤泥       | 20.70-21.00     | 58.1          | 1.66              | 1.05              | 1.67              | 2.75             | 1.619             | 98.7           | 53.1           | 29.3           | 23.8             | 1.21             |         |     |      |       |        |         |          | 45         | 55          |         |                |                        |             | 9.5              | 8              | 1.42             | 1.84             | 1.355              | 1.429             |                                      |
| BDK31-12 | 淤泥       | 22.70-23.00     | 57.9          | 1.68              | 1.06              | 1.68              | 2.75             | 1.585             | 100            | 53.1           | 29.1           | 24               | 1.2              |         |     |      |       |        |         |          |            |             |         |                | 5.8                    | 4.3         |                  |                | 1.38             | 1.87             | 1.062              | 0.993             |                                      |
| BDK31-13 | 淤泥       | 24.70-25.00     | 58.6          | 1.66              | 1.05              | 1.67              | 2.75             | 1.627             | 99             | 53.2           | 29.2           | 24               | 1.22             |         |     |      |       |        |         |          |            |             | 0.15    | 5.6            | 4                      |             |                  | 1.82           | 1.44             | 1.627            | 1.379              |                   |                                      |
| BDK31-14 | 淤泥       | 26.70-27.00     | 59.9          | 1.66              | 1.04              | 1.66              | 2.75             | 1.649             | 99.9           | 53.5           | 28.6           | 24.9             | 1.26             |         |     |      |       |        |         |          |            |             |         |                |                        | 9           | 7.6              | 1.08           | 2.45             | 1.997            | 0.948              |                   |                                      |
| BDK31-15 | 淤泥       | 28.70-29.00     | 57.5          | 1.68              | 1.07              | 1.68              | 2.75             | 1.578             | 100            | 52.3           | 28.7           | 23.6             | 1.22             |         |     |      |       |        |         |          | 44.1       | 55.9        |         |                | 6.6                    | 4.6         |                  |                | 1.1              | 2.34             | 1.262              | 1.245             |                                      |
| BDK31-16 | 淤泥       | 31.70-32.00     | 61.6          | 1.63              | 1.01              | 1.64              | 2.75             | 1.726             | 98.1           | 53.1           | 28.5           | 24.6             | 1.35             |         |     |      |       |        |         |          |            | 0.095       |         |                | 5.5                    | 3.7         |                  |                | 1.32             | 2.07             | 1.275              | 1.162             |                                      |
| BDK31-17 | 淤泥       | 34.70-35.00     | 59.1          | 1.66              | 1.04              | 1.66              | 2.75             | 1.636             | 99.4           | 53.5           | 29.5           | 24               | 1.23             |         |     |      |       |        |         |          |            |             | 0.12    |                |                        | 9.8         | 7.8              | 1.21           | 2.18             | 1.282            | 0.986              |                   |                                      |
| BDK31-18 | 粘土       | 37.70-38.00     | 42.5          | 1.78              | 1.25              | 1.79              | 2.73             | 1.186             | 97.9           | 45.9           | 26.2           | 19.7             | 0.83             |         |     |      |       |        |         | 63.2     | 36.8       |             |         | 15.2           | 12.2                   |             |                  | 0.67           | 3.26             | 3.109            | 3.742              |                   |                                      |
| BDK31-19 | 粉质粘土     | 40.70-41.00     | 37            | 1.85              | 1.35              | 1.85              | 2.72             | 1.014             | 99.2           | 38.2           | 22.8           | 15.4             | 0.92             |         |     |      |       |        |         |          |            |             |         |                | 18.3                   | 12.6        |                  |                | 0.33             | 6.1              |                    |                   |                                      |
| BDK31-20 | 粉质粘土     | 43.70-44.00     | 28.1          | 1.96              | 1.53              | 1.97              | 2.72             | 0.778             | 98.3           | 30.2           | 19.5           | 10.7             | 0.8              |         |     |      |       |        |         |          |            | 0.89        |         |                |                        | 23.2        | 15.7             | 0.5            | 3.56             |                  |                    |                   |                                      |
| BDK32-1  |          | 1.20-1.50       |               |                   |                   |                   |                  |                   |                |                |                |                  |                  |         |     |      | 2.2   | 2      | 2.5     | 2.4      | 88.2       | 2.7         |         |                |                        |             |                  |                |                  |                  |                    |                   |                                      |
| BDK32-2  | 粉质粘土     | 3.20-3.50       | 35            | 1.85              | 1.37              | 1.87              | 2.72             | 0.985             | 96.7           | 35.9           | 23.2           | 12.7             | 0.93             |         |     |      |       |        |         |          |            |             | 0.52    |                |                        | 15.3        | 13.1             | 0.48           | 4.14             | 1.349            | 0.632              |                   |                                      |
| BDK32-3  | 粉质粘土     | 5.20-5.50       | 34.7          | 1.86              | 1.38              | 1.87              | 2.72             | 0.97              | 97.3           | 36.1           | 22.3           | 13.8             | 0.9              |         |     |      |       |        |         |          | 69.5       | 30.5        | 0.73    |                | 13.2                   | 11.2        |                  |                | 0.6              | 3.28             | 1.312              | 1.4               |                                      |
| BDK32-4  | 淤泥       | 7.20-7.50       | 56.8          | 1.68              | 1.07              | 1.68              | 2.75             | 1.567             | 99.7           | 52.6           | 28.8           | 23.8             | 1.18             |         |     |      |       |        |         |          |            |             |         |                |                        | 10.6        | 9.1              | 1.26           | 2.04             | 1.036            | 1.256              |                   |                                      |
| BDK32-5  | 淤泥       | 9.20-9.50       | 58.3          | 1.66              | 1.05              | 1.67              | 2.75             | 1.622             | 98.8           | 53.2           | 29.2           | 24               | 1.21             |         |     |      |       |        |         |          |            |             |         |                | 6.8                    | 4.6         |                  |                | 1.49             | 1.76             | 0.927              | 0.938             |                                      |
| BDK32-6  | 淤泥       | 11.20-11.50     | 63.3          | 1.63              | 1                 | 1.64              | 2.75             | 1.755             | 99.2           | 54             | 29.5           | 24.5             | 1.38             |         |     |      |       |        |         |          |            |             | 0.11    | 4.9            | 3.2                    |             |                  | 1.29           | 2.14             | 1.202            |                    |                   |                                      |

附表3-17

| 岩土<br>编号 | 室内<br>定名 | 试样<br>深度<br>(m) | 天然<br>含水<br>率 | 湿<br>密<br>度 | 干<br>密<br>度 | 饱<br>和<br>密<br>度 | 土<br>粒<br>比<br>重 | 天然<br>孔<br>隙<br>比 | 饱<br>和<br>度 | 液<br>限 | 塑<br>限 | 塑<br>性<br>指<br>数 | 液<br>性<br>指<br>数 | 颗粒组成百分数 |      |      |       |        |         |          |            |             |         | 渗 透                    |                | 直 剪         |                  |                |                   | 固结（垂直）           |                                      |                   |                   |
|----------|----------|-----------------|---------------|-------------|-------------|------------------|------------------|-------------------|-------------|--------|--------|------------------|------------------|---------|------|------|-------|--------|---------|----------|------------|-------------|---------|------------------------|----------------|-------------|------------------|----------------|-------------------|------------------|--------------------------------------|-------------------|-------------------|
|          |          |                 |               |             |             |                  |                  |                   |             |        |        |                  |                  | >60     | >40  | >20  | 10~20 | 2.0~10 | 0.5~2.0 | 0.25~0.5 | 0.075~0.25 | 0.005~0.075 | 0~0.005 | 水平<br>渗透<br>系数         | 竖向<br>渗透<br>系数 | 粘聚力<br>(快剪) | 内摩<br>擦角<br>(快剪) | 粘聚力<br>(固快)    | 内摩<br>擦角<br>(固快)  | 压缩<br>系数         | 压缩<br>模量                             | 固结<br>系数<br>(MPa) |                   |
|          |          |                 |               |             |             |                  |                  |                   |             |        |        |                  |                  | (单位:mm) |      |      |       |        |         |          |            |             |         | K <sub>h</sub>         | K <sub>v</sub> | q           | φ <sub>q</sub>   | c <sub>q</sub> | φ <sub>cq</sub>   | v <sub>1-2</sub> | E <sub>sv1-2</sub>                   | C <sub>v0.2</sub> | C <sub>v0.4</sub> |
|          |          |                 |               |             |             |                  |                  |                   |             |        |        |                  |                  | %       | %    | %    | %     | %      | %       | %        | %          | %           | %       | ×10 <sup>-6</sup> cm/s | kPa            | 度           | kPa              | 度              | MPa <sup>-1</sup> | MPa              | ×10 <sup>-3</sup> cm <sup>2</sup> /s |                   |                   |
| BDK32-9  | 淤泥       | 17.20-17.50     | 54.5          | 1.65        | 1.07        | 1.68             | 2.74             | 1.566             | 95.4        | 52.7   | 28.9   | 23.8             | 1.08             |         |      |      |       |        |         |          |            | 0.13        | 6.1     | 4.5                    |                |             | 1.34             | 1.92           | 1.186             | 1.234            |                                      |                   |                   |
| BDK32-10 | 淤泥       | 19.20-19.50     | 55            | 1.69        | 1.09        | 1.69             | 2.74             | 1.513             | 99.6        | 52.5   | 28.2   | 24.3             | 1.1              |         |      |      |       |        |         |          |            |             |         |                        | 9.5            | 7.5         | 1.31             | 1.92           | 1.244             | 1.214            |                                      |                   |                   |
| BDK32-11 | 淤泥质粘土    | 21.20-21.50     | 51.2          | 1.7         | 1.12        | 1.71             | 2.74             | 1.437             | 97.6        | 49     | 26.3   | 22.7             | 1.1              |         |      |      |       |        | 47.7    | 52.3     | 0.33       |             | 6.8     | 5                      |                |             | 1.15             | 2.12           | 1.443             | 1.152            |                                      |                   |                   |
| BDK32-12 | 淤泥       | 23.20-23.50     | 54.2          | 1.68        | 1.09        | 1.69             | 2.74             | 1.515             | 98          | 51.5   | 28.5   | 23               | 1.12             |         |      |      |       |        |         |          |            |             |         | 6.5                    | 5.1            |             |                  | 0.99           | 2.54              | 1.504            | 1.186                                |                   |                   |
| BDK32-13 | 淤泥       | 25.20-25.50     | 57.7          | 1.66        | 1.05        | 1.67             | 2.75             | 1.613             | 98.4        | 53.8   | 28.8   | 25               | 1.16             |         |      |      |       |        |         |          |            | 0.19        |         |                        |                | 9.2         | 7                | 1.44           | 1.81              | 1.522            | 1.063                                |                   |                   |
| BDK32-14 | 淤泥       | 27.20-27.50     | 63.8          | 1.63        | 1           | 1.63             | 2.75             | 1.763             | 99.5        | 54.5   | 29.9   | 24.6             | 1.38             |         |      |      |       |        |         |          |            |             |         | 4.6                    | 3.3            |             |                  | 1.39           | 1.99              | 1.622            | 1.357                                |                   |                   |
| BDK32-15 | 淤泥       | 29.20-29.50     | 63.1          | 1.63        | 1           | 1.64             | 2.75             | 1.752             | 99.1        | 53.6   | 29.5   | 24.1             | 1.39             |         |      |      |       |        |         | 45.5     | 54.5       | 0.093       |         | 4.5                    | 3.5            |             |                  | 1.13           | 2.43              | 2.335            | 1.255                                |                   |                   |
| BDK32-16 | 淤泥       | 32.10-32.40     | 56.8          | 1.68        | 1.07        | 1.68             | 2.75             | 1.567             | 99.7        | 53.3   | 29.2   | 24.1             | 1.15             |         |      |      |       |        |         |          |            |             |         |                        |                | 10.2        | 8.6              | 1.13           | 2.27              | 1.832            | 1.562                                |                   |                   |
| BDK32-17 | 淤泥       | 35.10-35.40     | 63.1          | 1.63        | 1           | 1.64             | 2.75             | 1.752             | 99.1        | 53.2   | 29.3   | 23.9             | 1.41             |         |      |      |       |        |         |          |            | 0.072       | 5       | 3.8                    |                |             |                  |                |                   |                  |                                      |                   |                   |
| BDK32-18 | 砾砂       | 38.10-38.40     | 21.6          | 2           | 1.64        | 2.03             | 2.68             | 0.629             | 92          |        |        |                  |                  |         |      | 35.3 | 11.3  | 9.5    | 3.5     | 18.9     | 21.5       |             |         |                        |                | 15          | 23               | 0.23           | 7.09              | 4.104            | 6.343                                |                   |                   |
| BDK32-19 | 粉土       | 41.10-41.40     | 30.3          | 1.95        | 1.5         | 1.94             | 2.7              | 0.804             | 100         | 30.8   | 20.9   | 9.9              | 0.95             |         |      |      |       |        |         |          |            | 31          |         |                        | 16             | 20.6        |                  |                | 0.17              | 10.61            | 4.79                                 | 5.046             |                   |
| BDK32-20 | 粉土       | 44.10-44.40     | 26.4          | 1.96        | 1.55        | 1.98             | 2.7              | 0.741             | 96.2        | 28.3   | 20.8   | 7.5              | 0.75             |         |      |      |       |        |         | 89.1     | 10.9       |             |         |                        |                | 18.3        | 23.2             | 0.18           | 9.67              |                  |                                      |                   |                   |
| BDK32-21 | 粉土       | 47.10-47.40     | 28.3          | 1.96        | 1.53        | 1.96             | 2.7              | 0.767             | 99.6        | 29.3   | 20.2   | 9.1              | 0.89             |         |      |      |       |        |         |          |            |             |         | 2.9                    | 16.8           | 22.3        |                  |                | 0.18              | 9.82             | 4.595                                | 4.816             |                   |
| BDK32-22 | 粘土       | 50.10-50.40     | 41.1          | 1.8         | 1.28        | 1.81             | 2.73             | 1.14              | 98.4        | 45.9   | 25.8   | 20.1             | 0.76             |         |      |      |       |        |         |          |            |             |         |                        | 28.3           | 15          |                  |                | 0.29              | 7.38             | 1.698                                | 0.96              |                   |
| BDK32-23 | 粘土       | 53.10-53.40     | 40.2          | 1.81        | 1.29        | 1.82             | 2.72             | 1.107             | 98.8        | 45.3   | 26.1   | 19.2             | 0.73             |         |      |      |       |        |         | 63.5     | 36.5       |             |         |                        |                | 20.3        | 16.3             | 0.68           | 3.1               |                  |                                      |                   |                   |
| BDK32-24 | 粘土       | 56.10-56.40     | 39.7          | 1.81        | 1.3         | 1.82             | 2.71             | 1.092             | 98.6        | 43.3   | 25.6   | 17.7             | 0.8              |         |      |      |       |        |         |          |            | 0.58        |         | 16.5                   | 12.5           |             |                  | 0.54           | 3.87              | 1.029            | 1.048                                |                   |                   |
| BDK32-25 | 粘土       | 59.10-59.40     | 41.2          | 1.8         | 1.27        | 1.81             | 2.73             | 1.142             | 98.5        | 45.6   | 26     | 19.6             | 0.78             |         |      |      |       |        |         | 65       | 35         |             |         |                        |                | 18.3        | 15.2             |                |                   |                  |                                      |                   |                   |
| BDK33-1  | 淤泥质粉质粘土  | 2.20-2.50       | 41.1          | 1.81        | 1.28        | 1.81             | 2.73             | 1.128             | 99.5        | 36.2   | 22.6   | 13.6             | 1.36             |         |      |      |       |        |         |          |            |             | 0.32    | 13.3                   | 10.2           |             |                  | 0.72           | 2.96              | 1.705            | 1.939                                |                   |                   |
| BDK33-2  | 淤泥质粘土    | 4.20-4.50       | 54.7          | 1.69        | 1.09        | 1.69             | 2.73             | 1.499             | 99.6        | 49.6   | 29     | 20.6             | 1.25             |         |      |      |       |        |         |          |            |             |         |                        | 6.8            | 5.3         |                  |                | 1.36              | 1.84             | 1.129                                | 1.147             |                   |
| BDK33-3  | 淤泥       | 6.20-6.50       | 62.7          | 1.63        | 1           | 1.64             | 2.74             | 1.735             | 99          | 51.9   | 29.8   | 22.1             | 1.49             |         |      |      |       |        |         |          |            | 0.081       |         |                        |                | 9.2         | 8.3              | 1.97           | 1.39              |                  |                                      |                   |                   |
| BDK33-4  | 淤泥       | 8.20-8.50       | 64.4          | 1.63        | 0.99        | 1.63             | 2.74             | 1.764             | 100         | 53     | 29.8   | 23.2             | 1.49             |         |      |      |       |        |         | 47.5     | 52.5       |             |         |                        |                | 5.3         | 4.3              |                |                   | 1.69             | 1.64                                 | 1.256             | 1.267             |
| BDK33-5  | 淤泥       | 10.20-10.50     | 60.6          | 1.63        | 1.01        | 1.64             | 2.74             | 1.7               | 97.7        | 53.9   | 29.8   | 24.1             | 1.28             |         |      |      |       |        |         |          |            |             | 0.075   | 5.6                    | 3.9            |             |                  | 1.81           | 1.49              | 1.204            | 1.148                                |                   |                   |
| BDK33-6  | 淤泥       | 12.20-12.50     | 62.5          | 1.63        | 1           | 1.64             | 2.74             | 1.732             | 98.9        | 52.3   | 30.2   | 22.1             | 1.46             |         |      |      |       |        |         |          |            |             |         |                        |                | 8.8         | 7.6              | 1.89           | 1.45              |                  |                                      |                   |                   |
| BDK33-7  | 淤泥质粘土    | 14.20-14.50     | 54.2          | 1.7         | 1.1         | 1.7              | 2.73             | 1.476             | 100         | 48.9   | 28.9   | 20               | 1.26             |         |      |      |       |        |         | 51       | 49         | 0.3         |         | 6.3                    | 4.6            |             |                  | 1.45           | 1.71              | 1.128            | 1.123                                |                   |                   |
| BDK33-   | 淤泥       | 16.20-16.50     | 63.1          | 1.63        | 1           | 1.63             | 2.74             | 1.742             | 99.3        | 52.3   | 30.3   | 22               | 1.49             |         |      |      |       |        |         |          |            |             | 0.69    | 5.5                    | 3.8            |             |                  | 1.76           | 1.56              |                  |                                      |                   |                   |
| BDK33-9  | 淤泥       | 18.20-18.50     | 58.6          | 1.66        | 1.05        | 1.66             | 2.74             | 1.618             | 99.2        | 52.2   | 29.5   | 22.7             | 1.28             |         |      |      |       |        |         |          |            |             |         |                        |                | 9.2         | 7.8              | 1.69           | 1.55              | 1.108            | 0.957                                |                   |                   |
| BDK33-10 | 淤泥       | 20.20-20.50     | 58.9          | 1.66        | 1.04        | 1.66             | 2.74             | 1.623             | 99.4        | 52.1   | 29.2   | 22.9             | 1.3              |         |      |      |       |        |         |          |            | 0.53        |         | 6.5                    | 4.3            |             |                  | 1.2            | 2.19              | 1.469            | 0.931                                |                   |                   |
| BDK33-11 | 淤泥       | 22.20-22.50     | 62.2          | 1.63        | 1           | 1.64             | 2.74             | 1.727             | 98.7        | 52.6   | 29.8   | 22.8             | 1.42             |         |      |      |       |        |         | 46.5     | 53.5       |             |         | 5.3                    | 4              |             |                  | 1.37           | 1.99              | 1.51             | 1.08                                 |                   |                   |
| BDK33-12 | 淤泥质粘土    | 24.20-24.50     | 53.8          | 1.7         | 1.11        | 1.7              | 2.73             | 1.47              | 99.9        | 50.2   | 28.9   | 21.3             | 1.17             |         |      |      |       |        |         |          |            |             | 0.15    |                        |                | 11          | 9.5              | 1.22           | 2.02              |                  |                                      |                   |                   |
| BDK33-13 | 淤泥       | 26.20-26.50     | 61.4          | 1.63        | 1.01        | 1.64             | 2.74             | 1.713             | 98.2        | 53.6   | 29.8   | 23.8             | 1.33             |         |      |      |       |        |         |          |            |             |         |                        | 6              | 4.5         |                  |                | 1.45              | 1.87             | 1.031                                | 0.902             |                   |
| BDK33-14 | 淤泥       | 28.20-28.50     | 60.5          | 1.66        | 1.03        | 1.66             | 2.74             | 1.649             | 100         | 56.3   | 30.6   | 25.7             | 1.16             |         |      |      |       |        |         | 45.9     | 54.1       | 0.36        |         | 5.6                    | 4.1            |             |                  | 1.27           | 2.09              | 1.961            | 0.959                                |                   |                   |
| BDK33-15 | 淤泥       | 30.20-30.50     | 61.5          | 1.63        | 1.01        | 1.64             | 2.74             | 1.715             | 98.3        | 54.9   | 29.2   | 25.7             | 1.26             |         |      |      |       |        |         |          |            | 0.083       |         |                        |                | 9.5         | 8.1              | 1.2            | 2.26              | 2.292            | 1.392                                |                   |                   |
| BDK33-16 | 淤泥       | 33.20-33.50     | 55            | 1.68        | 1.08        | 1.69             | 2.73             | 1.519             | 98.9        | 49.5   | 28.7   | 20.8             | 1.26             |         |      |      |       |        |         |          |            |             |         | 6.3                    | 4.9            |             |                  | 0.97           | 2.6               | 2.636            | 1.763                                |                   |                   |
| BDK33-17 | 淤泥       | 36.20-36.50     | 55.9          | 1.68        | 1.08        | 1.68             | 2.74             | 1.543             | 99.3        | 50.7   | 29.2   | 21.5             | 1.24             |         |      |      |       |        |         | 46.8     | 53.2       |             | 0.15    |                        |                | 11.1        | 8.9              | 0.93           | 2.73              | 2.858            | 1.726                                |                   |                   |
| BDK33-18 | 粉质粘土     | 39.20-39.50     | 32.1          | 1.88        | 1.42        | 1.9              | 2.71             | 0.904             | 96.2        | 36.5   | 22.8   | 13.7             | 0.68             |         |      |      |       |        |         |          |            |             |         |                        | 16             | 12.8        |                  |                | 0.45              | 4.23             | 4.736                                | 4.483             |                   |
| BDK33-19 | 粉质粘土     | 42.20-42.50     | 30.2          | 1.9         | 1.46        | 1.92             | 2.7              | 0.85              | 95.9        | 32.1   | 21.5   | 10.6             | 0.82             |         |      |      |       |        |         | 77       | 23         | 3.2         |         | 13.6                   | 15.7           |             |                  | 0.44           | 4.2               | 3.81             | 3.833                                |                   |                   |
| BDK33-20 | 粉质粘土     | 46.20-46.50     | 22.3          | 2.03        | 1.66        | 2.05             | 2.71             | 0.633             | 95.5        | 35.3   | 22.6   | 12.7             | -0.02            |         |      |      |       |        |         |          |            | 3.8         |         |                        |                | 35          | 16.8             | 0.2            | 8.16              | 3.934            | 3.166                                |                   |                   |
| BDK33-21 | 卵石       | 48.20-48.50     |               |             |             |                  |                  |                   |             |        |        |                  |                  |         | 46.4 | 34.1 | 2.2   | 5.9    | 2.3     | 1.5      | 0.6        | 3.4         | 3.6     |                        |                |             |                  |                |                   |                  |                                      |                   |                   |
| BDK33-22 | 粘土       | 51.20-51.50     | 40.2          | 1.81        | 1.29        | 1.82             | 2.72             | 1.107             | 98.8        | 45.9   | 26.2   | 19.7             | 0.71             |         |      |      |       |        |         |          |            |             |         |                        | 22.3           | 13.5        |                  |                | 0.62              | 3.4              |                                      |                   |                   |

附表3-18

| 岩土<br>编号 | 室内<br>定名 | 试样<br>深度<br>(m) | 天然<br>含水<br>率 | 湿<br>密<br>度 | 干<br>密<br>度 | 饱<br>和<br>密<br>度 | 土<br>粒<br>比<br>重 | 天然<br>孔<br>隙<br>比 | 饱<br>和<br>度 | 液<br>限                 | 塑<br>限         | 塑<br>性<br>指<br>数 | 液<br>性<br>指<br>数 | 颗粒组成百分数        |                 |                   |                    |                                      |                   |          |            |             |         | 渗 透            |                | 直 剪             |                  |                 |                  | 固结（垂直）           |                  |                   |                    |                   |                   |
|----------|----------|-----------------|---------------|-------------|-------------|------------------|------------------|-------------------|-------------|------------------------|----------------|------------------|------------------|----------------|-----------------|-------------------|--------------------|--------------------------------------|-------------------|----------|------------|-------------|---------|----------------|----------------|-----------------|------------------|-----------------|------------------|------------------|------------------|-------------------|--------------------|-------------------|-------------------|
|          |          |                 |               |             |             |                  |                  |                   |             |                        |                |                  |                  | >60            | >40             | >20               | 10~20              | 2.0~10                               | 0.5~2.0           | 0.25~0.5 | 0.075~0.25 | 0.005~0.075 | 0~0.005 | 水平<br>渗透<br>系数 | 竖向<br>渗透<br>系数 | 粘聚<br>力<br>(快剪) | 内摩<br>擦角<br>(快剪) | 粘聚<br>力<br>(固快) | 内摩<br>擦角<br>(固快) | 压<br>缩<br>系<br>数 | 压<br>缩<br>模<br>量 | 固结<br>系数<br>(MPa) |                    |                   |                   |
|          |          |                 |               |             |             |                  |                  |                   |             |                        |                |                  |                  |                |                 |                   |                    |                                      |                   |          |            |             |         |                |                |                 |                  |                 |                  |                  |                  | v <sub>1-2</sub>  | E <sub>sv1-2</sub> | C <sub>v0.2</sub> | C <sub>v0.4</sub> |
|          |          |                 |               |             |             |                  |                  |                   |             |                        |                |                  |                  |                |                 |                   |                    |                                      |                   |          |            |             |         |                |                |                 |                  |                 |                  |                  |                  |                   |                    |                   |                   |
| (单位:mm)  |          |                 |               |             |             |                  |                  |                   |             | K <sub>h</sub>         | K <sub>v</sub> | q                | φ <sub>q</sub>   | c <sub>q</sub> | φ <sub>cq</sub> | v <sub>1-2</sub>  | E <sub>sv1-2</sub> | C <sub>v0.2</sub>                    | C <sub>v0.4</sub> |          |            |             |         |                |                |                 |                  |                 |                  |                  |                  |                   |                    |                   |                   |
|          |          |                 |               |             |             |                  |                  |                   |             | ×10 <sup>-6</sup> cm/s |                | kPa              | 度                | kPa            | 度               | MPa <sup>-1</sup> | MPa                | ×10 <sup>-3</sup> cm <sup>2</sup> /s |                   |          |            |             |         |                |                |                 |                  |                 |                  |                  |                  |                   |                    |                   |                   |
| BDK33-23 | 粉质粘土     | 54.20-54.50     | 38.5          | 1.83        | 1.32        | 1.84             | 2.72             | 1.059             | 98.9        | 39.5                   | 22.8           | 16.7             | 0.94             |                |                 |                   |                    |                                      |                   | 73.8     | 26.2       | 0.5         |         |                |                | 26.3            | 15.9             | 0.62            | 3.32             | 1.258            | 1.314            |                   |                    |                   |                   |
| DK34-1   |          | 1.60-1.90       |               |             |             |                  |                  |                   |             |                        |                |                  |                  |                |                 |                   |                    |                                      | 7.1               | 8.7      | 10         | 9.2         | 34.1    | 30.9           |                |                 |                  |                 |                  |                  |                  |                   |                    |                   |                   |
| DK34-2   | 淤泥       | 3.10-3.40       | 67.7          | 1.6         | 0.95        | 1.61             | 2.75             | 1.882             | 98.9        | 55.7                   | 30.6           | 25.1             | 1.48             |                |                 |                   |                    |                                      |                   |          |            |             | 0.07    |                |                | 8.6             | 6.5              | 2.21            | 1.3              | 1.137            | 1.409            |                   |                    |                   |                   |
| DK34-3   | 淤泥质粘土    | 5.60-5.90       | 53.1          | 1.69        | 1.1         | 1.7              | 2.74             | 1.482             | 98.2        | 49.1                   | 26.3           | 22.8             | 1.18             |                |                 |                   |                    |                                      |                   |          |            |             |         |                | 9.6            | 7.1             |                  | 1.47            | 1.69             | 1.2              | 1.341            |                   |                    |                   |                   |
| DK34-4   | 淤泥       | 7.60-7.90       | 63.5          | 1.63        | 1           | 1.63             | 2.75             | 1.758             | 99.3        | 53.9                   | 29.2           | 24.7             | 1.39             |                |                 |                   |                    |                                      |                   |          |            |             |         |                |                | 8.9             | 6.5              | 1.87            | 1.48             | 1.043            | 1.08             |                   |                    |                   |                   |
| DK34-5   | 淤泥       | 11.10-11.40     | 65            | 1.62        | 0.98        | 1.62             | 2.75             | 1.801             | 99.3        | 56.8                   | 30.1           | 26.7             | 1.31             |                |                 |                   |                    |                                      |                   |          |            | 0.35        |         |                | 4.5            | 2.8             |                  | 1.48            | 1.89             | 1.147            | 1.305            |                   |                    |                   |                   |
| DK34-6   | 淤泥       | 13.60-13.90     | 62.4          | 1.63        | 1           | 1.64             | 2.75             | 1.74              | 98.6        | 54.5                   | 30             | 24.5             | 1.32             |                |                 |                   |                    |                                      |                   |          |            |             |         |                | 5.3            | 3.1             |                  | 1.36            | 2.02             |                  |                  |                   |                    |                   |                   |
| DK34-7   | 淤泥       | 15.60-15.90     | 62.9          | 1.63        | 1           | 1.64             | 2.75             | 1.748             | 98.9        | 55.7                   | 28.9           | 26.8             | 1.27             |                |                 |                   |                    |                                      |                   | 58.5     | 41.5       |             | 0.08    |                |                | 9               | 7.1              | 2.2             | 1.25             | 0.848            | 0.749            |                   |                    |                   |                   |
| DK34-8   | 淤泥       | 17.60-17.90     | 60.5          | 1.65        | 1.03        | 1.65             | 2.75             | 1.675             | 99.3        | 55.3                   | 29.5           | 25.8             | 1.2              |                |                 |                   |                    |                                      |                   |          |            |             |         |                | 5.8            | 3.3             |                  | 1.08            | 2.48             | 1.882            | 1.008            |                   |                    |                   |                   |
| DK34-9   | 淤泥       | 21.60-21.90     | 59.5          | 1.66        | 1.04        | 1.66             | 2.75             | 1.642             | 99.6        | 56.3                   | 30.3           | 26               | 1.12             |                |                 |                   |                    |                                      |                   |          |            |             |         |                | 5.2            | 4.3             |                  | 1.5             | 1.76             |                  |                  |                   |                    |                   |                   |
| DK34-10  | 淤泥       | 23.60-23.90     | 59.6          | 1.66        | 1.04        | 1.66             | 2.75             | 1.644             | 99.7        | 57.2                   | 31             | 26.2             | 1.09             |                |                 |                   |                    |                                      |                   | 52.1     | 47.9       | 0.06        |         |                |                | 9.8             | 7.5              | 0.53            | 4.99             | 2.171            | 1.142            |                   |                    |                   |                   |
| DK34-11  | 淤泥       | 25.60-25.90     | 55.9          | 1.69        | 1.08        | 1.69             | 2.74             | 1.528             | 100         | 52                     | 29.2           | 22.8             | 1.17             |                |                 |                   |                    |                                      |                   |          |            |             |         |                | 9.5            | 5.6             |                  | 1.2             | 2.11             | 0.891            | 0.871            |                   |                    |                   |                   |
| DK34-12  | 粘土       | 27.60-27.90     | 40.6          | 1.82        | 1.29        | 1.82             | 2.72             | 1.101             | 100         | 43.1                   | 26             | 17.1             | 0.85             |                |                 |                   |                    |                                      |                   |          |            |             |         |                | 14.3           | 10.3            |                  | 0.61            | 3.44             |                  |                  |                   |                    |                   |                   |
| DK34-13  | 淤泥       | 29.60-29.90     | 60.2          | 1.65        | 1.03        | 1.66             | 2.75             | 1.67              | 99.1        | 56.5                   | 30.6           | 25.9             | 1.14             |                |                 |                   |                    |                                      |                   |          |            |             | 0.06    |                |                | 8.6             | 6.1              | 1.23            | 2.17             | 1.132            | 1.227            |                   |                    |                   |                   |
| DK34-14  | 粉质粘土     | 33.10-33.40     | 38.2          | 1.82        | 1.32        | 1.83             | 2.71             | 1.058             | 97.9        | 39.2                   | 23.6           | 15.6             | 0.94             |                |                 |                   |                    |                                      |                   | 70.5     | 29.5       |             |         |                | 13.9           | 10.5            |                  | 0.57            | 3.61             | 0.958            | 1.116            |                   |                    |                   |                   |
| DK34-15  | 粉土       | 37.10-37.40     | 27.9          | 1.95        | 1.52        | 1.96             | 2.7              | 0.771             | 97.7        | 30.1                   | 20.1           | 10               | 0.78             |                |                 |                   |                    |                                      |                   |          |            | 15          |         |                |                |                 | 18               | 23.2            | 0.24             | 7.38             | 5.246            | 5.295             |                    |                   |                   |
| DK34-16  | 淤泥质粉质粘土  | 41.10-41.40     | 37.3          | 1.85        | 1.35        | 1.85             | 2.7              | 1.004             | 100         | 31                     | 20.1           | 10.9             | 1.58             |                |                 |                   |                    |                                      |                   | 83.5     | 16.5       |             |         |                | 16             | 19.3            |                  | 0.21            | 9.54             | 4.954            | 5.223            |                   |                    |                   |                   |
| DK34-17  | 粉土       | 43.60-43.90     | 31.9          | 1.89        | 1.43        | 1.9              | 2.7              | 0.884             | 97.4        | 29.5                   | 20.3           | 9.2              | 1.26             |                |                 |                   |                    |                                      |                   | 89.3     | 10.7       |             | 0.61    |                |                | 15.6            | 22.1             | 0.26            | 7.25             | 5.128            | 5.176            |                   |                    |                   |                   |
| DK34-18  | 粉土       | 47.10-47.40     | 26.6          | 1.99        | 1.57        | 1.99             | 2.7              | 0.718             | 100         | 27.5                   | 19.5           | 8                | 0.89             |                |                 |                   |                    |                                      |                   | 90       | 10         |             |         |                | 18             | 23              |                  | 0.15            | 11.45            | 4.653            | 5.284            |                   |                    |                   |                   |
| DK34-19  | 粉质粘土     | 51.10-51.40     | 31.9          | 1.91        | 1.45        | 1.91             | 2.71             | 0.871             | 99.2        | 30.6                   | 20             | 10.6             | 1.12             |                |                 |                   |                    |                                      |                   |          |            | 0.55        |         |                | 15             | 18.3            |                  | 0.3             | 6.24             | 5.455            | 5.065            |                   |                    |                   |                   |
| DK34-20  | 淤泥质粉质粘土  | 53.60-53.90     | 38.5          | 1.83        | 1.32        | 1.84             | 2.72             | 1.059             | 98.9        | 38.2                   | 24.4           | 13.8             | 1.02             |                |                 |                   |                    |                                      |                   |          |            |             |         |                |                | 15.9            | 12.5             | 0.65            | 3.17             |                  |                  |                   |                    |                   |                   |
| BDK35-1  | 卵石       | 1.20-1.50       |               |             |             |                  |                  |                   |             |                        |                |                  |                  |                | 67.1            | 12.8              | 0.9                | 0.5                                  | 0.3               | 0.6      | 0.2        | 8.6         | 9       |                |                |                 |                  |                 |                  |                  |                  |                   |                    |                   |                   |
| BDK35-2  | 卵石       | 3.20-3.50       |               |             |             |                  |                  |                   |             |                        |                |                  |                  | 64.8           | 7.8             | 18.9              | 0.5                | 0.4                                  | 0.5               | 0.6      | 0.6        | 2.8         | 3.1     |                |                |                 |                  |                 |                  |                  |                  |                   |                    |                   |                   |
| BDK35-3  | 粉质粘土     | 5.20-5.50       | 35.4          | 1.87        | 1.38        | 1.87             | 2.72             | 0.969             | 99.3        | 36.6                   | 23.2           | 13.4             | 0.91             |                |                 |                   |                    |                                      |                   |          | 70.3       | 29.7        | 0.73    |                |                |                 | 15.6             | 12.8            | 0.68             | 2.9              | 1.431            | 1.035             |                    |                   |                   |
| BDK35-4  | 淤泥质粘土    | 7.20-7.50       | 43.9          | 1.78        | 1.24        | 1.78             | 2.73             | 1.207             | 99.3        | 41.6                   | 23.9           | 17.7             | 1.13             |                |                 |                   |                    |                                      |                   |          |            |             | 0.55    |                | 13.2           | 10.6            |                  | 0.99            | 2.23             | 0.968            | 1.185            |                   |                    |                   |                   |
| BDK35-5  | 淤泥质粘土    | 9.20-9.50       | 48.1          | 1.75        | 1.18        | 1.75             | 2.74             | 1.319             | 99.9        | 46.1                   | 26.2           | 19.9             | 1.1              |                |                 |                   |                    |                                      |                   |          |            |             |         |                | 12.2           | 10.2            |                  | 0.89            | 2.61             | 1.68             | 1.878            |                   |                    |                   |                   |
| BDK35-6  | 淤泥质粘土    | 11.20-11.50     | 48.1          | 1.75        | 1.18        | 1.75             | 2.74             | 1.319             | 99.9        | 45.3                   | 26.5           | 18.8             | 1.15             |                |                 |                   |                    |                                      |                   |          | 63.5       | 36.5        |         | 0.52           |                |                 | 14.5             | 11.6            | 1.08             | 2.15             | 1.29             | 1.447             |                    |                   |                   |
| BDK35-7  | 淤泥       | 13.20-13.50     | 56.3          | 1.69        | 1.08        | 1.69             | 2.75             | 1.543             | 100         | 52.6                   | 28.5           | 24.1             | 1.15             |                |                 |                   |                    |                                      |                   |          |            |             | 0.18    |                | 8.2            | 6               |                  | 1.4             | 1.82             |                  |                  |                   |                    |                   |                   |
| BDK35-8  | 淤泥       | 15.20-15.50     | 57.1          | 1.68        | 1.07        | 1.68             | 2.75             | 1.572             | 99.9        | 52.9                   | 28.6           | 24.3             | 1.17             |                |                 |                   |                    |                                      |                   |          |            |             |         |                |                |                 | 10.6             | 9.3             | 1.31             | 1.96             | 1.336            | 1.239             |                    |                   |                   |
| BDK35-9  | 淤泥       | 17.20-17.50     | 59.6          | 1.66        | 1.04        | 1.66             | 2.75             | 1.644             | 99.7        | 53.5                   | 29.2           | 24.3             | 1.25             |                |                 |                   |                    |                                      |                   |          |            |             |         | 0.13           | 5.8            | 4.6             |                  | 1.54            | 1.72             | 0.976            | 0.911            |                   |                    |                   |                   |
| BDK35-10 | 淤泥       | 19.20-19.50     | 61.4          | 1.65        | 1.02        | 1.65             | 2.75             | 1.69              | 99.9        | 52.3                   | 29             | 23.3             | 1.39             |                |                 |                   |                    |                                      |                   |          | 45.9       | 54.1        |         |                | 5.3            | 4.3             |                  | 1.31            | 2.05             | 1.898            | 1.015            |                   |                    |                   |                   |
| BDK35-11 | 淤泥       | 21.20-21.50     | 66.2          | 1.62        | 0.97        | 1.62             | 2.75             | 1.821             | 100         | 54.6                   | 30.2           | 24.4             | 1.48             |                |                 |                   |                    |                                      |                   |          |            |             | 0.085   |                |                |                 | 10.2             | 9               | 1.59             | 1.77             | 0.906            | 0.834             |                    |                   |                   |
| BDK35-12 | 淤泥       | 23.20-23.50     | 61.2          | 1.65        | 1.02        | 1.65             | 2.75             | 1.687             | 99.8        | 53.2                   | 29.5           | 23.7             | 1.34             |                |                 |                   |                    |                                      |                   |          |            |             |         | 0.063          | 5              | 4.1             |                  | 1.69            | 1.59             | 1.325            | 0.869            |                   |                    |                   |                   |
| BDK35-13 | 淤泥       | 25.20-25.50     | 56.2          | 1.69        | 1.08        | 1.69             | 2.75             | 1.542             | 100         | 52.5                   | 29.2           | 23.3             | 1.16             |                |                 |                   |                    |                                      |                   |          |            |             |         |                | 4.9            | 3.2             |                  | 2.89            | 0.88             |                  |                  |                   |                    |                   |                   |
| BDK35-14 | 淤泥       | 27.20-27.50     | 60.4          | 1.65        | 1.03        | 1.65             | 2.75             | 1.673             | 99.3        | 54.9                   | 29.8           | 25.1             | 1.22             |                |                 |                   |                    |                                      |                   | 46.3     | 53.7       |             |         |                | 5.5            | 3.6             |                  | 1.36            | 1.97             | 1.341            | 1.109            |                   |                    |                   |                   |
| BDK35-15 | 淤泥       | 29.20-29.50     | 68.8          | 1.61        | 0.95        | 1.61             | 2.75             | 1.883             | 100         | 54.5                   | 30.1           | 24.4             | 1.59             |                |                 |                   |                    |                                      |                   |          |            | 0.81        |         |                |                |                 | 8.2              | 6.8             | 1.48             | 1.95             | 1.426            | 1.067             |                    |                   |                   |
| BDK35-16 | 淤泥       | 32.10-32.40     | 69.3          | 1.6         | 0.95        | 1.6              | 2.75             | 1.91              | 99.8        | 54.3                   | 29.7           | 24.6             | 1.61             |                |                 |                   |                    |                                      |                   |          |            |             | 0.069   | 5.2            | 3.1            |                 |                  | 1.36            | 2.14             | 1.456            | 1.152            |                   |                    |                   |                   |
| BDK35-17 | 淤泥       | 35.10-35.40     | 57.4          | 1.68        | 1.07        | 1.68             | 2.74             | 1.567             | 100         | 53.5                   | 29.3           | 24.2             | 1.16             |                |                 |                   |                    |                                      |                   |          |            |             |         |                |                |                 | 10               | 8.1             | 0.9              | 2.85             | 3.513            | 3.028             |                    |                   |                   |
| BDK35-18 | 粉砂       | 38.10-38.40     | 28.2          | 1.95        | 1.52        | 1.95             | 2.68             | 0.762             | 99.2        |                        |                |                  |                  |                |                 |                   |                    |                                      | 2.8               | 49.2     | 41.5       | 6.5         |         |                | 11             | 28.3            |                  | 0.25            | 7.05             | 5.01             | 5.044            |                   |                    |                   |                   |

平阳鳌江标准堤加固工程初步设计堤防地基土层室内土工试验综合成果表

附表3-19

| 岩土<br>编号 | 室内<br>定名 | 试样<br>深度<br>(m) | 天然<br>含水<br>率 | 湿<br>密<br>度 | 干<br>密<br>度    | 饱<br>和<br>密<br>度 | 土<br>粒<br>比<br>重 | 天然<br>孔<br>隙<br>比 | 饱<br>和<br>度    | 液<br>限         | 塑<br>限         | 塑<br>性<br>指<br>数 | 液<br>性<br>指<br>数 | 颗粒组成百分数 |                   |                   |                   |        |         |          |            |             |         | 渗 透            |                | 直 剪         |                  |                |                  | 固结（垂直）           |                    |                   |                   |
|----------|----------|-----------------|---------------|-------------|----------------|------------------|------------------|-------------------|----------------|----------------|----------------|------------------|------------------|---------|-------------------|-------------------|-------------------|--------|---------|----------|------------|-------------|---------|----------------|----------------|-------------|------------------|----------------|------------------|------------------|--------------------|-------------------|-------------------|
|          |          |                 | ω             | ρ           | ρ <sub>d</sub> | ρ <sub>sat</sub> | G <sub>s</sub>   | e <sub>0</sub>    | S <sub>r</sub> | ω <sub>L</sub> | ω <sub>p</sub> | I <sub>p</sub>   | I <sub>L</sub>   | >60     | >40               | >20               | 10~20             | 2.0~10 | 0.5~2.0 | 0.25~0.5 | 0.075~0.25 | 0.005~0.075 | 0~0.005 | 水平<br>渗透<br>系数 | 竖向<br>渗透<br>系数 | 粘聚力<br>(快剪) | 内摩<br>擦角<br>(快剪) | 粘聚力<br>(固快)    | 内摩<br>擦角<br>(固快) | 压缩<br>系数         | 压缩<br>模量           | 固结<br>系数<br>(MPa) |                   |
|          |          |                 |               |             |                |                  |                  |                   |                |                |                |                  |                  | (单位:mm) |                   |                   |                   |        |         |          |            |             |         | K <sub>h</sub> | K <sub>v</sub> | q           | φ <sub>q</sub>   | c <sub>q</sub> | φ <sub>cq</sub>  | v <sub>1-2</sub> | E <sub>sv1-2</sub> | C <sub>v0.2</sub> | C <sub>v0.4</sub> |
|          |          |                 |               |             |                |                  |                  |                   |                |                |                |                  |                  | %       | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |        |         | %        | %          | %           | %       | %              | %              | %           | %                | %              | %                | %                | %                  | %                 | %                 |
| BDK35-19 | 粉土       | 41.10-41.40     | 29.7          | 1.93        | 1.49           | 1.94             | 2.7              | 0.814             | 98.5           | 30.6           | 20.8           | 9.8              | 0.91             |         |                   |                   |                   |        |         |          | 89.5       | 10.5        | 580     |                | 16             | 19.3        |                  |                | 0.18             | 10.08            |                    |                   |                   |
| BDK35-20 | 粉土       | 44.10-44.40     | 29.2          | 1.93        | 1.49           | 1.94             | 2.69             | 0.801             | 98.1           | 30.2           | 20.6           | 9.6              | 0.9              |         |                   |                   |                   |        |         |          | 90.8       | 9.2         |         | 38             |                |             | 18               | 25.3           | 0.17             | 10.59            |                    |                   |                   |
| BDK35-21 | 粉质粘土     | 47.10-47.40     | 31.8          | 1.91        | 1.45           | 1.91             | 2.7              | 0.863             | 99.5           | 30.2           | 19.5           | 10.7             | 1.15             |         |                   |                   |                   |        |         |          |            |             |         | 15             | 17.7           |             |                  | 0.34           | 5.48             | 1.597            | 1.323              |                   |                   |
| BDK35-22 |          | 50.10-50.40     | 18.4          | 2.09        | 1.77           | 2.11             | 2.68             | 0.518             | 95.2           |                |                |                  |                  |         |                   |                   |                   | 13.2   | 23.5    | 50.3     | 13         |             |         | 15             | 19.5           |             |                  | 0.31           | 4.9              | 2.269            | 1.011              |                   |                   |
| BDK35-23 | 粉质粘土     | 53.10-53.40     | 26.4          | 1.99        | 1.57           | 2                | 2.72             | 0.728             | 98.7           | 35.1           | 21.8           | 13.3             | 0.35             |         |                   |                   |                   |        |         |          |            | 7.3         |         |                |                | 38.3        | 16.6             | 0.3            | 5.76             | 1.965            | 1.048              |                   |                   |
| BDK35-24 | 粉质粘土     | 56.10-56.40     | 30.6          | 1.93        | 1.48           | 1.94             | 2.73             | 0.847             | 98.6           | 35.2           | 22.2           | 13               | 0.65             |         |                   |                   |                   |        |         |          |            |             | 5.5     | 25.3           | 13.5           |             |                  | 0.25           | 7.39             |                  |                    |                   |                   |
| BDK35-25 | 粉质粘土     | 59.10-59.40     | 25.3          | 2.01        | 1.6            | 2.01             | 2.71             | 0.689             | 99.5           | 34.5           | 22.2           | 12.3             | 0.25             |         |                   |                   |                   |        |         |          | 80.3       | 19.7        |         |                |                |             | 32.5             | 17.3           | 0.22             | 7.68             | 4.77               | 5.219             |                   |
| BDK36-1  | 卵石       | 1.20-1.50       |               |             |                |                  |                  |                   |                |                |                |                  |                  |         | 41.6              | 13.3              | 8.9               | 12.3   | 6.8     | 8.7      | 2.8        | 2.7         | 2.9     |                |                |             |                  |                |                  |                  |                    |                   |                   |
| BDK36-2  | 粉质粘土     | 3.20-3.50       | 29.9          | 1.93        | 1.49           | 1.94             | 2.72             | 0.831             | 97.9           | 33.6           | 21.5           | 12.1             | 0.69             |         |                   |                   |                   |        |         |          |            |             |         |                | 28.3           | 13.6        |                  |                | 0.47             | 3.9              | 2.471              | 2.882             |                   |
| BDK36-3  | 淤泥质粉质粘土  | 5.20-5.50       | 44.7          | 1.77        | 1.22           | 1.78             | 2.73             | 1.232             | 99.1           | 38.2           | 22.6           | 15.6             | 1.42             |         |                   |                   |                   |        |         |          | 56.5       | 43.5        | 0.53    |                |                |             | 13.5             | 11.5           | 0.78             | 2.86             |                    |                   |                   |
| BDK36-4  | 淤泥       | 7.20-7.50       | 61.2          | 1.65        | 1.02           | 1.65             | 2.75             | 1.687             | 99.8           | 52.2           | 29.2           | 23               | 1.39             |         |                   |                   |                   |        |         |          |            |             |         |                | 5.8            | 4.3         |                  |                | 1.48             | 1.82             | 1.254              | 4.377             |                   |
| BDK36-5  | 淤泥       | 9.20-9.50       | 57.7          | 1.68        | 1.07           | 1.68             | 2.75             | 1.581             | 100            | 53             | 29             | 24               | 1.2              |         |                   |                   |                   |        |         |          |            |             |         | 0.073          |                |             | 9.5              | 7.8            | 1.61             | 1.6              | 2.346              | 16.365            |                   |
| BDK36-6  | 淤泥       | 11.20-11.50     | 62.9          | 1.63        | 1              | 1.64             | 2.75             | 1.748             | 98.9           | 53.2           | 29.1           | 24.1             | 1.4              |         |                   |                   |                   |        |         |          | 46.7       | 53.3        |         |                | 5.2            | 4           |                  |                | 1.57             | 1.75             | 1.012              | 1.074             |                   |
| BDK36-7  | 淤泥       | 13.20-13.50     | 58.4          | 1.67        | 1.05           | 1.67             | 2.75             | 1.608             | 99.9           | 53.1           | 28.8           | 24.3             | 1.22             |         |                   |                   |                   |        |         |          |            |             | 0.12    |                | 4.9            | 5.2         |                  |                | 1.19             | 2.19             | 1.687              | 1.319             |                   |
| BDK36-8  | 淤泥       | 15.20-15.50     | 59.4          | 1.66        | 1.04           | 1.66             | 2.75             | 1.641             | 99.6           | 53.5           | 29.5           | 24               | 1.25             |         |                   |                   |                   |        |         |          |            |             |         |                |                |             | 9                | 7.1            | 1.26             | 2.1              | 2.128              | 2.665             |                   |
| BDK36-9  | 淤泥       | 17.20-17.50     | 65.7          | 1.61        | 0.97           | 1.62             | 2.75             | 1.83              | 98.7           | 54.5           | 29.5           | 25               | 1.45             |         |                   |                   |                   |        |         |          |            |             |         | 0.079          | 4.3            | 3.2         |                  |                | 1.44             | 1.97             |                    |                   |                   |
| BDK36-10 | 淤泥       | 19.20-19.50     | 61.4          | 1.63        | 1.01           | 1.64             | 2.75             | 1.723             | 98             | 53.2           | 28.3           | 24.9             | 1.33             |         |                   |                   |                   |        |         |          | 46         | 54          |         |                | 5              | 3.5         |                  |                | 1.49             | 1.83             | 1.41               | 1.404             |                   |
| BDK36-11 | 淤泥       | 21.20-21.50     | 58.4          | 1.67        | 1.05           | 1.67             | 2.75             | 1.608             | 99.9           | 53.5           | 29.3           | 24.2             | 1.2              |         |                   |                   |                   |        |         |          |            |             | 0.15    |                |                |             | 9.2              | 7.5            | 1.29             | 2.02             | 1.44               | 1.496             |                   |
| BDK36-12 | 淤泥       | 23.20-23.50     | 59.7          | 1.66        | 1.04           | 1.66             | 2.75             | 1.646             | 99.8           | 53.6           | 29.1           | 24.5             | 1.25             |         |                   |                   |                   |        |         |          |            |             |         |                | 6.3            | 4.9         |                  |                | 1.36             | 1.95             |                    |                   |                   |
| BDK36-13 | 淤泥质粘土    | 25.20-25.50     | 52.2          | 1.71        | 1.12           | 1.71             | 2.75             | 1.448             | 99.2           | 49.6           | 27.7           | 21.9             | 1.12             |         |                   |                   |                   |        |         |          |            |             |         |                | 6.9            | 5.2         |                  |                | 1.47             | 1.67             | 1.743              | 0.703             |                   |
| BDK36-14 | 淤泥       | 27.20-27.50     | 59.6          | 1.66        | 1.04           | 1.66             | 2.75             | 1.644             | 99.7           | 55             | 29             | 26               | 1.18             |         |                   |                   |                   |        |         |          | 46.9       | 53.1        |         | 0.075          |                |             | 9.5              | 6.8            | 1.46             | 1.81             | 1.567              | 2.659             |                   |
| BDK36-15 | 淤泥       | 29.20-29.50     | 65.4          | 1.63        | 0.99           | 1.63             | 2.75             | 1.79              | 100            | 53.6           | 29.2           | 24.4             | 1.48             |         |                   |                   |                   |        |         |          |            |             |         |                | 4.5            | 3.2         |                  |                | 2.64             | 1.06             |                    |                   |                   |
| BDK36-16 | 淤泥       | 31.10-31.40     | 64.6          | 1.63        | 0.99           | 1.63             | 2.75             | 1.777             | 100            | 52.8           | 29.8           | 23               | 1.51             |         |                   |                   |                   |        |         |          |            |             | 0.097   |                | 4.3            | 3           |                  |                | 1.44             | 1.93             | 1.33               | 1.374             |                   |
| BDK36-17 | 淤泥       | 34.10-34.40     | 63.9          | 1.63        | 0.99           | 1.63             | 2.75             | 1.765             | 99.6           | 54.3           | 29.8           | 24.5             | 1.39             |         |                   |                   |                   |        |         |          |            |             |         |                |                |             | 10.3             | 7.3            | 1.28             | 2.16             |                    |                   |                   |
| BDK36-18 | 砾砂       | 36.10-36.40     |               |             |                |                  |                  |                   |                |                |                |                  |                  |         |                   |                   | 40.5              | 17.9   | 8.7     | 3        | 10.9       | 19          |         |                |                |             |                  |                |                  |                  |                    |                   |                   |
| BDK36-19 | 粉土       | 37.10-37.40     | 28.7          | 1.95        | 1.52           | 1.95             | 2.7              | 0.782             | 99.1           | 30.2           | 21             | 9.2              | 0.84             |         |                   |                   |                   |        |         |          | 89         | 11          | 38      |                |                |             | 18.2             | 23.5           | 0.29             | 6.14             | 2.659              | 3.119             |                   |
| BDK36-20 | 粉土       | 40.10-40.40     | 27.6          | 1.95        | 1.53           | 1.96             | 2.69             | 0.76              | 97.7           | 28.6           | 19.8           | 8.8              | 0.89             |         |                   |                   |                   |        |         |          | 89         | 11          |         |                | 15.9           | 19.2        |                  |                | 0.16             | 11               | 4.193              | 2.316             |                   |
| BDK37-1  |          | 1.20-1.50       |               |             |                |                  |                  |                   |                |                |                |                  |                  |         |                   |                   |                   |        |         |          | 55.2       | 44.8        |         |                |                |             |                  |                |                  |                  |                    |                   |                   |
| BDK37-2  | 淤泥质粉质粘土  | 3.20-3.50       | 40.8          | 1.81        | 1.29           | 1.81             | 2.73             | 1.124             | 99.1           | 37.7           | 21.9           | 15.8             | 1.2              |         |                   |                   |                   |        |         |          | 66.3       | 33.7        |         |                |                |             | 14.3             | 11.5           | 0.74             | 2.87             |                    |                   |                   |
| BDK37-3  | 淤泥质粉质粘土  | 5.20-5.50       | 40.5          | 1.81        | 1.29           | 1.81             | 2.72             | 1.111             | 99.1           | 36.3           | 23.2           | 13.1             | 1.32             |         |                   |                   |                   |        |         |          |            |             | 0.61    |                | 12.2           | 9.8         |                  |                | 0.74             | 2.85             | 1.478              | 1.814             |                   |
| BDK37-4  | 淤泥质粘土    | 7.20-7.50       | 51.5          | 1.7         | 1.12           | 1.71             | 2.73             | 1.433             | 98.1           | 48.6           | 26.8           | 21.8             | 1.13             |         |                   |                   |                   |        |         |          |            |             |         |                | 9.5            | 7.7         |                  |                | 1.17             | 2.08             | 1.393              | 1.643             |                   |
| BDK37-5  | 淤泥质粉质粘土  | 9.20-9.50       | 46.1          | 1.76        | 1.2            | 1.76             | 2.73             | 1.266             | 99.4           | 38.2           | 22.6           | 15.6             | 1.51             |         |                   |                   |                   |        |         |          |            |             |         | 0.63           |                |             | 11.5             | 10.6           | 1.17             | 1.94             | 1.374              | 1.498             |                   |
| BDK37-6  | 淤泥       | 11.20-11.50     | 61.6          | 1.63        | 1.01           | 1.64             | 2.75             | 1.726             | 98.1           | 55.3           | 29.5           | 25.8             | 1.24             |         |                   |                   |                   |        |         |          | 53.5       | 46.5        |         |                | 3.8            | 2.1         |                  |                | 2.02             | 1.35             | 1.108              | 1.306             |                   |
| BDK37-7  | 淤泥质粘土    | 13.20-13.50     | 54.2          | 1.7         | 1.1            | 1.7              | 2.74             | 1.485             | 100            | 52.5           | 29             | 23.5             | 1.07             |         |                   |                   |                   |        |         |          |            |             | 0.089   |                | 5.3            | 3.2         |                  |                | 1.48             | 1.68             | 1.091              | 1.167             |                   |
| BDK37-8  | 淤泥       | 15.20-15.50     | 58.5          | 1.67        | 1.05           | 1.67             | 2.75             | 1.61              | 99.9           | 53.6           | 27.9           | 25.7             | 1.19             |         |                   |                   |                   |        |         |          |            |             |         |                |                |             | 10.3             | 7.7            | 2.03             | 1.29             | 1.68               | 1.294             |                   |
| BDK37-9  | 淤泥       | 17.20-17.50     | 61            | 1.65        | 1.02           | 1.65             | 2.75             | 1.683             | 99.7           | 54.2           | 27.5           | 26.7             | 1.25             |         |                   |                   |                   |        |         |          | 43.9       | 56.1        |         |                | 3.6            | 2.2         |                  |                | 1.66             | 1.62             |                    |                   |                   |
| BDK37-10 | 淤泥       | 19.20-19.50     | 59.2          | 1.66        | 1.04           | 1.66             | 2.75             | 1.637             | 99.4           | 52.9           | 28             | 24.9             | 1.25             |         |                   |                   |                   |        |         |          |            |             | 0.093   |                |                |             | 9.8              | 7.3            | 1.55             | 1.7              | 1.244              | 1.005             |                   |
| BDK37-11 | 淤泥质粘土    | 21.20-21.50     | 52            | 1.7         | 1.12           | 1.71             | 2.72             | 1.432             | 98.8           | 51.9           | 28.5           | 23.4             | 1                |         |                   |                   |                   |        |         |          |            |             |         |                | 6.9            | 4.5         |                  |                | 0.67             | 3.63             | 1.179              | 1.895             |                   |
| BDK37-12 | 淤泥       | 23.20-23.50     | 62.8          | 1.63        | 1              | 1.64             | 2.75             | 1.747             | 98.9           | 53.9           | 29             | 24.9             | 1.36             |         |                   |                   |                   |        |         |          |            |             |         | 0.16           |                |             |                  |                |                  |                  |                    |                   |                   |

平阳鳌江标准堤加固工程初步设计堤防地基土层室内土工试验综合成果表

附表3-20

| 岩土<br>编号 | 室内<br>定名 | 试样<br>深度<br>(m) | 天然<br>含水<br>率 | 湿<br>密<br>度       | 干<br>密<br>度       | 饱<br>和<br>密<br>度  | 土<br>粒<br>比<br>重 | 天然<br>孔<br>隙<br>比 | 饱<br>和<br>度    | 液<br>限         | 塑<br>限         | 塑<br>性<br>指<br>数 | 液<br>性<br>指<br>数 | 颗粒组成百分数 |      |      |       |        |         |          |            |             |         | 渗 透            |                        | 直 剪         |                  |                |                  | 固结（垂直）           |                    |                   |                                      |
|----------|----------|-----------------|---------------|-------------------|-------------------|-------------------|------------------|-------------------|----------------|----------------|----------------|------------------|------------------|---------|------|------|-------|--------|---------|----------|------------|-------------|---------|----------------|------------------------|-------------|------------------|----------------|------------------|------------------|--------------------|-------------------|--------------------------------------|
|          |          |                 | ω             | ρ                 | ρ <sub>d</sub>    | ρ <sub>sat</sub>  | G <sub>s</sub>   | e <sub>0</sub>    | S <sub>r</sub> | ω <sub>L</sub> | ω <sub>p</sub> | I <sub>p</sub>   | I <sub>L</sub>   | >60     | >40  | >20  | 10~20 | 2.0~10 | 0.5~2.0 | 0.25~0.5 | 0.075~0.25 | 0.005~0.075 | 0~0.005 | 水平<br>渗透<br>系数 | 竖向<br>渗透<br>系数         | 粘聚力<br>(快剪) | 内摩<br>擦角<br>(快剪) | 粘聚力<br>(固快)    | 内摩<br>擦角<br>(固快) | 压缩<br>系数         | 压缩<br>模量           | 固结<br>系数<br>(MPa) |                                      |
|          |          |                 | %             | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |                  |                   | %              | %              | %              |                  |                  | (单位:mm) |      |      |       |        |         |          |            |             |         | K <sub>h</sub> | K <sub>v</sub>         | q           | φ <sub>q</sub>   | c <sub>q</sub> | φ <sub>cq</sub>  | v <sub>1-2</sub> | E <sub>sv1-2</sub> | C <sub>v0.2</sub> | C <sub>v0.4</sub>                    |
|          |          |                 | %             | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |                  |                   | %              | %              | %              | %                | %                | %       | %    | %    | %     | %      | %       | %        | %          | %           | %       | %              | ×10 <sup>-6</sup> cm/s |             | kPa              | 度              | kPa              | 度                | MPa <sup>-1</sup>  | MPa               | ×10 <sup>-3</sup> cm <sup>2</sup> /s |
| BDK37-13 | 淤泥       | 25.20-25.50     | 66.9          | 1.61              | 0.96              | 1.61              | 2.75             | 1.851             | 99.4           | 53             | 29.9           | 23.1             | 1.6              |         |      |      |       |        |         |          | 45         | 55          |         |                | 3.5                    | 2           |                  |                | 1.64             | 1.74             | 1.602              | 1.28              |                                      |
| BDK37-14 | 淤泥       | 27.20-27.50     | 64            | 1.63              | 0.99              | 1.63              | 2.75             | 1.767             | 99.6           | 53.8           | 29.5           | 24.3             | 1.42             |         |      |      |       |        |         |          |            |             | 0.095   |                | 3.3                    | 2.6         |                  |                | 1.54             | 1.8              | 2.085              | 2.009             |                                      |
| BDK37-15 | 淤泥       | 29.20-29.50     | 59.4          | 1.66              | 1.04              | 1.66              | 2.75             | 1.641             | 99.6           | 52.3           | 28.3           | 24               | 1.3              |         |      |      |       |        |         |          |            |             |         |                |                        |             | 9.2              | 6.8            | 1.49             | 1.77             | 1.928              | 1.8               |                                      |
| BDK37-16 | 淤泥       | 32.20-32.50     | 66.9          | 1.61              | 0.96              | 1.61              | 2.75             | 1.851             | 99.4           | 53.5           | 29.5           | 24               | 1.56             |         |      |      |       |        |         |          |            |             |         |                |                        |             |                  |                |                  |                  |                    |                   |                                      |
| BDK37-17 | 卵石       | 33.20-33.50     |               |                   |                   |                   |                  |                   |                |                |                |                  |                  | 33.5    | 57.7 | 7.2  |       | 0.1    | 0.3     | 0.1      |            | 46.8        | 53.2    |                | 0.19                   | 3.5         | 2.5              |                |                  | 1.5              | 1.9                | 2.407             | 1.968                                |
| BDK37-18 |          | 35.10-35.40     | 26.4          | 1.98              | 1.57              | 1.98              | 2.68             | 0.711             | 99.5           |                |                |                  |                  |         |      |      |       |        |         |          |            |             |         | 52             |                        |             | 26.3             | 18.2           | 0.35             | 4.89             | 5.394              | 5.361             |                                      |
| DK38-1   | 淤泥       | 1.70-2.00       | 63.5          | 1.63              | 1                 | 1.63              | 2.75             | 1.758             | 99.3           | 55.3           | 29.2           | 26.1             | 1.31             |         |      |      |       |        |         |          |            |             | 0.07    |                |                        |             | 7.3              | 5.8            | 1.27             | 2.17             | 1.331              | 1.724             |                                      |
| DK38-2   | 淤泥质粘土    | 3.00-3.30       | 50.2          | 1.7               | 1.13              | 1.72              | 2.74             | 1.421             | 96.8           | 49.2           | 26.9           | 22.3             | 1.04             |         |      |      |       |        |         |          |            |             |         | 0.11           | 6.5                    | 5           |                  |                | 1.11             | 2.18             | 1.064              | 1.02              |                                      |
| DK38-3   | 淤泥       | 5.60-5.90       | 56.9          | 1.68              | 1.07              | 1.68              | 2.74             | 1.559             | 100            | 53.2           | 28.9           | 24.3             | 1.15             |         |      |      |       |        |         |          | 46.8       | 53.2        |         |                |                        |             | 7.9              | 6.3            | 1.34             | 1.91             | 1.091              | 1.27              |                                      |
| DK38-4   | 淤泥       | 7.60-7.90       | 57.7          | 1.67              | 1.06              | 1.67              | 2.74             | 1.587             | 99.6           | 52.6           | 29.5           | 23.1             | 1.22             |         |      |      |       |        |         |          |            |             | 0.3     |                | 5.3                    | 3.8         |                  |                | 1.41             | 1.84             | 0.857              | 0.945             |                                      |
| DK38-5   | 淤泥       | 9.60-9.90       | 68.1          | 1.6               | 0.95              | 1.61              | 2.75             | 1.889             | 99.1           | 55.6           | 29.8           | 25.8             | 1.48             |         |      |      |       |        |         |          |            |             |         |                |                        |             | 7.8              | 6              | 1.71             | 1.69             | 1.023              | 1.041             |                                      |
| DK38-6   | 淤泥       | 11.60-11.90     | 56.4          | 1.68              | 1.07              | 1.68              | 2.75             | 1.56              | 99.4           | 51.9           | 28.8           | 23.1             | 1.19             |         |      |      |       |        |         |          |            |             |         | 0.06           | 6                      | 4.1         |                  |                | 1.41             | 1.82             | 0.957              | 1.019             |                                      |
| DK38-7   | 淤泥       | 13.60-13.90     | 64.9          | 1.63              | 0.99              | 1.63              | 2.75             | 1.782             | 100            | 53.6           | 30.1           | 23.5             | 1.48             |         |      |      |       |        |         |          | 45         | 55          |         |                | 5.2                    | 3.1         |                  |                | 1.55             | 1.79             | 1.084              | 1.223             |                                      |
| DK38-8   | 粘土       | 15.60-15.90     | 45.5          | 1.75              | 1.2               | 1.76              | 2.73             | 1.27              | 97.8           | 46.8           | 29.5           | 17.3             | 0.92             |         |      |      |       |        |         |          |            |             |         |                |                        |             | 15.3             | 12.6           | 0.68             | 3.34             | 3.179              | 3.422             |                                      |
| DK38-9   | 淤泥       | 19.10-19.40     | 59            | 1.67              | 1.05              | 1.67              | 2.75             | 1.618             | 100            | 52.3           | 29.2           | 23.1             | 1.29             |         |      |      |       |        |         |          |            |             | 0.23    |                | 5.5                    | 3.5         |                  |                | 1.4              | 1.87             | 0.947              | 0.69              |                                      |
| DK38-10  | 淤泥       | 21.10-21.40     | 62.6          | 1.63              | 1                 | 1.64              | 2.75             | 1.743             | 98.8           | 55.6           | 29.7           | 25.9             | 1.27             |         |      |      |       |        |         |          | 48.9       | 51.1        |         |                | 5.8                    | 3.3         |                  |                | 1.3              | 2.11             | 1.626              | 0.92              |                                      |
| DK38-11  | 淤泥       | 23.10-23.40     | 57.5          | 1.68              | 1.07              | 1.68              | 2.75             | 1.578             | 100            | 52.3           | 30.2           | 22.1             | 1.24             |         |      |      |       |        |         |          |            |             |         |                |                        |             | 8.2              | 6.5            | 1.46             | 1.77             | 1.174              | 0.771             |                                      |
| DK38-12  | 淤泥       | 25.10-25.40     | 57.7          | 1.67              | 1.06              | 1.67              | 2.74             | 1.587             | 99.6           | 53.2           | 31.5           | 21.7             | 1.21             |         |      |      |       |        |         |          |            |             |         | 0.07           | 5.5                    | 3.8         |                  |                | 1.32             | 1.96             |                    |                   |                                      |
| DK38-13  | 淤泥       | 27.10-27.40     | 60.9          | 1.65              | 1.03              | 1.65              | 2.75             | 1.682             | 99.6           | 55.6           | 30.6           | 25               | 1.21             |         |      |      |       |        |         |          |            |             | 0.09    |                | 5.2                    | 3.6         |                  |                | 1.53             | 1.75             | 0.924              | 0.629             |                                      |
| DK38-14  | 淤泥       | 29.10-29.40     | 64.2          | 1.63              | 0.99              | 1.63              | 2.75             | 1.77              | 99.7           | 53.9           | 29.2           | 24.7             | 1.42             |         |      |      |       |        |         |          | 47.7       | 52.3        |         |                |                        |             | 10.2             | 7.1            | 1.88             | 1.47             | 1.087              | 0.978             |                                      |
| DK38-15  | 淤泥       | 31.10-31.40     | 64.2          | 1.63              | 0.99              | 1.63              | 2.75             | 1.77              | 99.7           | 55.6           | 30             | 25.6             | 1.34             |         |      |      |       |        |         |          |            |             |         |                |                        | 6.5         | 5.1              |                |                  | 1.63             | 1.7                | 1.177             | 0.767                                |
| DK38-16  | 粘土       | 34.90-35.20     | 38.9          | 1.8               | 1.3               | 1.82              | 2.72             | 1.099             | 96.3           | 45.3           | 28             | 17.3             | 0.63             |         |      |      |       |        |         |          |            |             |         | 0.33           | 13.5                   | 11.6        |                  |                | 0.64             | 3.28             |                    |                   |                                      |
| DK38-17  | 粘土       | 37.60-37.90     | 36.7          | 1.82              | 1.33              | 1.84              | 2.73             | 1.05              | 95.4           | 44.6           | 26.8           | 17.8             | 0.56             |         |      |      |       |        |         |          | 69.5       | 30.5        |         |                |                        |             | 15.8             | 12.2           | 0.33             | 6.21             | 2.347              | 0.177             |                                      |
| DK38-18  | 粘土       | 39.60-39.90     | 40.3          | 1.82              | 1.3               | 1.82              | 2.73             | 1.104             | 99.6           | 45.8           | 27.5           | 18.3             | 0.7              |         |      |      |       |        |         |          |            |             |         |                |                        | 14          | 10.3             |                |                  | 0.62             | 3.39               | 1.067             | 1.024                                |
| BDK39-1  | 圆砾       | 1.20-1.50       |               |                   |                   |                   |                  |                   |                |                |                |                  |                  |         | 9    | 27.3 | 13.8  | 6      | 1.4     | 1.1      | 1          | 19.7        | 20.7    |                |                        |             |                  |                |                  |                  |                    |                   |                                      |
| BDK39-2  | 粉质粘土     | 3.20-3.50       | 33.1          | 1.9               | 1.43              | 1.9               | 2.72             | 0.905             | 99.4           | 36.9           | 21.3           | 15.6             | 0.76             |         |      |      |       |        |         |          |            |             |         |                |                        |             | 15.8             | 13.2           | 0.62             | 3.07             | 1.252              | 1.474             |                                      |
| BDK39-3  | 淤泥质粉质粘土  | 5.20-5.50       | 38.8          | 1.83              | 1.32              | 1.84              | 2.73             | 1.071             | 98.9           | 36.5           | 23.9           | 12.6             | 1.18             |         |      |      |       |        |         |          |            |             | 0.65    |                | 13.5                   | 11.2        |                  |                | 0.65             | 3.19             | 2.178              | 2.638             |                                      |
| BDK39-4  | 淤泥质粘土    | 7.20-7.50       | 51.9          | 1.7               | 1.12              | 1.71              | 2.74             | 1.448             | 98.2           | 48.3           | 25.6           | 22.7             | 1.16             |         |      |      |       |        |         |          | 53.8       | 46.2        | 0       |                | 6.3                    | 4.5         |                  |                | 1.2              | 2.04             | 1.317              | 1.827             |                                      |
| BDK39-5  | 淤泥质粘土    | 9.20-9.50       | 48.9          | 1.73              | 1.16              | 1.74              | 2.75             | 1.367             | 98.4           | 45.3           | 25.2           | 20.1             | 1.18             |         |      |      |       |        |         |          |            |             | 0       | 0.39           |                        |             | 12.2             | 10.6           | 1.1              | 2.15             | 1.85               | 2.234             |                                      |
| BDK39-6  |          | 11.20-11.50     |               |                   |                   |                   |                  |                   |                |                |                |                  |                  |         |      |      |       |        |         |          |            |             |         |                |                        |             |                  |                |                  |                  |                    |                   |                                      |
| BDK39-7  | 淤泥质粘土    | 13.20-13.50     | 53.3          | 1.7               | 1.11              | 1.7               | 2.74             | 1.471             | 99.3           | 51             | 29             | 22               | 1.1              |         |      |      |       |        |         |          |            |             | 0.32    |                | 6.1                    | 3.6         |                  |                | 1.35             | 1.83             | 1.385              | 1.575             |                                      |
| BDK39-8  | 淤泥       | 15.20-15.50     | 58.6          | 1.67              | 1.05              | 1.67              | 2.75             | 1.612             | 100            | 51.6           | 27.9           | 23.7             | 1.3              |         |      |      |       |        |         |          | 48.3       | 51.7        |         |                |                        |             | 9.5              | 6.3            | 1.37             | 1.91             | 1.479              | 1.669             |                                      |
| BDK39-9  | 淤泥       | 17.20-17.50     | 63.4          | 1.63              | 1                 | 1.63              | 2.75             | 1.757             | 99.2           | 52.6           | 29.5           | 23.1             | 1.47             |         |      |      |       |        |         |          |            |             |         | 0.12           | 4.6                    | 2.5         |                  |                | 1.85             | 1.49             | 1.203              | 1.041             |                                      |
| BDK39-10 | 淤泥       | 19.20-19.50     | 57.4          | 1.67              | 1.06              | 1.67              | 2.74             | 1.582             | 99.4           | 52.8           | 29.2           | 23.6             | 1.19             |         |      |      |       |        |         |          |            |             |         |                |                        | 5.5         | 3.6              |                |                  | 1.5              | 1.72               | 1.482             | 1.435                                |
| BDK39-11 | 淤泥       | 21.20-21.50     | 58.1          | 1.67              | 1.06              | 1.67              | 2.74             | 1.594             | 99.9           | 53             | 28.7           | 24.3             | 1.21             |         |      |      |       |        |         |          |            |             | 0.29    |                |                        |             | 9.2              | 6.5            | 1.63             | 1.59             | 1.939              | 1.285             |                                      |
| BDK39-12 | 淤泥       | 23.20-23.50     | 65.5          | 1.62              | 0.98              | 1.62              | 2.75             | 1.809             | 99.5           | 53.1           | 29             | 24.1             | 1.51             |         |      |      |       |        |         |          | 46.5       | 53.5        |         |                |                        |             |                  |                | 1.92             | 1.46             | 1.264              | 1.355             |                                      |
| BDK39-13 | 淤泥       | 25.20-25.50     | 58.9          | 1.67              | 1.05              | 1.67              | 2.75             | 1.617             | 100            | 52             | 27.5           | 24.5             | 1.28             |         |      |      |       |        |         |          |            |             |         |                |                        | 5.3         | 2.6              |                |                  | 1.53             | 1.71               | 1.405             | 1.413                                |
| BDK39-14 | 淤泥       | 27.20-27.50     | 61.7          | 1.63              | 1.01              | 1.64              | 2.75             | 1.728             | 98.2           | 53.9           | 30.2           | 23.7             | 1.33             |         |      |      |       |        |         |          |            |             |         | 0.073          |                        |             | 8.2              | 6.5            | 1.44             | 1.89             | 1.829              | 1.5               |                                      |
| BDK39-15 | 淤泥       | 29.20-29.50     | 63.7          | 1                 |                   |                   |                  |                   |                |                |                |                  |                  |         |      |      |       |        |         |          |            |             |         |                |                        |             |                  |                |                  |                  |                    |                   |                                      |

平阳鳌江标准堤加固工程初步设计堤防地基土层室内土工试验综合成果表

附表3-21

| 岩土<br>编号 | 室内<br>定名 | 试样<br>深度<br>(m) | 天然<br>含水<br>率 | 湿<br>密<br>度       | 干<br>密<br>度       | 饱<br>和<br>密<br>度  | 土<br>粒<br>比<br>重 | 天然<br>孔<br>隙<br>比 | 饱<br>和<br>度    | 液<br>限         | 塑<br>限         | 塑<br>性<br>指<br>数 | 液<br>性<br>指<br>数 | 颗粒组成百分数 |      |      |       |        |         |          |            |             |         | 渗 透            |                        | 直 剪         |                  |                |                  | 固结（垂直）           |                    |                   |                                      |
|----------|----------|-----------------|---------------|-------------------|-------------------|-------------------|------------------|-------------------|----------------|----------------|----------------|------------------|------------------|---------|------|------|-------|--------|---------|----------|------------|-------------|---------|----------------|------------------------|-------------|------------------|----------------|------------------|------------------|--------------------|-------------------|--------------------------------------|
|          |          |                 | ω             | ρ                 | ρ <sub>d</sub>    | ρ <sub>sat</sub>  | G <sub>s</sub>   | e <sub>0</sub>    | S <sub>r</sub> | ω <sub>L</sub> | ω <sub>p</sub> | I <sub>p</sub>   | I <sub>L</sub>   | >60     | >40  | >20  | 10~20 | 2.0~10 | 0.5~2.0 | 0.25~0.5 | 0.075~0.25 | 0.005~0.075 | 0~0.005 | 水平<br>渗透<br>系数 | 竖向<br>渗透<br>系数         | 粘聚力<br>(快剪) | 内摩<br>擦角<br>(快剪) | 粘聚力<br>(固快)    | 内摩<br>擦角<br>(固快) | 压缩<br>系数         | 压缩<br>模量           | 固结<br>系数<br>(MPa) |                                      |
|          |          |                 | %             | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |                  |                   | %              | %              | %              |                  |                  | (单位:mm) |      |      |       |        |         |          |            |             |         | K <sub>h</sub> | K <sub>v</sub>         | q           | φ <sub>q</sub>   | c <sub>q</sub> | φ <sub>cq</sub>  | v <sub>1-2</sub> | E <sub>sv1-2</sub> | C <sub>v0.2</sub> | C <sub>v0.4</sub>                    |
|          |          |                 | %             | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |                  |                   | %              | %              | %              | %                | %                | %       | %    | %    | %     | %      | %       | %        | %          | %           | %       | %              | ×10 <sup>-6</sup> cm/s |             | kPa              | 度              | kPa              | 度                | MPa <sup>-1</sup>  | MPa               | ×10 <sup>-3</sup> cm <sup>2</sup> /s |
| BDK39-16 | 淤泥       | 32.20-32.50     | 57.3          | 1.68              | 1.07              | 1.68              | 2.74             | 1.565             | 100            | 53.1           | 30.1           | 23               | 1.18             |         |      |      |       |        |         |          | 48.5       | 51.5        |         |                | 5.8                    | 4.3         |                  |                | 1.22             | 2.1              | 1.924              | 1.623             |                                      |
| BDK39-17 | 淤泥       | 35.20-35.50     | 57.8          | 1.67              | 1.06              | 1.67              | 2.74             | 1.589             | 99.7           | 52.8           | 29             | 23.8             | 1.21             |         |      |      |       |        |         |          |            |             |         | 0.16           |                        |             | 9.3              | 7.2            | 1.21             | 2.14             | 2.519              | 2.194             |                                      |
| BDK39-18 | 粉质粘土     | 38.30-38.60     | 30.4          | 1.92              | 1.47              | 1.93              | 2.7              | 0.834             | 98.4           | 32.2           | 20.8           | 11.4             | 0.84             |         |      |      |       |        |         |          |            |             |         |                | 15                     | 12.6        |                  |                | 0.83             | 2.21             | 3.621              | 3.479             |                                      |
| BDK39-19 | 淤泥质粘土    | 41.10-41.40     | 42.3          | 1.79              | 1.26              | 1.8               | 2.72             | 1.162             | 99             | 41.6           | 23.5           | 18.1             | 1.04             |         |      |      |       |        |         |          | 56.9       | 43.1        | 0.56    |                | 12.2                   | 10.1        |                  |                | 0.52             | 4.16             | 2.158              | 0.688             |                                      |
| BDK39-20 | 粘土       | 44.10-44.40     | 40.6          | 1.81              | 1.29              | 1.82              | 2.73             | 1.121             | 98.9           | 41.6           | 23.5           | 18.1             | 0.94             |         |      |      |       |        |         |          |            |             |         |                |                        |             | 16.8             | 13.2           | 0.71             | 2.99             | 1.298              | 1.473             |                                      |
| BDK39-21 | 粉质粘土     | 47.10-47.40     | 23.9          | 2.03              | 1.64              | 2.03              | 2.71             | 0.654             | 99             | 36.3           | 22.5           | 13.8             | 0.1              |         |      |      |       |        |         |          |            |             | 5.1     |                | 18.6                   | 12.1        |                  |                | 0.29             | 5.7              | 1.921              | 2.327             |                                      |
| BDK39-22 | 卵石       | 50.20-50.50     |               |                   |                   |                   |                  |                   |                |                |                |                  |                  | 30.3    | 20.6 | 7.1  | 4.7   | 8.8    | 5.5     | 5.1      | 3.8        | 6.7         | 7.4     |                |                        |             |                  |                |                  |                  |                    |                   |                                      |
| BDK39-23 | 粉质粘土     | 53.10-53.40     | 21.2          | 2.08              | 1.72              | 2.08              | 2.71             | 0.579             | 99.2           | 33.6           | 20.6           | 13               | 0.05             |         |      |      |       |        |         |          |            |             |         |                |                        |             | 23.2             | 14.3           | 0.32             | 4.93             | 1.785              | 2.268             |                                      |
| BDK40-1  | 粘土       | 1.20-1.50       | 35.1          | 1.88              | 1.39              | 1.88              | 2.72             | 0.955             | 100            | 40.5           | 22.6           | 17.9             | 0.7              |         |      |      |       |        |         |          |            |             |         | 0.75           | 16.2                   | 12.3        |                  |                | 0.78             | 2.51             | 2.164              | 1.546             |                                      |
| BDK40-2  | 淤泥质粉质粘土  | 3.20-3.50       | 42.2          | 1.79              | 1.26              | 1.8               | 2.72             | 1.161             | 98.9           | 36.8           | 22.6           | 14.2             | 1.38             |         |      |      |       |        |         |          |            |             |         |                | 11.5                   | 5.8         |                  |                | 0.77             | 2.81             | 1.619              | 2.01              |                                      |
| BDK40-3  | 粉质粘土     | 5.20-5.50       | 33.5          | 1.9               | 1.42              | 1.9               | 2.72             | 0.911             | 100            | 32.2           | 20.9           | 11.3             | 1.12             |         |      |      |       |        |         |          |            | 60.7        | 39.3    | 0.6            |                        |             | 13.3             | 11.5           | 0.5              | 3.82             | 2.776              | 3.509             |                                      |
| BDK40-4  | 淤泥       | 7.20-7.50       | 60.2          | 1.65              | 1.03              | 1.66              | 2.75             | 1.67              | 99.1           | 52.6           | 28.3           | 24.3             | 1.31             |         |      |      |       |        |         |          |            |             |         |                | 0.078                  | 4.3         | 2.9              |                |                  | 1.52             | 1.76               | 1.531             | 1.673                                |
| BDK40-5  | 淤泥       | 9.20-9.50       | 67.5          | 1.61              | 0.96              | 1.61              | 2.75             | 1.861             | 99.7           | 53.2           | 29.3           | 23.9             | 1.6              |         |      |      |       |        |         |          |            |             |         |                |                        | 3.2         | 2.1              |                |                  | 1.85             | 1.55               | 1.385             | 1.536                                |
| BDK40-6  | 淤泥       | 11.20-11.50     | 59.8          | 1.65              | 1.03              | 1.66              | 2.75             | 1.663             | 98.9           | 53.1           | 29             | 24.1             | 1.28             |         |      |      |       |        |         |          |            |             | 0.081   |                |                        |             | 10.1             | 8.5            | 1.91             | 1.39             | 1.323              | 1.466             |                                      |
| BDK40-7  | 淤泥       | 13.20-13.50     | 59.4          | 1.65              | 1.04              | 1.66              | 2.75             | 1.657             | 98.6           | 53.6           | 28.9           | 24.7             | 1.23             |         |      |      |       |        |         |          | 59.5       | 40.5        |         |                | 4.3                    | 3.2         |                  |                | 1.63             | 1.63             | 1.58               | 1.535             |                                      |
| BDK40-8  | 淤泥       | 15.20-15.50     | 62.8          | 1.63              | 1                 | 1.64              | 2.75             | 1.747             | 98.9           | 52.6           | 29.5           | 23.1             | 1.44             |         |      |      |       |        |         |          |            |             |         | 0.092          | 3.5                    | 2.1         |                  |                | 1.08             | 2.54             | 3.005              | 3.159             |                                      |
| BDK40-9  | 淤泥       | 17.20-17.50     | 61.4          | 1.65              | 1.02              | 1.65              | 2.75             | 1.69              | 99.9           | 54             | 29.5           | 24.5             | 1.3              |         |      |      |       |        |         |          |            |             |         |                |                        |             | 8.9              | 6.5            | 1.54             | 1.75             | 2.002              | 1.333             |                                      |
| BDK40-10 | 淤泥       | 19.20-19.50     | 60.2          | 1.65              | 1.03              | 1.66              | 2.75             | 1.67              | 99.1           | 52.2           | 28.6           | 23.6             | 1.34             |         |      |      |       |        |         |          |            |             | 0.23    |                | 4.6                    | 2.8         |                  |                |                  |                  | 2.311              | 2.775             |                                      |
| BDK40-11 | 淤泥       | 21.20-21.50     | 59.8          | 1.65              | 1.03              | 1.66              | 2.75             | 1.663             | 98.9           | 52.8           | 29.1           | 23.7             | 1.3              |         |      |      |       |        |         |          | 46.5       | 53.5        |         | 0.13           | 5.8                    | 3.6         |                  |                | 1.54             | 1.73             | 1.527              | 1.297             |                                      |
| BDK40-12 | 淤泥       | 23.20-23.50     | 63.1          | 1.63              | 1                 | 1.64              | 2.75             | 1.752             | 99.1           | 55             | 30.1           | 24.9             | 1.33             |         |      |      |       |        |         |          |            |             |         |                |                        |             | 8.8              | 6.9            | 1.58             | 1.74             | 1.794              | 1.495             |                                      |
| BDK40-13 | 淤泥       | 25.20-25.50     | 65.3          | 1.62              | 0.98              | 1.62              | 2.75             | 1.806             | 99.4           | 53.8           | 30.2           | 23.6             | 1.49             |         |      |      |       |        |         |          |            |             | 0.099   |                | 3.5                    | 2.6         |                  |                | 1.01             | 2.78             | 2.984              | 1.229             |                                      |
| BDK40-14 | 淤泥       | 27.20-27.50     | 65.2          | 1.63              | 0.99              | 1.63              | 2.75             | 1.787             | 100            | 53.5           | 29.8           | 23.7             | 1.49             |         |      |      |       |        |         |          |            |             |         |                | 3.8                    | 2.2         |                  |                | 1.52             | 1.83             | 2.24               | 1.481             |                                      |
| BDK40-15 | 淤泥       | 29.20-29.50     | 63.4          | 1.63              | 1                 | 1.63              | 2.75             | 1.757             | 99.2           | 53.6           | 30.2           | 23.4             | 1.42             |         |      |      |       |        |         |          | 45         | 55          |         | 8.5            |                        |             | 8.3              | 6.5            | 1.44             | 1.91             | 2.004              | 1.474             |                                      |
| BDK40-16 | 淤泥       | 32.20-32.50     | 63.7          | 1.63              | 1                 | 1.63              | 2.75             | 1.762             | 99.4           | 55.2           | 29.3           | 25.9             | 1.33             |         |      |      |       |        |         |          |            |             |         |                | 3.3                    | 2.1         |                  |                | 1.37             | 2.02             | 1.913              | 1.729             |                                      |
| BDK40-17 |          | 35.20-35.50     | 41.6          | 1.8               | 1.27              | 1.8               | 2.7              | 1.124             | 99.9           |                |                |                  |                  |         |      |      |       |        |         | 10       | 63.5       | 26.5        | 45      |                | 16.5                   | 18.3        |                  |                | 0.78             | 2.72             | 4.012              | 3.337             |                                      |
| BDK40-18 | 粉质粘土     | 38.10-38.40     | 39.7          | 1.83              | 1.31              | 1.83              | 2.72             | 1.076             | 100            | 41.9           | 25.3           | 16.6             | 0.87             |         |      |      |       |        |         |          |            |             |         | 0.53           |                        |             | 18.3             | 12.5           | 0.55             | 3.78             |                    |                   |                                      |
| BDK41-1  | 卵石       | 1.70-2.00       |               |                   |                   |                   |                  |                   |                |                |                |                  |                  | 33.3    | 13.3 | 44.2 | 0.5   | 0.6    | 0.4     | 0.3      | 0.5        | 3.3         | 3.6     |                |                        |             |                  |                |                  |                  |                    |                   |                                      |
| BDK41-2  | 粉质粘土     | 3.70-4.00       | 35.1          | 1.88              | 1.39              | 1.88              | 2.72             | 0.955             | 100            | 35.3           | 21.3           | 14               | 0.99             |         |      |      |       |        |         |          |            |             |         |                |                        | 14.3        | 11.6             |                |                  | 0.63             | 3.1                | 1.123             | 1.328                                |
| BDK41-3  | 粉质粘土     | 5.70-6.00       | 33.9          | 1.88              | 1.4               | 1.89              | 2.72             | 0.937             | 98.4           | 33.9           | 21.1           | 12.8             | 1                |         |      |      |       |        |         |          |            |             |         | 0.38           |                        |             | 15.6             | 12.2           | 0.58             | 3.34             | 1.144              | 1.465             |                                      |
| BDK41-4  | 淤泥质粉质粘土  | 7.70-8.00       | 37.3          | 1.85              | 1.35              | 1.85              | 2.73             | 1.026             | 99.2           | 36.5           | 22.1           | 14.4             | 1.06             |         |      |      |       |        |         |          |            |             |         |                |                        | 13.6        | 11               |                |                  | 0.66             | 3.07               |                   |                                      |
| BDK41-5  | 淤泥质粘土    | 9.70-10.00      | 52.7          | 1.7               | 1.11              | 1.71              | 2.74             | 1.461             | 98.8           | 47.9           | 27.3           | 20.6             | 1.23             |         |      |      |       |        |         |          |            |             | 0.15    |                | 10.1                   | 7.6         |                  |                | 1.17             | 2.1              |                    |                   |                                      |
| BDK41-6  | 淤泥质粘土    | 11.70-12.00     | 46.8          | 1.76              | 1.2               | 1.76              | 2.73             | 1.277             | 100            | 44.1           | 23.9           | 20.2             | 1.13             |         |      |      |       |        |         |          |            |             |         |                |                        |             |                  | 13.2           | 9.8              | 0.81             | 2.81               | 1.257             | 1.362                                |
| BDK41-7  | 淤泥质粘土    | 13.70-14.00     | 52.7          | 1.7               | 1.11              | 1.71              | 2.74             | 1.461             | 98.8           | 46.3           | 27.2           | 19.1             | 1.34             |         |      |      |       |        |         |          |            |             |         | 0.071          | 9.5                    | 7.5         |                  |                | 1.08             | 2.28             | 1.377              | 1.405             |                                      |
| BDK41-8  | 淤泥质粘土    | 15.70-16.00     | 51.1          | 1.7               | 1.13              | 1.71              | 2.74             | 1.435             | 97.5           | 46.3           | 26.6           | 19.7             | 1.24             |         |      |      |       |        |         |          | 55.5       | 44.5        |         |                | 6.5                    | 3.6         |                  |                | 1.06             | 2.3              |                    |                   |                                      |
| BDK41-9  | 淤泥       | 17.70-18.00     | 57.9          | 1.67              | 1.06              | 1.67              | 2.75             | 1.6               | 99.5           | 53.2           | 29             | 24.2             | 1.19             |         |      |      |       |        |         |          |            |             | 0.08    |                |                        |             | 9.2              | 7.2            | 1.43             | 1.82             |                    |                   |                                      |
| BDK41-10 | 淤泥       | 19.70-20.00     | 59.2          | 1.67              | 1.05              | 1.67              | 2.75             | 1.622             | 100            | 54.4           | 28.3           | 26.1             | 1.18             |         |      |      |       |        |         |          |            |             |         |                |                        | 5.7         | 4.3              |                |                  | 1.34             | 1.96               | 1.177             | 1.073                                |
| BDK41-11 | 淤泥       | 21.70-22.00     | 56.1          | 1.67              | 1.07              | 1.68              | 2.75             | 1.571             | 98.2           | 53.1           | 28.5           | 24.6             | 1.12             |         |      |      |       |        |         |          |            |             | 0.075   |                | 8.2                    | 6           |                  |                | 1.44             | 1.78             | 1.033              | 1.223             |                                      |
| BDK41-12 | 淤泥质粘土    | 23.70-24.00     | 52.7          | 1.7               | 1.11              | 1.71              | 2.74             | 1.461             | 98.8           | 49             | 28             | 21               | 1.18             |         |      |      |       |        |         |          |            |             |         |                |                        |             | 13               | 10.2           | 1.15             | 2.14             |                    |                   |                                      |
| BDK41-13 | 淤泥       | 25.70-26.00     | 63.4          | 1.63              | 1                 | 1                 |                  |                   |                |                |                |                  |                  |         |      |      |       |        |         |          |            |             |         |                |                        |             |                  |                |                  |                  |                    |                   |                                      |

平阳鳌江标准堤加固工程初步设计堤防地基土层室内土工试验综合成果表

附表3-22

| 岩土<br>编号 | 室内<br>定名 | 试样<br>深度<br>(m) | 天然<br>含水<br>率 | 湿<br>密<br>度       | 干<br>密<br>度       | 饱<br>和<br>密<br>度  | 土<br>粒<br>比<br>重 | 天然<br>孔<br>隙<br>比 | 饱<br>和<br>度    | 液<br>限         | 塑<br>限         | 塑<br>性<br>指<br>数 | 液<br>性<br>指<br>数 | 颗粒组成百分数 |     |     |       |        |         |          |            |             |         | 渗 透            |                        | 直 剪         |                  |                |                  | 固结（垂直）           |                    |                   |                                      |
|----------|----------|-----------------|---------------|-------------------|-------------------|-------------------|------------------|-------------------|----------------|----------------|----------------|------------------|------------------|---------|-----|-----|-------|--------|---------|----------|------------|-------------|---------|----------------|------------------------|-------------|------------------|----------------|------------------|------------------|--------------------|-------------------|--------------------------------------|
|          |          |                 | ω             | ρ                 | ρ <sub>d</sub>    | ρ <sub>sat</sub>  | G <sub>s</sub>   | e <sub>0</sub>    | S <sub>r</sub> | ω <sub>L</sub> | ω <sub>p</sub> | I <sub>p</sub>   | I <sub>L</sub>   | >60     | >40 | >20 | 10~20 | 2.0~10 | 0.5~2.0 | 0.25~0.5 | 0.075~0.25 | 0.005~0.075 | 0~0.005 | 水平<br>渗透<br>系数 | 竖向<br>渗透<br>系数         | 粘聚力<br>(快剪) | 内摩<br>擦角<br>(快剪) | 粘聚力<br>(固快)    | 内摩<br>擦角<br>(固快) | 压缩<br>系数         | 压缩<br>模量           | 固结<br>系数<br>(MPa) |                                      |
|          |          |                 | %             | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |                  |                   | %              | %              | %              |                  |                  | (单位:mm) |     |     |       |        |         |          |            |             |         | K <sub>h</sub> | K <sub>v</sub>         | q           | φ <sub>q</sub>   | c <sub>q</sub> | φ <sub>cq</sub>  | v <sub>1-2</sub> | E <sub>sv1-2</sub> | C <sub>v0.2</sub> | C <sub>v0.4</sub>                    |
|          |          |                 | %             | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |                  |                   | %              | %              | %              | %                | %                | %       | %   | %   | %     | %      | %       | %        | %          | %           | %       | %              | ×10 <sup>-6</sup> cm/s |             | kPa              | 度              | kPa              | 度                | MPa <sup>-1</sup>  | MPa               | ×10 <sup>-3</sup> cm <sup>2</sup> /s |
| BDK41-14 | 淤泥       | 27.70-28.00     | 60.7          | 1.63              | 1.01              | 1.65              | 2.75             | 1.711             | 97.5           | 55.9           | 29             | 26.9             | 1.18             |         |     |     |       |        |         |          |            |             |         |                |                        | 5.2         | 4                |                |                  | 1.46             | 1.86               | 1.252             | 1.229                                |
| BDK41-15 | 淤泥       | 29.70-30.00     | 64.8          | 1.63              | 0.99              | 1.63              | 2.75             | 1.78              | 100            | 59.7           | 31             | 28.7             | 1.18             |         |     |     |       |        |         |          |            |             | 0.073   |                |                        |             | 8.5              | 6.3            | 2.03             | 1.37             | 1.286              | 1.201             |                                      |
| BDK41-16 | 淤泥       | 32.70-33.00     | 60.5          | 1.63              | 1.02              | 1.65              | 2.75             | 1.708             | 97.4           | 55.6           | 28.9           | 26.7             | 1.18             |         |     |     |       |        |         |          | 48.5       | 51.5        |         |                | 5.6                    | 3.6         |                  |                | 1.52             | 1.78             |                    |                   |                                      |
| BDK41-17 | 含粉质粘土的砾砂 | 34.10-34.40     | 27.5          | 1.96              | 1.54              | 1.96              | 2.68             | 0.743             | 99.1           | 30             | 19.5           | 10.5             | 0.76             |         |     |     | 3.7   | 41.7   | 12.6    | 11.7     | 4          | 12.8        | 13.5    |                | 56                     | 18          | 25.6             |                |                  | 0.49             | 3.56               |                   |                                      |
| BDK41-18 | 粉质粘土     | 35.60-35.90     | 24.6          | 2                 | 1.61              | 2.01              | 2.7              | 0.682             | 97.4           | 31             | 20.1           | 10.9             | 0.41             |         |     |     |       |        |         |          |            |             |         |                |                        |             | 26               | 20.3           | 0.47             | 3.58             | 1.555              | 1.795             |                                      |
| BDK41-19 | 粉质粘土     | 38.60-38.90     | 31.9          | 1.91              | 1.45              | 1.92              | 2.72             | 0.878             | 98.8           | 36.8           | 21.8           | 15               | 0.67             |         |     |     |       |        |         |          |            |             | 0.63    |                | 26.5                   | 13.1        |                  |                | 0.39             | 4.82             | 1.174              | 1.152             |                                      |
| BDK41-20 | 粉质粘土     | 41.70-42.00     | 27.5          | 1.96              | 1.54              | 1.97              | 2.71             | 0.763             | 97.7           | 32.2           | 20.7           | 11.5             | 0.59             |         |     |     |       |        | 6.5     | 11.6     | 61.8       | 20.1        |         |                | 25                     | 13.9        |                  |                | 0.24             | 7.34             |                    |                   |                                      |
| BDK41-21 | 粉质粘土     | 44.70-45.00     | 22.7          | 2.02              | 1.65              | 2.04              | 2.7              | 0.64              | 95.8           | 30.6           | 20.3           | 10.3             | 0.23             |         |     |     |       |        | 5.3     | 12.3     | 59.2       | 23.2        |         |                |                        |             | 28.2             | 16.5           | 0.28             | 5.86             |                    |                   |                                      |
| WK9-1    | 淤泥       | 1.10-1.40       | 69.9          | 1.6               | 0.94              | 1.6               | 2.75             | 1.92              | 100            | 53.5           | 29             | 24.5             | 1.67             |         |     |     |       |        |         |          |            |             |         |                | 4.9                    | 3           |                  |                | 1.5              | 1.95             | 1.335              | 1.601             |                                      |
| WK9-2    | 淤泥       | 3.10-3.40       | 58.3          | 1.66              | 1.05              | 1.67              | 2.75             | 1.622             | 98.8           | 53.1           | 29.2           | 23.9             | 1.22             |         |     |     |       |        |         |          |            |             |         | 0.068          |                        |             | 10               | 7              | 1.45             | 1.81             | 1.4                | 1.487             |                                      |
| WK9-3    | 淤泥       | 5.10-5.40       | 61.7          | 1.63              | 1.01              | 1.64              | 2.75             | 1.728             | 98.2           | 51.9           | 27.5           | 24.4             | 1.4              |         |     |     |       |        |         |          |            |             |         |                |                        | 5.5         | 3.5              |                |                  | 1.31             | 2.08               | 1.474             | 1.243                                |
| WK9-4    | 淤泥       | 7.10-7.40       | 58.1          | 1.66              | 1.05              | 1.67              | 2.75             | 1.619             | 98.7           | 52.5           | 29             | 23.5             | 1.24             |         |     |     |       |        |         |          |            |             | 0.12    |                | 5.8                    | 4.9         |                  |                | 1.68             | 1.56             | 1.368              | 1.37              |                                      |
| WK9-5    | 淤泥质粘土    | 9.10-9.40       | 51.4          | 1.72              | 1.14              | 1.72              | 2.75             | 1.421             | 99.5           | 49.5           | 26.1           | 23.4             | 1.08             |         |     |     |       |        |         |          |            |             |         |                |                        | 9.5         | 6.3              |                |                  |                  |                    |                   |                                      |
| WK9-6    | 淤泥       | 11.10-11.40     | 67.8          | 1.61              | 0.96              | 1.61              | 2.75             | 1.866             | 99.9           | 53.1           | 28.7           | 24.4             | 1.6              |         |     |     |       |        |         |          |            |             |         |                |                        | 5           | 3.1              |                |                  | 2.03             | 1.41               | 1.474             | 1.226                                |
| WK9-7    | 淤泥       | 13.10-13.40     | 67.6          | 1.61              | 0.96              | 1.61              | 2.75             | 1.863             | 99.8           | 52.2           | 28.6           | 23.6             | 1.65             |         |     |     |       |        |         |          | 45.9       | 54.1        |         | 0.075          |                        |             | 9.5              | 6.9            | 1.85             | 1.55             | 1.37               | 1.31              |                                      |
| WK9-8    | 淤泥       | 15.10-15.40     | 65.4          | 1.63              | 0.99              | 1.63              | 2.75             | 1.79              | 100            | 52             | 27.5           | 24.5             | 1.55             |         |     |     |       |        |         |          |            |             |         |                |                        | 5.2         | 3.6              |                |                  | 1.9              | 1.47               | 1.281             | 1.346                                |
| WK9-9    | 淤泥       | 17.10-17.40     | 62.2          | 1.65              | 1.02              | 1.65              | 2.75             | 1.703             | 100            | 52.3           | 26.8           | 25.5             | 1.39             |         |     |     |       |        |         |          |            |             | 0.17    |                | 5.1                    | 3.2         |                  |                | 0.94             | 2.88             | 2.022              | 0.533             |                                      |
| WK9-10   | 淤泥       | 19.10-19.40     | 61.1          | 1.65              | 1.02              | 1.65              | 2.75             | 1.685             | 99.7           | 52.1           | 29.9           | 22.2             | 1.41             |         |     |     |       |        |         |          |            |             |         |                |                        | 5.1         | 3.5              |                |                  | 1.41             | 1.9                | 1.491             | 1.292                                |
| WK9-11   | 淤泥       | 21.10-21.40     | 62.7          | 1.63              | 1                 | 1.64              | 2.75             | 1.745             | 98.8           | 51.9           | 29.8           | 22.1             | 1.49             |         |     |     |       |        |         |          | 48.3       | 51.7        |         |                |                        | 5.2         | 3.5              |                |                  | 0.89             | 3.08               | 2.249             | 0.604                                |
| WK9-12   | 淤泥       | 23.10-23.40     | 63.2          | 1.63              | 1                 | 1.64              | 2.75             | 1.753             | 99.1           | 51.6           | 30.1           | 21.5             | 1.54             |         |     |     |       |        |         |          |            |             | 0.083   |                |                        |             | 11.3             | 8.5            | 0.97             | 2.84             | 3.497              | 1.116             |                                      |
| WK9-13   | 淤泥       | 25.10-25.40     | 58.9          | 1.65              | 1.04              | 1.66              | 2.75             | 1.648             | 98.3           | 53.6           | 29.5           | 24.1             | 1.22             |         |     |     |       |        |         |          |            |             |         |                |                        |             | 9.2              | 7.5            | 1.11             | 2.39             | 1.024              | 0.938             |                                      |
| WK9-14   | 淤泥       | 27.10-27.40     | 62            | 1.63              | 1.01              | 1.64              | 2.75             | 1.733             | 98.4           | 56.8           | 30             | 26.8             | 1.19             |         |     |     |       |        |         |          | 47.5       | 52.5        |         |                |                        | 5.2         | 3.1              |                |                  | 0.62             | 4.41               | 4.111             | 1.409                                |
| WK9-15   | 淤泥       | 29.10-29.40     | 60.3          | 1.65              | 1.03              | 1.66              | 2.75             | 1.672             | 99.2           | 53.2           | 29.5           | 23.7             | 1.3              |         |     |     |       |        |         |          |            |             |         |                |                        |             | 9.9              | 7.6            | 1.41             | 1.9              | 1.664              | 1.672             |                                      |
| WK9-16   | 淤泥       | 31.10-31.40     | 61.5          | 1.65              | 1.02              | 1.65              | 2.75             | 1.692             | 100            | 53.3           | 29.5           | 23.8             | 1.34             |         |     |     |       |        |         |          |            |             | 0.23    |                | 5.3                    | 3.9         |                  |                | 1.99             | 1.35             | 1.254              | 1.337             |                                      |
| WK9-17   | 淤泥       | 34.10-34.40     | 58.6          | 1.65              | 1.04              | 1.66              | 2.75             | 1.643             | 98.1           | 49.3           | 29.5           | 19.8             | 1.47             |         |     |     |       |        |         |          | 53.8       | 46.2        |         |                | 5.3                    | 3.8         |                  |                | 1.22             | 2.17             | 0.842              | 0.932             |                                      |
| WK9-18   | 淤泥       | 37.10-37.40     | 54.7          | 1.68              | 1.09              | 1.69              | 2.75             | 1.532             | 98.2           | 51.5           | 28.3           | 23.2             | 1.14             |         |     |     |       |        |         |          |            |             |         |                |                        | 6.9         | 5.3              |                |                  | 0.54             | 4.69               | 3.357             | 2.602                                |
| WK9-19   | 粉土       | 40.10-40.40     | 24.4          | 2.01              | 1.62              | 2.01              | 2.68             | 0.659             | 99.3           | 26.8           | 18.6           | 8.2              | 0.71             |         |     |     |       |        |         |          |            |             |         | 62             | 13                     | 15.9        |                  |                | 0.32             | 5.18             | 1.902              | 2.241             |                                      |
| WK9-20   | 粘土       | 43.10-43.40     | 36.5          | 1.87              | 1.37              | 1.87              | 2.74             | 1                 | 100            | 41.6           | 22.7           | 18.9             | 0.73             |         |     |     |       |        |         |          |            |             |         |                |                        | 25.3        | 13.1             |                |                  | 0.39             | 5.13               | 0.958             | 0.509                                |
| WK9-21   | 粘土       | 46.10-46.40     | 37.7          | 1.85              | 1.34              | 1.85              | 2.75             | 1.047             | 99             | 45.6           | 23.9           | 21.7             | 0.64             |         |     |     |       |        |         |          | 56.5       | 43.5        |         |                | 30.3                   | 11.8        |                  |                | 0.41             | 4.99             | 1.398              | 0.754             |                                      |
| WK9-22   | 粘土       | 49.10-49.40     | 36            | 1.87              | 1.38              | 1.87              | 2.74             | 0.993             | 99.4           | 43.3           | 23.5           | 19.8             | 0.63             |         |     |     |       |        |         |          |            |             |         |                |                        | 35          | 12.3             |                |                  | 0.32             | 6.23               | 2.18              | 1.664                                |
| WK9-23   | 粘土       | 52.10-52.40     | 36.8          | 1.86              | 1.36              | 1.87              | 2.75             | 1.023             | 99             | 45.3           | 23.5           | 21.8             | 0.61             |         |     |     |       |        |         |          |            |             |         |                |                        |             |                  | 32             | 15.6             | 0.4              | 5.06               | 1.187             | 1.139                                |
| WK9-24   | 粘土       | 54.10-54.40     | 40.8          | 1.82              | 1.29              | 1.82              | 2.73             | 1.112             | 100            | 43.2           | 25.1           | 18.1             | 0.87             |         |     |     |       |        |         |          |            |             |         |                |                        | 23.2        | 10.6             |                |                  | 0.47             | 4.49               | 1.154             | 0.693                                |
| BZK24-1  | 卵石       | 1.20-1.50       |               |                   |                   |                   |                  |                   |                |                |                |                  |                  | 91.9    | 0.9 | 1.4 | 1.2   | 2.3    | 1.3     | 0.5      | 0.5        |             |         |                |                        |             |                  |                |                  |                  |                    |                   |                                      |
| BZK24-2  | 淤泥质粘土    | 3.20-3.50       | 54.1          | 1.7               | 1.1               | 1.7               | 2.74             | 1.484             | 99.9           | 51.2           | 29.2           | 22               | 1.13             |         |     |     |       |        |         |          |            |             |         | 0.53           |                        |             | 10.1             | 7.5            | 1.22             | 2.04             | 1.07               | 1.184             |                                      |
| BZK24-3  | 淤泥       | 5.20-5.50       | 68.4          | 1.6               | 0.95              | 1.6               | 2.75             | 1.894             | 99.3           | 60.9           | 33.6           | 27.3             | 1.27             |         |     |     |       |        |         |          |            |             |         |                |                        | 4.6         | 2.8              |                |                  | 2.06             | 1.41               | 1.036             | 1.123                                |
| BZK24-4  | 淤泥质粘土    | 7.20-7.50       | 50.7          | 1.72              | 1.14              | 1.72              | 2.73             | 1.392             | 99.4           | 45.9           | 27.3           | 18.6             | 1.26             |         |     |     |       |        |         |          | 66         | 34          | 0.25    |                | 8.6                    | 5.7         |                  |                | 1.29             | 1.85             | 1.352              | 1.488             |                                      |
| BZK24-5  | 淤泥       | 9.20-9.50       | 64.2          | 1.63              | 0.99              | 1.63              | 2.75             | 1                 |                |                |                |                  |                  |         |     |     |       |        |         |          |            |             |         |                |                        |             |                  |                |                  |                  |                    |                   |                                      |



平阳鳌江标准堤加固工程初步设计雁门闸地基土层室内土工试验综合成果表

附表3-24

| 岩土<br>编号  | 室内<br>定名 | 试样<br>深度<br>(m) | 天然<br>含水<br>率 | 湿<br>密度           | 干<br>密度           | 饱<br>和<br>密度      | 土<br>粒<br>比<br>重 | 天然<br>孔<br>隙<br>比 | 饱<br>和<br>度    | 液<br>限         | 塑<br>限         | 塑<br>性<br>指<br>数 | 液<br>性<br>指<br>数 | 颗粒组成百分数 |      |      |       |        |         |          |            |             |         | 渗 透            |                        | 直 剪         |                  |                |                  | 固结（垂直）           |                    |                   |                                      |       |
|-----------|----------|-----------------|---------------|-------------------|-------------------|-------------------|------------------|-------------------|----------------|----------------|----------------|------------------|------------------|---------|------|------|-------|--------|---------|----------|------------|-------------|---------|----------------|------------------------|-------------|------------------|----------------|------------------|------------------|--------------------|-------------------|--------------------------------------|-------|
|           |          |                 | ω             | ρ                 | ρ <sub>d</sub>    | ρ <sub>sat</sub>  | G <sub>s</sub>   | e <sub>0</sub>    | S <sub>r</sub> | ω <sub>L</sub> | ω <sub>p</sub> | I <sub>p</sub>   | I <sub>L</sub>   | >60     | >40  | >20  | 10~20 | 2.0~10 | 0.5~2.0 | 0.25~0.5 | 0.075~0.25 | 0.005~0.075 | 0~0.005 | 水平<br>渗透<br>系数 | 竖向<br>渗透<br>系数         | 粘聚力<br>(快剪) | 内摩<br>擦角<br>(快剪) | 粘聚力<br>(固快)    | 内摩<br>擦角<br>(固快) | 压缩<br>系数         | 压缩<br>模量           | 固结<br>系数<br>(MPa) |                                      |       |
|           |          |                 | %             | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |                  |                   | %              | %              | %              |                  |                  | (单位:mm) |      |      |       |        |         |          |            |             |         | K <sub>h</sub> | K <sub>v</sub>         | q           | φ <sub>q</sub>   | c <sub>q</sub> | φ <sub>cq</sub>  | v <sub>1-2</sub> | E <sub>sv1-2</sub> | C <sub>v0.2</sub> | C <sub>v0.4</sub>                    |       |
|           |          |                 | %             | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |                  |                   | %              | %              | %              | %                | %                | %       | %    | %    | %     | %      | %       | %        | %          | %           | %       | %              | ×10 <sup>-6</sup> cm/s |             | kPa              | 度              | kPa              | 度                | MPa <sup>-1</sup>  | MPa               | ×10 <sup>-3</sup> cm <sup>2</sup> /s |       |
| ZK1-1     | 淤泥质粉质粘土  | 1.20-1.50       | 41.2          | 1.81              | 1.28              | 1.81              | 2.73             | 1.13              | 99.6           | 36.8           | 21.9           | 14.9             | 1.3              |         |      |      |       |        |         |          |            |             |         |                |                        | 15.2        | 12.6             | 0.43           | 4.95             | 1.705            | 1.939              |                   |                                      |       |
| ZK1-2     | 淤泥       | 3.20-3.50       | 56.6          | 1.68              | 1.07              | 1.68              | 2.74             | 1.554             | 99.8           | 44.9           | 26.3           | 18.6             | 1.63             |         |      |      |       |        |         |          | 49         | 51          |         |                | 10.3                   | 7.9         |                  |                | 1.4              | 1.82             | 1.129              | 1.147             |                                      |       |
| ZK1-3     | 淤泥       | 5.20-5.50       | 60.3          | 1.66              | 1.04              | 1.66              | 2.74             | 1.646             | 100            | 53.3           | 29.8           | 23.5             | 1.3              |         |      |      |       |        |         |          |            |             | 0.079   | 7.2            | 5.3                    |             |                  | 1.28           | 2.07             |                  |                    |                   |                                      |       |
| ZK1-4     | 淤泥       | 7.20-7.50       | 60.6          | 1.63              | 1.01              | 1.64              | 2.74             | 1.7               | 97.7           | 52.8           | 29.2           | 23.6             | 1.33             |         |      |      |       |        |         |          |            |             |         |                |                        |             | 9.8              | 7.2            | 1.22             | 2.21             | 1.256              | 1.267             |                                      |       |
| ZK1-5     | 淤泥       | 9.20-9.50       | 63.2          | 1.63              | 1                 | 1.63              | 2.74             | 1.743             | 99.3           | 51.3           | 28.6           | 22.7             | 1.52             |         |      |      |       |        |         |          | 46.5       | 53.5        | 0.87    |                | 6.6                    | 4.9         |                  |                | 0.96             | 2.86             | 1.204              | 1.148             |                                      |       |
| ZK1-6     | 淤泥质粉质粘土  | 11.20-11.50     | 36.8          | 1.83              | 1.34              | 1.84              | 2.7              | 1.018             | 97.6           | 32.6           | 21.6           | 11               | 1.38             |         |      |      |       |        |         |          |            |             |         |                | 13.6                   | 15.2        |                  |                | 0.51             | 3.96             |                    |                   |                                      |       |
| ZK1-7     | 淤泥质粘土    | 13.20-13.50     | 52.4          | 1.71              | 1.12              | 1.71              | 2.73             | 1.433             | 99.8           | 45.3           | 26.5           | 18.8             | 1.38             |         |      |      |       |        |         |          |            |             | 0.26    |                |                        | 13.5        | 11.2             | 1.39           | 1.75             | 1.128            | 1.123              |                   |                                      |       |
| ZK1-8     | 淤泥质粉质粘土  | 15.20-15.50     | 49.4          | 1.73              | 1.16              | 1.73              | 2.73             | 1.358             | 99.3           | 43.2           | 26.5           | 16.7             | 1.37             |         |      |      |       |        |         |          | 53.8       | 46.2        |         |                | 10.2                   | 7.5         |                  |                | 1.31             | 1.8              |                    |                   |                                      |       |
| ZK1-9     | 淤泥       | 17.20-17.50     | 55            | 1.68              | 1.08              | 1.69              | 2.73             | 1.519             | 98.9           | 46.3           | 28.6           | 17.7             | 1.49             |         |      |      |       |        |         |          |            |             |         |                | 6.6                    | 4.5         |                  |                | 1.51             | 1.67             | 1.108              | 0.957             |                                      |       |
| ZK1-10    | 淤泥       | 19.20-19.50     | 56.3          | 1.68              | 1.07              | 1.68              | 2.74             | 1.549             | 99.6           | 52.3           | 29.5           | 22.8             | 1.18             |         |      |      |       |        |         |          |            | 0.39        |         |                |                        | 10.6        | 8.3              | 1.45           | 1.76             | 1.469            | 0.931              |                   |                                      |       |
| ZK1-11    | 淤泥       | 21.20-21.50     | 55.8          | 1.68              | 1.08              | 1.68              | 2.74             | 1.541             | 99.2           | 46.2           | 28.3           | 17.9             | 1.54             |         |      |      |       |        |         |          |            |             |         |                | 7.5                    | 5           |                  |                | 1.38             | 1.84             | 1.51               | 1.08              |                                      |       |
| ZK1-12    | 淤泥       | 23.20-23.50     | 59.3          | 1.66              | 1.04              | 1.66              | 2.74             | 1.629             | 99.7           | 52.8           | 29.8           | 23               | 1.28             |         |      |      |       |        |         |          | 48.3       | 51.7        |         | 0.15           | 6.8                    | 4.3         |                  |                | 1.43             | 1.84             | 1.207              | 0.78              |                                      |       |
| ZK1-13    | 淤泥质粘土    | 25.20-25.50     | 50.2          | 1.73              | 1.15              | 1.73              | 2.73             | 1.37              | 100            | 46.9           | 26.8           | 20.1             | 1.16             |         |      |      |       |        |         |          |            |             |         |                |                        |             | 13.6             | 10.5           | 1.01             | 2.35             | 2.52               | 0.588             |                                      |       |
| ZK1-14    | 淤泥质粘土    | 27.20-27.50     | 52.9          | 1.71              | 1.12              | 1.71              | 2.73             | 1.441             | 100            | 49.9           | 29.6           | 20.3             | 1.15             |         |      |      |       |        |         |          |            |             | 0.28    |                | 10.1                   | 7.5         |                  |                | 1.01             | 2.42             |                    |                   |                                      |       |
| ZK1-15    | 淤泥质粘土    | 29.20-29.50     | 49.3          | 1.73              | 1.16              | 1.73              | 2.73             | 1.356             | 99.3           | 46.8           | 25.9           | 20.9             | 1.12             |         |      |      |       |        |         |          |            |             |         |                | 11                     | 8.2         |                  |                | 1.36             | 1.73             | 1.632              | 1.968             |                                      |       |
| ZK1-16    | 淤泥质粘土    | 32.20-32.50     | 51.1          | 1.71              | 1.13              | 1.72              | 2.73             | 1.412             | 98.8           | 49.3           | 29.3           | 20               | 1.09             |         |      |      |       |        |         |          |            | 0.52        |         |                |                        | 13.2        | 10.2             | 1.11           | 2.17             | 1.171            | 1.082              |                   |                                      |       |
| ZK1-17    | 淤泥       | 35.20-35.50     | 63.6          | 1.63              | 1                 | 1.63              | 2.74             | 1.75              | 99.6           | 55.1           | 30.2           | 24.9             | 1.34             |         |      |      |       |        |         |          |            |             |         |                | 5.2                    | 3.8         |                  |                | 1.43             | 1.92             |                    |                   |                                      |       |
| ZK1-18    | 淤泥       | 38.20-38.50     | 60.3          | 1.66              | 1.04              | 1.66              | 2.74             | 1.646             | 100            | 55.3           | 30.1           | 25.2             | 1.2              |         |      |      |       |        |         |          | 43.9       | 56.1        |         | 0.063          |                        |             | 9.1              | 7.8            | 1.05             | 2.52             | 1.307              | 1.478             |                                      |       |
| ZK1-19    | 粘土       | 41.20-41.50     | 41.7          | 1.81              | 1.28              | 1.81              | 2.73             | 1.137             | 100            | 45.6           | 26.8           | 18.8             | 0.79             |         |      |      |       |        |         |          |            |             |         |                | 12                     | 8.6         |                  |                | 0.87             | 2.46             | 1.151              | 1.123             |                                      |       |
| ZK1-20    | 粉质粘土     | 44.20-44.50     | 36.3          | 1.86              | 1.36              | 1.86              | 2.72             | 0.993             | 99.4           | 37.2           | 23.2           | 14               | 0.94             |         |      |      |       |        |         |          |            |             | 0.49    |                | 14.3                   | 10.6        |                  |                | 0.81             | 2.46             |                    |                   |                                      |       |
| ZK1-21    | 粉质粘土     | 47.20-47.50     | 35.3          | 1.86              | 1.37              | 1.87              | 2.71             | 0.971             | 98.5           | 36.8           | 23.5           | 13.3             | 0.89             |         |      |      |       |        |         |          | 59.5       | 40.5        |         |                |                        |             | 16.8             | 13.8           | 0.81             | 2.43             |                    |                   |                                      |       |
| ZK1-22    | 粘土       | 50.20-50.50     | 39.8          | 1.83              | 1.31              | 1.83              | 2.73             | 1.086             | 100            | 41.6           | 23.9           | 17.7             | 0.9              |         |      |      |       |        |         |          |            |             |         | 0.33           | 13.5                   | 11.1        |                  |                | 0.81             | 2.58             | 1.02               | 1.16              |                                      |       |
| ZK1-23    | 卵石       | 53.20-53.50     |               |                   |                   |                   |                  |                   |                |                |                |                  |                  |         | 69.5 | 12   | 5.5   | 4.3    | 1.7     | 1.8      | 1          | 2           | 2.2     |                |                        |             |                  |                |                  |                  |                    |                   |                                      |       |
| ZK1-24    | 圆砾       | 55.70-56.00     |               |                   |                   |                   |                  |                   |                |                |                |                  |                  |         |      | 35.4 | 20.5  | 18.5   | 5.2     | 5.5      | 2.5        | 6.1         | 6.3     |                |                        |             |                  |                |                  |                  |                    |                   |                                      |       |
| BZK2-1    | 淤泥质粘土    | 1.70-2.00       | 53.6          | 1.69              | 1.1               | 1.7               | 2.74             | 1.49              | 98.5           | 50.3           | 28             | 22.3             | 1.15             |         |      |      |       |        |         |          |            |             | 0.31    |                |                        | 11.9        | 9.3              | 1.2            | 2.08             | 1.068            | 1.269              |                   |                                      |       |
| BZK2-2    | 淤泥质粘土    | 3.70-4.00       | 51.8          | 1.72              | 1.13              | 1.72              | 2.74             | 1.418             | 100            | 46.7           | 26.2           | 20.5             | 1.25             |         |      |      |       |        |         |          |            |             |         | 0.22           | 10.6                   | 6.9         |                  |                | 1.19             | 2.03             | 1.116              | 0.911             |                                      |       |
| BZK2-3    | 淤泥质粘土    | 5.70-6.00       | 52.9          | 1.68              | 1.1               | 1.7               | 2.73             | 1.485             | 97.3           | 45.3           | 27             | 18.3             | 1.42             |         |      |      |       |        |         |          |            |             |         |                |                        |             | 13.8             | 11.2           | 1.24             | 2                | 1.092              | 1.226             |                                      |       |
| BZK2-4    | 淤泥       | 7.70-8.00       | 62.2          | 1.63              | 1                 | 1.64              | 2.75             | 1.737             | 98.5           | 53.6           | 28.3           | 25.3             | 1.34             |         |      |      |       |        |         |          |            |             |         |                | 7.3                    | 5.5         |                  |                | 1.93             | 1.42             | 1.166              | 1.279             |                                      |       |
| BZK2-5    | 淤泥       | 9.70-10.00      | 60.4          | 1.65              | 1.03              | 1.65              | 2.75             | 1.673             | 99.3           | 52.1           | 26.9           | 25.2             | 1.33             |         |      |      |       |        |         |          |            |             | 0.19    |                |                        |             | 9.2              | 7.7            | 1.63             | 1.64             | 1.229              | 1.339             |                                      |       |
| BZK2-6    | 淤泥       | 11.70-12.00     | 65.8          | 1.61              | 0.97              | 1.62              | 2.75             | 1.832             | 98.8           | 53.3           | 29.3           | 24               | 1.52             |         |      |      |       |        |         |          |            |             |         | 0.086          | 5.3                    | 3.6         |                  |                | 2.06             | 1.38             | 1.073              | 0.885             |                                      |       |
| BZK2-7    | 淤泥       | 13.70-14.00     | 62.1          | 1.63              | 1.01              | 1.64              | 2.75             | 1.735             | 98.4           | 52.8           | 29.2           | 23.6             | 1.39             |         |      |      |       |        |         |          |            |             |         |                |                        |             | 9.5              | 7.2            | 1.77             | 1.54             | 1.065              | 0.825             |                                      |       |
| BZK2-8    | 淤泥       | 15.70-16.00     | 60.9          | 1.63              | 1.01              | 1.64              | 2.75             | 1.715             | 97.7           | 50.6           | 27.8           | 22.8             | 1.45             |         |      |      |       |        |         |          |            |             |         |                |                        |             |                  |                |                  |                  | 0.69               | 3.93              | 3.872                                | 3.131 |
| BZK2-9    | 淤泥       | 17.70-18.00     | 64.7          | 1.61              | 0.98              | 1.62              | 2.75             | 1.813             | 98.1           | 52.9           | 29.1           | 23.8             | 1.5              |         |      |      |       |        |         |          |            |             | 0.11    |                | 5.1                    | 3.7         |                  |                | 1.6              | 1.76             | 1.234              | 0.818             |                                      |       |
| BZK2-10   | 淤泥       | 19.70-20.00     | 62.1          | 1.63              | 1.01              | 1.64              | 2.75             | 1.735             | 98.4           | 52.2           | 29             | 23.2             | 1.43             |         |      |      |       |        |         |          |            |             |         | 0.073          |                        |             | 10.9             | 6.8            | 1.54             | 1.78             | 0.976              | 0.788             |                                      |       |
| BZK2-11   | 淤泥       | 21.70-22.00     | 62            | 1.63              | 1.01              | 1.64              | 2.75             | 1.733             | 98.4           | 53.9           | 28.2           | 25.7             | 1.32             |         |      |      |       |        |         |          |            |             |         |                | 6.2                    | 3.5         |                  |                | 1.44             | 1.9              | 1.201              | 0.839             |                                      |       |
| BZK2-12   | 淤泥       | 23.70-24.00     | 54.4          | 1.69              | 1.09              | 1.7               | 2.74             | 1.503             | 99.2           | 51.1           | 27.3           | 23.8             | 1.14             |         |      |      |       |        |         |          |            |             |         |                |                        |             | 13.9             | 10.9           | 0.95             | 2.63             | 1.956              | 0.986             |                                      |       |
| BZK2-13   | 淤泥       | 25.70-26.00     | 57.8          | 1.66              | 1.05              | 1.67              | 2.74             | 1.605             | 98.7           | 52.2           | 27.2           | 25               | 1.22             |         |      |      |       |        |         |          |            |             | 0.35    |                | 8.6                    | 6.1         |                  |                | 1.4              | 1.86             |                    |                   |                                      |       |
| BZK2-14   | 淤泥质粘土    | 27.70-28.00     | 52.5          | 1.7               | 1.11              | 1.71              | 2.74             | 1.458             | 98.7           | 47.9           | 27.1           | 20.8             | 1.22             |         |      |      |       |        |         |          |            |             |         |                |                        |             | 12.1             | 10.2           | 1.05             | 2.34             | 1.514              | 0.895             |                                      |       |
| BZK2-15</ |          |                 |               |                   |                   |                   |                  |                   |                |                |                |                  |                  |         |      |      |       |        |         |          |            |             |         |                |                        |             |                  |                |                  |                  |                    |                   |                                      |       |

平阳鳌江标准堤加固工程初步设计雁门闸地基土层室内土工试验综合成果表

附表3-25

| 岩土<br>编号 | 室内<br>定名 | 试样<br>深度<br>(m) | 天然<br>含水<br>率 | 湿<br>密<br>度       | 干<br>密<br>度       | 饱<br>和<br>密<br>度  | 土<br>粒<br>比<br>重 | 天然<br>孔<br>隙<br>比 | 饱<br>和<br>度    | 液<br>限         | 塑<br>限         | 塑<br>性<br>指<br>数 | 液<br>性<br>指<br>数 | 颗粒组成百分数 |     |      |       |        |         |          |            |             |         | 渗 透                    |                | 直 剪         |                  |                |                   | 固结（垂直）           |                                      |                   |                   |       |
|----------|----------|-----------------|---------------|-------------------|-------------------|-------------------|------------------|-------------------|----------------|----------------|----------------|------------------|------------------|---------|-----|------|-------|--------|---------|----------|------------|-------------|---------|------------------------|----------------|-------------|------------------|----------------|-------------------|------------------|--------------------------------------|-------------------|-------------------|-------|
|          |          |                 | ω             | ρ                 | ρ <sub>d</sub>    | ρ <sub>sat</sub>  | G <sub>s</sub>   | e <sub>0</sub>    | S <sub>r</sub> | ω <sub>L</sub> | ω <sub>p</sub> | I <sub>p</sub>   | I <sub>L</sub>   | >60     | >40 | >20  | 10~20 | 2.0~10 | 0.5~2.0 | 0.25~0.5 | 0.075~0.25 | 0.005~0.075 | 0~0.005 | 水平<br>渗透<br>系数         | 竖向<br>渗透<br>系数 | 粘聚力<br>(快剪) | 内摩<br>擦角<br>(快剪) | 粘聚力<br>(固快)    | 内摩<br>擦角<br>(固快)  | 压缩<br>系数         | 压缩<br>模量                             | 固结<br>系数<br>(MPa) |                   |       |
|          |          |                 | %             | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |                  |                   | %              | %              | %              | %                | %                | %       | %   | %    | %     | %      | %       | %        | %          | %           | %       | K <sub>h</sub>         | K <sub>v</sub> | q           | φ <sub>q</sub>   | c <sub>q</sub> | φ <sub>cq</sub>   | v <sub>1-2</sub> | E <sub>sv1-2</sub>                   | C <sub>v0.2</sub> | C <sub>v0.4</sub> |       |
|          |          |                 | %             | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |                  |                   | %              | %              | %              | %                | %                | %       | %   | %    | %     | %      | %       | %        | %          | %           | %       | ×10 <sup>-6</sup> cm/s | kPa            | 度           | kPa              | 度              | MPa <sup>-1</sup> | MPa              | ×10 <sup>-3</sup> cm <sup>2</sup> /s |                   |                   |       |
| BZK2-16  | 粘土       | 32.70-33.00     | 39.8          | 1.82              | 1.3               | 1.82              | 2.72             | 1.089             | 99.4           | 43.5           | 23.9           | 19.6             | 0.81             |         |     |      |       |        |         |          |            |             | 0.45    |                        |                | 15.9        | 12.1             | 0.63           | 3.32              |                  |                                      |                   |                   |       |
| BZK2-17  | 粘土       | 35.70-36.00     | 41.4          | 1.76              | 1.24              | 1.79              | 2.72             | 1.185             | 95             | 43.9           | 25.2           | 18.7             | 0.87             |         |     |      |       |        |         |          | 62         | 38          |         |                        | 11.9           | 8.3         |                  |                | 0.96              | 2.28             | 1.255                                | 1.188             |                   |       |
| BZK2-18  | 粘土       | 38.70-39.00     | 39.8          | 1.8               | 1.29              | 1.81              | 2.72             | 1.113             | 97.3           | 41.6           | 23.5           | 18.1             | 0.9              |         |     |      |       |        |         |          |            |             | 0.78    |                        |                |             | 15.2             | 11.8           | 0.77              | 2.74             | 1.065                                | 1.154             |                   |       |
| BZK2-19  | 粘土       | 41.70-42.00     | 44.6          | 1.75              | 1.21              | 1.77              | 2.72             | 1.247             | 97.2           | 45.2           | 26.3           | 18.9             | 0.97             |         |     |      |       |        |         |          |            |             |         | 0.56                   | 11.2           | 8.6         |                  |                | 1                 | 2.25             | 1.404                                | 0.972             |                   |       |
| BZK2-20  | 粘土       | 44.70-45.00     | 41.1          | 1.76              | 1.25              | 1.79              | 2.72             | 1.181             | 94.7           | 43.6           | 26.3           | 17.3             | 0.86             |         |     |      |       |        |         |          |            |             |         |                        |                |             | 16.2             | 12.3           | 0.85              | 2.57             | 1.365                                | 1.115             |                   |       |
| BZK2-21  | 粉土       | 47.70-48.00     | 30.7          | 1.9               | 1.45              | 1.91              | 2.69             | 0.85              | 97.1           | 29.5           | 19.6           | 9.9              | 1.12             |         |     |      |       |        | 3.6     | 10.9     | 75         | 10.5        | 160     |                        | 15.9           | 16.3        |                  |                | 0.64              | 2.89             | 3.356                                | 2.285             |                   |       |
| BZK2-22  | 圆砾       | 49.70-50.00     |               |                   |                   |                   |                  |                   |                |                |                |                  |                  |         |     | 24.9 | 14.5  | 12.1   | 5.2     | 5.4      | 7.2        | 15          | 15.7    |                        |                |             |                  |                |                   |                  |                                      |                   |                   |       |
| BZK2-23  | 圆砾       | 52.70-53.00     |               |                   |                   |                   |                  |                   |                |                |                |                  |                  |         |     | 33.8 | 10.9  | 10     | 10.6    | 4.2      | 4.6        | 4.5         | 10.4    | 11                     |                |             |                  |                |                   |                  |                                      |                   |                   |       |
| BZK3-1   | 淤泥质粉质粘土  | 1.70-2.00       | 43.9          | 1.76              | 1.22              | 1.77              | 2.71             | 1.216             | 97.9           | 38.2           | 22.6           | 15.6             | 1.37             |         |     |      |       |        |         |          |            | 70.5        | 29.5    |                        |                |             | 15.3             | 19.2           | 0.43              | 5.15             | 2.143                                | 2.494             |                   |       |
| BZK3-2   | 淤泥质粉质粘土  | 3.70-4.00       | 48.6          | 1.73              | 1.16              | 1.73              | 2.71             | 1.328             | 99.2           | 43.1           | 26.5           | 16.6             | 1.33             |         |     |      |       |        |         |          |            |             |         | 0.25                   | 13.2           | 15.6        |                  |                | 0.71              | 3.28             |                                      |                   |                   |       |
| BZK3-3   | 淤泥质粘土    | 5.70-6.00       | 44.2          | 1.76              | 1.22              | 1.77              | 2.71             | 1.22              | 98.2           | 41.1           | 23.8           | 17.3             | 1.18             |         |     |      |       |        |         |          |            |             |         |                        |                | 15.8        | 13.2             |                |                   | 0.85             | 2.61                                 | 1.622             | 1.952             |       |
| BZK3-4   | 淤泥质粘土    | 7.70-8.00       | 45.8          | 1.75              | 1.2               | 1.76              | 2.72             | 1.266             | 98.4           | 43.2           | 25.6           | 17.6             | 1.15             |         |     |      |       |        |         |          |            | 68.2        | 31.8    | 0.71                   |                |             | 16.2             | 13.2           | 0.93              | 2.44             |                                      |                   |                   |       |
| BZK3-5   | 淤泥质粘土    | 9.70-10.00      | 51.4          | 1.71              | 1.13              | 1.72              | 2.73             | 1.417             | 99             | 46.2           | 27.6           | 18.6             | 1.28             |         |     |      |       |        |         |          |            |             |         |                        |                | 10.3        | 7.6              |                |                   | 0.97             | 2.49                                 | 1.691             | 2.102             |       |
| BZK3-6   | 淤泥质粉质粘土  | 11.70-12.00     | 41            | 1.81              | 1.28              | 1.81              | 2.73             | 1.127             | 99.3           | 39.1           | 23.1           | 16               | 1.12             |         |     |      |       |        |         |          |            |             |         |                        | 0.31           | 12.2        | 9.2              |                |                   | 0.81             | 2.63                                 | 1.657             | 2.026             |       |
| BZK3-7   | 淤泥质粘土    | 13.70-14.00     | 48.4          | 1.75              | 1.18              | 1.75              | 2.73             | 1.315             | 100            | 44.3           | 26.9           | 17.4             | 1.24             |         |     |      |       |        |         |          |            |             | 66      | 34                     |                |             |                  | 14.6           | 12.1              | 0.71             | 3.26                                 |                   |                   |       |
| BZK3-8   | 淤泥       | 15.70-16.00     | 55.2          | 1.68              | 1.08              | 1.69              | 2.73             | 1.522             | 99             | 49.9           | 28.6           | 21.3             | 1.25             |         |     |      |       |        |         |          |            |             |         | 0.28                   |                | 7.8         | 5.2              |                |                   | 1.57             | 1.61                                 | 1.219             | 1.253             |       |
| BZK3-9   | 淤泥       | 17.70-18.00     | 63.8          | 1.63              | 1                 | 1.63              | 2.74             | 1.753             | 99.7           | 52.2           | 30.3           | 21.9             | 1.53             |         |     |      |       |        |         |          |            |             |         |                        |                | 6           | 4.9              |                |                   | 1.46             | 1.89                                 | 1.513             | 1.318             |       |
| BZK3-10  | 淤泥       | 19.70-20.00     | 62.5          | 1.63              | 1                 | 1.64              | 2.74             | 1.732             | 98.9           | 52.7           | 29.8           | 22.9             | 1.43             |         |     |      |       |        |         |          |            |             |         |                        | 0.065          |             |                  | 9.8            | 6.5               | 1.53             | 1.78                                 |                   |                   |       |
| BZK3-11  | 淤泥       | 21.70-22.00     | 62.2          | 1.63              | 1                 | 1.64              | 2.74             | 1.727             | 98.7           | 52.2           | 30.2           | 22               | 1.45             |         |     |      |       |        |         |          |            | 46.5        | 53.5    |                        |                | 5.6         | 3.8              |                |                   | 1.38             | 1.98                                 | 1.151             | 1.206             |       |
| BZK3-12  | 淤泥       | 23.70-24.00     | 66.3          | 1.62              | 0.97              | 1.62              | 2.74             | 1.813             | 100            | 56.9           | 31.1           | 25.8             | 1.36             |         |     |      |       |        |         |          |            |             |         | 0.083                  |                | 5.2         | 3.5              |                |                   | 2.71             | 1.04                                 | 1.117             | 0.916             |       |
| BZK3-13  | 淤泥       | 25.70-26.00     | 64.8          | 1.63              | 0.99              | 1.63              | 2.74             | 1.77              | 100            | 53.6           | 29.5           | 24.1             | 1.46             |         |     |      |       |        |         |          |            |             |         |                        |                |             |                  | 9.3            | 7.9               | 1.52             | 1.82                                 |                   |                   |       |
| BZK3-14  | 淤泥       | 27.70-28.00     | 64            | 1.63              | 0.99              | 1.63              | 2.74             | 1.757             | 99.8           | 52.1           | 30.6           | 21.5             | 1.55             |         |     |      |       |        |         |          |            | 46.9        | 53.1    |                        | 0.73           | 5.3         | 3.6              |                |                   | 1.38             | 2                                    | 1.37              | 1.074             |       |
| BZK3-15  | 淤泥       | 29.70-30.00     | 63.8          | 1.63              | 1                 | 1.63              | 2.74             | 1.753             | 99.7           | 53.2           | 29.5           | 23.7             | 1.45             |         |     |      |       |        |         |          |            |             |         |                        |                |             |                  | 10.2           | 8.2               | 1.33             | 2.07                                 | 1.818             | 1.223             |       |
| BZK3-16  | 淤泥       | 31.70-32.00     | 62.5          | 1.63              | 1                 | 1.64              | 2.74             | 1.732             | 98.9           | 52.5           | 30.3           | 22.2             | 1.45             |         |     |      |       |        |         |          |            |             |         | 0.085                  |                | 5.5         | 3.8              |                |                   | 1.41             | 1.94                                 |                   |                   |       |
| BZK3-17  | 淤泥质粘土    | 33.70-34.00     | 53.6          | 1.7               | 1.11              | 1.7               | 2.73             | 1.467             | 99.8           | 49.9           | 29.3           | 20.6             | 1.18             |         |     |      |       |        |         |          |            | 47.9        | 52.1    |                        |                | 7.5         | 5                |                |                   | 1.09             | 2.26                                 | 1.274             | 1.644             |       |
| BZK3-18  | 淤泥质粘土    | 35.70-36.00     | 48.8          | 1.73              | 1.16              | 1.74              | 2.73             | 1.348             | 98.8           | 45.2           | 26.7           | 18.5             | 1.19             |         |     |      |       |        |         |          |            |             |         |                        | 0.21           |             |                  | 15.3           | 11                | 1.03             | 2.28                                 | 1.482             | 1.444             |       |
| BZK3-19  | 粉质粘土     | 37.70-38.00     | 41.1          | 1.81              | 1.28              | 1.81              | 2.73             | 1.128             | 99.5           | 42             | 26.8           | 15.2             | 0.94             |         |     |      |       |        |         |          |            | 65          | 35      |                        |                | 13.5        | 11               |                |                   | 1.64             | 1.3                                  |                   |                   |       |
| BZK3-20  | 粉质粘土     | 40.70-41.00     | 38            | 1.83              | 1.33              | 1.84              | 2.72             | 1.051             | 98.3           | 38.6           | 22.2           | 16.4             | 0.96             |         |     |      |       |        |         |          |            |             |         | 0.43                   |                |             |                  | 16.3           | 12.8              | 0.72             | 2.85                                 | 1.644             | 1.555             |       |
| BZK3-21  | 粉质粘土     | 43.70-44.00     | 40.8          | 1.81              | 1.29              | 1.81              | 2.73             | 1.124             | 99.1           | 41.5           | 26.7           | 14.8             | 0.95             |         |     |      |       |        |         |          |            |             |         |                        |                |             | 14.3             | 11.3           |                   |                  | 0.83                                 | 2.56              | 1.226             | 1.239 |
| BZK3-22  | 淤泥质粉质粘土  | 46.70-47.00     | 43.8          | 1.79              | 1.24              | 1.79              | 2.73             | 1.193             | 100            | 40.6           | 23.9           | 16.7             | 1.19             |         |     |      |       |        |         |          |            | 66.8        | 33.2    |                        | 0.28           | 13.5        | 10.5             |                |                   | 0.85             | 2.58                                 | 1.3               | 1.024             |       |
| BZK3-23  | 粉质粘土     | 49.70-50.00     | 33.3          | 1.88              | 1.41              | 1.89              | 2.71             | 0.922             | 97.9           | 36.2           | 23.5           | 12.7             | 0.77             |         |     |      |       |        |         |          |            |             |         |                        |                |             |                  | 17.6           | 13.8              | 0.63             | 3.05                                 |                   |                   |       |
| BZK3-24  | 粉质粘土     | 52.70-53.00     | 39.5          | 1.83              | 1.31              | 1.83              | 2.72             | 1.073             | 100            | 42.3           | 25.6           | 16.7             | 0.83             |         |     |      |       |        |         |          |            |             |         | 0.52                   |                | 13.8        | 11.5             |                |                   | 0.78             | 2.66                                 | 1.181             | 0.998             |       |
| BZK3-25  | 粉质粘土     | 54.30-54.60     | 30.3          | 1.91              | 1.47              | 1.92              | 2.71             | 0.849             | 96.7           | 33.2           | 22.3           | 10.9             | 0.73             |         |     |      |       |        |         |          |            | 73.9        | 26.1    |                        |                |             |                  | 18.5           | 15.9              | 0.34             | 5.44                                 |                   |                   |       |
| BZK3-26  | 圆砾       | 56.70-57.00     |               |                   |                   |                   |                  |                   |                |                |                |                  |                  |         |     | 8.9  | 36.5  | 15     | 21      | 5.6      | 4.2        | 2.5         | 3       | 3.3                    |                |             |                  |                |                   |                  |                                      |                   |                   |       |
| BZK3-27  | 圆砾       | 59.70-60.00     |               |                   |                   |                   |                  |                   |                |                |                |                  |                  |         |     |      | 31.8  | 20.8   | 17.3    | 6.8      | 6.4        | 4.3         | 6.1     | 6.5                    |                |             |                  |                |                   |                  |                                      |                   |                   |       |
| ZK4-1    | 淤泥质粘土    | 0.70-1.00       | 52.9          | 1.71              | 1.12              | 1.71              | 2.73             | 1.441             | 100            | 46.3           | 27.2           | 19.1             | 1.35             |         |     |      |       |        |         |          |            |             |         | 0.25                   |                | 10.2        | 8.8              |                |                   | 1.21             | 2.02                                 | 1                 | 1.145             |       |
| ZK4-2    | 淤泥质粘土    | 2.70-3.00       | 50.5          | 1.73              | 1.15              | 1.73              | 2.73             | 1.375             | 100            | 46.3           | 26.2           | 20.1             | 1.21             |         |     |      |       |        |         |          |            |             |         |                        |                | 10.5        | 8.2              |                |                   | 1.12             | 2.12                                 |                   |                   |       |
| ZK4-3    | 淤泥质粘土    | 4.70-5.00       | 49.6          | 1.73              | 1.16              | 1.73              | 2.71             | 1.343             | 100            | 43.5           | 26.2           | 17.3             | 1.35             |         |     |      |       |        |         |          |            |             |         |                        | 0.062          |             |                  |                |                   |                  |                                      |                   |                   |       |

平阳鳌江标准堤加固工程初步设计雁门闸地基土层室内土工试验综合成果表

附表3-26

| 岩土<br>编号 | 室内<br>定名 | 试样<br>深度<br>(m) | 天然<br>含水<br>率 | 湿<br>密<br>度 | 干<br>密<br>度 | 饱<br>和<br>密<br>度 | 土<br>粒<br>比<br>重 | 天然<br>孔<br>隙<br>比 | 饱<br>和<br>度 | 液<br>限 | 塑<br>限 | 塑<br>性<br>指<br>数 | 液<br>性<br>指<br>数 | 颗粒组成百分数 |                   |                   |                   |        |         |          |            |             |         | 渗 透            |                | 直 剪         |                  |                |                  | 固结（垂直）           |                    |                        |                   |       |
|----------|----------|-----------------|---------------|-------------|-------------|------------------|------------------|-------------------|-------------|--------|--------|------------------|------------------|---------|-------------------|-------------------|-------------------|--------|---------|----------|------------|-------------|---------|----------------|----------------|-------------|------------------|----------------|------------------|------------------|--------------------|------------------------|-------------------|-------|
|          |          |                 |               |             |             |                  |                  |                   |             |        |        |                  |                  | >60     | >40               | >20               | 10~20             | 2.0~10 | 0.5~2.0 | 0.25~0.5 | 0.075~0.25 | 0.005~0.075 | 0~0.005 | 水平<br>渗透<br>系数 | 竖向<br>渗透<br>系数 | 粘聚力<br>(快剪) | 内摩<br>擦角<br>(快剪) | 粘聚力<br>(固快)    | 内摩<br>擦角<br>(固快) | 压缩<br>系数         | 压缩<br>模量           | 固结<br>系数<br>(MPa)      |                   |       |
|          |          |                 |               |             |             |                  |                  |                   |             |        |        |                  |                  | (单位:mm) |                   |                   |                   |        |         |          |            |             |         | K <sub>h</sub> | K <sub>v</sub> | q           | φ <sub>q</sub>   | c <sub>q</sub> | φ <sub>cq</sub>  | v <sub>1-2</sub> | E <sub>sv1-2</sub> | C <sub>v0.2</sub>      | C <sub>v0.4</sub> |       |
|          |          |                 |               |             |             |                  |                  |                   |             |        |        |                  |                  | %       | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |        |         | %        | %          | %           | %       | %              | %              | %           | %                | %              | %                | %                | %                  | ×10 <sup>-6</sup> cm/s | kPa               | 度     |
| ZK4-5    | 淤泥质粉质粘土  | 8.70-9.00       | 43.9          | 1.79        | 1.24        | 1.79             | 2.73             | 1.195             | 100         | 41.6   | 25.3   | 16.3             | 1.14             |         |                   |                   |                   |        |         |          |            | 0.21        | 5.8     | 4.5            |                |             | 1.02             | 2.15           |                  |                  |                    |                        |                   |       |
| ZK4-6    | 粉质粘土     | 10.70-11.00     | 35.7          | 1.86        | 1.37        | 1.86             | 2.71             | 0.977             | 99          | 36.1   | 23.6   | 12.5             | 0.97             |         |                   |                   |                   |        |         |          |            |             |         |                | 12.6           | 15.1        | 0.4              | 4.94           | 4.116            | 4.064            |                    |                        |                   |       |
| ZK4-7    | 淤泥质粉质粘土  | 12.70-13.00     | 45.5          | 1.77        | 1.22        | 1.77             | 2.71             | 1.228             | 100         | 39.5   | 22.7   | 16.8             | 1.36             |         |                   |                   |                   |        |         |          |            | 0.85        |         | 13.5           | 10.1           |             |                  | 0.96           | 2.32             |                  |                    |                        |                   |       |
| ZK4-8    | 淤泥       | 14.70-15.00     | 59.8          | 1.66        | 1.04        | 1.66             | 2.74             | 1.638             | 100         | 53.7   | 29.9   | 23.8             | 1.26             |         |                   |                   |                   |        |         |          |            |             |         |                | 12             | 10.9        | 1.21             | 2.18           | 2.032            | 1.101            |                    |                        |                   |       |
| ZK4-9    | 淤泥       | 16.70-17.00     | 63.3          | 1.63        | 1           | 1.63             | 2.74             | 1.745             | 99.4        | 51.9   | 29.9   | 22               | 1.52             |         |                   |                   |                   |        |         |          |            | 0.73        | 5.3     | 3.8            |                |             | 1.65             | 1.66           | 1.132            | 1.062            |                    |                        |                   |       |
| ZK4-10   | 淤泥       | 18.70-19.00     | 67.8          | 1.6         | 0.95        | 1.61             | 2.74             | 1.874             | 99.2        | 53.8   | 30.8   | 23               | 1.61             |         |                   |                   |                   |        |         | 47       | 53         |             |         | 5.3            | 3.6            |             |                  | 1.68           | 1.71             | 1.286            | 1.138              |                        |                   |       |
| ZK4-11   | 淤泥       | 20.70-21.00     | 66.2          | 1.62        | 0.97        | 1.62             | 2.74             | 1.811             | 100         | 56.2   | 30.9   | 25.3             | 1.4              |         |                   |                   |                   |        |         |          |            | 0.062       |         |                |                | 9           | 7.1              | 1.52           | 1.85             |                  |                    |                        |                   |       |
| ZK4-12   | 淤泥       | 22.70-23.00     | 68.1          | 1.6         | 0.95        | 1.6              | 2.74             | 1.879             | 99.3        | 53.7   | 31.6   | 22.1             | 1.65             |         |                   |                   |                   |        |         |          |            |             |         | 5.6            | 3.2            |             |                  | 1.78           | 1.62             |                  |                    |                        |                   |       |
| ZK4-13   | 淤泥       | 24.70-25.00     | 62.8          | 1.63        | 1           | 1.64             | 2.74             | 1.737             | 99.1        | 53.8   | 29.9   | 23.9             | 1.38             |         |                   |                   |                   |        |         |          | 47.9       | 52.1        |         | 0.73           | 5.1            | 3.1         |                  |                | 1.5              | 1.82             | 1.445              | 1.223                  |                   |       |
| ZK4-14   | 淤泥       | 26.70-27.00     | 58.7          | 1.66        | 1.05        | 1.66             | 2.74             | 1.62              | 99.3        | 56.3   | 31.1   | 25.2             | 1.1              |         |                   |                   |                   |        |         |          |            |             |         |                |                | 9.3         | 7.5              | 1.23           | 2.13             | 1.375            | 1.122              |                        |                   |       |
| ZK4-15   | 淤泥       | 28.70-29.00     | 58.2          | 1.66        | 1.05        | 1.67             | 2.74             | 1.611             | 99          | 52.2   | 29.3   | 22.9             | 1.26             |         |                   |                   |                   |        |         |          |            |             | 0.35    |                | 6.8            | 4.3         |                  |                | 1.34             | 1.95             |                    |                        |                   |       |
| ZK4-16   | 淤泥质粘土    | 31.70-32.00     | 45.6          | 1.76        | 1.21        | 1.76             | 2.72             | 1.25              | 99.2        | 43.9   | 26     | 17.9             | 1.09             |         |                   |                   |                   |        |         |          |            | 63.5        | 36.5    |                |                | 12.2        | 8.1              |                |                  | 0.92             | 2.45               |                        |                   |       |
| ZK4-17   | 粘土       | 34.70-35.00     | 41.3          | 1.81        | 1.28        | 1.81             | 2.73             | 1.131             | 99.7        | 45.3   | 25.8   | 19.5             | 0.79             |         |                   |                   |                   |        |         |          |            |             |         | 0.35           |                |             | 15.2             | 12.8           | 0.84             | 2.54             | 1.427              | 1.548                  |                   |       |
| ZK4-18   | 粘土       | 37.70-38.00     | 41.3          | 1.81        | 1.28        | 1.81             | 2.73             | 1.131             | 99.7        | 43.6   | 25.3   | 18.3             | 0.87             |         |                   |                   |                   |        |         |          |            |             |         |                |                |             | 13.2             | 8.5            |                  |                  | 0.78               | 2.73                   | 1.277             | 1.275 |
| ZK4-19   | 淤泥质粘土    | 40.70-41.00     | 42.9          | 1.79        | 1.25        | 1.79             | 2.73             | 1.179             | 99.3        | 42.3   | 25.1   | 17.2             | 1.03             |         |                   |                   |                   |        |         |          |            |             | 0.59    |                |                |             | 16.8             | 13.9           | 0.85             | 2.56             |                    |                        |                   |       |
| ZK4-20   | 粘土       | 43.70-44.00     | 44            | 1.79        | 1.24        | 1.79             | 2.73             | 1.196             | 100         | 45.3   | 26.8   | 18.5             | 0.93             |         |                   |                   |                   |        |         |          | 59.5       | 40.5        |         |                |                | 12.6        | 10               |                |                  | 0.81             | 2.71               | 4.315                  | 0.557             |       |
| ZK4-21   | 淤泥质粘土    | 46.70-47.00     | 42.2          | 1.79        | 1.26        | 1.8              | 2.73             | 1.169             | 98.6        | 41.9   | 23.3   | 18.6             | 1.02             |         |                   |                   |                   |        |         |          |            |             |         | 0.036          | 13.2           | 9.3         |                  |                | 0.83             | 2.61             | 1.634              | 1.657                  |                   |       |
| ZK4-22   | 粉质粘土     | 49.70-50.00     | 40.5          | 1.81        | 1.29        | 1.81             | 2.72             | 1.111             | 99.1        | 41.6   | 26.3   | 15.3             | 0.93             |         |                   |                   |                   |        |         |          |            | 66.3        | 33.7    |                |                |             |                  | 16.8           | 13.9             | 0.78             | 2.71               | 2.524                  | 2.836             |       |
| ZK4-23   | 粉质粘土     | 50.70-51.00     | 25.7          | 1.99        | 1.58        | 2                | 2.71             | 0.712             | 97.8        | 36.3   | 22.2   | 14.1             | 0.25             |         |                   |                   |                   |        |         |          |            |             |         | 0.62           |                | 18.3        | 11               |                |                  | 0.65             | 2.63               | 3.396                  | 3.714             |       |
| ZK4-24   | 圆砾       | 54.70-55.00     |               |             |             |                  |                  |                   |             |        |        |                  |                  |         | 5.8               | 25.8              | 17.6              | 12.8   | 11.5    | 12.3     | 8.6        | 3.5         | 2.1     |                |                |             |                  |                |                  |                  |                    |                        |                   |       |
| ZK4-25   | 圆砾       | 57.70-58.00     |               |             |             |                  |                  |                   |             |        |        |                  |                  |         |                   | 20                | 16.1              | 19.4   | 8.5     | 9.9      | 5.1        | 10.3        | 10.7    |                |                |             |                  |                |                  |                  |                    |                        |                   |       |
| ZK5-1    | 淤泥       | 0.60-0.90       | 57.3          | 1.65        | 1.05        | 1.67             | 2.75             | 1.622             | 97.2        | 52.6   | 28.5   | 24.1             | 1.2              |         |                   |                   |                   |        |         |          |            |             | 0.086   |                | 6.5            | 4.9         |                  |                | 1.41             | 1.86             | 1.319              | 1.5                    |                   |       |
| ZK5-2    | 淤泥质粘土    | 2.60-2.90       | 50.6          | 1.71        | 1.14        | 1.72             | 2.73             | 1.404             | 98.4        | 45.3   | 25.2   | 20.1             | 1.26             |         |                   |                   |                   |        |         |          |            | 65          | 35      |                |                |             | 12               | 11.6           | 1.47             | 1.64             |                    |                        |                   |       |
| ZK5-3    | 淤泥       | 4.60-4.90       | 56.6          | 1.65        | 1.05        | 1.67             | 2.75             | 1.61              | 96.7        | 52.7   | 28.6   | 24.1             | 1.16             |         |                   |                   |                   |        |         |          |            |             |         | 0.095          | 7              | 5.1         |                  |                | 1.36             | 1.92             | 1.167              | 0.782                  |                   |       |
| ZK5-4    | 淤泥质粘土    | 6.60-6.90       | 47.9          | 1.73        | 1.17        | 1.74             | 2.73             | 1.334             | 98          | 46     | 26     | 20               | 1.1              |         |                   |                   |                   |        |         |          |            |             |         |                |                | 10.6        | 7.3              |                |                  | 1.04             | 2.24               |                        |                   |       |
| ZK5-5    | 淤泥质粉质粘土  | 8.60-8.90       | 37.6          | 1.85        | 1.34        | 1.85             | 2.73             | 1.031             | 99.6        | 35.1   | 22.3   | 12.8             | 1.2              |         |                   |                   |                   |        |         |          |            |             | 0.6     |                |                |             | 13.8             | 12.1           | 0.57             | 3.56             |                    |                        |                   |       |
| ZK5-6    | 淤泥       | 10.60-10.90     | 55.7          | 1.68        | 1.08        | 1.69             | 2.75             | 1.549             | 98.9        | 52.6   | 28     | 24.6             | 1.13             |         |                   |                   |                   |        |         |          |            | 51.5        | 48.5    |                |                | 7.3         | 5.1              |                |                  | 1.34             | 1.9                | 0.768                  | 0.738             |       |
| ZK5-7    | 淤泥       | 12.60-12.90     | 60.5          | 1.63        | 1.02        | 1.65             | 2.75             | 1.708             | 97.4        | 55.6   | 28.9   | 26.7             | 1.18             |         |                   |                   |                   |        |         |          |            |             |         |                |                | 5.9         | 3.5              |                |                  | 1.79             | 1.51               | 1.112                  | 0.97              |       |
| ZK5-8    | 淤泥       | 14.60-14.90     | 63.9          | 1.63        | 0.99        | 1.63             | 2.75             | 1.765             | 99.6        | 58.8   | 30.5   | 28.3             | 1.18             |         |                   |                   |                   |        |         |          |            |             |         | 0.082          |                |             | 9.8              | 7              | 1.7              | 1.63             |                    |                        |                   |       |
| ZK5-9    | 淤泥       | 16.60-16.90     | 62.7          | 1.63        | 1           | 1.64             | 2.75             | 1.745             | 98.8        | 57.7   | 30     | 27.7             | 1.18             |         |                   |                   |                   |        |         |          |            |             |         |                |                | 5.1         | 3.5              |                |                  | 0.6              | 4.57               | 2.767                  | 2.525             |       |
| ZK5-10   | 淤泥       | 18.60-18.90     | 59.3          | 1.67        | 1.05        | 1.67             | 2.75             | 1.623             | 100         | 54.6   | 28.3   | 26.3             | 1.18             |         |                   |                   |                   |        |         |          |            | 49          | 51      | 0.081          |                | 5.7         | 4                |                |                  | 1.48             | 1.77               | 1.098                  | 0.921             |       |
| ZK5-11   | 淤泥       | 20.60-20.90     | 61            | 1.63        | 1.01        | 1.64             | 2.75             | 1.716             | 97.7        | 56.1   | 29.1   | 27               | 1.18             |         |                   |                   |                   |        |         |          |            |             |         |                |                |             |                  | 8.5            | 6.3              | 1.29             | 2.11               |                        |                   |       |
| ZK5-12   | 淤泥       | 22.60-22.90     | 60.1          | 1.63        | 1.02        | 1.65             | 2.75             | 1.701             | 97.2        | 55.3   | 28.7   | 26.6             | 1.18             |         |                   |                   |                   |        |         |          |            |             |         | 0.11           | 5.3            | 3.6         |                  |                | 1.25             | 2.16             |                    |                        |                   |       |
| ZK5-13   | 淤泥       | 24.60-24.90     | 56.3          | 1.68        | 1.07        | 1.68             | 2.75             | 1.558             | 99.3        | 52.2   | 28.3   | 23.9             | 1.17             |         |                   |                   |                   |        |         |          |            |             |         |                |                | 6.8         | 4.3              |                |                  | 1.04             | 2.46               | 2.069                  | 1.402             |       |
| ZK5-14   | 淤泥质粘土    | 26.60-26.90     | 50.8          | 1.72        | 1.14        | 1.72             | 2.73             | 1.394             | 99.5        | 50.1   | 26.8   | 23.3             | 1.03             |         |                   |                   |                   |        |         |          |            |             | 3.1     |                |                |             | 16.5             | 12.1           | 1.02             | 2.35             | 1.069              | 0.789                  |                   |       |
| ZK5-15   | 粘土       | 28.60-28.90     | 39.7          | 1.76        | 1.26        | 1.8              | 2.74             | 1.175             | 92.6        | 43.1   | 23.8   | 19.3             | 0.82             |         |                   |                   |                   |        |         |          |            |             |         |                |                |             | 15.5             | 10.7           |                  |                  | 0.87               | 2.5                    |                   |       |
| ZK5-16   | 粘土       | 31.60-31.90     | 43.2          | 1.77        | 1.24        | 1.78             | 2.73             | 1.209             | 97.6        | 45.6   | 25.8   | 19.8             | 0.88             |         |                   |                   |                   |        |         |          |            | 55.5        | 44.5    |                | 0.35           |             |                  | 21             | 13.5             | 0.87             | 2.54               | 1.872                  | 1.554             |       |
| ZK5-17   | 粉质粘土     | 34.60-34.90     | 39.3          | 1.81        | 1.3         | 1.82             | 2.73             | 1.101             | 97.4        | 40.5   | 23.6   | 16.9             | 0.93             |         |                   |                   |                   |        |         |          |            |             |         |                |                |             | 16.5             | 11.2           |                  |                  | 0.74               | 2.84                   |                   |       |
| ZK5-18   | 淤泥       | 37.60-37.90     | 52.8          | 1.64        | 1.07        | 1.68             | 2.74             | 1.553             | 93.2        | 52.1   | 27.1   | 25               | 1.03             |         |                   |                   |                   |        |         |          |            |             |         | 0.26           |                | 7.9         | 5                |                |                  | 1.68             | 1.52               |                        |                   |       |

附表3-27

[illegible]

平阳鳌江标准堤加固工程初步设计雁门闸地基土层室内土工试验综合成果表

附表3-28

| 岩土<br>编号 | 室内<br>定名 | 试样<br>深度<br>(m) | 天然<br>含水<br>率 | 湿<br>密<br>度 | 干<br>密<br>度    | 饱<br>和<br>密<br>度 | 土<br>粒<br>比<br>重 | 天然<br>孔<br>隙<br>比 | 饱<br>和<br>度    | 液<br>限         | 塑<br>限         | 塑<br>性<br>指<br>数 | 液<br>性<br>指<br>数 | 颗粒组成百分数 |     |      |       |        |         |          |            |             |         | 渗 透            |                | 直 剪         |                  |             |                  | 固结（垂直）   |          |                   |                   |                   |                   |                |                |                 |                  |                    |                   |                   |
|----------|----------|-----------------|---------------|-------------|----------------|------------------|------------------|-------------------|----------------|----------------|----------------|------------------|------------------|---------|-----|------|-------|--------|---------|----------|------------|-------------|---------|----------------|----------------|-------------|------------------|-------------|------------------|----------|----------|-------------------|-------------------|-------------------|-------------------|----------------|----------------|-----------------|------------------|--------------------|-------------------|-------------------|
|          |          |                 | ω             | ρ           | ρ <sub>d</sub> | ρ <sub>sat</sub> | G <sub>s</sub>   | e <sub>0</sub>    | S <sub>r</sub> | ω <sub>L</sub> | ω <sub>p</sub> | I <sub>p</sub>   | I <sub>L</sub>   | >60     | >40 | >20  | 10~20 | 2.0~10 | 0.5~2.0 | 0.25~0.5 | 0.075~0.25 | 0.005~0.075 | 0~0.005 | 水平<br>渗透<br>系数 | 竖向<br>渗透<br>系数 | 粘聚力<br>(快剪) | 内摩<br>擦角<br>(快剪) | 粘聚力<br>(固快) | 内摩<br>擦角<br>(固快) | 压缩<br>系数 | 压缩<br>模量 | 固结<br>系数<br>(MPa) |                   |                   |                   |                |                |                 |                  |                    |                   |                   |
|          |          |                 |               |             |                |                  |                  |                   |                |                |                |                  |                  |         |     |      |       |        |         |          |            |             |         |                |                |             |                  |             |                  |          |          | （单位:mm）           | K <sub>h</sub>    | K <sub>v</sub>    | q                 | φ <sub>q</sub> | c <sub>q</sub> | φ <sub>cq</sub> | v <sub>1-2</sub> | E <sub>sv1-2</sub> | C <sub>v0.2</sub> | C <sub>v0.4</sub> |
|          |          |                 |               |             |                |                  |                  |                   |                |                |                |                  |                  |         |     |      |       |        |         |          |            |             |         |                |                |             |                  |             |                  |          |          | %                 | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> | %              | %              | %               | %                | %                  | %                 | %                 |
| ZK7-8    | 淤泥       | 15.70-16.00     | 65.9          | 1.62        | 0.98           | 1.62             | 2.74             | 1.806             | 100            | 55.3           | 30.3           | 25               | 1.42             |         |     |      |       |        |         |          |            |             | 0.079   |                | 5.2            | 3.6         |                  |             | 1.61             | 1.74     | 1.142    | 1.307             |                   |                   |                   |                |                |                 |                  |                    |                   |                   |
| ZK7-9    | 淤泥       | 17.70-18.00     | 65.7          | 1.62        | 0.98           | 1.62             | 2.74             | 1.803             | 99.9           | 53.2           | 29.9           | 23.3             | 1.54             |         |     |      |       |        |         |          | 46.7       | 53.3        |         |                |                |             | 8.5              | 6.2         | 1.65             | 1.7      |          |                   |                   |                   |                   |                |                |                 |                  |                    |                   |                   |
| ZK7-10   | 淤泥       | 19.70-20.00     | 65.7          | 1.62        | 0.98           | 1.62             | 2.74             | 1.803             | 99.9           | 55.2           | 30.2           | 25               | 1.42             |         |     |      |       |        |         |          |            |             |         | 0.065          | 5.5            | 3.7         |                  |             | 1.57             | 1.78     | 1.524    | 1.317             |                   |                   |                   |                |                |                 |                  |                    |                   |                   |
| ZK7-11   | 淤泥       | 21.70-22.00     | 61.7          | 1.63        | 1.01           | 1.64             | 2.74             | 1.718             | 98.4           | 53             | 29.5           | 23.5             | 1.37             |         |     |      |       |        |         |          |            |             |         |                |                |             | 9.2              | 6.9         | 1.51             | 1.8      | 1.492    | 1.254             |                   |                   |                   |                |                |                 |                  |                    |                   |                   |
| ZK7-12   | 淤泥       | 23.70-24.00     | 62.8          | 1.63        | 1              | 1.64             | 2.74             | 1.737             | 99.1           | 52.2           | 30.1           | 22.1             | 1.48             |         |     |      |       |        |         |          | 48.5       | 51.5        | 0.087   |                | 5.7            | 3.8         |                  |             | 1.33             | 2.06     |          |                   |                   |                   |                   |                |                |                 |                  |                    |                   |                   |
| ZK7-13   | 淤泥       | 25.70-26.00     | 64.4          | 1.63        | 0.99           | 1.63             | 2.74             | 1.764             | 100            | 51.9           | 29.8           | 22.1             | 1.57             |         |     |      |       |        |         |          |            |             |         |                |                |             | 9.1              | 6.5         | 1.37             | 2.02     | 1.221    | 1.463             |                   |                   |                   |                |                |                 |                  |                    |                   |                   |
| ZK7-14   | 淤泥       | 27.70-28.00     | 61.9          | 1.63        | 1.01           | 1.64             | 2.74             | 1.722             | 98.5           | 53.3           | 30.6           | 22.7             | 1.38             |         |     |      |       |        |         |          |            |             |         | 0.082          | 6.3            | 4.5         |                  |             | 1.59             | 1.71     |          |                   |                   |                   |                   |                |                |                 |                  |                    |                   |                   |
| ZK7-15   | 淤泥       | 29.70-30.00     | 62.4          | 1.63        | 1              | 1.64             | 2.74             | 1.73              | 98.8           | 55.2           | 29.6           | 25.6             | 1.28             |         |     |      |       |        |         |          | 46.9       | 53.1        |         |                | 5.8            | 4.1         |                  |             | 1.28             | 2.13     | 1.121    | 1.152             |                   |                   |                   |                |                |                 |                  |                    |                   |                   |
| ZK7-16   | 淤泥       | 32.70-33.00     | 56.8          | 1.68        | 1.07           | 1.68             | 2.74             | 1.557             | 99.9           | 49.9           | 29             | 20.9             | 1.33             |         |     |      |       |        |         |          |            |             | 0.38    |                |                |             | 9.5              | 7.9         | 1.31             | 1.95     | 1.048    | 1.124             |                   |                   |                   |                |                |                 |                  |                    |                   |                   |
| ZK7-17   | 淤泥质粘土    | 35.70-36.00     | 48.5          | 1.73        | 1.16           | 1.74             | 2.73             | 1.343             | 98.6           | 46.8           | 26.7           | 20.1             | 1.08             |         |     |      |       |        |         |          |            |             |         |                |                |             | 10.3             | 7.2         |                  |          | 1.08     | 2.17              |                   |                   |                   |                |                |                 |                  |                    |                   |                   |
| ZK7-18   | 粘土       | 38.70-39.00     | 41.2          | 1.81        | 1.28           | 1.81             | 2.73             | 1.13              | 99.6           | 42.2           | 24.6           | 17.6             | 0.94             |         |     |      |       |        |         |          | 59.2       | 40.8        |         | 0.33           | 12.2           | 7.9         |                  |             | 0.81             | 2.63     | 1.179    | 0.928             |                   |                   |                   |                |                |                 |                  |                    |                   |                   |
| ZK7-19   | 粉质粘土     | 41.70-42.00     | 40.5          | 1.81        | 1.29           | 1.81             | 2.71             | 1.104             | 99.5           | 41.3           | 26             | 15.3             | 0.95             |         |     |      |       |        |         |          |            |             |         |                |                |             | 15.6             | 13.2        | 0.74             | 2.84     |          |                   |                   |                   |                   |                |                |                 |                  |                    |                   |                   |
| ZK7-20   | 粘土       | 44.70-45.00     | 44.1          | 1.76        | 1.22           | 1.77             | 2.73             | 1.235             | 97.5           | 45.6           | 26.2           | 19.4             | 0.92             |         |     |      |       |        |         |          | 60.3       | 39.7        | 0.32    |                | 14.3           | 10.2        |                  |             | 0.87             | 2.57     | 1.037    | 0.918             |                   |                   |                   |                |                |                 |                  |                    |                   |                   |
| ZK7-21   | 粘土       | 47.70-48.00     | 46            | 1.75        | 1.2            | 1.76             | 2.73             | 1.278             | 98.3           | 46.8           | 26             | 20.8             | 0.96             |         |     |      |       |        |         |          |            |             |         |                |                |             | 13.5             | 10.3        |                  |          | 1        | 2.28              | 1.222             | 0.765             |                   |                |                |                 |                  |                    |                   |                   |
| ZK7-22   | 粘土       | 50.70-51.00     | 41.9          | 1.81        | 1.28           | 1.81             | 2.73             | 1.14              | 100            | 45.3           | 25.3           | 20               | 0.83             |         |     |      |       |        |         |          | 61         | 39          |         | 0.38           |                |             | 18.9             | 14.3        | 0.92             | 2.33     |          |                   |                   |                   |                   |                |                |                 |                  |                    |                   |                   |
| ZK7-23   | 粉质粘土     | 53.70-54.00     | 38.3          | 1.83        | 1.32           | 1.84             | 2.73             | 1.063             | 98.3           | 39.3           | 23             | 16.3             | 0.94             |         |     |      |       |        |         |          |            |             |         |                |                |             | 15.2             | 11.1        |                  |          | 0.7      | 2.95              | 3.577             | 0.685             |                   |                |                |                 |                  |                    |                   |                   |
| ZK7-24   | 砾砂       | 56.70-57.00     |               |             |                |                  |                  |                   |                |                |                |                  |                  |         |     | 14.7 | 14.7  | 20     | 9.3     | 9.9      | 5.8        | 12.5        | 13.1    |                |                |             |                  |             |                  |          |          |                   |                   |                   |                   |                |                |                 |                  |                    |                   |                   |
| ZK7-25   | 砾砂       | 60.20-60.50     |               |             |                |                  |                  |                   |                |                |                |                  |                  |         |     | 11.8 | 10.7  | 1.6    | 12.3    | 16.2     | 14.8       | 4.4         | 13.8    | 14.4           |                |             |                  |             |                  |          |          |                   |                   |                   |                   |                |                |                 |                  |                    |                   |                   |
| ZK8-1    | 淤泥       | 1.60-1.90       | 61            | 1.63        | 1.01           | 1.64             | 2.75             | 1.716             | 97.7           | 56.1           | 29.1           | 27               | 1.18             |         |     |      |       |        |         |          |            |             |         |                | 0.078          | 5.6         | 3.8              |             |                  | 1.35     | 2.01     | 1.008             | 1.212             |                   |                   |                |                |                 |                  |                    |                   |                   |
| ZK8-2    | 淤泥       | 3.60-3.90       | 55.5          | 1.68        | 1.08           | 1.69             | 2.75             | 1.545             | 98.8           | 51.1           | 27.6           | 23.5             | 1.19             |         |     |      |       |        |         |          |            | 52          | 48      | 0.091          |                |             |                  | 11.5        | 9                | 1.17     | 2.18     |                   |                   |                   |                   |                |                |                 |                  |                    |                   |                   |
| ZK8-3    | 淤泥质粘土    | 5.60-5.90       | 50.4          | 1.71        | 1.14           | 1.72             | 2.73             | 1.401             | 98.2           | 46.6           | 25.9           | 20.7             | 1.18             |         |     |      |       |        |         |          |            |             |         |                |                |             | 10.6             | 9.5         |                  |          | 1.2      | 2                 |                   |                   |                   |                |                |                 |                  |                    |                   |                   |
| ZK8-4    | 淤泥质粘土    | 7.60-7.90       | 50            | 1.71        | 1.14           | 1.72             | 2.73             | 1.395             | 97.9           | 48.5           | 25.7           | 22.8             | 1.07             |         |     |      |       |        |         |          |            |             |         |                |                |             | 12.8             | 11          | 1.29             | 1.86     | 1.057    | 1.071             |                   |                   |                   |                |                |                 |                  |                    |                   |                   |
| ZK8-5    | 粉质粘土     | 9.60-9.90       | 33.8          | 1.88        | 1.41           | 1.89             | 2.72             | 0.936             | 98.2           | 34.2           | 22.3           | 11.9             | 0.97             |         |     |      |       |        |         |          |            |             | 0.63    |                | 13.6           | 11.1        |                  |             | 0.42             | 4.61     | 4.497    | 4.438             |                   |                   |                   |                |                |                 |                  |                    |                   |                   |
| ZK8-6    | 淤泥       | 11.60-11.90     | 64.5          | 1.63        | 0.99           | 1.63             | 2.75             | 1.775             | 99.9           | 59.3           | 30.8           | 28.5             | 1.18             |         |     |      |       |        |         |          | 46.5       | 53.5        |         | 0.11           |                |             | 9.5              | 8.2         | 1.99             | 1.4      |          |                   |                   |                   |                   |                |                |                 |                  |                    |                   |                   |
| ZK8-7    | 淤泥       | 13.60-13.90     | 64.1          | 1.63        | 0.99           | 1.63             | 2.75             | 1.769             | 99.7           | 58.9           | 30.6           | 28.3             | 1.18             |         |     |      |       |        |         |          |            |             |         |                |                |             | 10               | 8.9         | 1.98             | 1.4      |          |                   |                   |                   |                   |                |                |                 |                  |                    |                   |                   |
| ZK8-8    | 淤泥       | 15.60-15.90     | 66.5          | 1.62        | 0.97           | 1.62             | 2.75             | 1.826             | 100            | 61.2           | 31.8           | 29.4             | 1.18             |         |     |      |       |        |         |          |            |             |         |                |                | 5           | 3                |             |                  | 1.75     | 1.62     | 1.08              | 0.74              |                   |                   |                |                |                 |                  |                    |                   |                   |
| ZK8-9    | 淤泥       | 17.60-17.90     | 69            | 1.6         | 0.95           | 1.6              | 2.75             | 1.905             | 99.6           | 63.5           | 33             | 30.5             | 1.18             |         |     |      |       |        |         |          |            |             | 0.083   |                |                |             | 9.8              | 6.6         | 1.85             | 1.57     | 1.223    | 1.283             |                   |                   |                   |                |                |                 |                  |                    |                   |                   |
| ZK8-10   | 淤泥       | 19.60-19.90     | 65.3          | 1.63        | 0.99           | 1.63             | 2.75             | 1.789             | 100            | 60.1           | 31.2           | 28.9             | 1.18             |         |     |      |       |        |         |          | 46         | 54          |         |                | 5.1            | 3.1         |                  |             | 1.61             | 1.73     |          |                   |                   |                   |                   |                |                |                 |                  |                    |                   |                   |
| ZK8-11   | 淤泥       | 21.60-21.90     | 63.9          | 1.63        | 0.99           | 1.63             | 2.75             | 1.765             | 99.6           | 58.8           | 30.5           | 28.3             | 1.18             |         |     |      |       |        |         |          |            |             |         |                | 0.15           |             |                  | 9.2         | 6.9              | 1.52     | 1.82     |                   |                   |                   |                   |                |                |                 |                  |                    |                   |                   |
| ZK8-12   | 淤泥       | 23.60-23.90     | 60.9          | 1.63        | 1.01           | 1.64             | 2.75             | 1.715             | 97.7           | 56.1           | 29.1           | 27               | 1.18             |         |     |      |       |        |         |          |            |             |         |                |                |             | 4.9              | 3.2         |                  |          | 0.83     | 3.27              | 0.167             | 2.167             |                   |                |                |                 |                  |                    |                   |                   |
| ZK8-13   | 淤泥       | 25.60-25.90     | 58.7          | 1.67        | 1.05           | 1.67             | 2.75             | 1.613             | 100            | 54             | 28.1           | 25.9             | 1.18             |         |     |      |       |        |         |          |            |             | 0.11    |                | 6.2            | 4.1         |                  |             | 1.39             | 1.88     | 1.07     | 0.943             |                   |                   |                   |                |                |                 |                  |                    |                   |                   |
| ZK8-14   | 淤泥       | 27.60-27.90     | 57.6          | 1.67        | 1.06           | 1.67             | 2.75             | 1.595             | 99.3           | 53             | 28.8           | 24.2             | 1.19             |         |     |      |       |        |         |          |            |             |         |                | 0.12           |             |                  | 10.3        | 9.5              | 0.99     | 2.62     |                   |                   |                   |                   |                |                |                 |                  |                    |                   |                   |
| ZK8-15   | 淤泥       | 28.60-28.90     | 56.6          | 1.66        | 1.06           | 1.67             | 2.75             | 1.594             | 97.6           | 52.8           | 28.3           | 24.5             | 1.16             |         |     |      |       |        |         |          | 49.3       | 50.7        |         |                | 6.9            | 5           |                  |             | 1.06             | 2.45     |          |                   |                   |                   |                   |                |                |                 |                  |                    |                   |                   |
| ZK8-16   | 淤泥质粘土    | 31.60-31.90     | 50.4          | 1.71        | 1.14           | 1.72             | 2.73             | 1.401             | 98.2           | 48.5           | 25.6           | 22.9             | 1.08             |         |     |      |       |        |         |          |            |             |         |                |                |             | 15.3             | 11.5        | 0.97             | 2.47     | 1.034    | 0.878             |                   |                   |                   |                |                |                 |                  |                    |                   |                   |
| ZK8-17   | 粘土       | 34.60-34.90     | 46.5          | 1.76        | 1.2            | 1.76             | 2.73             | 1.272             | 99.8           | 46.9           | 26.8           | 20.1             | 0.98             |         |     |      |       |        |         |          |            |             | 0.5     |                | 15             | 10.6        |                  |             | 0.89             | 2.55     | 1.49     | 1.021             |                   |                   |                   |                |                |                 |                  |                    |                   |                   |
| ZK8-18   | 粉质粘土     | 37.60-37.90     | 31.1          | 1.91        | 1.46           | 1.92             | 2.72             | 0.867             | 97.6           | 33.6           | 20.9           | 12.7             | 0.8              |         |     |      |       |        |         |          |            |             |         | 0.36           | 16.9           | 12.8        |                  |             | 0.51             | 3.66     |          |                   |                   |                   |                   |                |                |                 |                  |                    |                   |                   |
| ZK8-19   | 粘土       | 40.60-40.90     | 40.8          | 1.77        | 1.26           | 1.8              | 2.73             | 1.172             | 95.1           | 43.3           | 25.1           | 18.2             | 0.86             |         |     |      |       |        |         |          |            |             |         |                |                |             | 18               | 13.2        | 0.5              | 4.34     |          |                   |                   |                   |                   |                |                |                 |                  |                    |                   |                   |
| ZK8-20   | 粘土       | 43.60-43.90     | 43.7          | 1.76        | 1.22           | 1.78             | 2.73             | 1.229             | 97.1           | 45.1           | 26.5           | 18.6             | 0.92             |         |     |      |       |        |         |          | 63.3       | 36.7        |         |                | 16             | 11.3        |                  |             | 0.74             | 3.01     | 2.522    | 1.982             |                   |                   |                   |                |                |                 |                  |                    |                   |                   |
| ZK8-21   | 粉质粘土     | 46.60-46.90     | 37.4          | 1.8>        |                |                  |                  |                   |                |                |                |                  |                  |         |     |      |       |        |         |          |            |             |         |                |                |             |                  |             |                  |          |          |                   |                   |                   |                   |                |                |                 |                  |                    |                   |                   |



平阳鳌江标准堤加固工程初步设计下埠闸地基土层室内土工试验综合成果表

附表3-30

| 岩土<br>编号 | 室内<br>定名 | 试样<br>深度<br>(m) | 天然<br>含水<br>率 | 湿<br>密<br>度       | 干<br>密<br>度       | 饱<br>和<br>密<br>度  | 土<br>粒<br>比<br>重 | 天然<br>孔<br>隙<br>比 | 饱<br>和<br>度    | 液<br>限         | 塑<br>限         | 塑<br>性<br>指<br>数 | 液<br>性<br>指<br>数 | 颗粒组成百分数 |      |      |       |        |         |          |            |             |         | 渗 透            |                        | 直 剪         |                  |                |                  | 固结（垂直）            |                    |                                      |                   |       |       |  |
|----------|----------|-----------------|---------------|-------------------|-------------------|-------------------|------------------|-------------------|----------------|----------------|----------------|------------------|------------------|---------|------|------|-------|--------|---------|----------|------------|-------------|---------|----------------|------------------------|-------------|------------------|----------------|------------------|-------------------|--------------------|--------------------------------------|-------------------|-------|-------|--|
|          |          |                 | ω             | ρ                 | ρ <sub>d</sub>    | ρ <sub>sat</sub>  | G <sub>s</sub>   | e <sub>0</sub>    | S <sub>r</sub> | ω <sub>L</sub> | ω <sub>p</sub> | I <sub>p</sub>   | I <sub>L</sub>   | >60     | >40  | >20  | 10~20 | 2.0~10 | 0.5~2.0 | 0.25~0.5 | 0.075~0.25 | 0.005~0.075 | 0~0.005 | 水平<br>渗透<br>系数 | 竖向<br>渗透<br>系数         | 粘聚力<br>(快剪) | 内摩<br>擦角<br>(快剪) | 粘聚力<br>(固快)    | 内摩<br>擦角<br>(固快) | 压缩<br>系数          | 压缩<br>模量           | 固结<br>系数<br>(MPa)                    |                   |       |       |  |
|          |          |                 | %             | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |                  |                   | %              | %              | %              |                  |                  | (单位:mm) |      |      |       |        |         |          |            |             |         | K <sub>h</sub> | K <sub>v</sub>         | q           | φ <sub>q</sub>   | c <sub>q</sub> | φ <sub>cq</sub>  | v <sub>1-2</sub>  | E <sub>sv1-2</sub> | C <sub>v0.2</sub>                    | C <sub>v0.4</sub> |       |       |  |
|          |          |                 | %             | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |                  |                   | %              | %              | %              | %                | %                | %       | %    | %    | %     | %      | %       | %        | %          | %           | %       | %              | ×10 <sup>-6</sup> cm/s | kPa         | 度                | kPa            | 度                | MPa <sup>-1</sup> | MPa                | ×10 <sup>-3</sup> cm <sup>2</sup> /s |                   |       |       |  |
| ZK10-1   | 淤泥质粘土    | 3.20-3.50       | 53.6          | 1.7               | 1.11              | 1.7               | 2.71             | 1.449             | 100            | 49.5           | 28             | 21.5             | 1.19             |         |      |      |       |        |         |          |            |             |         |                | 6                      | 4.6         |                  |                | 1.16             | 2.11              | 1.53               | 1.738                                |                   |       |       |  |
| ZK10-2   | 淤泥质粘土    | 6.20-6.50       | 45.9          | 1.76              | 1.21              | 1.77              | 2.74             | 1.271             | 98.9           | 43.2           | 25.8           | 17.4             | 1.16             |         |      |      |       |        |         |          |            |             |         |                | 10.1                   | 8.5         |                  |                | 0.9              | 2.52              | 1.538              | 1.733                                |                   |       |       |  |
| ZK10-3   | 淤泥质粘土    | 9.20-9.50       | 49.3          | 1.73              | 1.16              | 1.74              | 2.74             | 1.365             | 99             | 45.6           | 26.2           | 19.4             | 1.19             |         |      |      |       |        |         |          |            |             |         |                | 11.8                   | 9.3         |                  |                | 1.24             | 1.91              | 1.414              | 1.403                                |                   |       |       |  |
| ZK10-4   | 淤泥       | 12.20-12.50     | 60.1          | 1.66              | 1.04              | 1.66              | 2.75             | 1.652             | 100            | 55.3           | 29.3           | 26               | 1.18             |         |      |      |       |        |         |          | 50.9       | 49.1        |         |                | 5.5                    | 3.6         |                  |                | 1.5              | 1.77              | 1.325              | 1.357                                |                   |       |       |  |
| ZK10-5   | 淤泥质粘土    | 15.20-15.50     | 51.4          | 1.72              | 1.14              | 1.72              | 2.75             | 1.421             | 99.5           | 50.3           | 27.1           | 23.2             | 1.05             |         |      |      |       |        |         |          |            |             |         |                | 10.3                   | 6.8         |                  |                | 1.43             | 1.69              | 1.071              | 1.137                                |                   |       |       |  |
| ZK10-6   | 淤泥质粘土    | 18.20-18.50     | 53.3          | 1.71              | 1.12              | 1.71              | 2.75             | 1.465             | 100            | 52.3           | 28.2           | 24.1             | 1.04             |         |      |      |       |        |         |          |            | 0.12        |         |                | 6.8                    | 5.2         |                  |                | 0.95             | 2.6               | 1.018              | 1.319                                |                   |       |       |  |
| ZK10-7   | 淤泥       | 21.20-21.50     | 56.7          | 1.68              | 1.07              | 1.68              | 2.75             | 1.565             | 99.6           | 52.3           | 29.3           | 23               | 1.19             |         |      |      |       |        |         |          |            |             | 0.37    |                |                        |             | 10               | 9.2            | 1.34             | 1.91              | 1.139              | 1.243                                |                   |       |       |  |
| ZK10-8   | 淤泥       | 24.20-24.50     | 57.6          | 1.68              | 1.07              | 1.68              | 2.75             | 1.58              | 100            | 53.2           | 29.5           | 23.7             | 1.19             |         |      |      |       |        |         |          |            |             |         |                | 6                      | 4.3         |                  |                | 1.3              | 1.98              | 1.185              | 1.285                                |                   |       |       |  |
| ZK10-9   | 淤泥       | 27.20-27.50     | 64.9          | 1.63              | 0.99              | 1.63              | 2.75             | 1.782             | 100            | 54.9           | 32.2           | 22.7             | 1.44             |         |      |      |       |        |         |          | 49         | 51          |         |                |                        |             | 8.6              | 7              | 1.53             | 1.82              | 1.074              | 0.6                                  |                   |       |       |  |
| ZK10-10  | 淤泥       | 30.20-30.50     | 60.6          | 1.66              | 1.03              | 1.66              | 2.75             | 1.661             | 100            | 54.5           | 30             | 24.5             | 1.25             |         |      |      |       |        |         |          |            |             | 0.063   |                | 5.2                    | 4           |                  |                | 1.44             | 1.85              | 1.646              | 1.469                                |                   |       |       |  |
| ZK10-11  | 淤泥质粘土    | 32.60-32.90     | 49.4          | 1.73              | 1.16              | 1.73              | 2.73             | 1.358             | 99.3           | 45.9           | 25.3           | 20.6             | 1.17             |         |      |      |       |        |         |          |            |             |         |                |                        |             | 15.3             | 12.5           | 1.03             | 2.29              | 1.847              | 1.105                                |                   |       |       |  |
| ZK10-12  | 粘土       | 34.60-34.90     | 43.1          | 1.79              | 1.25              | 1.79              | 2.72             | 1.174             | 99.8           | 43.5           | 25.6           | 17.9             | 0.98             |         |      |      |       |        |         |          |            |             |         | 0.29           | 16.2                   | 12.2        |                  |                | 0.87             | 2.5               | 1.113              | 1.375                                |                   |       |       |  |
| ZK10-13  | 粉质粘土     | 36.60-36.90     | 42.2          | 1.8               | 1.27              | 1.8               | 2.73             | 1.157             | 99.6           | 43.1           | 26.2           | 16.9             | 0.95             |         |      |      |       |        |         |          |            |             |         |                |                        |             | 15.3             | 10.3           |                  |                   | 0.82               | 2.63                                 | 1.323             | 1.156 |       |  |
| ZK10-14  | 粉质粘土     | 38.60-38.90     | 32.6          | 1.88              | 1.42              | 1.9               | 2.72             | 0.918             | 96.5           | 35.3           | 23.2           | 12.1             | 0.78             |         |      |      |       |        |         |          |            |             | 0.56    |                |                        |             | 16.3             | 12.8           | 0.67             | 2.86              |                    |                                      |                   |       |       |  |
| ZK10-15  | 粉质粘土     | 40.60-40.90     | 33.6          | 1.88              | 1.41              | 1.89              | 2.71             | 0.926             | 98.4           | 35.9           | 22.6           | 13.3             | 0.83             |         |      |      |       |        |         |          |            |             |         |                |                        |             |                  | 13.9           | 11.1             |                   |                    | 0.66                                 | 2.92              | 1.699 | 1.383 |  |
| ZK10-16  | 粉质粘土     | 42.60-42.90     | 36.6          | 1.86              | 1.36              | 1.86              | 2.73             | 1.005             | 99.4           | 38.3           | 22             | 16.3             | 0.9              |         |      |      |       |        |         |          |            |             |         |                |                        |             |                  | 15.9           | 13.2             | 0.79              | 2.54               | 1.438                                | 1.131             |       |       |  |
| ZK10-17  | 淤泥质粉质粘土  | 44.60-44.90     | 40.1          | 1.81              | 1.29              | 1.82              | 2.72             | 1.105             | 98.7           | 39.2           | 23.8           | 15.4             | 1.06             |         |      |      |       |        |         |          |            |             | 0.51    |                | 13.2                   | 9.5         |                  |                | 0.81             | 2.6               |                    |                                      |                   |       |       |  |
| ZK10-18  | 淤泥质粉质粘土  | 46.60-46.90     | 40.3          | 1.81              | 1.29              | 1.81              | 2.71             | 1.101             | 99.2           | 38.3           | 21.5           | 16.8             | 1.12             |         |      |      |       |        |         |          |            | 59.7        | 40.3    |                |                        |             |                  | 14.3           | 11.8             | 0.88              | 2.39               | 1.423                                | 0.925             |       |       |  |
| ZK10-19  | 淤泥质粉质粘土  | 48.60-48.90     | 39.4          | 1.83              | 1.31              | 1.83              | 2.72             | 1.072             | 100            | 36.8           | 23.2           | 13.6             | 1.19             |         |      |      |       |        |         |          |            |             |         | 0.55           | 12.8                   | 9.6         |                  |                | 0.8              | 2.59              | 1.37               | 0.882                                |                   |       |       |  |
| ZK10-20  | 粉质粘土     | 50.60-50.90     | 37.4          | 1.83              | 1.33              | 1.84              | 2.71             | 1.035             | 98             | 38.3           | 23.2           | 15.1             | 0.94             |         |      |      |       |        |         |          |            |             |         |                |                        |             | 13.1             | 10.6           |                  |                   | 0.75               | 2.71                                 | 1.444             | 1.369 |       |  |
| ZK10-21  | 粘土       | 55.10-55.40     | 31.9          | 1.85              | 1.4               | 1.89              | 2.73             | 0.946             | 92             | 45.9           | 25.2           | 20.7             | 0.32             |         |      |      |       |        |         |          |            | 60.9        | 39.1    |                | 0.36                   |             |                  | 22.3           | 16.6             | 0.45              | 4.32               | 2.091                                | 1.91              |       |       |  |
| ZK10-22  | 粘土       | 58.40-58.70     | 35.3          | 1.85              | 1.37              | 1.86              | 2.72             | 0.989             | 97.1           | 39.3           | 21.5           | 17.8             | 0.78             |         |      |      |       |        |         |          |            |             |         | 63             | 37                     | 0.45        |                  | 18.3           | 13.2             |                   |                    | 0.67                                 | 2.97              | 2.095 | 1.857 |  |
| ZK10-23  | 圆砾       | 61.60-61.90     |               |                   |                   |                   |                  |                   |                |                |                |                  |                  | 23.6    | 9.2  | 12.1 | 7.6   | 4.6    | 2.4     | 6.4      | 4.8        | 14.3        | 15      |                |                        |             |                  |                |                  |                   |                    |                                      |                   |       |       |  |
| ZK10-24  | 圆砾       | 63.10-63.40     |               |                   |                   |                   |                  |                   |                |                |                |                  |                  |         | 28.6 | 10.1 | 8.6   | 8.6    | 7.3     | 8.7      | 5.2        | 11.1        | 11.8    |                |                        |             |                  |                |                  |                   |                    |                                      |                   |       |       |  |
| ZK11-1   | 淤泥       | 1.20-1.50       | 56.5          | 1.66              | 1.06              | 1.67              | 2.75             | 1.593             | 97.6           | 52.6           | 27.5           | 25.1             | 1.16             |         |      |      |       |        |         |          |            |             |         |                |                        |             | 7.5              | 5.9            |                  |                   | 1.87               | 1.39                                 |                   |       |       |  |
| ZK11-2   | 淤泥质粘土    | 3.20-3.50       | 47.2          | 1.75              | 1.19              | 1.75              | 2.73             | 1.296             | 99.4           | 43             | 25.1           | 17.9             | 1.23             |         |      |      |       |        |         |          |            |             |         |                |                        | 12          | 8.1              |                |                  | 1.41              | 1.63               | 0.961                                | 1.047             |       |       |  |
| ZK11-3   | 淤泥质粘土    | 5.20-5.50       | 48.1          | 1.73              | 1.17              | 1.74              | 2.73             | 1.337             | 98.2           | 46.2           | 25.9           | 20.3             | 1.09             |         |      |      |       |        |         |          |            |             |         |                | 0.13                   |             |                  | 12.8           | 11.3             | 2.29              | 1.02               |                                      |                   |       |       |  |
| ZK11-4   | 淤泥质粉质粘土  | 7.20-7.50       | 39.2          | 1.81              | 1.3               | 1.82              | 2.7              | 1.076             | 98.3           | 35.3           | 21.5           | 13.8             | 1.28             |         |      |      |       |        |         |          |            |             |         |                |                        |             | 13               | 11.3           |                  |                   | 0.54               | 3.85                                 |                   |       |       |  |
| ZK11-5   | 粉质粘土     | 9.20-9.50       | 32.6          | 1.91              | 1.44              | 1.91              | 2.71             | 0.881             | 100            | 32.5           | 20.9           | 11.6             | 1.01             |         |      |      |       |        |         |          |            |             |         |                |                        |             | 15               | 18.3           |                  |                   | 1.09               | 1.73                                 | 1.361             | 1.381 |       |  |
| ZK11-6   | 淤泥质粘土    | 11.20-11.50     | 48.2          | 1.73              | 1.17              | 1.74              | 2.72             | 1.33              | 98.6           | 46.3           | 25.7           | 20.6             | 1.09             |         |      |      |       |        |         |          |            |             |         |                |                        |             |                  |                | 13               | 15.6              | 0.91               | 2.56                                 | 3.476             | 3.354 |       |  |
| ZK11-7   | 淤泥       | 13.20-13.50     | 56.6          | 1.66              | 1.06              | 1.67              | 2.75             | 1.594             | 97.6           | 52.8           | 28.9           | 23.9             | 1.16             |         |      |      |       |        |         |          |            |             |         |                | 0.58                   | 6.3         | 4.3              |                |                  | 1.44              | 1.8                |                                      |                   |       |       |  |
| ZK11-8   | 淤泥       | 15.20-15.50     | 56            | 1.67              | 1.07              | 1.68              | 2.75             | 1.569             | 98.2           | 53.5           | 28.2           | 25.3             | 1.1              |         |      |      |       |        |         |          |            |             |         |                |                        |             | 6                | 3.5            |                  |                   | 1.4                | 1.84                                 |                   |       |       |  |
| ZK11-9   | 淤泥       | 17.20-17.50     | 54.3          | 1.68              | 1.09              | 1.69              | 2.74             | 1.517             | 98.1           | 51.3           | 27.3           | 24               | 1.13             |         |      |      |       |        |         |          |            |             |         |                |                        |             |                  |                | 11.2             | 10                | 1.39               | 1.81                                 | 1.163             | 1.352 |       |  |
| ZK11-10  | 淤泥质粘土    | 19.20-19.50     | 51.7          | 1.7               | 1.12              | 1.71              | 2.74             | 1.445             | 98             | 49             | 26.9           | 22.1             | 1.12             |         |      |      |       |        |         |          |            |             |         |                |                        |             | 7.5              | 5.5            |                  |                   | 1.48               | 1.65                                 |                   |       |       |  |
| ZK11-11  | 淤泥       | 21.20-21.50     | 60.6          | 1.63              | 1.01              | 1.65              | 2.75             | 1.71              | 97.5           | 55.8           | 29             | 26.8             | 1.18             |         |      |      |       |        |         |          |            |             |         |                | 0.091                  | 5.6         | 3.3              |                |                  | 2.58              | 1.05               |                                      |                   |       |       |  |
| ZK11-12  | 淤泥       | 23.20-23.50     | 57.8          | 1.67              | 1.06              | 1.67              | 2.75             | 1.599             | 99.4           | 53.2           | 29             | 24.2             | 1.19             |         |      |      |       |        |         |          |            |             |         |                |                        |             |                  | 9              | 6.8              | 1.44              | 1.8                | 1.408                                | 0.921             |       |       |  |
| ZK11-13  | 淤泥       | 25.20-25.50     | 59.5          | 1.63              | 1.02              | 1.65              | 2.75             | 1.691             | 96.8           | 54.7           | 28.4           | 26.3             | 1.18             |         |      |      |       |        |         |          |            |             |         |                |                        |             |                  |                |                  |                   |                    |                                      |                   |       |       |  |

平阳鳌江标准堤加固工程初步设计下埠闸地基土层室内土工试验综合成果表

附表3-31

| 岩土<br>编号 | 室内<br>定名 | 试样<br>深度<br>(m) | 天然<br>含水<br>率 | 湿<br>密<br>度       | 干<br>密<br>度       | 饱<br>和<br>密<br>度  | 土<br>粒<br>比<br>重 | 天然<br>孔<br>隙<br>比 | 饱<br>和<br>度    | 液<br>限         | 塑<br>限         | 塑<br>性<br>指<br>数 | 液<br>性<br>指<br>数 | 颗粒组成百分数 |     |     |       |        |         |          |            |             |         | 渗 透            |                        | 直 剪         |                  |                |                  | 固结（垂直）           |                    |                   |                                      |       |       |
|----------|----------|-----------------|---------------|-------------------|-------------------|-------------------|------------------|-------------------|----------------|----------------|----------------|------------------|------------------|---------|-----|-----|-------|--------|---------|----------|------------|-------------|---------|----------------|------------------------|-------------|------------------|----------------|------------------|------------------|--------------------|-------------------|--------------------------------------|-------|-------|
|          |          |                 | ω             | ρ                 | ρ <sub>d</sub>    | ρ <sub>sat</sub>  | G <sub>s</sub>   | e <sub>0</sub>    | S <sub>r</sub> | ω <sub>L</sub> | ω <sub>p</sub> | I <sub>p</sub>   | I <sub>L</sub>   | >60     | >40 | >20 | 10~20 | 2.0~10 | 0.5~2.0 | 0.25~0.5 | 0.075~0.25 | 0.005~0.075 | 0~0.005 | 水平<br>渗透<br>系数 | 竖向<br>渗透<br>系数         | 粘聚力<br>(快剪) | 内摩<br>擦角<br>(快剪) | 粘聚力<br>(固快)    | 内摩<br>擦角<br>(固快) | 压缩<br>系数         | 压缩<br>模量           | 固结<br>系数<br>(MPa) |                                      |       |       |
|          |          |                 | %             | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |                  |                   | %              | %              | %              |                  |                  | (单位:mm) |     |     |       |        |         |          |            |             |         | K <sub>h</sub> | K <sub>v</sub>         | q           | φ <sub>q</sub>   | c <sub>q</sub> | φ <sub>cq</sub>  | v <sub>1-2</sub> | E <sub>sv1-2</sub> | C <sub>v0.2</sub> | C <sub>v0.4</sub>                    |       |       |
|          |          |                 | %             | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |                  |                   | %              | %              | %              | %                | %                | %       | %   | %   | %     | %      | %       | %        | %          | %           | %       | %              | ×10 <sup>-6</sup> cm/s |             | kPa              | 度              | kPa              | 度                | MPa <sup>-1</sup>  | MPa               | ×10 <sup>-3</sup> cm <sup>2</sup> /s |       |       |
| ZK11-16  | 淤泥       | 33.20-33.50     | 64.7          | 1.63              | 0.99              | 1.63              | 2.75             | 1.779             | 100            | 59.5           | 30.9           | 28.6             | 1.18             |         |     |     |       |        |         |          |            |             |         |                |                        |             |                  | 5.2            | 3.1              |                  |                    | 1.26              | 2.2                                  | 1.424 | 1.428 |
| ZK11-17  | 淤泥       | 36.20-36.50     | 63.7          | 1.63              | 1                 | 1.63              | 2.75             | 1.762             | 99.4           | 58.6           | 30.4           | 28.2             | 1.18             |         |     |     |       |        |         |          |            |             | 0.088   |                |                        |             | 5.5              | 3.2            |                  |                  | 1.52               | 1.82              | 0.97                                 | 0.712 |       |
| ZK11-18  | 粘土       | 39.20-39.50     | 43.2          | 1.81              | 1.26              | 1.8               | 2.73             | 1.16              | 100            | 45.6           | 26.8           | 18.8             | 0.87             |         |     |     |       |        |         |          | 65         | 35          |         |                |                        |             | 16.5             | 13.9           | 0.79             | 2.73             | 1.091              | 1.177             |                                      |       |       |
| ZK11-19  | 淤泥质粘土    | 40.20-40.50     | 48.6          | 1.73              | 1.16              | 1.74              | 2.73             | 1.345             | 98.6           | 45.2           | 25.5           | 19.7             | 1.17             |         |     |     |       |        |         |          |            |             | 0.86    |                |                        |             | 15.8             | 13.2           | 0.93             | 2.52             |                    |                   |                                      |       |       |
| ZK11-20  | 粉质粘土     | 42.20-42.50     | 40.1          | 1.82              | 1.3               | 1.82              | 2.71             | 1.086             | 100            | 41.6           | 26.5           | 15.1             | 0.9              |         |     |     |       |        |         |          | 53.1       | 46.9        |         |                |                        |             | 13               | 10.2           |                  |                  | 0.75               | 2.78              | 1.058                                | 0.783 |       |
| ZK11-21  | 粉质粘土     | 44.20-44.50     | 39.5          | 1.83              | 1.31              | 1.83              | 2.72             | 1.073             | 100            | 40.3           | 25.2           | 15.1             | 0.95             |         |     |     |       |        |         |          |            |             |         |                |                        |             | 15               | 11             |                  |                  | 0.65               | 3.19              | 1.282                                | 1     |       |
| ZK11-22  | 粉质粘土     | 46.20-46.50     | 40.7          | 1.81              | 1.29              | 1.81              | 2.71             | 1.107             | 99.7           | 43.6           | 27.2           | 16.4             | 0.82             |         |     |     |       |        |         |          |            |             | 0.89    |                |                        |             | 16.8             | 12.7           | 0.78             | 2.7              | 1.301              | 1.292             |                                      |       |       |
| ZK11-23  | 粘土       | 48.20-48.50     | 43.9          | 1.78              | 1.24              | 1.78              | 2.72             | 1.199             | 99.6           | 44.1           | 26.8           | 17.3             | 0.99             |         |     |     |       |        |         |          | 63.5       | 36.5        |         | 0.53           | 14                     | 10.5        |                  |                | 1.16             | 1.9              | 1.052              | 0.986             |                                      |       |       |
| ZK11-24  | 粘土       | 50.20-50.50     | 40.3          | 1.82              | 1.3               | 1.82              | 2.72             | 1.097             | 99.9           | 43.1           | 26             | 17.1             | 0.84             |         |     |     |       |        |         |          |            |             |         |                |                        | 15.3        | 10.1             |                |                  | 0.77             | 2.72               | 1.213             | 1.232                                |       |       |
| ZK11-25  | 粉质粘土     | 52.20-52.50     | 41            | 1.81              | 1.28              | 1.81              | 2.72             | 1.119             | 99.7           | 43.3           | 26.3           | 17               | 0.86             |         |     |     |       |        |         |          |            |             | 0.77    |                |                        |             | 16.5             | 13.9           | 0.79             | 2.68             | 1.091              | 1.177             |                                      |       |       |
| ZK11-26  | 粘土       | 53.20-53.50     | 40.5          | 1.8               | 1.28              | 1.81              | 2.73             | 1.131             | 97.8           | 41.9           | 23.9           | 18               | 0.92             |         |     |     |       |        |         |          |            |             |         | 0.35           | 15.6                   | 11.8        |                  |                | 0.66             | 3.23             |                    |                   |                                      |       |       |
| ZK11-27  | 粘土       | 56.20-56.50     | 40            | 1.8               | 1.29              | 1.82              | 2.74             | 1.131             | 96.9           | 40.6           | 23.3           | 17.3             | 0.97             |         |     |     |       |        |         |          | 53.5       | 46.5        |         |                |                        |             | 18.6             | 12.8           |                  |                  | 0.56               | 3.81              |                                      |       |       |
| ZK11-28  | 粉土       | 59.20-59.50     | 25.2          | 1.98              | 1.58              | 1.99              | 2.68             | 0.695             | 97.2           | 29.9           | 20.3           | 9.6              | 0.51             |         |     |     |       |        |         |          |            |             |         |                |                        |             | 18               | 15.6           |                  |                  | 0.37               | 4.58              |                                      |       |       |
| ZK12-1   | 淤泥       | 1.20-1.50       | 61.9          | 1.63              | 1.01              | 1.64              | 2.75             | 1.731             | 98.3           | 56.9           | 29.6           | 27.3             | 1.18             |         |     |     |       |        |         |          |            |             |         |                |                        |             |                  |                | 8.6              | 6                | 1.36               | 2.01              | 0.674                                | 0.868 |       |
| ZK12-2   | 粉质粘土     | 3.20-3.50       | 34            | 1.88              | 1.4               | 1.88              | 2.7              | 0.924             | 99.3           | 32.6           | 20.3           | 12.3             | 1.11             |         |     |     |       |        |         |          |            |             |         | 3.2            | 13.2                   | 11.3        |                  |                | 0.45             | 4.28             | 3.637              | 3.783             |                                      |       |       |
| ZK12-3   | 淤泥质粘土    | 5.20-5.50       | 44.2          | 1.76              | 1.22              | 1.77              | 2.73             | 1.237             | 97.6           | 43.2           | 25.2           | 18               | 1.06             |         |     |     |       |        |         |          |            |             |         |                |                        |             | 11               | 9.5            |                  |                  | 0.98               | 2.28              |                                      |       |       |
| ZK12-4   | 淤泥质粉质粘土  | 7.20-7.50       | 38            | 1.82              | 1.32              | 1.83              | 2.7              | 1.047             | 98             | 35.1           | 21.6           | 13.5             | 1.21             |         |     |     |       |        |         |          | 63.3       | 36.7        | 6.1     |                |                        |             | 13.5             | 12.2           | 0.73             | 2.8              |                    |                   |                                      |       |       |
| ZK12-5   | 淤泥质粉质粘土  | 9.20-9.50       | 37.5          | 1.83              | 1.33              | 1.84              | 2.7              | 1.029             | 98.4           | 33.6           | 22.5           | 11.1             | 1.35             |         |     |     |       |        |         |          |            |             |         |                |                        |             | 12.6             | 11.5           |                  |                  | 0.72               | 2.82              | 1.401                                | 1.534 |       |
| ZK12-6   | 粉质粘土     | 11.20-11.50     | 32.2          | 1.91              | 1.44              | 1.91              | 2.71             | 0.876             | 99.6           | 33.1           | 20.6           | 12.5             | 0.93             |         |     |     |       |        |         |          |            |             |         |                |                        |             |                  |                | 16               | 19.8             | 0.41               | 4.57              | 4.502                                | 4.283 |       |
| ZK12-7   | 淤泥       | 13.20-13.50     | 55.1          | 1.68              | 1.08              | 1.69              | 2.75             | 1.539             | 98.5           | 52.2           | 27.6           | 24.6             | 1.12             |         |     |     |       |        |         |          |            |             |         |                | 0.12                   | 7.1         | 4.5              |                |                  | 1.36             | 1.87               |                   |                                      |       |       |
| ZK12-8   | 淤泥       | 15.20-15.50     | 58.9          | 1.67              | 1.05              | 1.67              | 2.75             | 1.617             | 100            | 54.2           | 28.2           | 26               | 1.18             |         |     |     |       |        |         |          |            |             |         |                |                        |             |                  | 9.5            | 7.6              | 1.32             | 1.98               |                   |                                      |       |       |
| ZK12-9   | 淤泥       | 17.20-17.50     | 63.1          | 1.63              | 1                 | 1.64              | 2.75             | 1.752             | 99.1           | 58.1           | 30.2           | 27.9             | 1.18             |         |     |     |       |        |         |          | 47.5       | 52.5        | 0.19    |                | 5.2                    | 2.8         |                  |                | 1.66             | 1.66             | 1.141              | 1.011             |                                      |       |       |
| ZK12-10  | 淤泥       | 19.20-19.50     | 55.1          | 1.68              | 1.08              | 1.69              | 2.75             | 1.539             | 98.5           | 52.3           | 28             | 24.3             | 1.12             |         |     |     |       |        |         |          |            |             |         |                |                        |             | 5.9              | 3.6            |                  |                  | 1.41               | 1.8               |                                      |       |       |
| ZK12-11  | 淤泥       | 21.20-21.50     | 63.2          | 1.63              | 1                 | 1.64              | 2.75             | 1.753             | 99.1           | 58.2           | 30.2           | 28               | 1.18             |         |     |     |       |        |         |          |            |             |         | 0.088          |                        |             | 10.9             | 8.2            | 1.94             | 1.42             |                    |                   |                                      |       |       |
| ZK12-12  | 淤泥       | 23.20-23.50     | 63.4          | 1.63              | 1                 | 1.63              | 2.75             | 1.757             | 99.2           | 58.3           | 30.3           | 28               | 1.18             |         |     |     |       |        |         |          |            |             |         |                |                        |             | 5.1              | 3.1            |                  |                  | 1.75               | 1.58              | 1.846                                | 0.593 |       |
| ZK12-13  | 淤泥       | 25.20-25.50     | 59.9          | 1.63              | 1.02              | 1.65              | 2.75             | 1.698             | 97             | 55.1           | 28.6           | 26.5             | 1.18             |         |     |     |       |        |         |          | 49.5       | 50.5        | 0.089   |                | 5.6                    | 3.6         |                  |                | 1.54             | 1.75             |                    |                   |                                      |       |       |
| ZK12-14  | 淤泥       | 27.20-27.50     | 60.1          | 1.63              | 1.02              | 1.65              | 2.75             | 1.701             | 97.2           | 55.3           | 28.7           | 26.6             | 1.18             |         |     |     |       |        |         |          |            |             |         |                |                        |             |                  | 9.2            | 7.6              | 1.59             | 1.7                | 1.215             | 1.012                                |       |       |
| ZK12-15  | 淤泥       | 29.20-29.50     | 53.9          | 1.68              | 1.09              | 1.69              | 2.74             | 1.51              | 97.8           | 51             | 27.3           | 23.7             | 1.12             |         |     |     |       |        |         |          |            |             |         | 0.15           | 8.2                    | 5.6         |                  |                | 1.18             | 2.13             |                    |                   |                                      |       |       |
| ZK12-16  | 淤泥       | 32.20-32.50     | 63            | 1.63              | 1                 | 1.64              | 2.75             | 1.75              | 99             | 57.9           | 30.1           | 27.8             | 1.18             |         |     |     |       |        |         |          |            |             |         |                |                        |             | 5.6              | 3.1            |                  |                  | 0.91               | 3.02              | 2.878                                | 1.02  |       |
| ZK12-17  | 淤泥       | 35.20-35.50     | 56.4          | 1.66              | 1.06              | 1.68              | 2.75             | 1.591             | 97.5           | 53.9           | 29.2           | 24.7             | 1.1              |         |     |     |       |        |         |          |            |             | 0.069   |                |                        |             | 12.6             | 9.5            | 0.98             | 2.64             |                    |                   |                                      |       |       |
| ZK12-18  | 粘土       | 38.20-38.50     | 42.4          | 1.77              | 1.24              | 1.79              | 2.73             | 1.196             | 96.8           | 43.3           | 23.7           | 19.6             | 0.95             |         |     |     |       |        |         |          | 59.3       | 40.7        |         |                |                        |             | 15.8             | 10.2           |                  |                  | 0.85               | 2.58              |                                      |       |       |
| ZK12-19  | 粘土       | 41.10-41.40     | 41.1          | 1.77              | 1.25              | 1.79              | 2.73             | 1.176             | 95.4           | 43.4           | 25.2           | 18.2             | 0.87             |         |     |     |       |        |         |          |            |             |         | 0.11           | 16.2                   | 11.3        |                  |                | 0.75             | 2.9              | 1.244              | 1.217             |                                      |       |       |
| ZK12-20  | 粉质粘土     | 44.10-44.40     | 38.4          | 1.82              | 1.32              | 1.83              | 2.73             | 1.076             | 97.4           | 39.5           | 22.5           | 17               | 0.94             |         |     |     |       |        |         |          |            |             |         |                |                        |             |                  | 17.9           | 13               | 0.71             | 2.92               | 1.172             | 1.199                                |       |       |
| ZK12-21  | 粘土       | 47.10-47.40     | 39.3          | 1.81              | 1.3               | 1.82              | 2.73             | 1.101             | 97.4           | 41.3           | 23.8           | 17.5             | 0.89             |         |     |     |       |        |         |          |            |             |         |                |                        |             | 18.2             | 11.1           |                  |                  | 0.77               | 2.73              |                                      |       |       |
| ZK12-22  | 粉质粘土     | 50.10-50.40     | 36.7          | 1.86              | 1.36              | 1.86              | 2.73             | 1.006             | 99.6           | 38.3           | 21.5           | 16.8             | 0.9              |         |     |     |       |        |         |          | 63.2       | 36.8        |         | 0.68           | 16.8                   | 12.1        |                  |                | 0.65             | 3.09             |                    |                   |                                      |       |       |
| ZK12-23  | 粉质粘土     | 53.10-53.40     | 40.9          | 1.77              | 1.26              | 1.8               | 2.73             | 1.173             | 95.2           | 41.9           | 25.2           | 16.7             | 0.94             |         |     |     |       |        |         |          |            |             | 0.18    |                |                        |             | 16.9             | 12.9           | 0.35             | 6.21             | 1.304              | 1.355             |                                      |       |       |
| ZK12-24  | 粉质粘土     | 56.10-56.40     | 36.9          | 1.85              | 1.35              | 1.86              | 2.73             | 1.02              | 98.7           | 37.9           | 22.1           | 15.8             | 0                |         |     |     |       |        |         |          |            |             |         |                |                        |             |                  |                |                  |                  |                    |                   |                                      |       |       |

附表3-32

| 岩土编号    | 室内定名    | 试样深度(m)     | 天然含水率 | 湿密度  | 干密度  | 饱和密度 | 土粒比重 | 天然孔隙比 | 饱和度  | 液限   | 塑限   | 塑性指数 | 液性指数 | 颗粒组成百分数 |      |      |       |        |         |          |            |             |         | 渗透                     |                | 直剪      |                |                |                   | 固结（垂直）           |                                      |                   |                   |       |
|---------|---------|-------------|-------|------|------|------|------|-------|------|------|------|------|------|---------|------|------|-------|--------|---------|----------|------------|-------------|---------|------------------------|----------------|---------|----------------|----------------|-------------------|------------------|--------------------------------------|-------------------|-------------------|-------|
|         |         |             |       |      |      |      |      |       |      |      |      |      |      | >60     | >40  | >20  | 10~20 | 2.0~10 | 0.5~2.0 | 0.25~0.5 | 0.075~0.25 | 0.005~0.075 | 0~0.005 | 水平渗透系数                 | 竖向渗透系数         | 粘聚力(快剪) | 内摩擦角(快剪)       | 粘聚力(固快)        | 内摩擦角(固快)          | 压缩系数             | 压缩模量                                 | 固结系数(MPa)         |                   |       |
|         |         |             |       |      |      |      |      |       |      |      |      |      |      | (单位:mm) |      |      |       |        |         |          |            |             |         | K <sub>h</sub>         | K <sub>v</sub> | q       | φ <sub>q</sub> | c <sub>q</sub> | φ <sub>cq</sub>   | v <sub>1-2</sub> | E <sub>sv1-2</sub>                   | C <sub>v0.2</sub> | C <sub>v0.4</sub> |       |
|         |         |             |       |      |      |      |      |       |      |      |      |      |      | %       | %    | %    | %     | %      | %       | %        | %          | %           | %       | ×10 <sup>-6</sup> cm/s | kPa            | 度       | kPa            | 度              | MPa <sup>-1</sup> | MPa              | ×10 <sup>-3</sup> cm <sup>2</sup> /s |                   |                   |       |
| ZK12-27 | 卵石      | 63.20-63.50 |       |      |      |      |      |       |      |      |      |      |      | 19.4    | 27.3 | 3.4  | 6.1   | 6.3    | 2.5     | 5        | 3.7        | 12.5        | 13.8    |                        |                |         |                |                |                   |                  |                                      |                   |                   |       |
| ZK12-28 | 砾砂      | 65.20-65.50 |       |      |      |      |      |       |      |      |      |      |      |         | 12.2 | 13   | 10.4  | 8      | 3.2     | 9.1      | 4.7        | 19.2        | 20.2    |                        |                |         |                |                |                   |                  |                                      |                   |                   |       |
| ZK13-1  | 淤泥      | 1.20-1.50   | 65.2  | 1.63 | 0.99 | 1.63 | 2.75 | 1.787 | 100  | 60   | 31.2 | 28.8 | 1.18 |         |      |      |       |        |         |          |            | 46.9        | 53.1    | 0.088                  |                | 5.2     | 3.2            |                |                   |                  | 1.94                                 | 1.44              |                   |       |
| ZK13-2  |         | 3.20-3.50   |       |      |      |      |      |       |      |      |      |      |      |         |      |      |       |        |         |          |            |             | 50.3    | 49.7                   |                |         |                |                |                   |                  |                                      |                   |                   |       |
| ZK13-3  | 淤泥质粉质粘土 | 7.20-7.50   | 46.6  | 1.76 | 1.2  | 1.76 | 2.71 | 1.257 | 100  | 38.6 | 22.5 | 16.1 | 1.5  |         |      |      |       |        |         |          |            |             |         |                        |                | 11.6    | 10.2           |                |                   |                  | 0.9                                  | 2.51              |                   |       |
| ZK13-4  | 淤泥质粉质粘土 | 9.20-9.50   | 45.6  | 1.76 | 1.21 | 1.76 | 2.72 | 1.25  | 99.2 | 39.5 | 22.9 | 16.6 | 1.37 |         |      |      |       |        |         |          |            |             |         |                        |                | 15      | 13.5           |                |                   |                  | 0.65                                 | 3.46              | 1.94              | 1.954 |
| ZK13-5  | 淤泥质粉质粘土 | 11.20-11.50 | 44.1  | 1.76 | 1.22 | 1.77 | 2.71 | 1.219 | 98.1 | 36.8 | 22.3 | 14.5 | 1.5  |         |      |      |       |        |         |          |            |             |         |                        |                |         |                |                |                   |                  |                                      |                   |                   |       |
| ZK13-6  | 淤泥质粘土   | 13.20-13.50 | 51.1  | 1.7  | 1.13 | 1.71 | 2.74 | 1.435 | 97.5 | 45.9 | 26.9 | 19   | 1.27 |         |      |      |       |        |         |          |            |             |         |                        |                |         |                |                |                   |                  |                                      |                   |                   |       |
| ZK13-7  | 淤泥质粘土   | 15.20-15.50 | 52    | 1.7  | 1.12 | 1.71 | 2.74 | 1.45  | 98.3 | 49.3 | 27.2 | 22.1 | 1.12 |         |      |      |       |        |         |          |            |             |         |                        |                |         |                |                |                   |                  |                                      |                   |                   |       |
| ZK13-8  | 淤泥      | 17.20-17.50 | 55.3  | 1.68 | 1.08 | 1.69 | 2.75 | 1.542 | 98.6 | 52   | 28.3 | 23.7 | 1.14 |         |      |      |       |        |         |          |            |             |         |                        |                |         |                |                |                   |                  |                                      |                   |                   |       |
| ZK13-9  | 淤泥      | 19.20-19.50 | 54.9  | 1.68 | 1.08 | 1.69 | 2.75 | 1.536 | 98.3 | 51.8 | 27.7 | 24.1 | 1.13 |         |      |      |       |        |         |          |            |             |         |                        |                |         |                |                |                   |                  |                                      |                   |                   |       |
| ZK13-10 | 淤泥      | 20.70-21.00 | 57.3  | 1.67 | 1.06 | 1.68 | 2.75 | 1.59  | 99.1 | 53.2 | 29.3 | 23.9 | 1.17 |         |      |      |       |        |         |          |            |             |         |                        |                |         |                |                |                   |                  |                                      |                   |                   |       |
| ZK13-11 | 淤泥质粘土   | 22.70-23.00 | 53.5  | 1.7  | 1.11 | 1.7  | 2.74 | 1.474 | 99.4 | 49.2 | 26.9 | 22.3 | 1.19 |         |      |      |       |        |         |          |            |             |         |                        |                |         |                |                |                   |                  |                                      |                   |                   |       |
| ZK13-12 | 淤泥质粉质粘土 | 24.70-25.00 | 49.6  | 1.73 | 1.16 | 1.73 | 2.74 | 1.369 | 99.2 | 43.2 | 26.3 | 16.9 | 1.38 |         |      |      |       |        |         |          |            |             |         |                        |                |         |                |                |                   |                  |                                      |                   |                   |       |
| ZK13-13 | 淤泥质粘土   | 26.70-27.00 | 54.2  | 1.7  | 1.1  | 1.7  | 2.74 | 1.485 | 100  | 51.1 | 29.3 | 21.8 | 1.14 |         |      |      |       |        |         |          |            |             |         |                        |                |         |                |                |                   |                  |                                      |                   |                   |       |
| ZK13-14 | 淤泥质粘土   | 28.70-29.00 | 52.3  | 1.72 | 1.13 | 1.72 | 2.74 | 1.426 | 100  | 48.8 | 29.5 | 19.3 | 1.18 |         |      |      |       |        |         |          |            |             |         |                        |                |         |                |                |                   |                  |                                      |                   |                   |       |
| ZK13-15 | 淤泥质粘土   | 30.70-31.00 | 53.3  | 1.71 | 1.12 | 1.71 | 2.74 | 1.456 | 100  | 48.3 | 26.8 | 21.5 | 1.23 |         |      |      |       |        |         |          |            |             |         |                        |                |         |                |                |                   |                  |                                      |                   |                   |       |
| ZK13-16 | 淤泥质粘土   | 33.70-34.00 | 44.9  | 1.77 | 1.22 | 1.77 | 2.73 | 1.235 | 99.3 | 44.6 | 26.5 | 18.1 | 1.02 |         |      |      |       |        |         |          |            |             |         |                        |                |         |                |                |                   |                  |                                      |                   |                   |       |
| ZK13-17 | 粉质粘土    | 36.70-37.00 | 34.1  | 1.88 | 1.4  | 1.89 | 2.72 | 0.94  | 98.7 | 35.8 | 21.9 | 13.9 | 0.88 |         |      |      |       |        |         |          |            |             |         |                        |                |         |                |                |                   |                  |                                      |                   |                   |       |
| ZK13-18 | 粉质粘土    | 39.70-40.00 | 35.2  | 1.86 | 1.38 | 1.87 | 2.73 | 0.984 | 97.6 | 36.2 | 23.2 | 13   | 0.92 |         |      |      |       |        |         |          |            |             |         |                        |                |         |                |                |                   |                  |                                      |                   |                   |       |
| ZK13-19 | 粉质粘土    | 42.70-43.00 | 37.8  | 1.81 | 1.31 | 1.83 | 2.72 | 1.071 | 96   | 38.8 | 22.3 | 16.5 | 0.94 |         |      |      |       |        |         |          |            |             |         |                        |                |         |                |                |                   |                  |                                      |                   |                   |       |
| ZK13-20 | 粉质粘土    | 45.70-46.00 | 36.7  | 1.82 | 1.33 | 1.84 | 2.72 | 1.043 | 95.7 | 37.5 | 22.6 | 14.9 | 0.95 |         |      |      |       |        |         |          |            |             |         |                        |                |         |                |                |                   |                  |                                      |                   |                   |       |
| ZK13-21 | 粉质粘土    | 48.70-49.00 | 36.5  | 1.83 | 1.34 | 1.85 | 2.73 | 1.036 | 96.2 | 43.3 | 26.5 | 16.8 | 0.6  |         |      |      |       |        |         |          |            |             |         |                        |                |         |                |                |                   |                  |                                      |                   |                   |       |
| ZK13-22 | 粉质粘土    | 51.70-52.00 | 36.8  | 1.82 | 1.33 | 1.84 | 2.73 | 1.052 | 95.5 | 38   | 21.9 | 16.1 | 0.93 |         |      |      |       |        |         |          |            |             |         |                        |                |         |                |                |                   |                  |                                      |                   |                   |       |
| ZK13-23 | 粉质粘土    | 54.70-55.00 | 31.8  | 1.91 | 1.45 | 1.92 | 2.73 | 0.884 | 98.2 | 35.2 | 20.8 | 14.4 | 0.76 |         |      |      |       |        |         |          |            |             |         |                        |                |         |                |                |                   |                  |                                      |                   |                   |       |
| ZK13-24 | 粘土      | 56.60-56.90 | 52.2  | 1.65 | 1.08 | 1.68 | 2.69 | 1.481 | 94.8 | 56.3 | 29.2 | 27.1 | 0.85 |         |      |      |       |        |         |          |            |             |         |                        |                |         |                |                |                   |                  |                                      |                   |                   |       |
| ZK13-25 | 粉质粘土    | 57.60-57.90 | 24.5  | 2    | 1.61 | 2.01 | 2.71 | 0.687 | 96.6 | 32.3 | 21.2 | 11.1 | 0.3  |         |      |      |       |        |         |          |            |             |         |                        |                |         |                |                |                   |                  |                                      |                   |                   |       |
| ZK13-26 | 卵石      | 60.70-61.00 |       |      |      |      |      |       |      |      |      |      |      |         | 42.9 | 12.6 | 5.8   | 6.6    | 2.1     | 3        | 1.9        | 12.2        | 12.9    |                        |                |         |                |                |                   |                  |                                      |                   |                   |       |
| ZK14-1  | 淤泥质粘土   | 1.20-1.50   | 53.2  | 1.71 | 1.12 | 1.71 | 2.75 | 1.464 | 99.9 | 51.3 | 27.1 | 24.2 | 1.08 |         |      |      |       |        |         |          |            |             |         |                        |                |         |                |                |                   |                  |                                      |                   |                   |       |
| ZK14-2  | 淤泥      | 3.20-3.50   | 75.7  | 1.57 | 0.89 | 1.57 | 2.75 | 2.078 | 100  | 53.9 | 28.3 | 25.6 | 1.85 |         |      |      |       |        |         |          |            |             |         |                        |                |         |                |                |                   |                  |                                      |                   |                   |       |
| ZK14-3  | 淤泥      | 5.20-5.50   | 58.1  | 1.67 | 1.06 | 1.67 | 2.75 | 1.603 | 99.6 | 53.1 | 29.6 | 23.5 | 1.21 |         |      |      |       |        |         |          |            |             |         |                        |                |         |                |                |                   |                  |                                      |                   |                   |       |
| ZK14-4  | 淤泥      | 7.20-7.50   | 58.3  | 1.67 | 1.05 | 1.67 | 2.75 | 1.607 | 99.8 | 52.7 | 29.6 | 23.1 | 1.24 |         |      |      |       |        |         |          |            |             |         |                        |                |         |                |                |                   |                  |                                      |                   |                   |       |
| ZK14-5  | 淤泥      | 9.20-9.50   | 70.1  | 1.6  | 0.94 | 1.6  | 2.75 | 1.924 | 100  | 53.2 | 28.6 | 24.6 | 1.69 |         |      |      |       |        |         |          |            |             |         |                        |                |         |                |                |                   |                  |                                      |                   |                   |       |
| ZK14-6  | 粘土      | 11.20-11.50 | 51.2  | 1.72 | 1.14 | 1.72 | 2.75 | 1.417 | 99.3 | 52.2 | 27.2 | 25   | 0.96 |         |      |      |       |        |         |          |            |             |         |                        |                |         |                |                |                   |                  |                                      |                   |                   |       |
| ZK14-7  | 淤泥      | 13.20-13.50 | 56.4  | 1.69 | 1.08 | 1.69 | 2.75 | 1.545 | 100  | 52.2 | 29.2 | 23   | 1.18 |         |      |      |       |        |         |          |            |             |         |                        |                |         |                |                |                   |                  |                                      |                   |                   |       |
| ZK14-8  | 淤泥质粘土   | 15.20-15.50 | 53.1  | 1.71 | 1.12 | 1.71 | 2.75 | 1.462 | 99.9 | 51.5 | 27.2 | 24.3 | 1.07 |         |      |      |       |        |         |          |            |             |         |                        |                |         |                |                |                   |                  |                                      |                   |                   |       |
| ZK14-9  | 淤泥      | 17.20-17.50 | 58.9  | 1.67 | 1.05 | 1.67 | 2.75 | 1.617 | 100  | 53.6 | 29.9 | 23.7 | 1.22 |         |      |      |       |        |         |          |            |             |         |                        |                |         |                |                |                   |                  |                                      |                   |                   |       |
| ZK14-10 | 淤泥      | 19.20-19.50 | 55.7  | 1.69 | 1.09 | 1.69 | 2.75 | 1.534 | 99.9 | 52.8 | 29.3 | 23.5 | 1.12 |         |      |      |       |        |         |          |            |             |         |                        |                |         |                |                |                   |                  |                                      |                   |                   |       |
| ZK14-11 | 淤泥      | 21.20-21.50 | 60.2  | 1.66 | 1.04 | 1.66 | 2.75 | 1.654 | 100  | 54.6 | 29.1 | 25.5 | 1.22 |         |      |      |       |        |         |          |            |             |         |                        |                |         |                |                |                   |                  |                                      |                   |                   |       |

平阳鳌江标准堤加固工程初步设计下埠闸地基土层室内土工试验综合成果表

附表3-33

| 岩土<br>编号 | 室内<br>定名 | 试样<br>深度<br>(m) | 天然<br>含水<br>率 | 湿<br>密<br>度       | 干<br>密<br>度       | 饱<br>和<br>密<br>度  | 土<br>粒<br>比<br>重 | 天然<br>孔<br>隙<br>比 | 饱<br>和<br>度    | 液<br>限         | 塑<br>限         | 塑<br>性<br>指<br>数 | 液<br>性<br>指<br>数 | 颗粒组成百分数 |      |     |       |        |         |          |            |             |         | 渗 透            |                        | 直 剪         |                  |                |                  | 固结（垂直）            |                    |                                      |                   |
|----------|----------|-----------------|---------------|-------------------|-------------------|-------------------|------------------|-------------------|----------------|----------------|----------------|------------------|------------------|---------|------|-----|-------|--------|---------|----------|------------|-------------|---------|----------------|------------------------|-------------|------------------|----------------|------------------|-------------------|--------------------|--------------------------------------|-------------------|
|          |          |                 | ω             | ρ                 | ρ <sub>d</sub>    | ρ <sub>sat</sub>  | G <sub>s</sub>   | e <sub>0</sub>    | S <sub>r</sub> | ω <sub>L</sub> | ω <sub>p</sub> | I <sub>p</sub>   | I <sub>L</sub>   | >60     | >40  | >20 | 10~20 | 2.0~10 | 0.5~2.0 | 0.25~0.5 | 0.075~0.25 | 0.005~0.075 | 0~0.005 | 水平<br>渗透<br>系数 | 竖向<br>渗透<br>系数         | 粘聚力<br>(快剪) | 内摩<br>擦角<br>(快剪) | 粘聚力<br>(固快)    | 内摩<br>擦角<br>(固快) | 压缩<br>系数          | 压缩<br>模量           | 固结<br>系数<br>(MPa)                    |                   |
|          |          |                 | %             | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |                  |                   | %              | %              | %              |                  |                  | (单位:mm) |      |     |       |        |         |          |            |             |         | K <sub>h</sub> | K <sub>v</sub>         | q           | φ <sub>q</sub>   | c <sub>q</sub> | φ <sub>cq</sub>  | v <sub>1-2</sub>  | E <sub>sv1-2</sub> | C <sub>v0.2</sub>                    | C <sub>v0.4</sub> |
|          |          |                 | %             | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |                  |                   | %              | %              | %              | %                | %                | %       | %    | %   | %     | %      | %       | %        | %          | %           | %       | %              | ×10 <sup>-6</sup> cm/s | kPa         | 度                | kPa            | 度                | MPa <sup>-1</sup> | MPa                | ×10 <sup>-3</sup> cm <sup>2</sup> /s |                   |
| ZK14-12  | 淤泥       | 21.70-22.00     | 55.7          | 1.68              | 1.08              | 1.69              | 2.75             | 1.549             | 98.9           | 51.9           | 27.9           | 24               | 1.16             |         |      |     |       |        |         |          |            |             | 0.28    |                | 8.2                    | 5.8         |                  |                | 1.27             | 2.01              | 1.057              | 1.059                                |                   |
| ZK14-13  | 淤泥       | 23.70-24.00     | 54.8          | 1.69              | 1.09              | 1.69              | 2.75             | 1.519             | 99.2           | 51.6           | 25.3           | 26.3             | 1.12             |         |      |     |       |        |         |          |            |             |         |                |                        | 11          | 9.6              | 1.23           | 2.05             | 1.155             | 0.975              |                                      |                   |
| ZK14-14  | 淤泥       | 25.70-26.00     | 55.8          | 1.67              | 1.07              | 1.68              | 2.75             | 1.566             | 98             | 53.5           | 28.3           | 25.2             | 1.09             |         |      |     |       |        |         |          | 49         | 51          |         | 0.083          | 9.9                    | 6.5         |                  |                | 1.23             | 2.09              | 1.837              | 1.197                                |                   |
| ZK14-15  | 淤泥质粘土    | 27.70-28.00     | 53.7          | 1.7               | 1.11              | 1.7               | 2.74             | 1.477             | 99.6           | 50.6           | 26.8           | 23.8             | 1.13             |         |      |     |       |        |         |          |            |             |         |                | 10.2                   | 7.2         |                  |                | 1.39             | 1.78              | 1.142              | 1.247                                |                   |
| ZK14-16  | 淤泥质粘土    | 29.70-30.00     | 52.2          | 1.72              | 1.13              | 1.72              | 2.74             | 1.425             | 100            | 49.3           | 26.5           | 22.8             | 1.13             |         |      |     |       |        |         |          |            | 0.58        |         |                |                        | 12.9        | 11.8             | 1.18           | 2.06             | 1.5               | 0.902              |                                      |                   |
| ZK14-17  | 粉质粘土     | 32.70-33.00     | 34.7          | 1.87              | 1.39              | 1.88              | 2.72             | 0.959             | 98.4           | 35.9           | 22.8           | 13.1             | 0.91             |         |      |     |       |        |         | 0.5      | 73         | 26.5        |         |                | 13                     | 10.2        |                  |                | 0.75             | 2.61              | 1.419              | 1.596                                |                   |
| ZK14-18  | 粉质粘土     | 35.70-36.00     | 33.5          | 1.9               | 1.42              | 1.9               | 2.72             | 0.911             | 100            | 35.3           | 22.8           | 12.5             | 0.86             |         |      |     |       |        |         |          |            |             | 0.32    | 13.2           | 10.9                   |             |                  | 0.7            | 2.73             | 1.401             | 1.574              |                                      |                   |
| ZK14-19  | 粘土       | 38.70-39.00     | 39.8          | 1.8               | 1.29              | 1.81              | 2.72             | 1.113             | 97.3           | 40.7           | 23.5           | 17.2             | 0.95             |         |      |     |       |        |         |          |            |             |         |                |                        | 15.9        | 13.2             | 0.86           | 2.46             | 1.025             | 1.13               |                                      |                   |
| ZK14-20  | 粉质粘土     | 41.70-42.00     | 36.9          | 1.82              | 1.33              | 1.84              | 2.72             | 1.046             | 96             | 37.9           | 25.2           | 12.7             | 0.92             |         |      |     |       |        |         |          | 66.8       | 33.2        |         | 0.35           | 12.9                   | 9.8         |                  |                | 0.91             | 2.25              | 0.883              | 0.988                                |                   |
| ZK14-21  | 粉质粘土     | 44.70-45.00     | 37.3          | 1.81              | 1.32              | 1.84              | 2.73             | 1.071             | 95.1           | 38.2           | 25.6           | 12.6             | 0.93             |         |      |     |       |        |         |          |            |             |         |                | 12.2                   | 9.5         |                  |                | 0.87             | 2.38              | 1.131              | 1.113                                |                   |
| ZK14-22  | 粘土       | 47.70-48.00     | 44.1          | 1.78              | 1.24              | 1.78              | 2.73             | 1.21              | 99.5           | 44.3           | 26.2           | 18.1             | 0.99             |         |      |     |       |        |         |          |            | 0.5         |         |                |                        | 15.2        | 12.1             | 0.91           | 2.43             | 1.425             | 1.105              |                                      |                   |
| ZK14-23  | 粉质粘土     | 50.70-51.00     | 35.8          | 1.85              | 1.36              | 1.86              | 2.72             | 0.997             | 97.7           | 36.5           | 23.2           | 13.3             | 0.95             |         |      |     |       |        |         |          | 65         | 35          |         |                | 12.5                   | 10.3        |                  |                | 0.87             | 2.3               | 2.646              | 1.567                                |                   |
| ZK14-24  | 粘土       | 53.70-54.00     | 45.1          | 1.77              | 1.22              | 1.77              | 2.74             | 1.246             | 99.2           | 46.3           | 28.6           | 17.7             | 0.93             |         |      |     |       |        |         |          |            |             | 0.22    | 13.2           | 9.2                    |             |                  | 1.07           | 2.1              | 0.934             | 0.766              |                                      |                   |
| ZK14-25  | 粉质粘土     | 56.70-57.00     | 28            | 1.95              | 1.52              | 1.97              | 2.73             | 0.792             | 96.5           | 33.5           | 21             | 12.5             | 0.56             |         |      |     |       |        |         |          | 71.5       | 28.5        |         |                |                        |             | 21               | 16.8           | 0.48             | 3.73              | 2.316              | 1.751                                |                   |
| ZK14-26  | 卵石       | 59.80-60.10     |               |                   |                   |                   |                  |                   |                |                |                |                  |                  |         | 46.3 | 9.4 | 9.3   | 9.3    | 2.6     | 1.9      | 2.1        | 9.3         | 9.8     |                |                        |             |                  |                |                  |                   |                    |                                      |                   |
| ZK15-1   | 淤泥       | 0.70-1.00       | 59.6          | 1.63              | 1.02              | 1.65              | 2.75             | 1.693             | 96.8           | 54.8           | 28.5           | 26.3             | 1.18             |         |      |     |       |        |         |          |            |             |         | 0.17           |                        |             | 9.3              | 6.5            | 1.38             | 1.95              |                    |                                      |                   |
| ZK15-2   | 淤泥质粉质粘土  | 2.70-3.00       | 40.9          | 1.77              | 1.26              | 1.8               | 2.73             | 1.173             | 95.2           | 36.8           | 21.5           | 15.3             | 1.27             |         |      |     |       |        |         |          |            |             |         |                | 12.2                   | 10.2        |                  |                | 0.9              | 2.42              | 1.017              | 1.154                                |                   |
| ZK15-3   | 淤泥质粘土    | 4.70-5.00       | 42.4          | 1.77              | 1.24              | 1.79              | 2.73             | 1.196             | 96.8           | 39.5           | 22             | 17.5             | 1.17             |         |      |     |       |        |         |          | 65         | 35          |         |                |                        |             | 11.6             | 10.5           | 0.73             | 3.01              |                    |                                      |                   |
| ZK15-4   | 淤泥质粉质粘土  | 6.70-7.00       | 38.8          | 1.82              | 1.31              | 1.83              | 2.73             | 1.082             | 97.9           | 36.3           | 22.2           | 14.1             | 1.18             |         |      |     |       |        |         |          |            |             |         |                | 11                     | 9.9         |                  |                | 0.7              | 2.97              | 1.215              | 2.047                                |                   |
| ZK15-5   | 粉质粘土     | 8.70-9.00       | 34.1          | 1.88              | 1.4               | 1.89              | 2.72             | 0.94              | 98.7           | 33.9           | 21             | 12.9             | 1.02             |         |      |     |       |        |         |          |            |             | 0.13    | 15.2           | 12                     |             |                  | 0.43           | 4.51             |                   |                    |                                      |                   |
| ZK15-6   | 淤泥       | 10.70-11.00     | 62.1          | 1.63              | 1.01              | 1.64              | 2.75             | 1.735             | 98.4           | 57.1           | 29.7           | 27.4             | 1.18             |         |      |     |       |        |         |          |            |             |         |                |                        | 8.1         | 6.2              | 1.58           | 1.73             |                   |                    |                                      |                   |
| ZK15-7   | 淤泥质粉质粘土  | 12.70-13.00     | 38.9          | 1.82              | 1.31              | 1.83              | 2.73             | 1.083             | 98             | 37.3           | 22.3           | 15               | 1.11             |         |      |     |       |        |         |          | 69.2       | 30.8        | 0.59    |                | 13                     | 10.1        |                  |                | 0.76             | 2.74              | 2.302              | 2.41                                 |                   |
| ZK15-8   | 淤泥质粘土    | 14.70-15.00     | 49.7          | 1.71              | 1.14              | 1.72              | 2.73             | 1.39              | 97.6           | 48.6           | 25.8           | 22.8             | 1.05             |         |      |     |       |        |         |          |            |             | 0.39    | 12.1           | 10.3                   |             |                  | 1.22           | 1.96             | 1.351             | 1.229              |                                      |                   |
| ZK15-9   | 淤泥质粘土    | 16.70-17.00     | 48            | 1.73              | 1.17              | 1.74              | 2.73             | 1.335             | 98.1           | 46.2           | 26.2           | 20               | 1.09             |         |      |     |       |        |         |          |            |             |         |                |                        | 13          | 11.5             | 1.3            | 1.8              |                   |                    |                                      |                   |
| ZK15-10  | 淤泥质粘土    | 18.70-19.00     | 50.3          | 1.71              | 1.14              | 1.72              | 2.73             | 1.4               | 98.1           | 49             | 25.9           | 23.1             | 1.06             |         |      |     |       |        |         |          |            | 0.083       |         | 12.1           | 10.6                   |             |                  | 1.23           | 1.95             |                   |                    |                                      |                   |
| ZK15-11  | 淤泥质粘土    | 20.70-21.00     | 50.9          | 1.7               | 1.13              | 1.71              | 2.73             | 1.423             | 97.6           | 49.3           | 26.8           | 22.5             | 1.07             |         |      |     |       |        |         |          | 52.5       | 47.5        |         |                | 12.6                   | 9           |                  |                | 1.33             | 1.82              | 1.221              | 1.118                                |                   |
| ZK15-12  | 淤泥质粘土    | 22.70-23.00     | 50.8          | 1.7               | 1.13              | 1.71              | 2.73             | 1.422             | 97.6           | 49.5           | 25.9           | 23.6             | 1.06             |         |      |     |       |        |         |          |            |             | 0.079   |                |                        | 13.6        | 11.1             | 0.37           | 6.55             | 3.708             | 3.448              |                                      |                   |
| ZK15-13  | 淤泥       | 24.70-25.00     | 67.9          | 1.6               | 0.95              | 1.61              | 2.75             | 1.886             | 99             | 62.4           | 32.4           | 30               | 1.18             |         |      |     |       |        |         |          |            |             |         |                | 5                      | 3           |                  |                | 1.68             | 1.72              |                    |                                      |                   |
| ZK15-14  | 淤泥       | 26.70-27.00     | 55.7          | 1.67              | 1.07              | 1.68              | 2.75             | 1.564             | 97.9           | 53.2           | 28             | 25.2             | 1.1              |         |      |     |       |        |         |          |            |             | 0.13    |                | 6.1                    | 3.6         |                  |                | 1.21             | 2.12              |                    |                                      |                   |
| ZK15-15  | 淤泥       | 28.70-29.00     | 57.3          | 1.66              | 1.06              | 1.67              | 2.75             | 1.606             | 98.1           | 52.7           | 28.9           | 23.8             | 1.19             |         |      |     |       |        |         |          | 49         | 51          |         |                |                        |             | 12               | 8.6            | 1.3              | 2.01              | 1.046              | 1.03                                 |                   |
| ZK15-16  | 淤泥质粘土    | 32.70-33.00     | 49.2          | 1.73              | 1.16              | 1.73              | 2.73             | 1.354             | 99.2           | 48.7           | 25.3           | 23.4             | 1.02             |         |      |     |       |        |         |          |            |             | 0.2     | 15.3           | 10.3                   |             |                  | 0.98           | 2.4              | 1.351             | 1.242              |                                      |                   |
| ZK15-17  | 淤泥       | 35.70-36.00     | 54.3          | 1.68              | 1.09              | 1.69              | 2.75             | 1.526             | 97.9           | 50.3           | 26.8           | 23.5             | 1.17             |         |      |     |       |        |         |          |            |             |         |                |                        |             | 13.5             | 10.2           | 1.2              | 2.11              |                    |                                      |                   |
| ZK15-18  | 粘土       | 38.70-39.00     | 43.5          | 1.76              | 1.23              | 1.78              | 2.73             | 1.226             | 96.9           | 44.9           | 25.6           | 19.3             | 0.93             |         |      |     |       |        |         |          |            | 0.31        |         | 15.3           | 11.9                   |             |                  | 0.78           | 2.85             |                   |                    |                                      |                   |
| ZK15-19  | 粘土       | 41.70-42.00     | 48.3          | 1.73              | 1.17              | 1.74              | 2.73             | 1.34              | 98.4           | 49.2           | 26             | 23.2             | 0.96             |         |      |     |       |        |         |          |            |             |         |                |                        | 16          | 13.1             | 0.96           | 2.44             | 1.064             | 0.735              |                                      |                   |
| ZK15-20  | 粘土       | 44.60-44.90     | 42.2          | 1.77              | 1.24              | 1.79              | 2.73             | 1.193             | 96.5           | 45.3           | 25.8           | 19.5             | 0.84             |         |      |     |       |        |         |          | 53.5       | 46.5        |         | 0.11           | 17                     | 11          |                  |                | 0.83             | 2.64              |                    |                                      |                   |
| ZK15-21  | 粘土       | 47.60-47.90     | 38.5          | 1.82              | 1.31              | 1.83              | 2.73             | 1.077             | 97.5           | 41.5           | 23.5           | 18               | 0.83             |         |      |     |       |        |         |          |            |             |         |                | 15.3                   | 10.9        |                  |                | 0.67             | 3.1               | 1.042              | 1.056                                |                   |
| ZK15-22  | 粉质粘土     | 50.60-50.90     | 36.3          | 1.86              | 1.36              | 1.86              | 2.72             | 0.993             | 99.4           | 38             | 22.5           | 15.5             | 0.89             |         |      |     |       |        |         |          |            |             |         |                |                        | 16          | 14.5             | 0.7            | 2.85             |                   |                    |                                      |                   |
| ZK15-23  | 粉质粘土     | 53.60-53.90     | 36.3          | 1.86              | 1.36              | 1.86              | 2.71             | 0.986             | 99.8           | 38.2           | 23.2           | 15               | 0.87             |         |      |     |       |        |         |          |            | 0.68        |         | 15.            |                        |             |                  |                |                  |                   |                    |                                      |                   |

平阳鳌江标准堤加固工程初步设计下埠闸地基土层室内土工试验综合成果表

附表3-34

| 岩土<br>编号 | 室内<br>定名 | 试样<br>深度<br>(m) | 天然<br>含水<br>率 | 湿<br>密<br>度       | 干<br>密<br>度       | 饱<br>和<br>密<br>度  | 土<br>粒<br>比<br>重 | 天然<br>孔<br>隙<br>比 | 饱<br>和<br>度    | 液<br>限         | 塑<br>限         | 塑<br>性<br>指<br>数 | 液<br>性<br>指<br>数 | 颗粒组成百分数 |      |     |       |        |         |          |            |             |         | 渗 透                    |                | 直 剪         |                  |                |                   | 固结（垂直）           |                                      |                   |                   |
|----------|----------|-----------------|---------------|-------------------|-------------------|-------------------|------------------|-------------------|----------------|----------------|----------------|------------------|------------------|---------|------|-----|-------|--------|---------|----------|------------|-------------|---------|------------------------|----------------|-------------|------------------|----------------|-------------------|------------------|--------------------------------------|-------------------|-------------------|
|          |          |                 | ω             | ρ                 | ρ <sub>d</sub>    | ρ <sub>sat</sub>  | G <sub>s</sub>   | e <sub>0</sub>    | S <sub>r</sub> | ω <sub>L</sub> | ω <sub>p</sub> | I <sub>p</sub>   | I <sub>L</sub>   | >60     | >40  | >20 | 10~20 | 2.0~10 | 0.5~2.0 | 0.25~0.5 | 0.075~0.25 | 0.005~0.075 | 0~0.005 | 水平<br>渗透<br>系数         | 竖向<br>渗透<br>系数 | 粘聚力<br>(快剪) | 内摩<br>擦角<br>(快剪) | 粘聚力<br>(固快)    | 内摩<br>擦角<br>(固快)  | 压缩<br>系数         | 压缩<br>模量                             | 固结<br>系数<br>(MPa) |                   |
|          |          |                 | %             | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |                  |                   | %              | %              | %              |                  |                  | %       | %    | %   | %     | %      | %       | %        | %          | %           | %       | K <sub>h</sub>         | K <sub>v</sub> | q           | φ <sub>q</sub>   | c <sub>q</sub> | φ <sub>cq</sub>   | v <sub>1-2</sub> | E <sub>sv1-2</sub>                   | C <sub>v0.2</sub> | C <sub>v0.4</sub> |
|          |          |                 | %             | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |                  |                   | %              | %              | %              | %                | %                | %       | %    | %   | %     | %      | %       | %        | %          | %           | %       | ×10 <sup>-6</sup> cm/s | kPa            | 度           | kPa              | 度              | MPa <sup>-1</sup> | MPa              | ×10 <sup>-3</sup> cm <sup>2</sup> /s |                   |                   |
| ZK15-25  | 粉质粘土     | 58.30-58.60     | 36.1          | 1.86              | 1.37              | 1.86              | 2.71             | 0.983             | 99.5           | 39.1           | 22.9           | 16.2             | 0.81             |         |      |     |       |        |         |          |            |             |         |                        | 22.3           | 15.6        |                  |                | 0.34              | 5.83             |                                      |                   |                   |
| ZK15-26  | 粘土       | 59.60-59.90     | 44.7          | 1.76              | 1.22              | 1.77              | 2.73             | 1.244             | 98.1           | 46.7           | 26.9           | 19.8             | 0.9              |         |      |     |       |        |         |          |            |             | 0.57    | 10.9                   | 9.2            |             |                  | 0.81           | 2.77              | 1.017            | 0.771                                |                   |                   |
| ZK15-27  | 砾砂       | 63.20-63.50     |               |                   |                   |                   |                  |                   |                |                |                |                  |                  |         |      | 13  | 18.6  | 14.8   | 7.8     | 14.2     | 6.4        | 12.3        | 12.9    |                        |                |             |                  |                |                   |                  |                                      |                   |                   |
| ZK15-28  | 圆砾       | 65.20-65.50     |               |                   |                   |                   |                  |                   |                |                |                |                  |                  |         |      | 9.6 | 16.7  | 12.5   | 12      | 7        | 12.9       | 5.2         | 11.8    | 12.3                   |                |             |                  |                |                   |                  |                                      |                   |                   |
| ZK16-1   | 淤泥质粉质粘土  | 1.20-1.50       | 39.1          | 1.81              | 1.3               | 1.82              | 2.73             | 1.098             | 97.2           | 36.8           | 22.8           | 14               | 1.16             |         |      |     |       |        |         |          |            |             |         |                        | 12             | 10.9        |                  |                | 0.67              | 3.13             |                                      |                   |                   |
| ZK16-2   | 卵石       | 6.50-6.80       |               |                   |                   |                   |                  |                   |                |                |                |                  |                  | 73.9    | 23.9 |     |       |        |         | 0.2      | 1          | 1           |         |                        |                |             |                  |                |                   |                  |                                      |                   |                   |
| ZK16-3   | 淤泥质粉质粘土  | 8.20-8.50       | 39.5          | 1.81              | 1.3               | 1.82              | 2.72             | 1.096             | 98             | 36.8           | 21.1           | 15.7             | 1.17             |         |      |     |       |        |         | 0.2      |            |             | 0.56    |                        | 14             | 11.5        |                  |                | 0.89              | 2.36             | 0.896                                | 1.238             |                   |
| ZK16-4   | 淤泥质粉质粘土  | 11.20-11.50     | 41.1          | 1.77              | 1.25              | 1.79              | 2.72             | 1.168             | 95.7           | 35.9           | 22.3           | 13.6             | 1.38             |         |      |     |       |        |         |          | 66.1       | 33.9        |         | 0.65                   | 13.5           | 10.6        |                  |                | 0.61              | 3.56             | 2.11                                 | 2.14              |                   |
| ZK16-5   | 粘土       | 13.20-13.50     | 40.4          | 1.8               | 1.28              | 1.81              | 2.73             | 1.129             | 97.7           | 42.1           | 23.9           | 18.2             | 0.91             |         |      |     |       |        |         |          |            |             |         |                        | 13             | 10.1        |                  |                | 0.68              | 3.13             |                                      |                   |                   |
| ZK16-6   | 淤泥       | 15.20-15.50     | 54.6          | 1.68              | 1.09              | 1.69              | 2.75             | 1.531             | 98.1           | 51.9           | 27.3           | 24.6             | 1.11             |         |      |     |       |        |         |          |            |             | 0.31    |                        |                | 11          | 9.8              | 1.49           | 1.7               |                  |                                      |                   |                   |
| ZK16-7   | 淤泥质粘土    | 17.20-17.50     | 47.5          | 1.75              | 1.19              | 1.75              | 2.73             | 1.301             | 99.7           | 46.2           | 26.3           | 19.9             | 1.07             |         |      |     |       |        |         |          |            |             | 0.38    |                        | 11.6           | 9.5         |                  |                | 1                 | 2.3              | 1.229                                | 1.107             |                   |
| ZK16-8   | 淤泥       | 19.20-19.50     | 55.6          | 1.68              | 1.08              | 1.69              | 2.75             | 1.547             | 98.8           | 52.5           | 28.6           | 23.9             | 1.13             |         |      |     |       |        |         |          | 57.9       | 42.1        |         |                        |                | 11.2        | 9.1              | 1.53           | 1.67              | 1.407            | 1.456                                |                   |                   |
| ZK16-9   | 淤泥质粘土    | 21.20-21.50     | 49.3          | 1.71              | 1.15              | 1.72              | 2.72             | 1.375             | 97.5           | 48.3           | 26             | 22.3             | 1.04             |         |      |     |       |        |         |          |            |             |         | 0.79                   | 12.2           | 11          |                  |                | 1.01              | 2.35             |                                      |                   |                   |
| ZK16-10  | 淤泥       | 21.70-22.00     | 57.1          | 1.67              | 1.06              | 1.68              | 2.75             | 1.587             | 98.9           | 53             | 29.3           | 23.7             | 1.17             |         |      |     |       |        |         |          |            |             | 0.12    |                        |                |             | 11.1             | 9.6            | 1.42              | 1.82             | 1.025                                | 0.823             |                   |
| ZK16-11  | 淤泥       | 23.70-24.00     | 54.5          | 1.69              | 1.09              | 1.7               | 2.75             | 1.514             | 99             | 52.2           | 28.5           | 23.7             | 1.1              |         |      |     |       |        |         |          |            | 47.9        | 52.1    |                        |                | 8.9         | 5.3              |                |                   | 1.73             | 1.45                                 | 0.522             | 0.909             |
| ZK16-12  | 淤泥       | 25.70-26.00     | 58.4          | 1.67              | 1.05              | 1.67              | 2.75             | 1.608             | 99.9           | 55.5           | 29.5           | 26               | 1.11             |         |      |     |       |        |         |          |            |             |         | 0.079                  | 9.3            | 6.1         |                  |                | 1.12              | 2.33             | 1.716                                | 1.019             |                   |
| ZK16-13  | 淤泥       | 27.70-28.00     | 55.8          | 1.68              | 1.08              | 1.69              | 2.75             | 1.55              | 99             | 52.8           | 28.9           | 23.9             | 1.13             |         |      |     |       |        |         |          |            |             |         |                        |                |             | 10.5             | 9.1            | 1.26              | 2.02             | 1.091                                | 1.235             |                   |
| ZK16-14  | 淤泥质粘土    | 29.70-30.00     | 53.2          | 1.71              | 1.12              | 1.71              | 2.74             | 1.455             | 100            | 46.5           | 26.9           | 19.6             | 1.34             |         |      |     |       |        |         |          | 48.3       | 51.7        | 0.18    |                        | 10             | 7.3         |                  |                | 0.97              | 2.53             |                                      | 3.581             |                   |
| ZK16-15  | 淤泥质粘土    | 32.70-33.00     | 53.8          | 1.7               | 1.11              | 1.7               | 2.74             | 1.479             | 99.7           | 46.8           | 28.2           | 18.6             | 1.38             |         |      |     |       |        |         |          |            |             |         |                        | 9.2            | 6.8         |                  |                | 0.99              | 2.5              | 2.167                                | 1.354             |                   |
| ZK16-16  | 淤泥质粘土    | 35.70-36.00     | 50.1          | 1.73              | 1.15              | 1.73              | 2.74             | 1.377             | 99.7           | 46             | 26.8           | 19.2             | 1.21             |         |      |     |       |        |         |          |            |             |         | 0.36                   |                |             | 13.8             | 10.3           | 0.95              | 2.5              | 1.049                                | 0.895             |                   |
| ZK16-17  | 淤泥质粘土    | 38.70-39.00     | 44.4          | 1.78              | 1.23              | 1.78              | 2.73             | 1.215             | 99.8           | 43.9           | 26.8           | 17.1             | 1.03             |         |      |     |       |        |         |          | 63.9       | 36.1        |         |                        | 12.2           | 9.5         |                  |                | 0.95              | 2.33             | 0.9                                  | 1.082             |                   |
| ZK16-18  | 粉质粘土     | 41.70-42.00     | 34.3          | 1.88              | 1.4               | 1.89              | 2.73             | 0.95              | 98.5           | 36             | 23             | 13               | 0.87             |         |      |     |       |        |         |          |            |             |         |                        | 13.8           | 10.3        |                  |                | 0.73              | 2.67             | 1.434                                | 1.519             |                   |
| ZK16-19  | 粉质粘土     | 44.70-45.00     | 40.2          | 1.79              | 1.28              | 1.81              | 2.73             | 1.138             | 96.4           | 40.9           | 24.3           | 16.6             | 0.96             |         |      |     |       |        |         |          |            |             | 0.59    |                        |                |             | 15.9             | 12.6           | 0.91              | 2.35             | 0.876                                | 0.906             |                   |
| ZK16-20  | 粉质粘土     | 47.70-48.00     | 36.5          | 1.8               | 1.32              | 1.83              | 2.72             | 1.063             | 93.4           | 36.5           | 23.2           | 13.3             | 1                |         |      |     |       |        |         |          | 68         | 32          |         |                        | 13             | 9.8         |                  |                | 0.74              | 2.79             | 3.525                                | 0.897             |                   |
| ZK16-21  | 粉质粘土     | 50.70-51.00     | 40.3          | 1.79              | 1.28              | 1.81              | 2.73             | 1.14              | 96.5           | 41.3           | 25.2           | 16.1             | 0.94             |         |      |     |       |        |         |          |            |             |         | 0.36                   | 13.1           | 9.6         |                  |                | 0.83              | 2.58             | 0.794                                | 0.957             |                   |
| ZK16-22  | 粘土       | 53.70-54.00     | 46.1          | 1.76              | 1.2               | 1.76              | 2.74             | 1.275             | 99.1           | 46.9           | 27.2           | 19.7             | 0.96             |         |      |     |       |        |         |          |            |             |         |                        |                |             | 16.3             | 13.2           | 0.88              | 2.59             | 0.831                                | 0.839             |                   |
| ZK16-23  | 粉质粘土     | 56.70-57.00     | 28.3          | 1.93              | 1.5               | 1.95              | 2.72             | 0.808             | 95.2           | 36.2           | 21.5           | 14.7             | 0.46             |         |      |     |       |        |         |          | 78         | 22          | 7.8     |                        | 18.6           | 13.9        |                  |                | 0.45              | 4.02             | 1.932                                | 2.082             |                   |
| ZK17-1   | 淤泥质粘土    | 1.20-1.50       | 50.4          | 1.72              | 1.14              | 1.73              | 2.74             | 1.396             | 98.9           | 48.5           | 26.3           | 22.2             | 1.09             |         |      |     |       |        |         |          |            |             | 0.29    |                        | 7.1            | 5.3         |                  |                | 0.91              | 2.63             | 1.913                                | 2.156             |                   |
| ZK17-2   | 粉质粘土     | 3.10-3.40       | 33.5          | 1.9               | 1.42              | 1.9               | 2.71             | 0.904             | 100            | 34.1           | 21.9           | 12.2             | 0.95             |         |      |     |       |        |         |          | 70.9       | 29.1        |         |                        |                |             | 13.5             | 12.6           | 0.63              | 3.02             | 2.372                                | 2.562             |                   |
| ZK17-3   | 淤泥质粘土    | 5.20-5.50       | 44.8          | 1.78              | 1.23              | 1.78              | 2.74             | 1.229             | 99.9           | 43.5           | 25.2           | 18.3             | 1.07             |         |      |     |       |        |         |          |            |             |         | 0.085                  | 8              | 5.6         |                  |                | 0.82              | 2.72             | 1.416                                | 1.695             |                   |
| ZK17-4   | 淤泥质粉质粘土  | 7.20-7.50       | 37.6          | 1.85              | 1.34              | 1.85              | 2.71             | 1.016             | 100            | 36.9           | 21.9           | 15               | 1.05             |         |      |     |       |        |         |          |            |             | 0.63    |                        | 12             | 10.3        |                  |                | 0.76              | 2.65             | 2.488                                | 2.692             |                   |
| ZK17-5   | 粘土       | 9.20-9.50       | 51.7          | 1.72              | 1.13              | 1.72              | 2.75             | 1.425             | 99.7           | 51.9           | 27.6           | 24.3             | 0.99             |         |      |     |       |        |         |          |            |             |         |                        |                |             | 11               | 9.8            | 1.09              | 2.22             | 1.805                                | 1.468             |                   |
| ZK17-6   | 淤泥       | 11.20-11.50     | 55.7          | 1.69              | 1.09              | 1.69              | 2.75             | 1.534             | 99.9           | 52.9           | 29             | 23.9             | 1.12             |         |      |     |       |        |         |          |            |             |         |                        | 8.5            | 6.6         |                  |                | 1.29              | 1.96             | 1.329                                | 1.172             |                   |
| ZK17-7   | 淤泥       | 13.20-13.50     | 55.4          | 1.69              | 1.09              | 1.69              | 2.75             | 1.529             | 99.7           | 52.6           | 27.3           | 25.3             | 1.11             |         |      |     |       |        |         |          | 56.8       | 43.2        | 0.29    |                        |                |             | 10.3             | 9.5            | 1.36              | 1.86             | 1.077                                | 0.933             |                   |
| ZK17-8   | 淤泥       | 15.20-15.50     | 55.7          | 1.69              | 1.09              | 1.69              | 2.75             | 1.534             | 99.9           | 52.7           | 29.5           | 23.2             | 1.13             |         |      |     |       |        |         |          |            |             |         |                        | 7.9            | 6.5         |                  |                | 1.4               | 1.81             |                                      |                   |                   |
| ZK17-9   | 淤泥       | 17.20-17.50     | 60            | 1.66              | 1.04              | 1.66              | 2.75             | 1.651             | 100            | 55             | 29.5           | 25.5             | 1.2              |         |      |     |       |        |         |          |            |             |         | 0.068                  |                |             | 10.2             | 8.5            | 1.51              | 1.75             | 1.54                                 | 0.818             |                   |
| ZK17-10  | 淤泥       | 19.20-19.50     | 64.1          | 1.63              | 0.99              | 1.63              | 2.75             | 1.769             | 99.7           | 55.3           | 30.2           | 25.1             | 1.35             |         |      |     |       |        |         |          |            |             |         |                        |                | 4.5         | 3.3              |                |                   | 1.63             | 1.7                                  | 1.115             | 1.085             |
| ZK17-11  | 淤泥       | 21.20-21.50     | 60.7          | 1.66              | 1.03              | 1.66              | 2.75             | 1.662             | 100            | 54.1           | 30.2           | 23.9             | 1.28             |         |      |     |       |        |         |          |            |             | 0.083   |                        | 5.3            | 3.8</       |                  |                |                   |                  |                                      |                   |                   |

平阳鳌江标准堤加固工程初步设计下埠闸地基土层室内土工试验综合成果表

附表3-35

| 岩土<br>编号 | 室内<br>定名 | 试样<br>深度<br>(m) | 天然<br>含水<br>率 | 湿<br>密<br>度       | 干<br>密<br>度       | 饱<br>和<br>密<br>度  | 土<br>粒<br>比<br>重 | 天然<br>孔<br>隙<br>比 | 饱<br>和<br>度    | 液<br>限         | 塑<br>限         | 塑<br>性<br>指<br>数 | 液<br>性<br>指<br>数 | 颗粒组成百分数 |      |      |       |        |         |          |            |             |         | 渗 透            |                        | 直 剪         |                  |                |                  | 固结（垂直）            |                    |                                      |                   |
|----------|----------|-----------------|---------------|-------------------|-------------------|-------------------|------------------|-------------------|----------------|----------------|----------------|------------------|------------------|---------|------|------|-------|--------|---------|----------|------------|-------------|---------|----------------|------------------------|-------------|------------------|----------------|------------------|-------------------|--------------------|--------------------------------------|-------------------|
|          |          |                 | ω             | ρ                 | ρ <sub>d</sub>    | ρ <sub>sat</sub>  | G <sub>s</sub>   | e <sub>0</sub>    | S <sub>r</sub> | ω <sub>L</sub> | ω <sub>p</sub> | I <sub>p</sub>   | I <sub>L</sub>   | >60     | >40  | >20  | 10~20 | 2.0~10 | 0.5~2.0 | 0.25~0.5 | 0.075~0.25 | 0.005~0.075 | 0~0.005 | 水平<br>渗透<br>系数 | 竖向<br>渗透<br>系数         | 粘聚力<br>(快剪) | 内摩<br>擦角<br>(快剪) | 粘聚力<br>(固快)    | 内摩<br>擦角<br>(固快) | 压缩<br>系数          | 压缩<br>模量           | 固结<br>系数<br>(MPa)                    |                   |
|          |          |                 | %             | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |                  |                   | %              | %              | %              |                  |                  | (单位:mm) |      |      |       |        |         |          |            |             |         | K <sub>h</sub> | K <sub>v</sub>         | q           | φ <sub>q</sub>   | c <sub>q</sub> | φ <sub>cq</sub>  | v <sub>1-2</sub>  | E <sub>sv1-2</sub> | C <sub>v0.2</sub>                    | C <sub>v0.4</sub> |
|          |          |                 | %             | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |                  |                   | %              | %              | %              | %                | %                | %       | %    | %    | %     | %      | %       | %        | %          | %           | %       | %              | ×10 <sup>-6</sup> cm/s | kPa         | 度                | kPa            | 度                | MPa <sup>-1</sup> | MPa                | ×10 <sup>-3</sup> cm <sup>2</sup> /s |                   |
| ZK17-13  | 淤泥       | 23.70-24.00     | 55.5          | 1.68              | 1.08              | 1.69              | 2.75             | 1.545             | 98.8           | 51.5           | 27.3           | 24.2             | 1.17             |         |      |      |       |        |         |          | 53.2       | 46.8        |         | 0.092          |                        |             | 12.3             | 10.6           | 1.16             | 2.19              | 0.93               | 1.486                                |                   |
| ZK17-14  | 淤泥       | 25.70-26.00     | 55.8          | 1.67              | 1.07              | 1.68              | 2.75             | 1.566             | 98             | 52.9           | 28.9           | 24               | 1.12             |         |      |      |       |        |         |          |            |             |         |                | 5.5                    | 3.8         |                  |                | 1.41             | 1.82              | 1.319              | 1.111                                |                   |
| ZK17-15  | 淤泥       | 27.70-28.00     | 56.9          | 1.67              | 1.06              | 1.68              | 2.75             | 1.584             | 98.8           | 52.6           | 29.5           | 23.1             | 1.19             |         |      |      |       |        |         |          |            |             | 0.23    |                | 6.1                    | 4.5         |                  |                | 1.24             | 2.08              | 0.895              | 0.854                                |                   |
| ZK17-16  | 淤泥质粘土    | 29.70-30.00     | 50.6          | 1.73              | 1.15              | 1.73              | 2.74             | 1.385             | 100            | 45.9           | 25.9           | 20               | 1.23             |         |      |      |       |        |         |          | 59.1       | 40.9        |         |                |                        |             | 11.6             | 10.3           | 1.03             | 2.32              | 1.179              | 1.01                                 |                   |
| ZK17-17  | 粘土       | 32.70-33.00     | 42.6          | 1.78              | 1.25              | 1.79              | 2.73             | 1.187             | 98             | 43             | 23.6           | 19.4             | 0.98             |         |      |      |       |        |         |          |            |             | 0.39    | 12.6           | 8                      |             |                  | 0.65           | 3.37             | 1.524             | 1.177              |                                      |                   |
| ZK17-18  | 粉质粘土     | 35.70-36.00     | 39.2          | 1.8               | 1.29              | 1.82              | 2.73             | 1.111             | 96.3           | 39.6           | 23.5           | 16.1             | 0.98             |         |      |      |       |        |         |          |            |             |         |                |                        |             | 15.3             | 12.2           | 0.82             | 2.58              | 1.099              | 1.271                                |                   |
| ZK17-19  | 粘土       | 38.70-39.00     | 40.6          | 1.79              | 1.27              | 1.81              | 2.73             | 1.144             | 96.9           | 41.5           | 23.6           | 17.9             | 0.95             |         |      |      |       |        |         |          | 62.8       | 36.2        | 0.55    |                | 12.3                   | 9.3         |                  |                | 0.82             | 2.62              | 1.177              | 1.355                                |                   |
| ZK17-20  | 粉质粘土     | 41.70-42.00     | 39.6          | 1.8               | 1.29              | 1.82              | 2.72             | 1.11              | 97.1           | 39.8           | 26.2           | 13.6             | 0.99             |         |      |      |       |        |         |          |            |             |         |                | 13.1                   | 10.5        |                  |                | 0.91             | 2.32              | 0.85               | 0.849                                |                   |
| ZK17-21  | 粉质粘土     | 44.70-45.00     | 38.2          | 1.81              | 1.31              | 1.83              | 2.73             | 1.084             | 96.2           | 39             | 23.5           | 15.5             | 0.95             |         |      |      |       |        |         |          |            |             |         | 0.45           |                        |             | 15.3             | 13.2           | 0.79             | 2.64              | 0.73               | 0.917                                |                   |
| ZK17-22  | 粉质粘土     | 47.70-48.00     | 39            | 1.82              | 1.31              | 1.83              | 2.73             | 1.085             | 98.1           | 39.2           | 23.5           | 15.7             | 0.99             |         |      |      |       |        |         |          | 70         | 30          |         |                | 12.2                   | 10.1        |                  |                | 0.9              | 2.32              | 1.499              | 1.955                                |                   |
| ZK17-23  | 粉质粘土     | 50.70-51.00     | 35.9          | 1.85              | 1.36              | 1.86              | 2.71             | 0.991             | 98.2           | 36.3           | 22.8           | 13.5             | 0.97             |         |      |      |       |        |         |          |            |             | 0.63    |                |                        |             | 16.8             | 14.3           | 0.74             | 2.69              | 1.064              | 1.021                                |                   |
| ZK17-24  | 粘土       | 53.70-54.00     | 42.5          | 1.79              | 1.26              | 1.79              | 2.72             | 1.165             | 99.2           | 44.9           | 25.3           | 19.6             | 0.88             |         |      |      |       |        |         |          |            |             |         |                |                        | 14.6        | 11.2             |                |                  | 0.83              | 2.61               | 0.973                                | 1.045             |
| ZK17-25  | 粉质粘土     | 55.70-56.00     | 27.4          | 1.96              | 1.54              | 1.97              | 2.72             | 0.768             | 97             | 36.2           | 21.9           | 14.3             | 0.38             |         |      |      |       |        |         |          | 79.2       | 20.8        |         | 3.8            | 18.9                   | 15          |                  |                | 0.37             | 4.78              | 1.383              | 1.638                                |                   |
| ZK17-26  | 圆砾       | 59.30-59.60     |               |                   |                   |                   |                  |                   |                |                |                |                  |                  |         | 17.6 | 25.9 | 4.3   | 4.4    | 1.6     | 3.5      | 2.6        | 19.5        | 20.6    |                |                        |             |                  |                |                  |                   |                    |                                      |                   |
| ZK18-1   |          | 1.20-1.50       |               |                   |                   |                   |                  |                   |                |                |                |                  |                  |         |      |      |       |        |         |          |            |             |         |                |                        |             |                  |                |                  |                   |                    |                                      |                   |
| ZK18-2   | 淤泥质粘土    | 3.20-3.50       | 51.7          | 1.7               | 1.12              | 1.71              | 2.74             | 1.445             | 98             | 49.5           | 27.3           | 22.2             | 1.1              |         |      |      |       |        |         |          |            |             |         |                |                        | 8.5         | 5.6              |                |                  | 1.01              | 2.42               | 4.439                                | 4.381             |
| ZK18-3   | 淤泥质粘土    | 5.20-5.50       | 45.1          | 1.76              | 1.21              | 1.77              | 2.73             | 1.251             | 98.4           | 43.7           | 25.8           | 17.9             | 1.08             |         |      |      |       |        |         |          |            |             | 0.053   |                |                        |             | 13.8             | 11.5           | 1.09             | 2.07              | 2.174              | 1.923                                |                   |
| ZK18-4   | 淤泥质粘土    | 7.20-7.50       | 52.8          | 1.7               | 1.11              | 1.71              | 2.74             | 1.463             | 98.9           | 45.9           | 27.1           | 18.8             | 1.37             |         |      |      |       |        |         |          | 49.5       | 50.5        |         |                | 9.5                    | 7.7         |                  |                | 1.52             | 1.62              |                    |                                      |                   |
| ZK18-5   | 淤泥质粉质粘土  | 9.20-9.50       | 39.5          | 1.81              | 1.3               | 1.82              | 2.73             | 1.104             | 97.7           | 38.3           | 22.8           | 15.5             | 1.08             |         |      |      |       |        |         |          |            |             |         | 0.56           |                        |             | 13.9             | 11.6           | 0.57             | 3.69              |                    |                                      |                   |
| ZK18-6   | 粉质粘土     | 11.20-11.50     | 33.7          | 1.88              | 1.41              | 1.89              | 2.72             | 0.934             | 98.1           | 32.9           | 21.3           | 11.6             | 1.07             |         |      |      |       |        |         |          |            |             |         |                |                        | 15.3        | 13.2             |                |                  | 1.09              | 1.77               | 1.106                                | 1.142             |
| ZK18-7   | 淤泥       | 13.20-13.50     | 55.1          | 1.68              | 1.08              | 1.69              | 2.75             | 1.539             | 98.5           | 52.3           | 28.2           | 24.1             | 1.12             |         |      |      |       |        |         |          |            |             | 0.32    |                |                        | 8.9         | 5.2              |                |                  | 1.34              | 1.9                | 1.618                                | 1.271             |
| ZK18-8   | 淤泥质粘土    | 15.20-15.50     | 48.8          | 1.73              | 1.16              | 1.74              | 2.73             | 1.348             | 98.8           | 46.9           | 25.6           | 21.3             | 1.09             |         |      |      |       |        |         |          |            |             |         |                |                        |             | 13.5             | 11.1           | 1.3              | 1.81              |                    |                                      |                   |
| ZK18-9   | 淤泥       | 17.20-17.50     | 53.8          | 1.68              | 1.09              | 1.69              | 2.74             | 1.508             | 97.7           | 49.5           | 27.7           | 21.8             | 1.2              |         |      |      |       |        |         |          | 48.9       | 51.1        |         | 0.13           | 10.2                   | 8.6         |                  |                | 1.34             | 1.87              |                    |                                      |                   |
| ZK18-10  | 淤泥质粘土    | 19.20-19.50     | 49.3          | 1.73              | 1.16              | 1.73              | 2.73             | 1.356             | 99.3           | 47.5           | 25             | 22.5             | 1.08             |         |      |      |       |        |         |          |            |             |         |                |                        |             | 13               | 11.5           | 1.41             | 1.67              | 1.865              | 0.9                                  |                   |
| ZK18-11  | 淤泥       | 21.20-21.50     | 57.8          | 1.67              | 1.06              | 1.67              | 2.75             | 1.599             | 99.4           | 53.2           | 29             | 24.2             | 1.19             |         |      |      |       |        |         |          |            |             | 0.18    |                |                        | 6.1         | 4.6              |                |                  | 1.57              | 1.66               | 1.48                                 | 0.753             |
| ZK18-12  | 淤泥       | 23.20-23.50     | 59.1          | 1.67              | 1.05              | 1.67              | 2.75             | 1.62              | 100            | 54.4           | 28.2           | 26.2             | 1.18             |         |      |      |       |        |         |          |            |             |         |                |                        |             |                  | 9.6            | 7.5              | 1.54              | 1.7                |                                      |                   |
| ZK18-13  | 淤泥       | 25.20-25.50     | 61            | 1.63              | 1.01              | 1.64              | 2.75             | 1.716             | 97.7           | 56.1           | 29.2           | 26.9             | 1.18             |         |      |      |       |        |         |          |            |             |         |                |                        | 5.7         | 3.5              |                |                  | 1.71              | 1.59               |                                      |                   |
| ZK18-14  | 淤泥       | 27.20-27.50     | 60.2          | 1.63              | 1.02              | 1.65              | 2.75             | 1.703             | 97.2           | 55.3           | 28.8           | 26.5             | 1.18             |         |      |      |       |        |         |          | 46.6       | 53.4        |         | 0.087          |                        |             | 8.6              | 7.1            | 1.47             | 1.84              | 1.518              | 0.813                                |                   |
| ZK18-15  | 淤泥       | 29.20-29.50     | 58.6          | 1.67              | 1.05              | 1.67              | 2.75             | 1.612             | 100            | 53.9           | 29.4           | 24.5             | 1.19             |         |      |      |       |        |         |          |            |             |         |                |                        | 6.3         | 4                |                |                  | 1.53              | 1.71               | 1.773                                | 1.279             |
| ZK18-16  | 淤泥       | 32.20-32.50     | 54.8          | 1.68              | 1.09              | 1.69              | 2.75             | 1.534             | 98.2           | 52             | 27.9           | 24.1             | 1.12             |         |      |      |       |        |         |          |            |             | 0.17    |                |                        | 7.6         | 5.5              |                |                  | 1.09              | 2.33               |                                      |                   |
| ZK18-17  | 淤泥质粘土    | 35.20-35.50     | 52.6          | 1.7               | 1.11              | 1.71              | 2.74             | 1.46              | 98.7           | 52             | 27             | 25               | 1.02             |         |      |      |       |        |         |          |            |             |         |                |                        |             |                  | 15             | 11.2             | 1.41              | 1.74               |                                      |                   |
| ZK18-18  | 粘土       | 38.20-38.50     | 42.9          | 1.77              | 1.24              | 1.78              | 2.73             | 1.204             | 97.3           | 45.3           | 25.2           | 20.1             | 0.88             |         |      |      |       |        |         |          | 56.5       | 43.5        |         |                | 16                     | 11.6        |                  |                | 1.21             | 1.82              | 1.073              | 1.157                                |                   |
| ZK18-19  | 粉质粘土     | 41.20-41.50     | 34.1          | 1.88              | 1.4               | 1.89              | 2.72             | 0.94              | 98.7           | 36.2           | 21.8           | 14.4             | 0.85             |         |      |      |       |        |         |          |            |             | 0.053   |                |                        |             | 16.8             | 13.9           | 0.52             | 3.73              |                    |                                      |                   |
| ZK18-20  | 粘土       | 44.10-44.40     | 41.6          | 1.77              | 1.25              | 1.79              | 2.73             | 1.184             | 95.9           | 43.2           | 23.9           | 19.3             | 0.92             |         |      |      |       |        |         |          |            |             |         |                |                        | 13.6        | 11.2             |                |                  | 0.77              | 2.84               |                                      |                   |
| ZK18-21  | 粘土       | 47.10-47.40     | 38.3          | 1.82              | 1.32              | 1.83              | 2.73             | 1.074             | 97.3           | 39.9           | 22.8           | 17.1             | 0.91             |         |      |      |       |        |         |          |            |             |         | 0.32           | 15                     | 11.6        |                  |                | 0.3              | 6.92              |                    |                                      |                   |
| ZK18-22  | 粘土       | 50.10-50.40     | 39.8          | 1.8               | 1.29              | 1.82              | 2.74             | 1.128             | 96.7           | 43.2           | 24.3           | 18.9             | 0.82             |         |      |      |       |        |         |          | 69.5       | 30.5        |         |                |                        |             | 22.1             | 14.6           | 0.47             | 4.53              | 4.111              | 1.587                                |                   |
| ZK18-23  | 粉质粘土     | 53.10-53.40     | 35.8          | 1.86              | 1.37              | 1.87              | 2.73             | 0.993             | 98.4           | 36.8           | 21.5           | 15.3             | 0.93             |         |      |      |       |        |         |          |            |             | 0.55    |                |                        | 16.9        | 11.3             |                |                  | 0.51              | 3.91               | 4.027                                | 3.632             |
| ZK18-24  | 粉质粘土     | 56.10-56.40     | 37.4          | 1.85              | 1.35              | 1.85              | 2.73             | 1.028             | 99.4           | 38.8           | 22.6           | 16.2             | 0.91             |         |      |      |       |        |         |          |            |             |         |                |                        |             |                  |                |                  |                   |                    |                                      |                   |



附表3-37

[illegible]

平阳鳌江标准堤加固工程初步设计下厂闸地基土层室内土工试验综合成果表

附表3-38

| 岩土<br>编号 | 室内<br>定名 | 试样<br>深度<br>(m) | 天然<br>含水<br>率 | 湿<br>密<br>度       | 干<br>密<br>度       | 饱<br>和<br>密<br>度  | 土<br>粒<br>比<br>重 | 天然<br>孔<br>隙<br>比 | 饱<br>和<br>度    | 液<br>限         | 塑<br>限         | 塑<br>性<br>指<br>数 | 液<br>性<br>指<br>数 | 颗粒组成百分数 |     |     |       |        |         |          |            |             |         | 渗 透                    |                | 直 剪         |                  |                |                   | 固结（垂直）           |                                      |                   |                   |       |
|----------|----------|-----------------|---------------|-------------------|-------------------|-------------------|------------------|-------------------|----------------|----------------|----------------|------------------|------------------|---------|-----|-----|-------|--------|---------|----------|------------|-------------|---------|------------------------|----------------|-------------|------------------|----------------|-------------------|------------------|--------------------------------------|-------------------|-------------------|-------|
|          |          |                 | ω             | ρ                 | ρ <sub>d</sub>    | ρ <sub>sat</sub>  | G <sub>s</sub>   | e <sub>0</sub>    | S <sub>r</sub> | ω <sub>L</sub> | ω <sub>p</sub> | I <sub>p</sub>   | I <sub>L</sub>   | >60     | >40 | >20 | 10~20 | 2.0~10 | 0.5~2.0 | 0.25~0.5 | 0.075~0.25 | 0.005~0.075 | 0~0.005 | 水平<br>渗透<br>系数         | 竖向<br>渗透<br>系数 | 粘聚力<br>(快剪) | 内摩<br>擦角<br>(快剪) | 粘聚力<br>(固快)    | 内摩<br>擦角<br>(固快)  | 压缩<br>系数         | 压缩<br>模量                             | 固结<br>系数<br>(MPa) |                   |       |
|          |          |                 | %             | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |                  |                   | %              | %              | %              | %                | %                | %       | %   | %   | %     | %      | %       | %        | %          | %           | %       | K <sub>h</sub>         | K <sub>v</sub> | q           | φ <sub>q</sub>   | c <sub>q</sub> | φ <sub>cq</sub>   | v <sub>1-2</sub> | E <sub>sv1-2</sub>                   | C <sub>v0.2</sub> | C <sub>v0.4</sub> |       |
|          |          |                 | %             | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |                  |                   | %              | %              | %              | %                | %                | %       | %   | %   | %     | %      | %       | %        | %          | %           | %       | ×10 <sup>-6</sup> cm/s | kPa            | 度           | kPa              | 度              | MPa <sup>-1</sup> | MPa              | ×10 <sup>-3</sup> cm <sup>2</sup> /s |                   |                   |       |
| BZK20-15 | 淤泥       | 28.70-29.00     | 57.7          | 1.67              | 1.06              | 1.67              | 2.75             | 1.597             | 99.4           | 52.2           | 30.6           | 21.6             | 1.25             |         |     |     |       |        |         |          |            |             | 0.88    |                        | 5.5            | 3.8         |                  |                | 1.06              | 2.45             | 1.365                                | 0.831             |                   |       |
| BZK20-16 | 淤泥       | 31.70-32.00     | 54.9          | 1.69              | 1.09              | 1.69              | 2.74             | 1.511             | 99.5           | 53.3           | 29.5           | 23.8             | 1.07             |         |     |     |       |        |         |          |            |             |         | 0.12                   | 6.2            | 4.3         |                  |                | 1.09              | 2.3              | 1.109                                | 0.766             |                   |       |
| BZK20-17 | 淤泥       | 34.70-35.00     | 57.6          | 1.67              | 1.06              | 1.67              | 2.75             | 1.595             | 99.3           | 55.2           | 30.3           | 24.9             | 1.1              |         |     |     |       |        |         |          |            |             |         |                        |                |             | 9.5              | 7.1            | 1.07              | 2.42             | 1.206                                | 0.742             |                   |       |
| BZK20-18 | 淤泥质粘土    | 37.70-38.00     | 54.2          | 1.7               | 1.1               | 1.7               | 2.74             | 1.485             | 100            | 52.2           | 29.3           | 22.9             | 1.09             |         |     |     |       |        |         |          |            |             |         |                        | 5.6            | 4.1         |                  |                | 0.72              | 3.45             | 2.407                                | 1.106             |                   |       |
| BZK20-19 | 淤泥质粘土    | 40.70-41.00     | 52.8          | 1.71              | 1.12              | 1.71              | 2.73             | 1.439             | 100            | 49.5           | 28.5           | 21               | 1.16             |         |     |     |       |        |         |          |            |             |         |                        | 6.3            | 4.5         |                  |                | 0.85              | 2.87             | 1.052                                | 0.829             |                   |       |
| BZK20-20 | 粉砂       | 43.70-44.00     | 25.5          | 2                 | 1.59              | 2                 | 2.68             | 0.682             | 100            |                |                |                  |                  |         |     |     |       |        | 39.5    | 40.3     | 20.2       |             |         | 350                    |                |             | 13.2             | 28.6           | 0.24              | 7.01             | 3.9                                  | 4.138             |                   |       |
| BZK20-21 | 粉质粘土     | 46.70-47.00     | 34.4          | 1.89              | 1.41              | 1.89              | 2.72             | 0.934             | 100            | 39.5           | 23.6           | 15.9             | 0.68             |         |     |     |       |        |         |          |            |             |         |                        | 16.5           | 12.8        |                  |                | 0.46              | 4.2              | 0.372                                | 0.627             |                   |       |
| BZK20-22 | 粉质粘土     | 49.70-50.00     | 35.8          | 1.87              | 1.38              | 1.87              | 2.72             | 0.975             | 99.8           | 41.9           | 26             | 15.9             | 0.62             |         |     |     |       |        |         |          |            |             |         |                        | 18.3           | 13          |                  |                | 0.51              | 3.87             | 1.277                                | 1.587             |                   |       |
| BZK20-23 | 粉质粘土     | 52.70-53.00     | 38            | 1.85              | 1.34              | 1.85              | 2.72             | 1.029             | 100            | 42.5           | 26.8           | 15.7             | 0.71             |         |     |     |       |        |         |          |            |             |         |                        |                |             | 20.6             | 15.3           | 0.55              | 3.69             | 1.077                                | 1.267             |                   |       |
| BZK20-24 | 粉质粘土     | 55.70-56.00     | 36.5          | 1.86              | 1.36              | 1.86              | 2.72             | 0.996             | 99.7           | 39.5           | 25.6           | 13.9             | 0.78             |         |     |     |       |        |         |          |            |             |         |                        |                |             | 16.2             | 12.6           |                   |                  | 0.49                                 | 4.07              | 0.928             | 1.227 |
| BZK20-25 | 粉质粘土     | 58.70-59.00     | 34.5          | 1.89              | 1.41              | 1.89              | 2.72             | 0.936             | 100            | 38.3           | 23.8           | 14.5             | 0.74             |         |     |     |       |        |         |          |            |             |         | 0.53                   |                |             | 23.5             | 15.6           | 0.44              | 4.4              | 1.074                                | 1.331             |                   |       |
| BZK21-1  | 淤泥       | 0.70-1.00       | 65.3          | 1.63              | 0.99              | 1.63              | 2.75             | 1.789             | 100            | 58.1           | 30.6           | 27.5             | 1.26             |         |     |     |       |        |         |          | 43.5       | 56.5        | 0.39    |                        |                |             |                  |                |                   |                  |                                      |                   |                   |       |
| BZK21-2  | 淤泥质粘土    | 2.70-3.00       | 52.2          | 1.71              | 1.12              | 1.71              | 2.74             | 1.439             | 99.4           | 45.5           | 27.5           | 18               | 1.37             |         |     |     |       |        |         |          |            |             |         |                        | 6.9            | 5.1         |                  |                | 0.99              | 2.46             | 1.002                                | 1.209             |                   |       |
| BZK21-3  | 淤泥       | 4.70-5.00       | 58.8          | 1.66              | 1.05              | 1.67              | 2.75             | 1.631             | 99.2           | 54.5           | 30             | 24.5             | 1.18             |         |     |     |       |        |         |          |            |             | 0.32    |                        |                |             | 10.1             | 7.7            | 1.54              | 1.71             | 0.89                                 | 1.045             |                   |       |
| BZK21-4  | 淤泥       | 6.70-7.00       | 58.1          | 1.67              | 1.06              | 1.67              | 2.75             | 1.603             | 99.6           | 53.9           | 29.6           | 24.3             | 1.17             |         |     |     |       |        |         |          |            |             |         |                        | 5.8            | 4.3         |                  |                | 0.89              | 2.92             | 3.328                                | 2.939             |                   |       |
| BZK21-5  | 淤泥       | 8.70-9.00       | 56.3          | 1.69              | 1.08              | 1.69              | 2.75             | 1.543             | 100            | 53.5           | 30             | 23.5             | 1.12             |         |     |     |       |        |         |          | 46.9       | 53.1        |         | 0.26                   |                |             | 10.2             | 7.5            | 2.33              | 1.09             | 1.267                                | 1.682             |                   |       |
| BZK21-6  | 淤泥       | 10.70-11.00     | 59.5          | 1.66              | 1.04              | 1.66              | 2.75             | 1.642             | 99.6           | 53.9           | 30.3           | 23.6             | 1.24             |         |     |     |       |        |         |          |            |             |         |                        | 5.2            | 4.1         |                  |                | 1.6               | 1.65             | 1.016                                | 0.992             |                   |       |
| BZK21-7  | 淤泥       | 12.70-13.00     | 58.5          | 1.66              | 1.05              | 1.67              | 2.75             | 1.626             | 99             | 54.2           | 29.8           | 24.4             | 1.18             |         |     |     |       |        |         |          |            |             | 0.32    |                        | 5.6            | 3.9         |                  |                | 1.66              | 1.58             | 0.943                                | 1.007             |                   |       |
| BZK21-8  | 淤泥       | 14.70-15.00     | 57.5          | 1.68              | 1.07              | 1.68              | 2.75             | 1.578             | 100            | 52.6           | 30             | 22.6             | 1.22             |         |     |     |       |        |         |          |            |             |         |                        |                |             |                  | 9.6            | 6.8               | 1.38             | 1.87                                 | 1.105             | 1.109             |       |
| BZK21-9  | 淤泥质粘土    | 16.70-17.00     | 53.7          | 1.7               | 1.11              | 1.7               | 2.72             | 1.459             | 100            | 49.6           | 29.2           | 20.4             | 1.2              |         |     |     |       |        |         |          | 48.3       | 51.7        |         | 0.15                   | 6.9            | 5.3         |                  |                | 1.25              | 1.97             | 1.113                                | 1.172             |                   |       |
| BZK21-10 | 淤泥       | 18.70-19.00     | 56.8          | 1.68              | 1.07              | 1.68              | 2.75             | 1.567             | 99.7           | 53.3           | 30.1           | 23.2             | 1.15             |         |     |     |       |        |         |          |            |             |         |                        |                |             | 9.5              | 6.6            | 1.47              | 1.75             | 1.084                                | 1.027             |                   |       |
| BZK21-11 | 淤泥       | 20.70-21.00     | 58.9          | 1.66              | 1.04              | 1.66              | 2.75             | 1.632             | 99.2           | 54.6           | 30             | 24.6             | 1.17             |         |     |     |       |        |         |          |            |             | 0.078   |                        | 5.3            | 3.5         |                  |                | 1.44              | 1.83             | 0.981                                | 0.939             |                   |       |
| BZK21-12 | 淤泥       | 22.70-23.00     | 60.8          | 1.65              | 1.03              | 1.65              | 2.75             | 1.68              | 99.5           | 55.1           | 32.2           | 22.9             | 1.25             |         |     |     |       |        |         |          | 45.5       | 54.5        |         |                        | 5.5            | 3.6         |                  |                | 1.35              | 1.99             | 1.531                                | 1.244             |                   |       |
| BZK21-13 | 淤泥       | 24.70-25.00     | 60.4          | 1.65              | 1.03              | 1.65              | 2.75             | 1.673             | 99.3           | 54.7           | 32             | 22.7             | 1.25             |         |     |     |       |        |         |          |            |             |         |                        |                |             | 9                | 6.3            | 1.47              | 1.82             | 1.173                                | 1.021             |                   |       |
| BZK21-14 | 淤泥       | 26.70-27.00     | 60.9          | 1.65              | 1.03              | 1.65              | 2.75             | 1.682             | 99.6           | 55.3           | 32.3           | 23               | 1.24             |         |     |     |       |        |         |          |            |             | 0.082   | 5.6                    | 3.3            |             |                  | 1.44           | 1.86              | 1.598            | 1.233                                |                   |                   |       |
| BZK21-15 | 淤泥       | 28.70-29.00     | 59.9          | 1.66              | 1.04              | 1.66              | 2.75             | 1.649             | 99.9           | 54.4           | 31.8           | 22.6             | 1.24             |         |     |     |       |        |         |          | 46         | 54          |         |                        | 6.3            | 4           |                  |                | 1.38              | 1.92             | 1.497                                | 1.152             |                   |       |
| BZK21-16 | 粘土       | 31.70-32.00     | 42            | 1.8               | 1.27              | 1.8               | 2.73             | 1.154             | 99.4           | 43.6           | 26             | 17.6             | 0.91             |         |     |     |       |        |         |          |            |             | 0.57    |                        |                |             | 16.5             | 12.2           | 0.66              | 3.26             | 1.61                                 | 1.383             |                   |       |
| BZK21-17 | 淤泥质粘土    | 34.70-35.00     | 53            | 1.7               | 1.11              | 1.7               | 2.72             | 1.448             | 99.6           | 50.1           | 28.5           | 21.6             | 1.13             |         |     |     |       |        |         |          |            |             |         |                        | 11.1           | 6.9         |                  |                | 0.97              | 2.52             | 1.592                                | 1.114             |                   |       |
| BZK21-18 | 粉土       | 37.70-38.00     | 26.4          | 1.98              | 1.57              | 1.98              | 2.68             | 0.711             | 99.5           | 29.2           | 20.1           | 9.1              | 0.69             |         |     |     |       |        |         |          | 89         | 11          |         |                        | 18             | 20.3        |                  |                | 0.25              | 6.84             | 5.15                                 | 5.186             |                   |       |
| BZK21-19 | 粉土       | 40.70-41.00     | 30.5          | 1.92              | 1.47              | 1.92              | 2.69             | 0.828             | 99             | 31             | 21.1           | 9.9              | 0.95             |         |     |     |       |        |         |          |            |             | 90.8    | 9.2                    | 53             |             |                  | 16.8           | 25.2              | 0.21             | 8.71                                 | 5.338             | 5.416             |       |
| BZK21-20 | 粉质粘土     | 43.70-44.00     | 31.5          | 1.92              | 1.46              | 1.92              | 2.71             | 0.856             | 99.7           | 35.3           | 22.6           | 12.7             | 0.7              |         |     |     |       |        |         |          |            |             |         |                        | 18             | 13          |                  |                | 0.4               | 4.64             |                                      |                   |                   |       |
| BZK21-21 | 粉质粘土     | 46.70-47.00     | 24.1          | 2.02              | 1.63              | 2.03              | 2.71             | 0.665             | 98.2           | 35.3           | 22.6           | 12.7             | 0.12             |         |     |     |       |        |         |          |            |             |         | 3.2                    | 22.1           | 13.3        |                  |                | 0.39              | 4.27             | 1.014                                | 1.049             |                   |       |
| BZK21-22 | 粉质粘土     | 49.70-50.00     | 33.8          | 1.9               | 1.42              | 1.9               | 2.72             | 0.915             | 100            | 36.3           | 23.5           | 12.8             | 0.8              |         |     |     |       |        |         |          | 68         | 32          |         |                        |                |             | 28.6             | 15.8           | 0.39              | 4.91             | 1.072                                | 1.02              |                   |       |
| BZK21-23 | 粉质粘土     | 52.70-53.00     | 33.4          | 1.9               | 1.42              | 1.9               | 2.72             | 0.91              | 99.9           | 35.6           | 23.6           | 12               | 0.82             |         |     |     |       |        |         |          |            |             | 2.5     |                        | 23.2           | 12.2        |                  |                | 0.44              | 4.34             | 0.883                                | 0.979             |                   |       |
| BZK21-24 | 粉质粘土     | 55.70-56.00     | 33.1          | 1.9               | 1.43              | 1.9               | 2.72             | 0.905             | 99.4           | 35.2           | 23             | 12.2             | 0.83             |         |     |     |       |        |         |          | 70.5       | 29.5        |         |                        | 21.1           | 12.7        |                  |                | 0.38              | 5.01             | 1.283                                | 1.384             |                   |       |
| BZK21-25 | 粉质粘土     | 58.70-59.00     | 35.6          | 1.87              | 1.38              | 1.87              | 2.72             | 0.972             | 99.6           | 40.6           | 25.2           | 15.4             | 0.68             |         |     |     |       |        |         |          |            |             | 0.89    |                        |                |             | 32.2             | 16.3           | 0.59              | 3.34             | 0.66                                 | 0.772             |                   |       |
| BZK22-1  | 淤泥       | 1.70-2.00       | 59.7          |                   |                   |                   |                  |                   |                |                |                |                  |                  |         |     |     |       |        |         |          |            |             |         |                        |                |             |                  |                |                   |                  |                                      |                   |                   |       |



附表3-40

| 岩土<br>编号 | 室内<br>定名 | 试样<br>深度<br>(m) | 天然<br>含水<br>率 | 湿<br>密<br>度 | 干<br>密<br>度 | 饱<br>和<br>密<br>度 | 土<br>粒<br>比<br>重 | 天然<br>孔<br>隙<br>比 | 饱<br>和<br>度 | 液<br>限 | 塑<br>限 | 塑<br>性<br>指<br>数 | 液<br>性<br>指<br>数 | 颗粒组成百分数 |                   |                   |                   |        |         |          |            |             |         | 渗 透            |                | 直 剪         |                  |                |                  | 固结（垂直）           |                        |                   |                   |       |
|----------|----------|-----------------|---------------|-------------|-------------|------------------|------------------|-------------------|-------------|--------|--------|------------------|------------------|---------|-------------------|-------------------|-------------------|--------|---------|----------|------------|-------------|---------|----------------|----------------|-------------|------------------|----------------|------------------|------------------|------------------------|-------------------|-------------------|-------|
|          |          |                 |               |             |             |                  |                  |                   |             |        |        |                  |                  | >60     | >40               | >20               | 10~20             | 2.0~10 | 0.5~2.0 | 0.25~0.5 | 0.075~0.25 | 0.005~0.075 | 0~0.005 | 水平<br>渗透<br>系数 | 竖向<br>渗透<br>系数 | 粘聚力<br>(快剪) | 内摩<br>擦角<br>(快剪) | 粘聚力<br>(固快)    | 内摩<br>擦角<br>(固快) | 压缩<br>系数         | 压缩<br>模量               | 固结<br>系数<br>(MPa) |                   |       |
|          |          |                 |               |             |             |                  |                  |                   |             |        |        |                  |                  | (单位:mm) |                   |                   |                   |        |         |          |            |             |         | K <sub>h</sub> | K <sub>v</sub> | q           | φ <sub>q</sub>   | c <sub>q</sub> | φ <sub>cq</sub>  | v <sub>1-2</sub> | E <sub>sv1-2</sub>     | C <sub>v0.2</sub> | C <sub>v0.4</sub> |       |
|          |          |                 |               |             |             |                  |                  |                   |             |        |        |                  |                  | %       | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |        |         | %        | %          | %           | %       | %              | %              | %           | %                | %              | %                | %                | ×10 <sup>-6</sup> cm/s | kPa               | 度                 | kPa   |
| BZK23-18 | 中砂       | 37.60-37.90     |               |             |             |                  |                  |                   |             |        |        |                  |                  |         |                   |                   |                   | 2.1    | 43.5    | 21.6     | 8.5        | 11.8        | 12.5    |                |                |             |                  |                |                  |                  |                        |                   |                   |       |
| BZK23-19 | 粉质粘土     | 40.70-41.00     | 31.9          | 1.91        | 1.45        | 1.92             | 2.72             | 0.878             | 98.8        | 34.3   | 22     | 12.3             | 0.8              |         |                   |                   |                   |        |         |          |            |             | 0.087   |                |                | 19.5        | 15.3             | 0.55           | 3.42             |                  |                        |                   |                   |       |
| BZK23-20 | 粉质粘土     | 43.70-44.00     | 31.3          | 1.91        | 1.45        | 1.92             | 2.72             | 0.87              | 97.9        | 34.3   | 21.1   | 13.2             | 0.77             |         |                   |                   |                   |        |         |          |            | 70          | 30      |                | 18             | 13.1        |                  |                | 0.36             | 5.19             | 1.376                  | 0.965             |                   |       |
| BZK23-21 | 粉质粘土     | 46.70-47.00     | 29            | 1.96        | 1.52        | 1.96             | 2.72             | 0.79              | 99.8        | 34.6   | 21.9   | 12.7             | 0.56             |         |                   |                   |                   |        |         |          |            |             |         |                |                |             | 25.3             | 15.8           | 0.35             | 5.11             |                        |                   |                   |       |
| BZK23-22 | 粉质粘土     | 49.70-50.00     | 31            | 1.91        | 1.46        | 1.92             | 2.72             | 0.866             | 97.4        | 35.1   | 21.8   | 13.3             | 0.69             |         |                   |                   |                   |        |         |          |            |             |         |                | 25.2           | 12.2        |                  |                | 0.5              | 3.73             | 1.522                  | 1.298             |                   |       |
| BZK23-23 | 粉质粘土     | 52.70-53.00     | 28.5          | 1.96        | 1.53        | 1.96             | 2.72             | 0.783             | 99          | 35.9   | 21.9   | 14               | 0.47             |         |                   |                   |                   |        |         |          |            |             |         |                |                |             | 38               | 16.9           | 0.39             | 4.57             |                        |                   |                   |       |
| BZK23-24 | 粉质粘土     | 55.70-56.00     | 31.3          | 1.91        | 1.45        | 1.92             | 2.72             | 0.87              | 97.9        | 36.8   | 23     | 13.8             | 0.6              |         |                   |                   |                   |        |         |          |            | 68.3        | 31.7    |                | 0.56           | 22.9        | 15.2             |                |                  | 0.4              | 4.68                   | 1.452             | 1.168             |       |
| BZK23-25 | 粉质粘土     | 58.70-59.00     | 32.8          | 1.91        | 1.44        | 1.91             | 2.72             | 0.891             | 100         | 38.3   | 23.2   | 15.1             | 0.64             |         |                   |                   |                   |        |         |          |            |             |         |                |                |             |                  |                |                  |                  |                        |                   |                   |       |
| BZK24-1  | 卵石       | 1.20-1.50       |               |             |             |                  |                  |                   |             |        |        |                  |                  |         | 91.9              | 0.9               | 1.4               | 1.2    | 2.3     | 1.3      | 0.5        | 0.5         |         |                |                |             |                  |                |                  |                  |                        |                   |                   |       |
| BZK24-2  | 淤泥质粘土    | 3.20-3.50       | 54.1          | 1.7         | 1.1         | 1.7              | 2.74             | 1.484             | 99.9        | 51.2   | 29.2   | 22               | 1.13             |         |                   |                   |                   |        |         |          |            |             |         |                | 0.53           |             |                  | 10.1           | 7.5              | 1.22             | 2.04                   | 1.07              | 1.184             |       |
| BZK24-3  | 淤泥       | 5.20-5.50       | 68.4          | 1.6         | 0.95        | 1.6              | 2.75             | 1.894             | 99.3        | 60.9   | 33.6   | 27.3             | 1.27             |         |                   |                   |                   |        |         |          |            |             |         |                |                | 4.6         | 2.8              |                |                  | 2.06             | 1.41                   | 1.036             | 1.123             |       |
| BZK24-4  | 淤泥质粘土    | 7.20-7.50       | 50.7          | 1.72        | 1.14        | 1.72             | 2.73             | 1.392             | 99.4        | 45.9   | 27.3   | 18.6             | 1.26             |         |                   |                   |                   |        |         |          |            | 66          | 34      | 0.25           |                | 8.6         | 5.7              |                |                  | 1.29             | 1.85                   | 1.352             | 1.488             |       |
| BZK24-5  | 淤泥       | 9.20-9.50       | 64.2          | 1.63        | 0.99        | 1.63             | 2.75             | 1.77              | 99.7        | 57.1   | 31.3   | 25.8             | 1.28             |         |                   |                   |                   |        |         |          |            |             |         |                | 0.16           |             |                  | 9.5            | 6.3              | 1.79             | 1.55                   | 1.003             | 1.114             |       |
| BZK24-6  | 淤泥       | 11.20-11.50     | 56            | 1.69        | 1.08        | 1.69             | 2.75             | 1.538             | 100         | 53.1   | 29.7   | 23.4             | 1.12             |         |                   |                   |                   |        |         |          |            |             |         |                |                |             |                  |                |                  |                  |                        |                   |                   |       |
| BZK24-7  | 淤泥       | 13.20-13.50     | 54.7          | 1.69        | 1.09        | 1.69             | 2.74             | 1.508             | 99.4        | 53.2   | 29.5   | 23.7             | 1.06             |         |                   |                   |                   |        |         |          |            |             |         |                | 0.089          |             | 6.8              | 5.5            |                  |                  | 1.39                   | 1.8               |                   |       |
| BZK24-8  | 淤泥质粘土    | 15.20-15.50     | 52.8          | 1.71        | 1.12        | 1.71             | 2.73             | 1.439             | 100         | 49     | 29.2   | 19.8             | 1.19             |         |                   |                   |                   |        |         |          |            | 49.2        | 50.8    |                | 0.075          |             |                  | 10.6           | 7.9              | 1.44             | 1.69                   |                   |                   |       |
| BZK24-9  | 淤泥       | 17.20-17.50     | 57.7          | 1.67        | 1.06        | 1.67             | 2.75             | 1.597             | 99.4        | 52.8   | 30.5   | 22.3             | 1.22             |         |                   |                   |                   |        |         |          |            |             |         |                |                | 5.6         | 5.1              |                |                  | 1.54             | 1.69                   | 0.952             | 1.048             |       |
| BZK24-10 | 淤泥质粘土    | 19.20-19.50     | 52.2          | 1.71        | 1.12        | 1.71             | 2.73             | 1.43              | 99.7        | 46.2   | 27.2   | 19               | 1.32             |         |                   |                   |                   |        |         |          |            |             |         | 0.13           |                | 6.5         | 4.6              |                |                  | 1.33             | 1.83                   | 1.321             | 1.298             |       |
| BZK24-11 | 淤泥       | 21.20-21.50     | 55.3          | 1.69        | 1.09        | 1.69             | 2.74             | 1.518             | 99.8        | 52.6   | 29.5   | 23.1             | 1.12             |         |                   |                   |                   |        |         |          |            |             |         |                |                |             |                  | 10             | 7.3              | 1.26             | 2                      | 1.032             | 1.027             |       |
| BZK24-12 | 淤泥       | 23.20-23.50     | 61.9          | 1.63        | 1.01        | 1.64             | 2.75             | 1.731             | 98.3        | 55.1   | 31.9   | 23.2             | 1.29             |         |                   |                   |                   |        |         |          |            | 47.5        | 52.5    |                | 0.076          | 5.2         | 3.9              |                |                  | 1.47             | 1.86                   | 1.837             | 0.681             |       |
| BZK24-13 | 淤泥       | 25.20-25.50     | 58            | 1.67        | 1.06        | 1.67             | 2.75             | 1.602             | 99.6        | 53.8   | 29.3   | 24.5             | 1.17             |         |                   |                   |                   |        |         |          |            |             |         |                |                |             |                  |                |                  |                  |                        |                   |                   |       |
| BZK24-14 | 淤泥       | 27.20-27.50     | 60.5          | 1.65        | 1.03        | 1.65             | 2.75             | 1.675             | 99.3        | 54.8   | 32     | 22.8             | 1.25             |         |                   |                   |                   |        |         |          |            |             |         |                | 0.21           |             |                  |                | 9                | 6.9              | 1.32                   | 2.03              | 1.459             | 0.94  |
| BZK24-15 | 淤泥       | 29.20-29.50     | 60.2          | 1.65        | 1.03        | 1.66             | 2.75             | 1.67              | 99.1        | 54.6   | 31.9   | 22.7             | 1.25             |         |                   |                   |                   |        |         |          |            |             |         |                |                |             | 5.5              | 3.8            |                  |                  | 0.52                   | 5.14              | 3.508             | 3.554 |
| BZK24-16 | 淤泥       | 32.20-32.50     | 55.8          | 1.69        | 1.08        | 1.69             | 2.74             | 1.526             | 100         | 52.6   | 29.8   | 22.8             | 1.14             |         |                   |                   |                   |        |         |          |            | 46.5        | 53.5    |                | 0.31           | 6.1         | 4.1              |                |                  | 1.11             | 2.28                   | 1.628             | 1.025             |       |
| BZK24-17 | 淤泥       | 35.20-35.50     | 55.8          | 1.69        | 1.08        | 1.69             | 2.75             | 1.535             | 100         | 52.9   | 29.9   | 23               | 1.13             |         |                   |                   |                   |        |         |          |            |             |         |                |                |             |                  | 9.6            | 7.5              | 1.11             | 2.28                   | 1.314             | 1.214             |       |
| BZK24-18 | 淤泥       | 38.20-38.50     | 54.4          | 1.69        | 1.09        | 1.7              | 2.74             | 1.503             | 99.2        | 53.6   | 29.8   | 23.8             | 1.03             |         |                   |                   |                   |        |         |          |            |             |         | 0.31           |                | 6.9         | 4.6              |                |                  | 0.85             | 2.94                   | 1.709             | 1.059             |       |
| BZK24-19 | 粉质粘土     | 41.20-41.50     | 36.7          | 1.86        | 1.36        | 1.86             | 2.72             | 0.999             | 99.9        | 40.6   | 24.3   | 16.3             | 0.76             |         |                   |                   |                   |        |         |          |            | 63.1        | 36.9    |                |                |             |                  | 16.8           | 14.3             | 0.57             | 3.51                   | 0.998             | 1.015             |       |
| BZK24-20 | 粉质粘土     | 44.20-44.50     | 35.7          | 1.87        | 1.38        | 1.87             | 2.72             | 0.974             | 99.7        | 41.6   | 26.3   | 15.3             | 0.61             |         |                   |                   |                   |        |         |          |            |             |         |                | 0.51           | 15.3        | 12.1             |                |                  | 0.62             | 3.18                   |                   |                   |       |
| BZK24-21 | 粉质粘土     | 47.20-47.50     | 39.4          | 1.83        | 1.31        | 1.83             | 2.73             | 1.08              | 99.6        | 42.5   | 26     | 16.5             | 0.81             |         |                   |                   |                   |        |         |          |            |             |         |                |                |             | 22.6             | 11.9           |                  |                  | 0.38                   | 5.47              | 5.953             | 1.693 |
| BZK24-22 | 粉质粘土     | 50.20-50.50     | 38.5          | 1.83        | 1.32        | 1.84             | 2.72             | 1.059             | 98.9        | 43.5   | 26.9   | 16.6             | 0.7              |         |                   |                   |                   |        |         |          |            | 69          | 31      |                |                |             |                  | 28.3           | 16               | 0.44             | 4.68                   | 1.175             | 2.425             |       |
| BZK24-23 | 粘土       | 53.20-53.50     | 38.4          | 1.83        | 1.32        | 1.83             | 2.71             | 1.05              | 99.2        | 44.5   | 27.3   | 17.2             | 0.65             |         |                   |                   |                   |        |         |          |            |             |         | 0.69           |                | 18.3        | 12.3             |                |                  | 0.57             | 3.6                    | 1.065             | 1.644             |       |
| BZK24-24 | 粉质粘土     | 56.20-56.50     | 39.8          | 1.83        | 1.31        | 1.83             | 2.73             | 1.086             | 100         | 41.9   | 26.3   | 15.6             | 0.87             |         |                   |                   |                   |        |         |          |            |             |         |                |                |             |                  | 30.3           | 14.9             | 0.41             | 5.09                   | 1.141             | 1.373             |       |
| BZK24-25 | 粘土       | 59.20-59.50     | 39.1          | 1.83        | 1.32        | 1.83             | 2.71             | 1.06              | 100         | 43.9   | 26.8   | 17.1             | 0.72             |         |                   |                   |                   |        |         |          |            | 65          | 35      |                | 0.53           | 21.5        | 12.6             |                |                  | 0.51             | 4.04                   | 1.285             | 1.534             |       |
| BZK25-1  | 淤泥质粘土    | 0.70-1.00       | 48.6          | 1.73        | 1.16        | 1.74             | 2.73             | 1.345             | 98.6        | 46.6   | 25.5   | 21.1             | 1.09             |         |                   |                   |                   |        |         |          |            |             |         |                | 0.32           |             |                  | 12.2           | 10.6             | 1.14             | 2.06                   |                   |                   |       |
| BZK25-2  | 淤泥       | 2.70-3.00       | 53.3          | 1.68        | 1.1         | 1.7              | 2.74             | 1.5               | 97.3        | 50.2   | 27.6   | 22.6             | 1.14             |         |                   |                   |                   |        |         |          |            |             |         |                |                |             | 9.8              | 8.2            |                  |                  | 1.32                   | 1.89              | 1.013             | 1.071 |
| BZK25-3  | 淤泥       | 4.70-5.00       | 57.6          | 1.67        | 1.06        | 1.67             | 2.75             | 1.595             | 99.3        | 53     | 28.9   | 24.1             | 1.19             |         |                   |                   |                   |        |         |          |            | 45          | 55      |                | 0.13           |             |                  | 10             | 9.1              | 1.48             | 1.75                   |                   |                   |       |
| BZK25-4  | 淤泥       | 6.70-7.00       | 56.4          | 1.66        | 1.06        | 1.68             | 2.75             | 1.591             | 97.5        | 52.3   | 28.6   | 23.7             | 1.17             |         |                   |                   |                   |        |         |          |            |             |         |                |                | 6.5         | 5.1              |                |                  | 1.65             | 1.57                   | 1.345             | 1.351             |       |
| BZK25-5  | 淤泥       | 8.70-9.00       | 56.7          | 1.66        | 1.06        | 1.67             | 2.75             | 1.596             | 97.7        | 52.9   | 28.5   | 24.4             | 1.16             |         |                   |                   |                   |        |         |          |            |             |         | 0.15           |                | 6.9         | 5.2              |                |                  | 1.88             | 1.38                   |                   |                   |       |
| BZK25-6  |          | 10.70-11.00     |               |             |             |                  |                  |                   |             |        |        |                  |                  |         |                   |                   |                   |        |         |          |            |             |         |                |                |             |                  |                |                  |                  |                        |                   |                   |       |

平阳鳌江标准堤加固工程初步设计下厂闸地基土层室内土工试验综合成果表

附表3-41

| 岩土<br>编号 | 室内<br>定名 | 试样<br>深度<br>(m) | 天然<br>含水<br>率 | 湿<br>密<br>度       | 干<br>密<br>度       | 饱<br>和<br>密<br>度  | 土<br>粒<br>比<br>重 | 天然<br>孔<br>隙<br>比 | 饱<br>和<br>度    | 液<br>限         | 塑<br>限         | 塑<br>性<br>指<br>数 | 液<br>性<br>指<br>数 | 颗粒组成百分数 |     |     |       |        |         |          |            |             |                        | 渗 透            |                | 直 剪            |                  |                   |                  | 固结（垂直）                               |                   |                   |  |
|----------|----------|-----------------|---------------|-------------------|-------------------|-------------------|------------------|-------------------|----------------|----------------|----------------|------------------|------------------|---------|-----|-----|-------|--------|---------|----------|------------|-------------|------------------------|----------------|----------------|----------------|------------------|-------------------|------------------|--------------------------------------|-------------------|-------------------|--|
|          |          |                 | ω             | ρ                 | ρ <sub>d</sub>    | ρ <sub>sat</sub>  | G <sub>s</sub>   | e <sub>0</sub>    | S <sub>r</sub> | ω <sub>L</sub> | ω <sub>p</sub> | I <sub>p</sub>   | I <sub>L</sub>   | >60     | >40 | >20 | 10~20 | 2.0~10 | 0.5~2.0 | 0.25~0.5 | 0.075~0.25 | 0.005~0.075 | 0~0.005                | 水平<br>渗透<br>系数 | 竖向<br>渗透<br>系数 | 粘聚力<br>(快剪)    | 内摩<br>擦角<br>(快剪) | 粘聚力<br>(固快)       | 内摩<br>擦角<br>(固快) | 压缩<br>系数                             | 压缩<br>模量          | 固结<br>系数<br>(MPa) |  |
|          |          |                 | %             | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |                  |                   | %              | %              | %              |                  |                  | %       | %   | %   | %     | %      | %       | %        | %          | %           | K <sub>h</sub>         | K <sub>v</sub> | q              | φ <sub>q</sub> | c <sub>q</sub>   | φ <sub>cq</sub>   | v <sub>1-2</sub> | E <sub>sv1-2</sub>                   | C <sub>v0.2</sub> | C <sub>v0.4</sub> |  |
|          |          |                 | %             | g/cm <sup>3</sup> | g/cm <sup>3</sup> | g/cm <sup>3</sup> |                  |                   | %              | %              | %              | %                | %                | %       | %   | %   | %     | %      | %       | %        | %          | %           | ×10 <sup>-6</sup> cm/s | kPa            | 度              | kPa            | 度                | MPa <sup>-1</sup> | MPa              | ×10 <sup>-3</sup> cm <sup>2</sup> /s |                   |                   |  |
| BZK25-7  | 淤泥       | 12.70-13.00     | 55.2          | 1.68              | 1.08              | 1.69              | 2.75             | 1.54              | 98.5           | 52             | 28.5           | 23.5             | 1.14             |         |     |     |       |        |         |          | 46.9       | 53.1        |                        |                | 9              | 5.6            |                  |                   | 1.83             | 1.39                                 | 0.959             | 0.917             |  |
| BZK25-8  | 淤泥       | 14.70-15.00     | 54.3          | 1.68              | 1.09              | 1.69              | 2.75             | 1.526             | 97.9           | 49             | 26.9           | 22.1             | 1.24             |         |     |     |       |        |         |          |            |             | 0.17                   |                |                | 11.5           | 9.6              | 1.81              | 1.4              |                                      |                   |                   |  |
| BZK25-9  | 淤泥       | 16.70-17.00     | 58.5          | 1.67              | 1.05              | 1.67              | 2.75             | 1.61              | 99.9           | 53.8           | 29.3           | 24.5             | 1.19             |         |     |     |       |        |         |          |            |             |                        | 6.6            | 4.1            |                |                  | 1.61              | 1.62             | 1.03                                 | 1.021             |                   |  |
| BZK25-10 | 淤泥质粘土    | 18.70-19.00     | 53.2          | 1.68              | 1.1               | 1.7               | 2.74             | 1.499             | 97.3           | 50             | 27.7           | 22.3             | 1.14             |         |     |     |       |        |         |          |            | 0.22        |                        |                |                | 13             | 10.6             | 1.59              | 1.57             |                                      |                   |                   |  |
| BZK25-11 | 淤泥       | 20.70-21.00     | 59.9          | 1.63              | 1.02              | 1.65              | 2.75             | 1.698             | 97             | 55.1           | 28.6           | 26.5             | 1.18             |         |     |     |       |        |         |          |            |             |                        | 5.3            | 3.7            |                |                  | 1.55              | 1.74             |                                      |                   |                   |  |
| BZK25-12 | 淤泥       | 22.70-23.00     | 55.4          | 1.68              | 1.08              | 1.69              | 2.75             | 1.544             | 98.7           | 52.1           | 28.6           | 23.5             | 1.14             |         |     |     |       |        |         |          | 48.5       | 51.5        |                        |                | 7.5            | 5.3            |                  |                   | 1.4              | 1.82                                 | 1.237             | 1.351             |  |
| BZK25-13 | 淤泥       | 24.70-25.00     | 55.1          | 1.68              | 1.08              | 1.69              | 2.75             | 1.539             | 98.5           | 52.5           | 28.6           | 23.9             | 1.11             |         |     |     |       |        |         |          |            |             | 0.52                   |                |                | 11             | 9.8              | 1.32              | 1.92             |                                      |                   |                   |  |
| BZK25-14 | 淤泥       | 26.70-27.00     | 55.4          | 1.68              | 1.08              | 1.69              | 2.75             | 1.544             | 98.7           | 51.9           | 28.8           | 23.1             | 1.15             |         |     |     |       |        |         |          |            |             |                        | 8.8            | 7.2            |                |                  | 1.18              | 2.16             |                                      |                   |                   |  |
| BZK25-15 | 淤泥质粘土    | 28.70-29.00     | 51.6          | 1.7               | 1.12              | 1.71              | 2.74             | 1.443             | 97.9           | 46.8           | 26.5           | 20.3             | 1.24             |         |     |     |       |        |         |          |            | 0.32        |                        |                |                | 13.9           | 11.5             | 1.12              | 2.18             | 1.398                                | 1.576             |                   |  |
| BZK25-16 | 淤泥质粘土    | 31.70-32.00     | 52.1          | 1.7               | 1.12              | 1.71              | 2.74             | 1.451             | 98.3           | 49             | 27.3           | 21.7             | 1.14             |         |     |     |       |        |         |          | 48.8       | 51.2        |                        |                | 11             | 9.6            |                  |                   | 1.22             | 2.01                                 | 1.003             | 1.099             |  |
| BZK25-17 | 淤泥质粘土    | 34.70-35.00     | 52.3          | 1.7               | 1.12              | 1.71              | 2.74             | 1.455             | 98.5           | 49.3           | 27.1           | 22.2             | 1.14             |         |     |     |       |        |         |          |            |             | 0.18                   | 10.9           | 8.8            |                |                  | 1.17              | 2.1              |                                      |                   |                   |  |
| BZK25-18 | 粘土       | 37.70-38.00     | 47.1          | 1.75              | 1.19              | 1.75              | 2.72             | 1.286             | 99.6           | 48.3           | 26.3           | 22               | 0.95             |         |     |     |       |        |         |          |            |             |                        |                |                | 16.1           | 13.2             | 0.59              | 3.88             | 1.049                                | 1.365             |                   |  |
| BZK25-19 | 淤泥质粉质粘土  | 40.70-41.00     | 39            | 1.82              | 1.31              | 1.83              | 2.73             | 1.085             | 98.1           | 38.2           | 22.6           | 15.6             | 1.05             |         |     |     |       |        |         |          |            | 0.16        |                        |                | 15             | 23.3           |                  |                   | 0.51             | 4.09                                 |                   |                   |  |
| BZK25-20 | 粉砂       | 43.70-44.00     | 30.3          | 1.91              | 1.47              | 1.92              | 2.68             | 0.828             | 98             |                |                |                  |                  |         |     |     |       | 0.6    | 60.4    | 32.8     | 6.2        |             |                        |                |                | 15             | 26.9             | 0.16              | 11.43            | 2.235                                | 1.916             |                   |  |
| BZK25-21 | 粉砂       | 44.50-44.80     | 24.8          | 2                 | 1.6               | 2                 | 2.68             | 0.672             | 98.9           |                |                |                  |                  |         |     |     |       | 0.9    | 78      | 21.1     |            |             |                        |                | 15             | 23.5           |                  |                   | 0.16             | 10.45                                | 2.187             | 2.603             |  |
| BZK25-22 | 粉质粘土     | 46.70-47.00     | 31            | 1.91              | 1.46              | 1.92              | 2.72             | 0.866             | 97.4           | 36.3           | 22.6           | 13.7             | 0.61             |         |     |     |       |        |         |          |            |             | 0.69                   | 18             | 13.2           |                |                  | 0.45              | 4.15             |                                      |                   |                   |  |
| BZK25-23 | 粉质粘土     | 49.70-50.00     | 33            | 1.88              | 1.41              | 1.89              | 2.72             | 0.924             | 97.1           | 35.9           | 22.3           | 13.6             | 0.79             |         |     |     |       |        |         |          |            |             |                        |                |                | 19.5           | 16.2             | 0.49              | 3.93             | 1.296                                | 1.145             |                   |  |
| BZK25-24 | 粉质粘土     | 52.70-53.00     | 36            | 1.86              | 1.37              | 1.87              | 2.73             | 0.996             | 98.7           | 37.8           | 22.9           | 14.9             | 0.88             |         |     |     |       |        |         |          |            | 0.77        |                        | 18.9           | 13.5           |                |                  | 0.4               | 4.99             | 1.203                                | 1.113             |                   |  |
| BZK25-25 | 含粉质粘土的粉砂 | 55.70-56.00     | 33.2          | 1.88              | 1.41              | 1.89              | 2.72             | 0.927             | 97.4           | 35.8           | 23.2           | 12.6             | 0.79             |         |     |     |       |        | 73.5    | 26.5     |            |             |                        |                | 16.8           | 12.8           |                  |                   | 0.45             | 4.28                                 | 1.104             | 1.021             |  |
| BZK25-26 | 粉质粘土     | 58.70-59.00     | 35.3          | 1.88              | 1.39              | 1.88              | 2.72             | 0.958             | 100            | 36.8           | 22.8           | 14               | 0.89             |         |     |     |       |        |         |          |            |             |                        |                |                | 19.5           | 15.5             | 0.32              | 6.12             |                                      |                   |                   |  |
| ZK26-1   | 淤泥       | 0.60-0.90       | 64.9          | 1.63              | 0.99              | 1.63              | 2.75             | 1.782             | 100            | 55             | 31.1           | 23.9             | 1.41             |         |     |     |       |        |         | 46.8     | 53.2       | 0.32        |                        |                |                | 8.2            | 7.3              | 1.11              | 2.51             | 2.061                                | 0.513             |                   |  |
| ZK26-2   | 淤泥       | 2.10-2.40       | 61.9          | 1.65              | 1.02              | 1.65              | 2.75             | 1.698             | 100            | 54.6           | 30.7           | 23.9             | 1.31             |         |     |     |       |        |         |          |            |             |                        |                | 5.3            | 3.5            |                  |                   | 1.95             | 1.38                                 | 1.687             | 1.749             |  |
| ZK26-3   | 淤泥       | 4.10-4.40       | 69.8          | 1.6               | 0.94              | 1.6               | 2.75             | 1.918             | 100            | 56.2           | 31.3           | 24.9             | 1.55             |         |     |     |       |        |         |          |            |             | 0.077                  | 4.6            | 7.2            |                |                  |                   |                  |                                      |                   |                   |  |
| ZK26-4   | 淤泥       | 6.10-6.40       | 61.3          | 1.65              | 1.02              | 1.65              | 2.75             | 1.688             | 99.8           | 55.2           | 30.4           | 24.8             | 1.25             |         |     |     |       |        |         |          |            |             |                        |                |                | 9.5            | 6.2              | 1.76              | 1.53             | 1.538                                | 1.536             |                   |  |
| ZK26-5   | 淤泥       | 8.10-8.40       | 65.6          | 1.62              | 0.98              | 1.62              | 2.75             | 1.811             | 99.6           | 55.2           | 31.5           | 23.7             | 1.44             |         |     |     |       |        |         |          |            | 0.08        |                        | 4.5            | 3.1            |                |                  | 2.15              | 1.31             | 1.405                                | 1.513             |                   |  |
| ZK26-6   | 淤泥       | 10.10-10.40     | 59.1          | 1.67              | 1.05              | 1.67              | 2.75             | 1.62              | 100            | 53.5           | 30             | 23.5             | 1.24             |         |     |     |       |        |         | 49.3     | 50.7       |             |                        |                |                | 11             | 7.5              | 1.68              | 1.56             | 1.111                                | 0.659             |                   |  |
| ZK26-7   | 淤泥       | 12.10-12.40     | 56.9          | 1.68              | 1.07              | 1.68              | 2.75             | 1.568             | 99.8           | 53.2           | 29.5           | 23.7             | 1.16             |         |     |     |       |        |         |          |            |             |                        | 7.6            | 5.6            |                |                  | 1.77              | 1.45             | 0.837                                | 1.013             |                   |  |
| ZK26-8   | 淤泥       | 14.10-14.40     | 62            | 1.65              | 1.02              | 1.65              | 2.75             | 1.7               | 100            | 53.6           | 30             | 23.6             | 1.36             |         |     |     |       |        |         |          |            |             |                        | 4.9            | 3.1            |                |                  | 1.55              | 1.74             | 1.803                                | 0.55              |                   |  |
| ZK26-9   | 淤泥       | 16.10-16.40     | 63.2          | 1.63              | 1                 | 1.64              | 2.75             | 1.753             | 99.1           | 54.6           | 29.3           | 25.3             | 1.34             |         |     |     |       |        |         |          |            | 0.073       |                        |                |                | 8.3            | 7.1              | 1.52              | 1.81             | 1.473                                | 0.757             |                   |  |
| ZK26-10  | 淤泥       | 18.10-18.40     | 61.8          | 1.65              | 1.02              | 1.65              | 2.75             | 1.697             | 100            | 53.9           | 30.6           | 23.3             | 1.34             |         |     |     |       |        |         |          |            |             | 0.076                  | 5.9            | 3.6            |                |                  | 2.63              | 1.02             |                                      |                   |                   |  |
| ZK26-11  | 淤泥       | 22.10-22.40     | 62.5          | 1.63              | 1                 | 1.64              | 2.75             | 1.742             | 98.7           | 54.6           | 29.3           | 25.3             | 1.31             |         |     |     |       |        |         |          |            |             |                        |                |                | 9.8            | 6.9              | 1.7               | 1.61             | 1.772                                | 0.852             |                   |  |
| ZK26-12  | 淤泥       | 25.10-25.40     | 64.5          | 1.63              | 0.99              | 1.63              | 2.75             | 1.775             | 99.9           | 55             | 29.9           | 25.1             | 1.38             |         |     |     |       |        |         |          | 46.9       | 53.1        |                        |                | 4.9            | 3.5            |                  |                   | 1.57             | 1.77                                 | 1.103             | 1.337             |  |
| ZK26-13  | 淤泥       | 28.10-28.40     | 58.4          | 1.67              | 1.05              | 1.67              | 2.75             | 1.608             | 99.9           | 55.3           | 29.7           | 25.6             | 1.12             |         |     |     |       |        |         |          |            | 0.076       |                        | 8.6            | 6.2            |                |                  | 0.7               | 3.73             | 3.405                                | 0.989             |                   |  |
| ZK26-14  |          | 31.60-31.90     | 27.7          | 1.96              | 1.53              | 1.96              | 2.68             | 0.746             | 99.5           |                |                |                  |                  |         |     |     |       |        | 34.1    | 58.1     | 7.8        |             | 39                     |                |                | 15             | 22.3             | 0.27              | 6.47             | 3.541                                | 3.825             |                   |  |
| ZK26-15  | 粉土       | 34.60-34.90     | 27.2          | 1.96              | 1.54              | 1.97              | 2.69             | 0.746             | 98.1           | 27.3           | 19             | 8.3              | 0.99             |         |     |     |       | 0.3    | 38.9    | 54       | 6.1        |             |                        | 18             | 15.3           |                |                  | 0.25              | 6.98             | 3.518                                | 0.648             |                   |  |
| ZK26-16  | 淤泥       | 37.60-37.90     | 58.1          | 1.67              | 1.06              | 1.67              | 2.75             | 1.603             | 99.6           | 53             | 29.5           | 23.5             | 1.22             |         |     |     |       |        |         |          |            |             |                        | 9.5            | 5.3            |                |                  | 0.9               | 2.89             | 3.446                                | 1.227             |                   |  |
| ZK26-17  | 淤泥质粘土    | 40.60-40.90     | 54.5          | 1.7               | 1.1               | 1.7               | 2.75             | 1.499             | 100            | 52.6           | 28.6           | 24               | 1.08             |         |     |     |       |        |         |          |            | 0.18        |                        |                |                | 10.3           | 8.3              | 0.57              | 4.39             | 3.738                                | 0.678             |                   |  |
| ZK26-18  | 粘土       | 43.60-43.90     | 39.1          | 1.83              | 1.32              | 1.83              | 2.73             | 1.075             | 99.3           | 45.1           | 24.6           | 20.5             | 0.               |         |     |     |       |        |         |          |            |             |                        |                |                |                |                  |                   |                  |                                      |                   |                   |  |

附表3-42

[illegible]