

資料 7-5 物理探査結果

(1) 物理探査対象サイトと電気探査実施位置図

表-1 電気 探査対象サイト一覧表

| サイト番号 | 村名 | 地区 | 人口(2020) | 電気探査 | |
|-------|-------------------------------|-----------|----------|----------------|----------------|
| | | | | 垂直(点) | 二次元(測線) |
| N-01 | Kabocorr Tampapo & Killing | WR | 1,369 | 3 | |
| N-03 | Kekuta Kunda Complex | NBR | 1,639 | | 2 |
| N-04 | Kerr Katim Wolof + Fula | CRR South | 1,334 | 3 | |
| N-05 | Madina Kaif (Sancha) | LRR | 1,571 | 3 | |
| N-06 | Dongorpba | LRR | 1,460 | 3 | |
| N-07 | Ballangharr Complex | CRR North | 3,805 | | 2 |
| N-08 | Jimbala Complex | CRR North | 1,865 | 3 | |
| N-09 | Fass | CRR North | 1,523 | 3 | |
| N-10 | Kuntaur Fula Kunda & Jakaba | CRR North | 1,914 | | 2 |
| N-11 | Kerewan Samba Sira | CRR South | 2,583 | 3 | |
| N-12 | Fura Bantang & Sinchu Sora | CRR South | 1,806 | 3 | |
| N-13 | Jissadi | CRR South | 1,480 | | 2 |
| N-14 | Sotokoi | CRR South | 1,458 | | 2 |
| N-15 | Maka and Njie Kunda | CRR South | 2,035 | 3 | |
| N-16 | Lamin Koto + Badala + Sotokoi | CRR North | 2,277 | 2 | |
| N-17 | Gidda | WR | 337 | 3 | |
| N-18 | Kerr Mama | NBR | 911 | 3 | |
| N-19 | Kerr Chernoo | NBR | 1,305 | 3 | |
| N-20 | Banta Killing | NBR | 1,176 | | 2 |
| 計 | | | | 14 サイト 40 点 | 5 サイト 10 測線 |



図-1 物理探査調査位置図

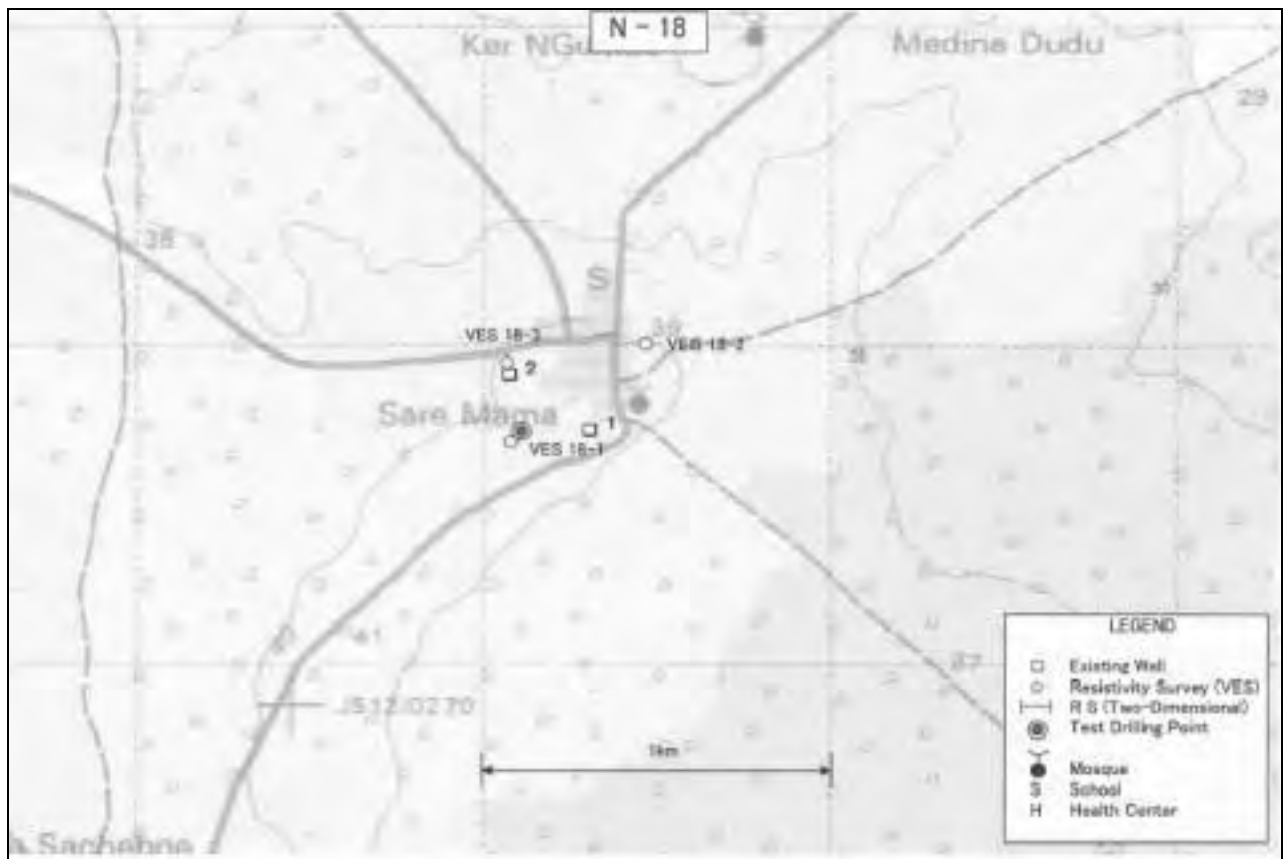
(2) 対象サイトの電気探査位置と井戸掘削地点の選定



N-08 Jimbala Complex



N-17 Gidda



N-18 Kerr Mamma

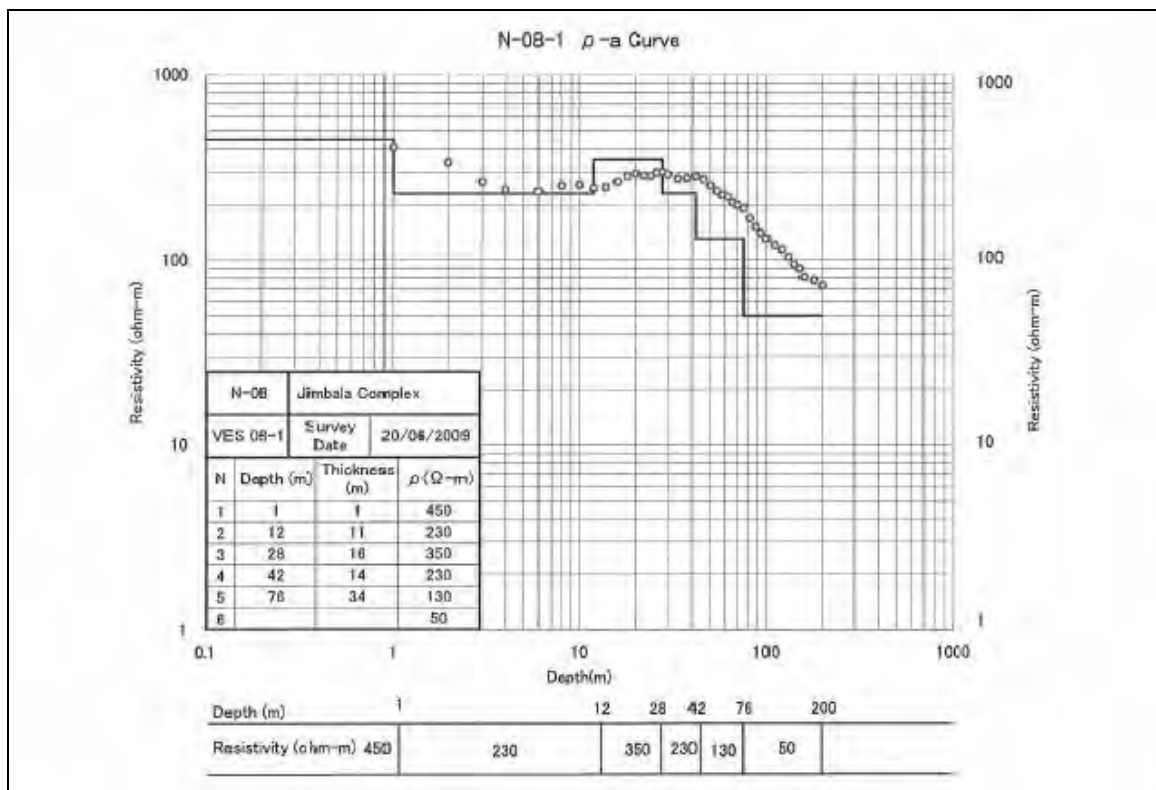


N-19 Kerr Cherno (Madina Bafuloto)

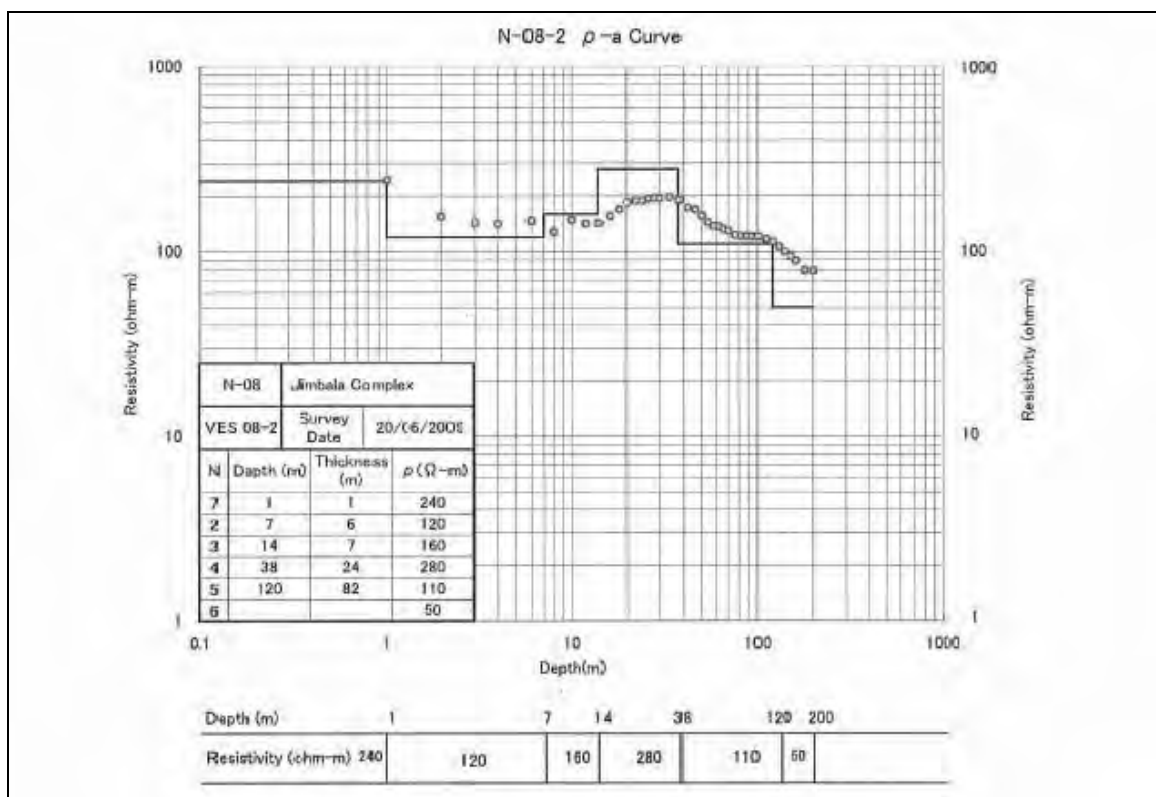


N-20 Banta Killing

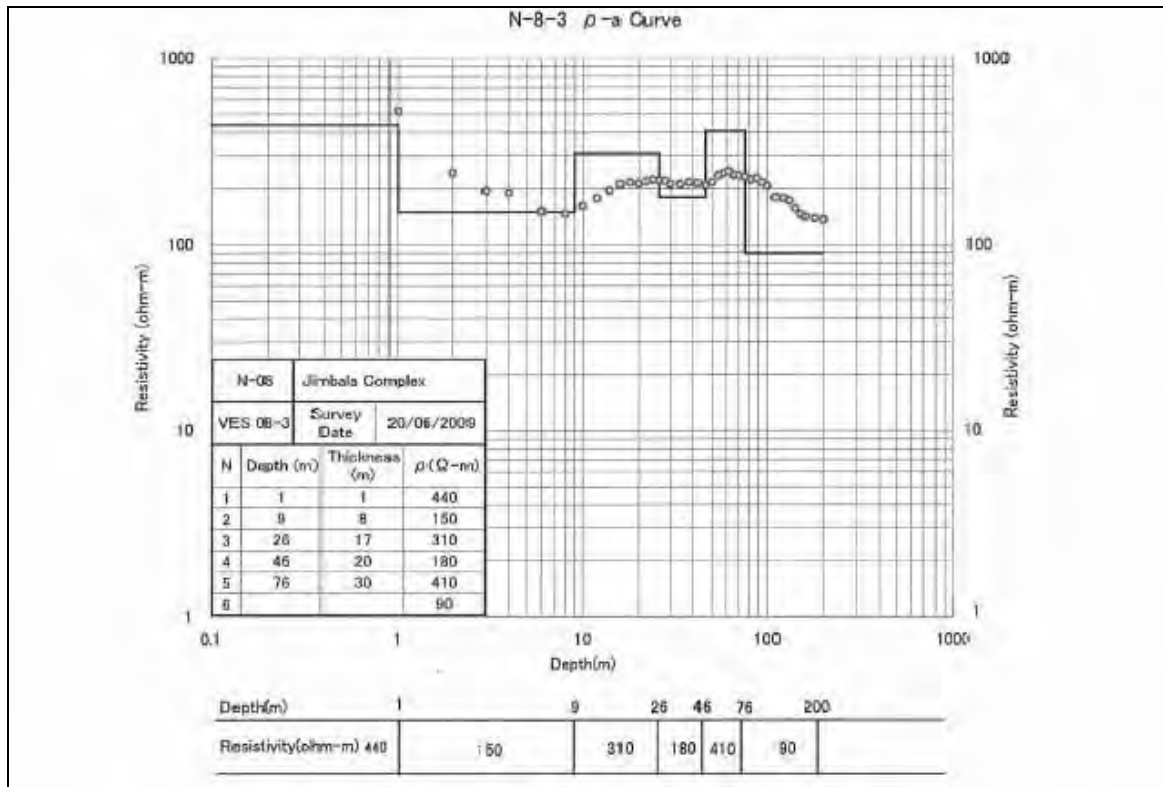
(3) 電気探査(垂直探査)の解析例



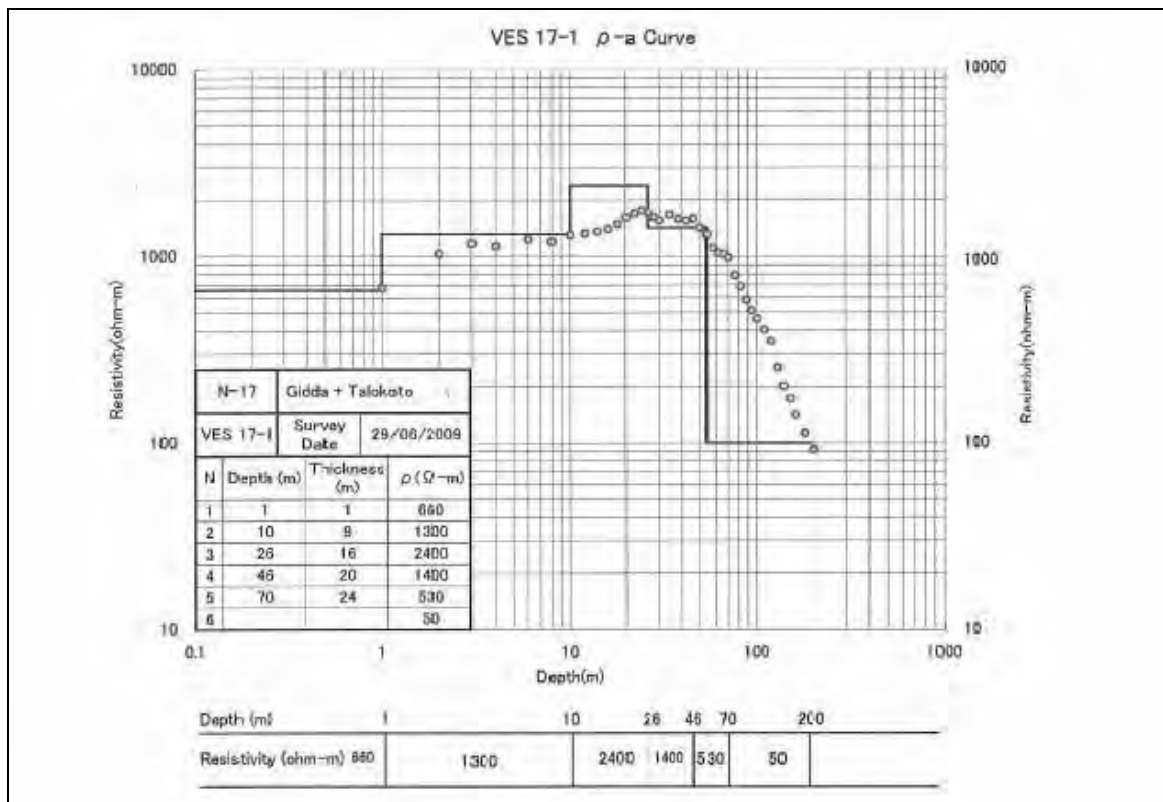
N-08 ①



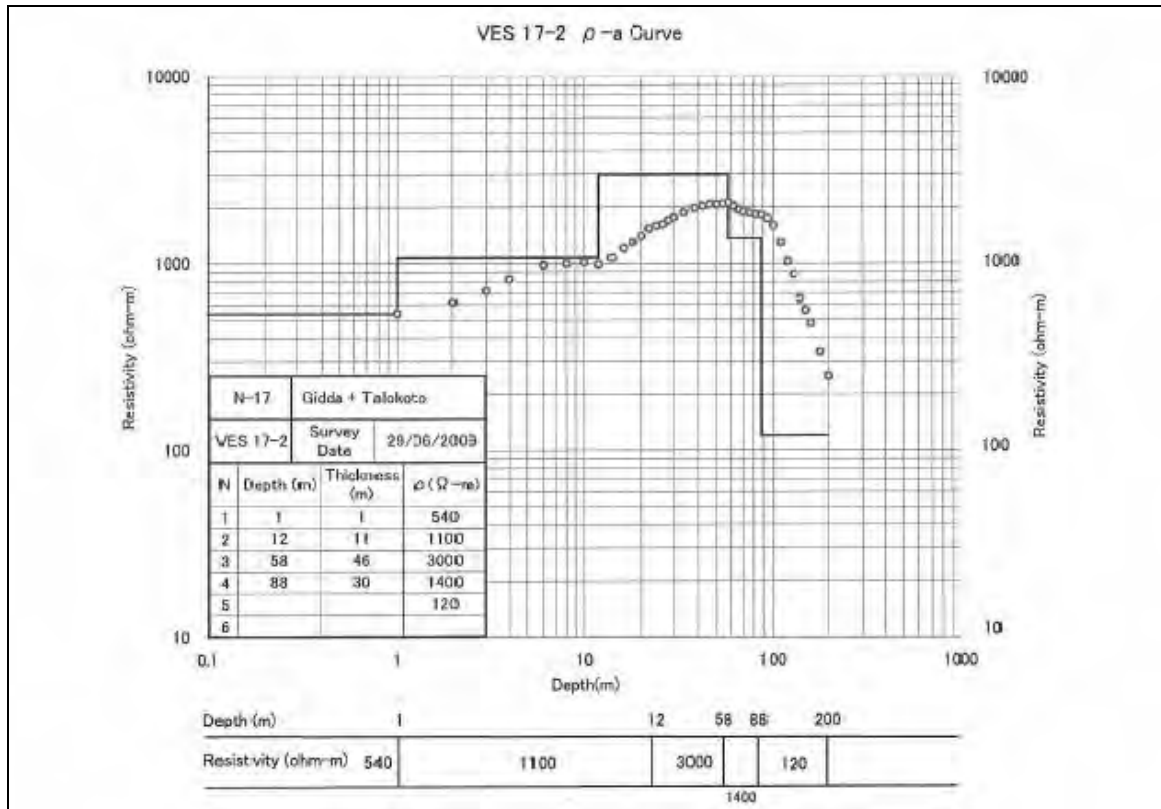
N-08 ②



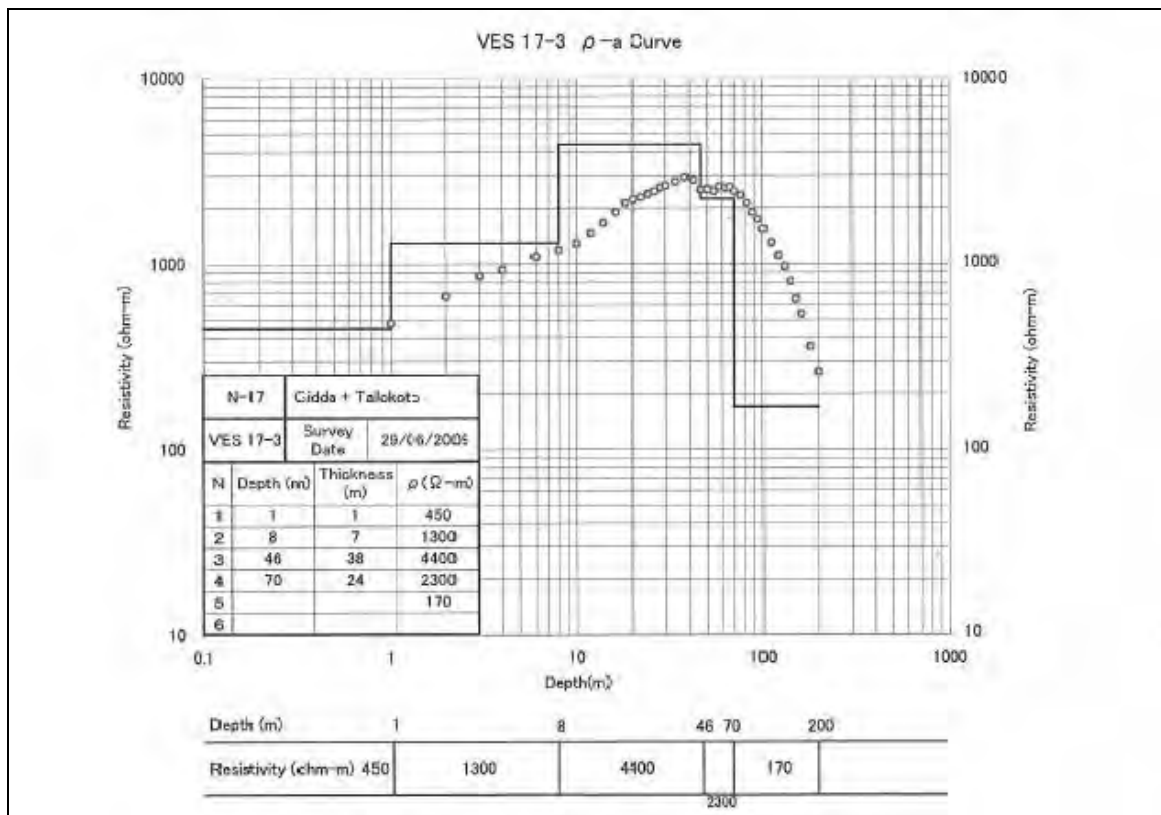
N-08 ③



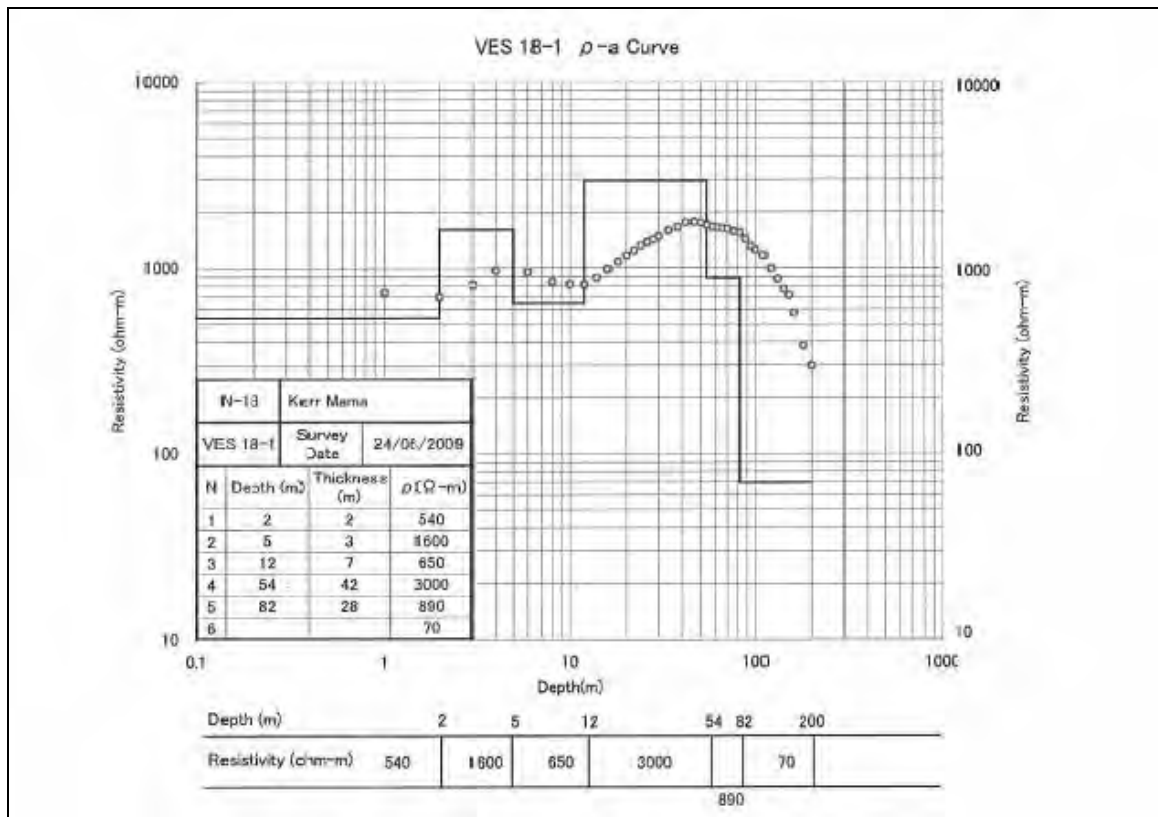
N-17 ①



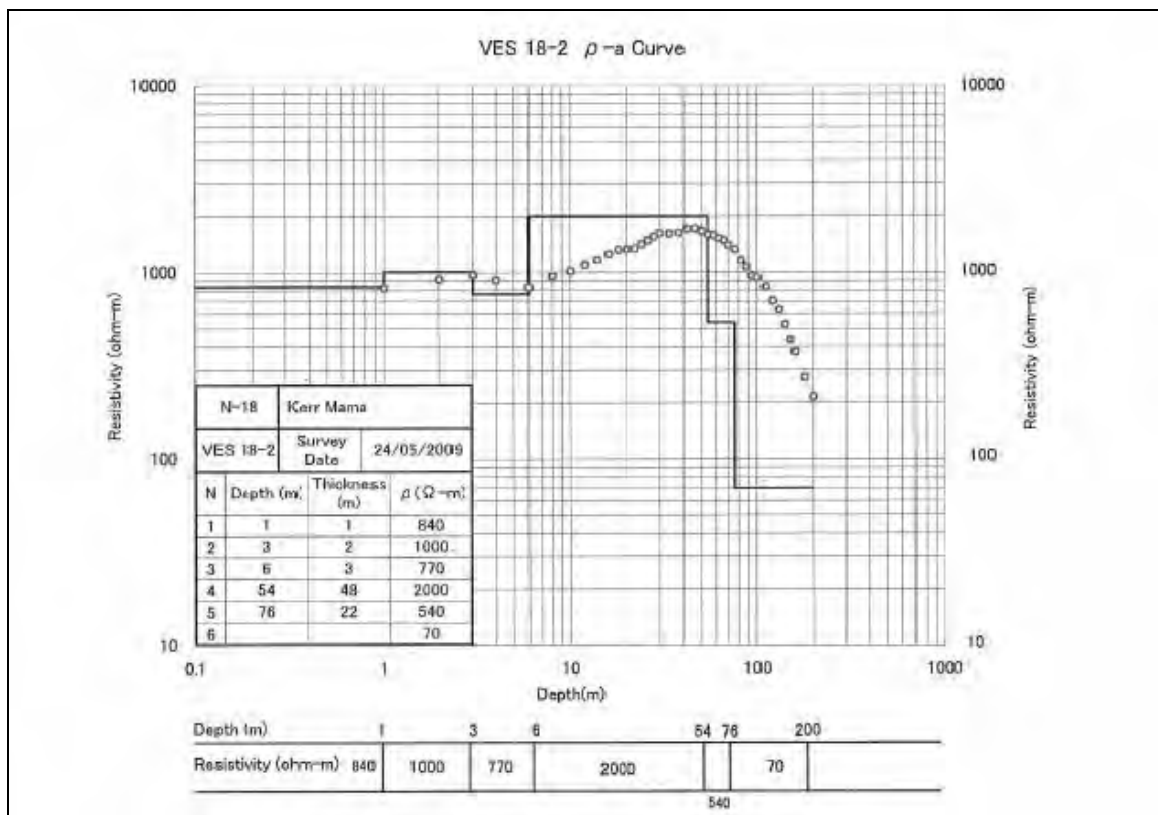
N-17 ②



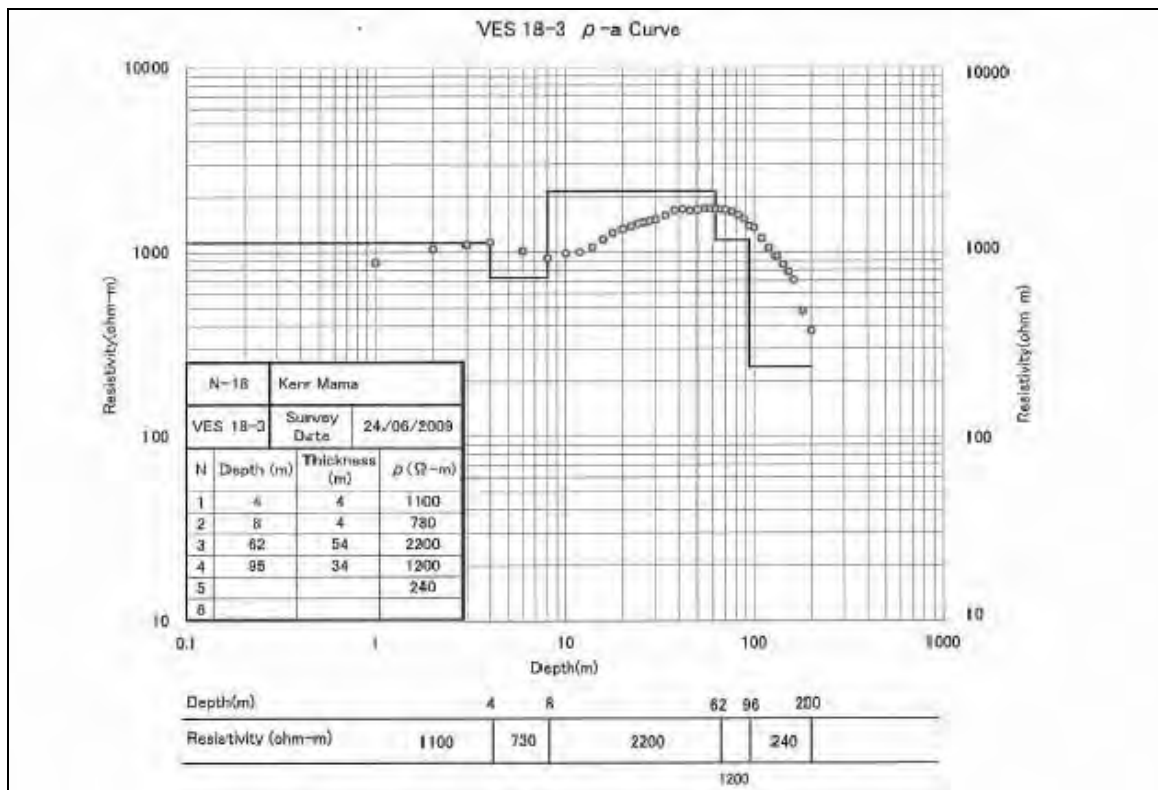
N-17 ③



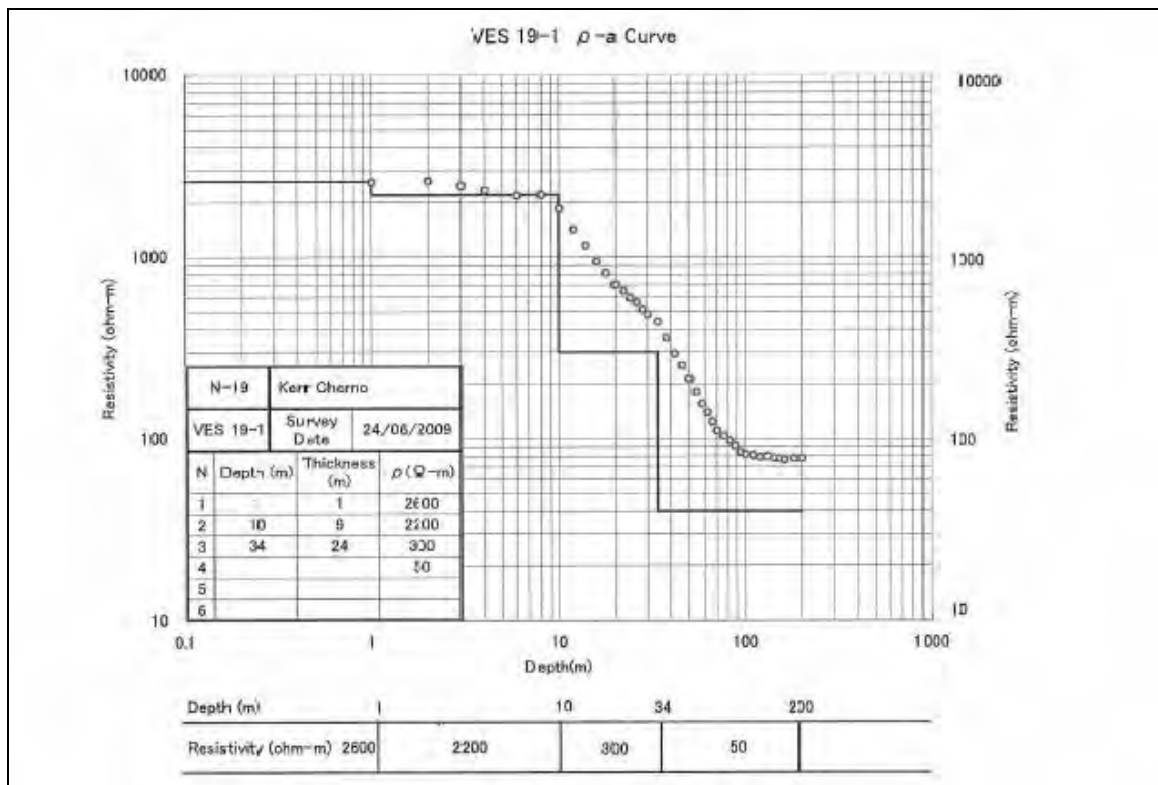
N-18 ①



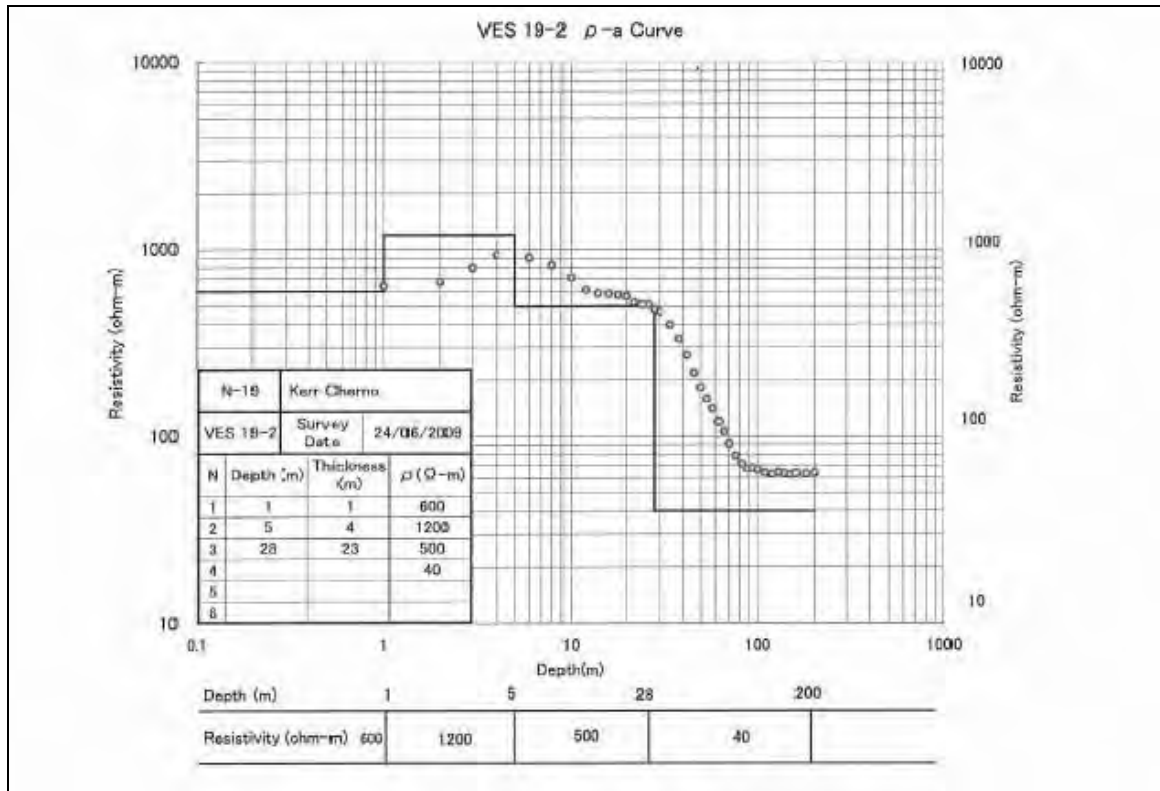
N-18 ②



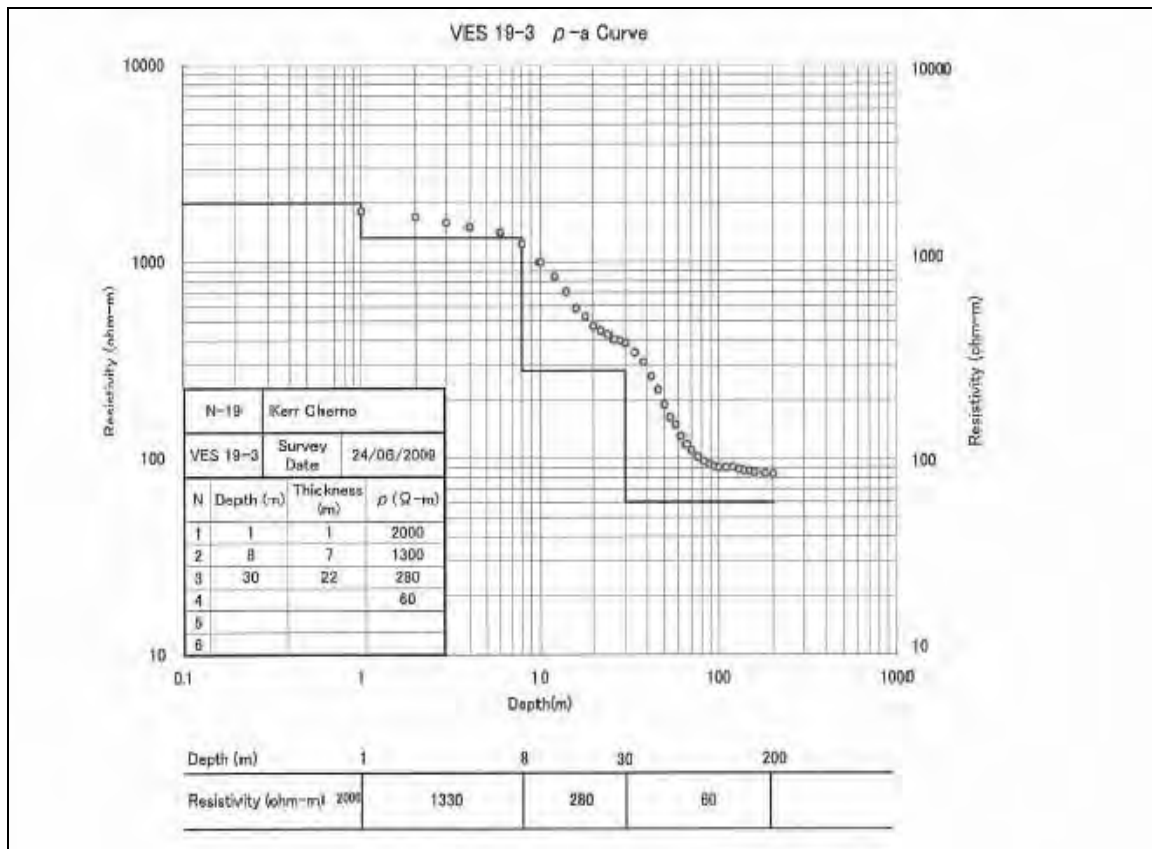
N-18 ③



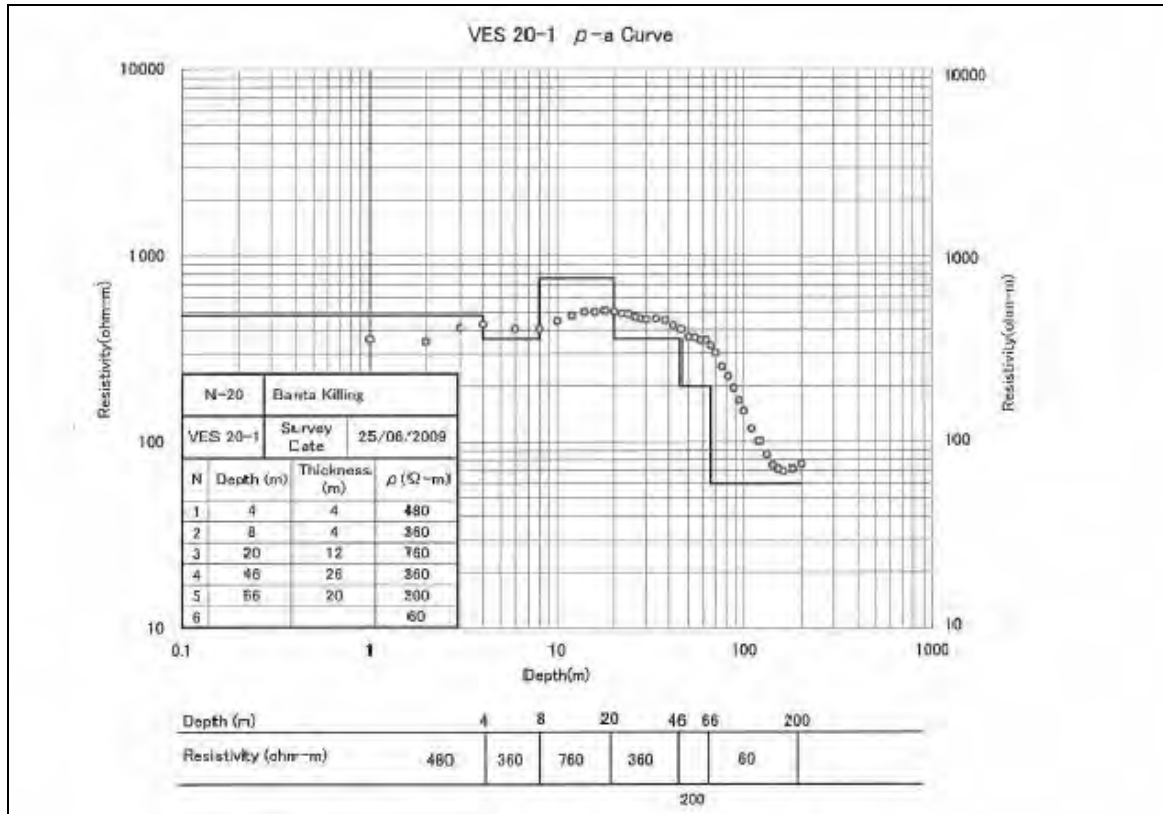
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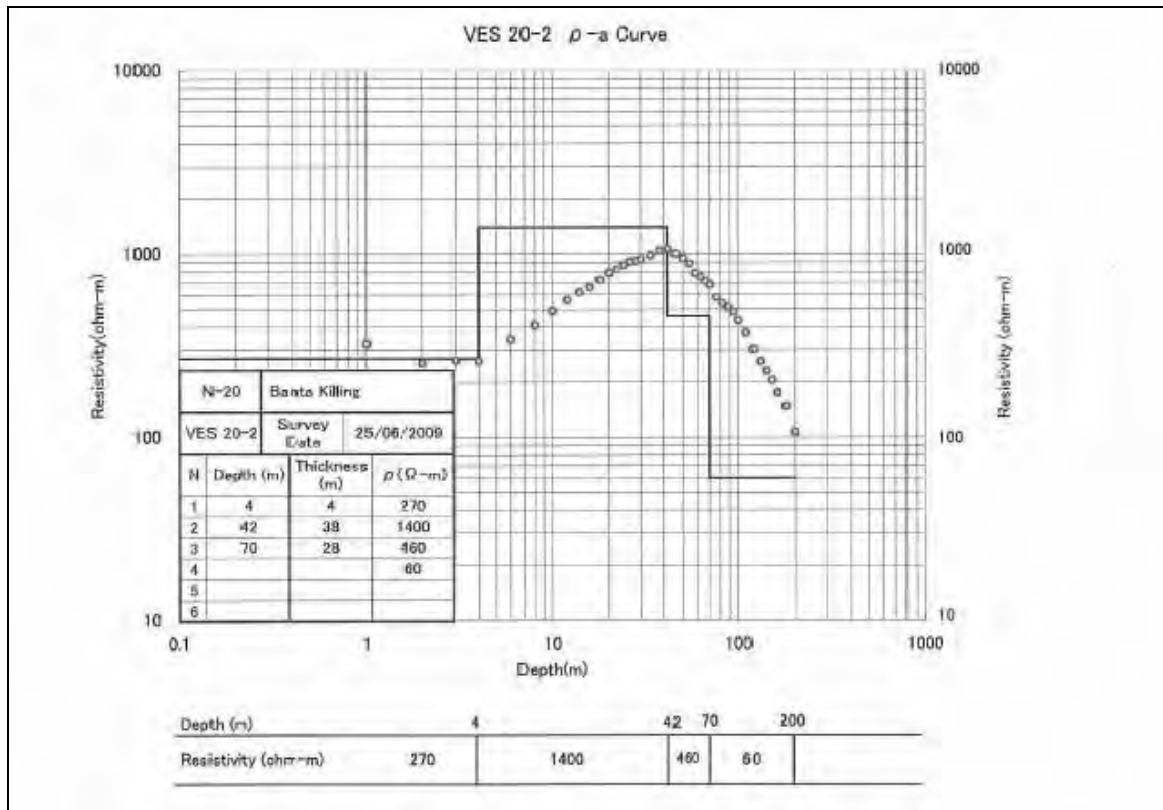
N-19 ②



N-19 ③



N-20 ①



N-20 ②

7-6 試掘調査結果

資料 7-6 試掘調査結果

(1) 試掘調査実施サイト

表-1 試掘調査実施サイト一覧表

| Site No. | Community | Region | Location (WGS84) | | Drilling Depth | End Date |
|-------------------------|-----------------------------|-----------|------------------|---------------|----------------|----------|
| | | | Lat | Long | | |
| N-01 | Kabocorr, Tam papo, Killing | WR | 13° 12' 29" N | 16° 15' 22" W | 63m | 09/08/09 |
| N-03 | Kekuta Kunda Complex | NBR | 13° 34' 11" N | 15° 51' 17" W | 87m | 28/08/09 |
| N-04 | Kerr Katim | NBR | 13° 35' 17" N | 15° 52' 35" W | 81m | 31/08/09 |
| N-05 | Madina Kaif (Sancha) | NBR | 13° 22' 02" N | 15° 36' 11" W | 77m | 12/07/09 |
| N-06 | Dongoroba | LRR | 13° 22' 54" N | 15° 17' 34" W | 87m | 16/07/09 |
| N-07 | Ballangharr Complex | LRR | 13° 40' 14" N | 15° 24' 00" W | 79m | 03/09/09 |
| N-08 | Jimbala Complex | CRR North | 13° 44' 42" N | 15° 23' 11" W | - | - |
| N-09 | Fass | CRR North | 13° 47' 39" N | 15° 4' 22" W | 90m | 23/08/09 |
| N-10 | Kuntaur Fula Kunda, Jakaba | CRR North | 13° 39' 11" N | 14° 52' 18" W | 82m | 15/08/09 |
| N-11 | Kerewan Samba Sira | CRR North | 13° 31' 14" N | 14° 53' 52" W | 75m | 04/08/09 |
| N-12 | Fula Bantang, Sinchu Sora | CRR North | 13° 29' 50" N | 14° 49' 48" W | 78m | 31/07/09 |
| N-13 | Jissadi | CRR North | 13° 38' 15" N | 15° 17' 50" W | 87m | 19/07/09 |
| N-14 | Sotokoi | CRR North | 13° 38' 36" N | 15° 6' 18" W | 72m | 23/07/09 |
| N-15 | Maka, Njie Kunda | CRR North | 13° 36' 53" N | 15° 5' 34" W | 84m | 27/07/09 |
| N-16 | Lamin Koto, Badala, Sotokoi | CRR North | 13° 29' 49" N | 14° 49' 48" W | 84m | 18/08/09 |
| Substitutional Villages | | | | | | |
| N-17 | Gidda, Talokob | WR | 13° 11' 50" N | 16° 34' 59" W | - | - |
| N-18 | KerrMama | NBR | 13° 25' 06" N | 16° 21' 23" W | - | - |
| N-19 | KerrChemo | NBR | 13° 27' 33" N | 16° 20' 18" W | - | - |
| N-20 | Banta Killing | NBR | 13° 20' 47" N | 16° 24' 44" W | - | - |

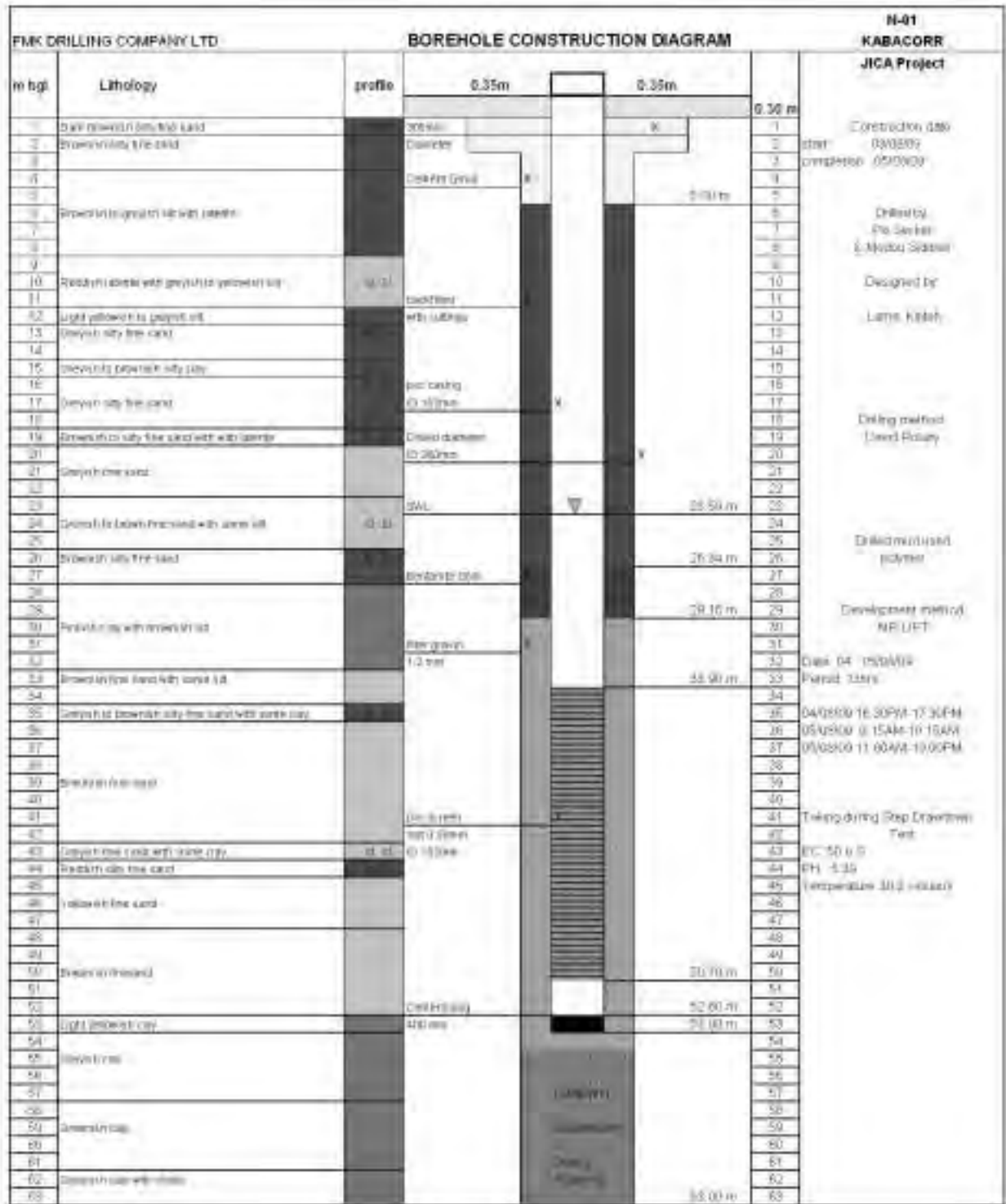
(2) 試掘調査工程

表-2 試掘調査工程表

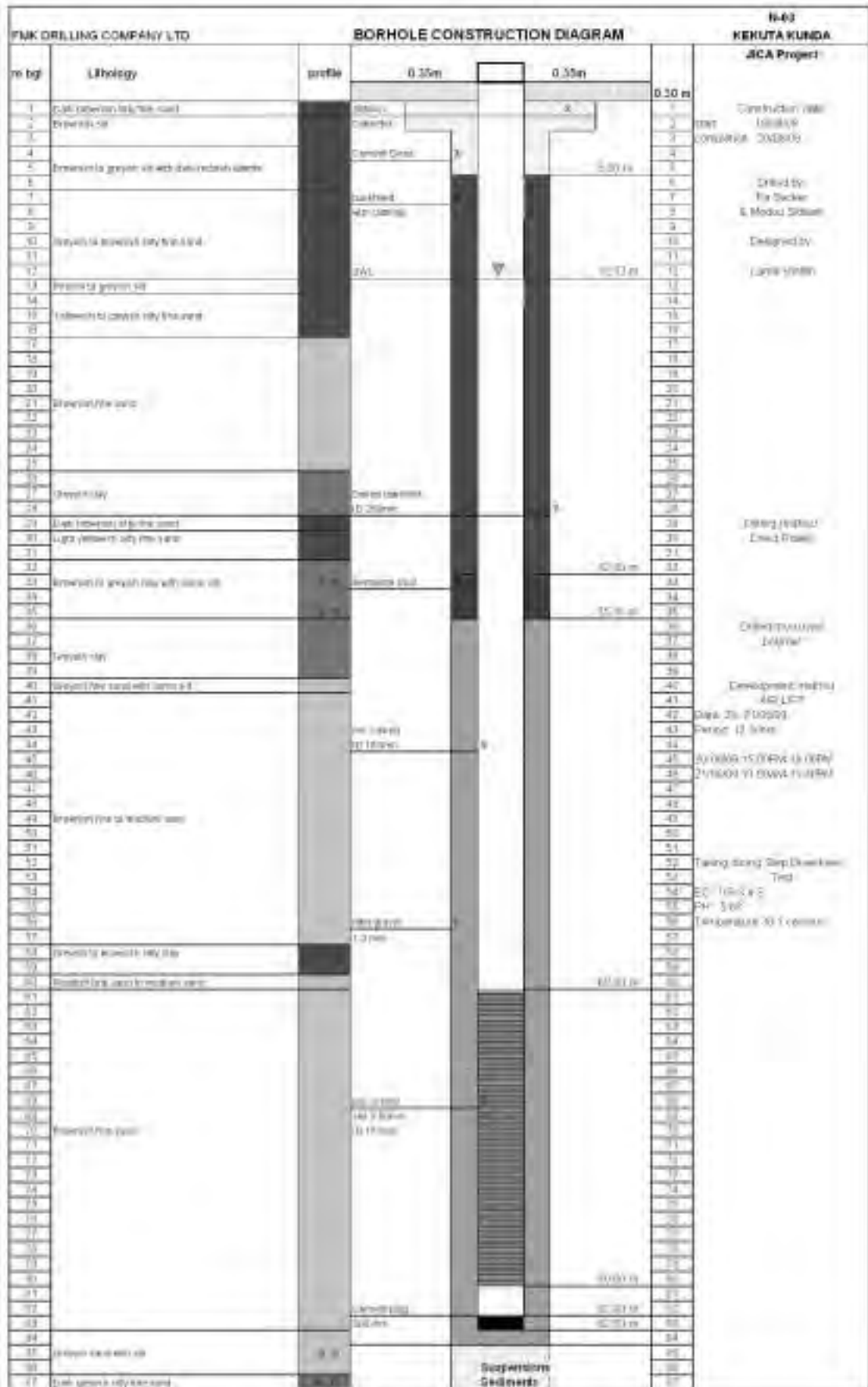
| Site No. | June | | July | | | | | August | | | | September | | | |
|----------|------|----|------|----|----|-------|----|--------|----|----|---------------------------|-----------|----|----|--|
| | W4 | W1 | W2 | W3 | W4 | W5/W1 | W1 | W2 | W3 | W4 | W1 | W2 | W3 | W4 | |
| N-05 | ■ | | | | | | | | | | | | | | |
| N-06 | | ■ | | | | | | | | | | | | | |
| N-13 | | | ■ | | | | | | | | | | | | |
| N-14 | | | | ■ | | | | | | | | | | | |
| N-15 | | | | | ■ | | | | | | | | | | |
| N-12 | | | | | | ■ | | | | | | | | | |
| N-11 | | | | | | | ■ | | | | | | | | |
| N-01 | | | | | | | | ■ | | | | | | | |
| N-10 | | | | | | | | | ■ | | | | | | |
| N-09 | | | | | | | | | | ■ | | | | | |
| N-03 | | | | | | | | | | | ■ | | | | |
| N-04 | | | | | | | | | | | | ■ | | | |
| N-16 | | | | | | | | | | | | | ■ | | |
| N-07 | | | | | | | | | | | ■ 一本目施工失敗 | | | | |
| N-08 | | | | | | | | | | | ■ リグ故障および雨季・ラマダン等により継続不可能 | | | | |

■ 試掘および井戸洗浄
 ■ 揚水試験

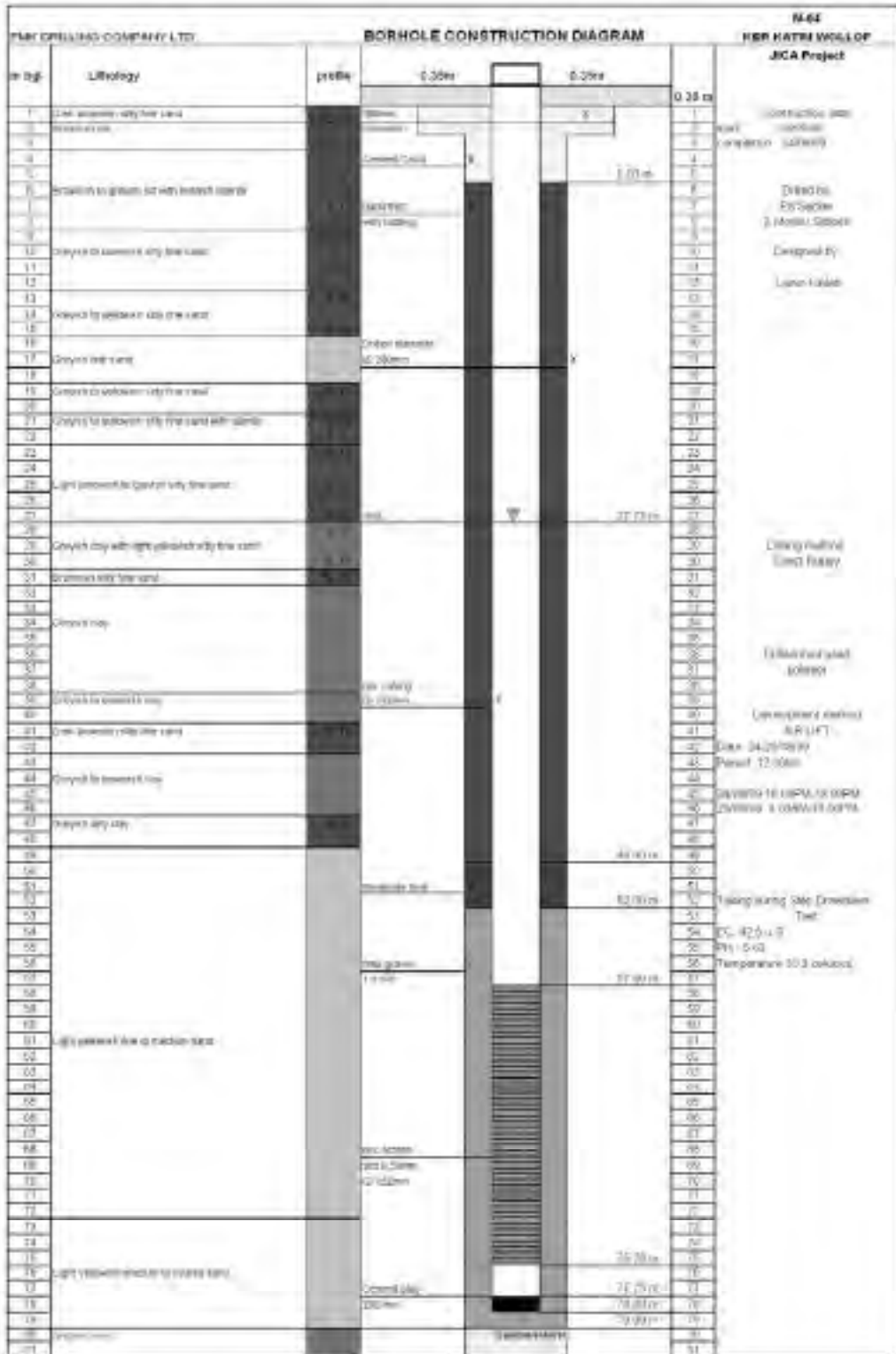
(3) 地質柱状図及び井戸構造図



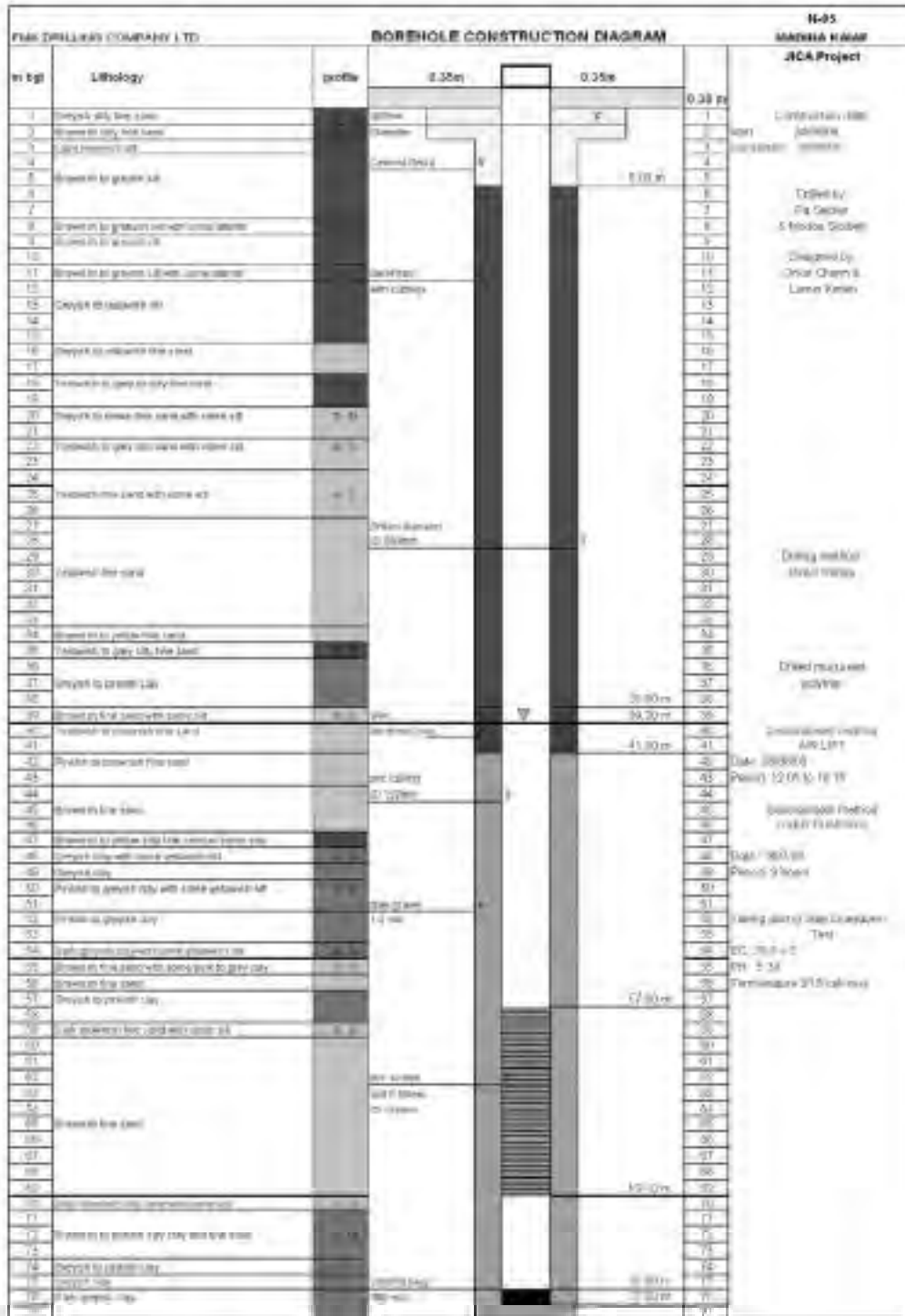
N-01



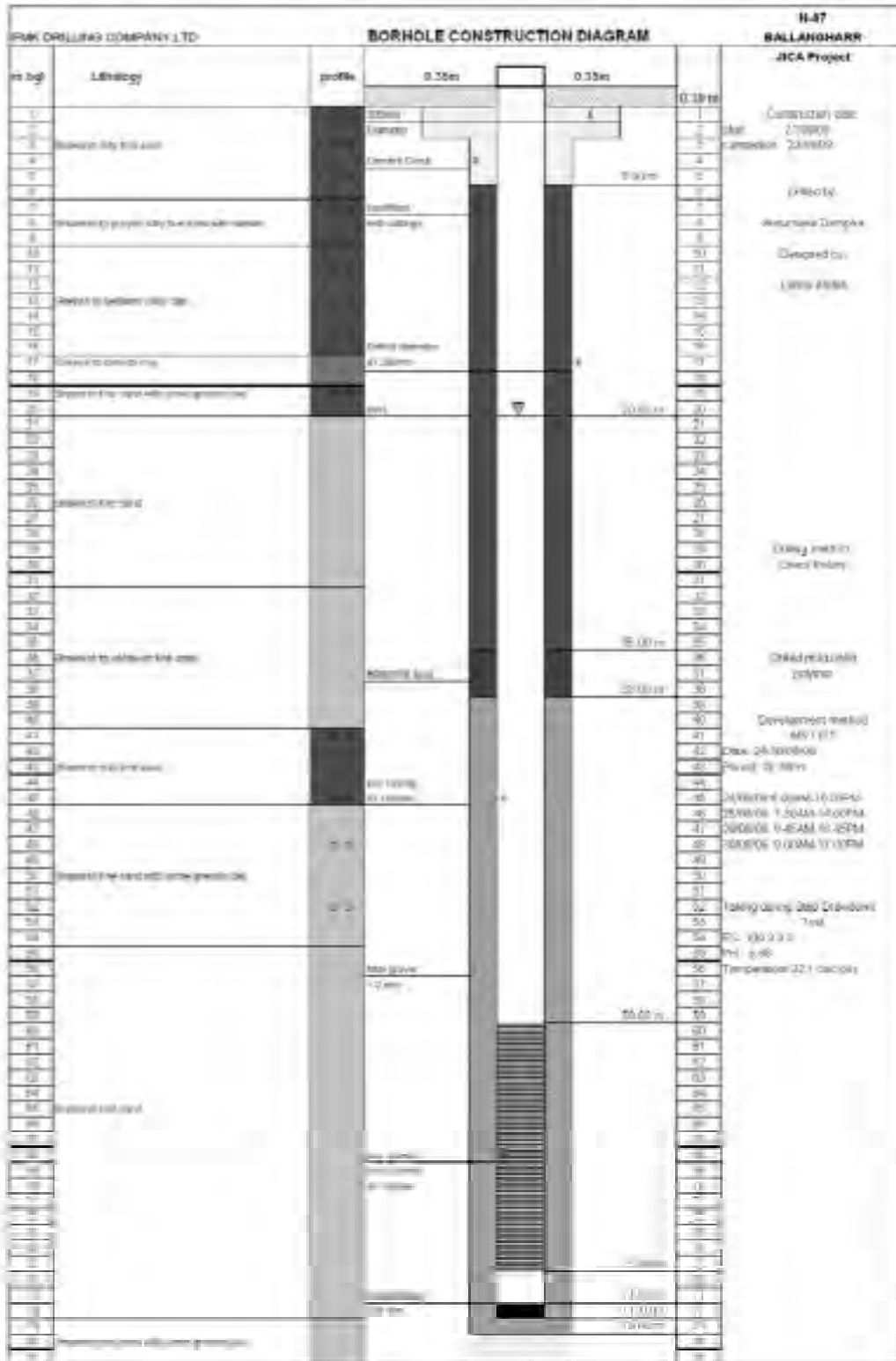
N-03



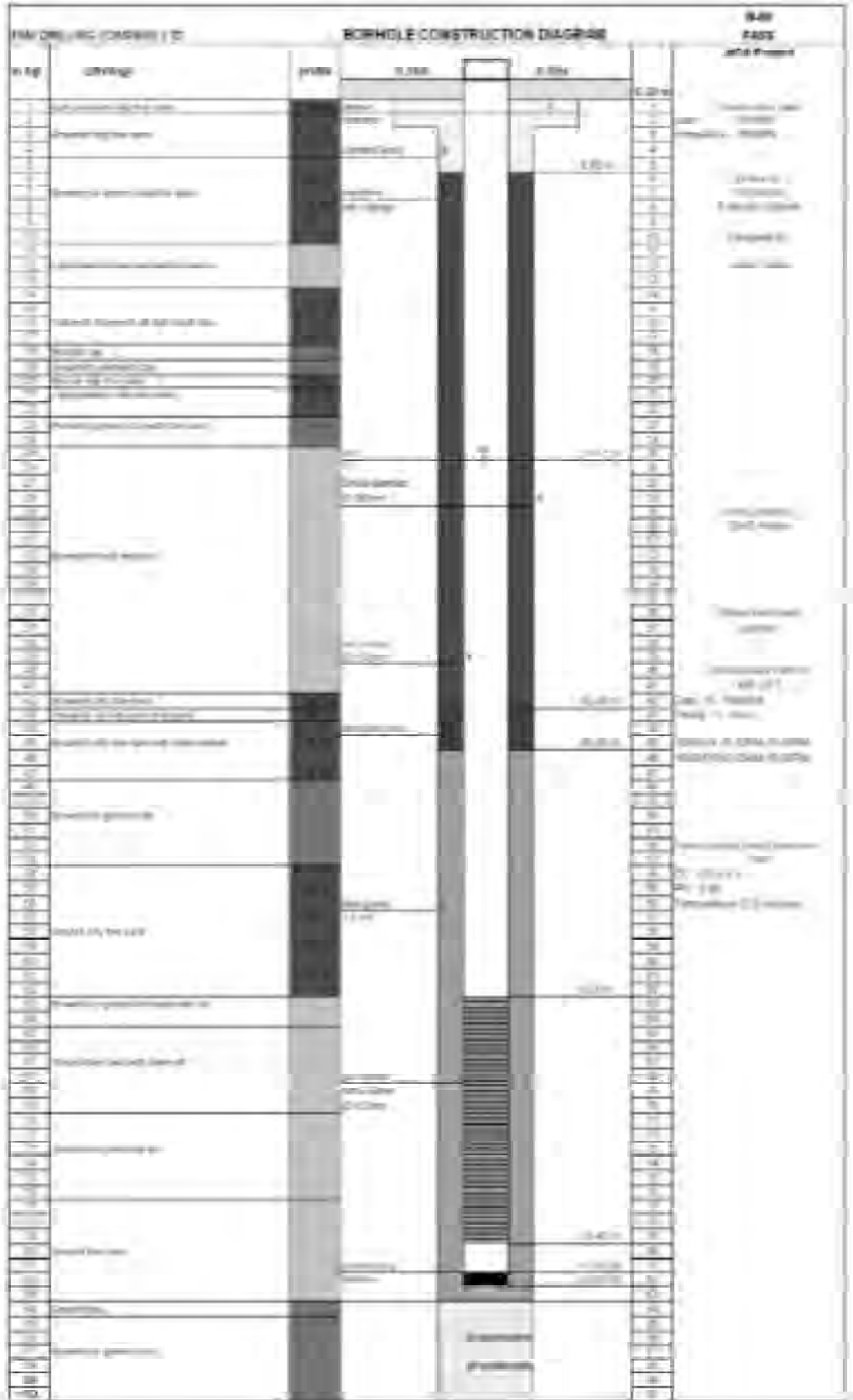
N-04



N-05

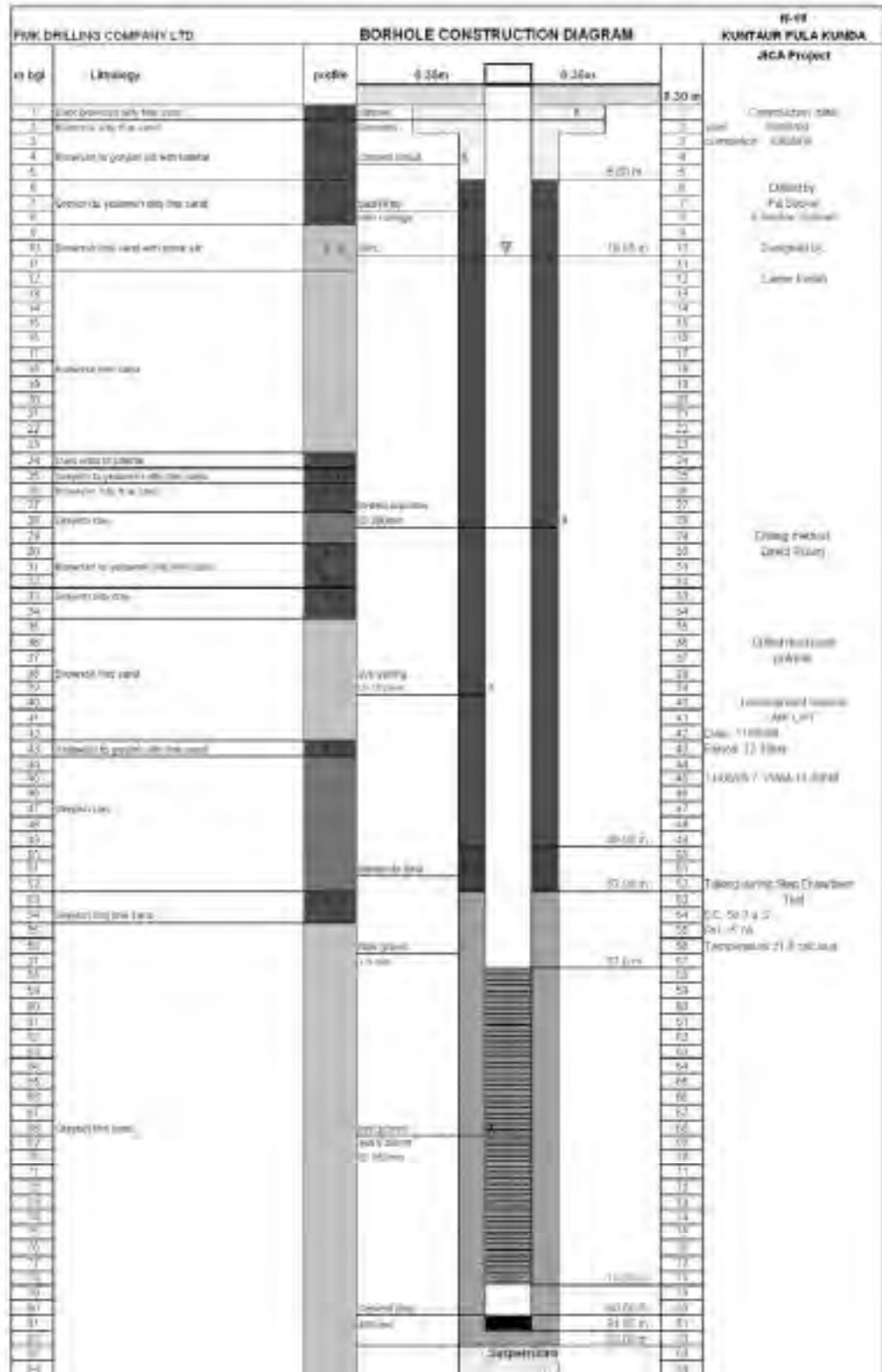


N-07

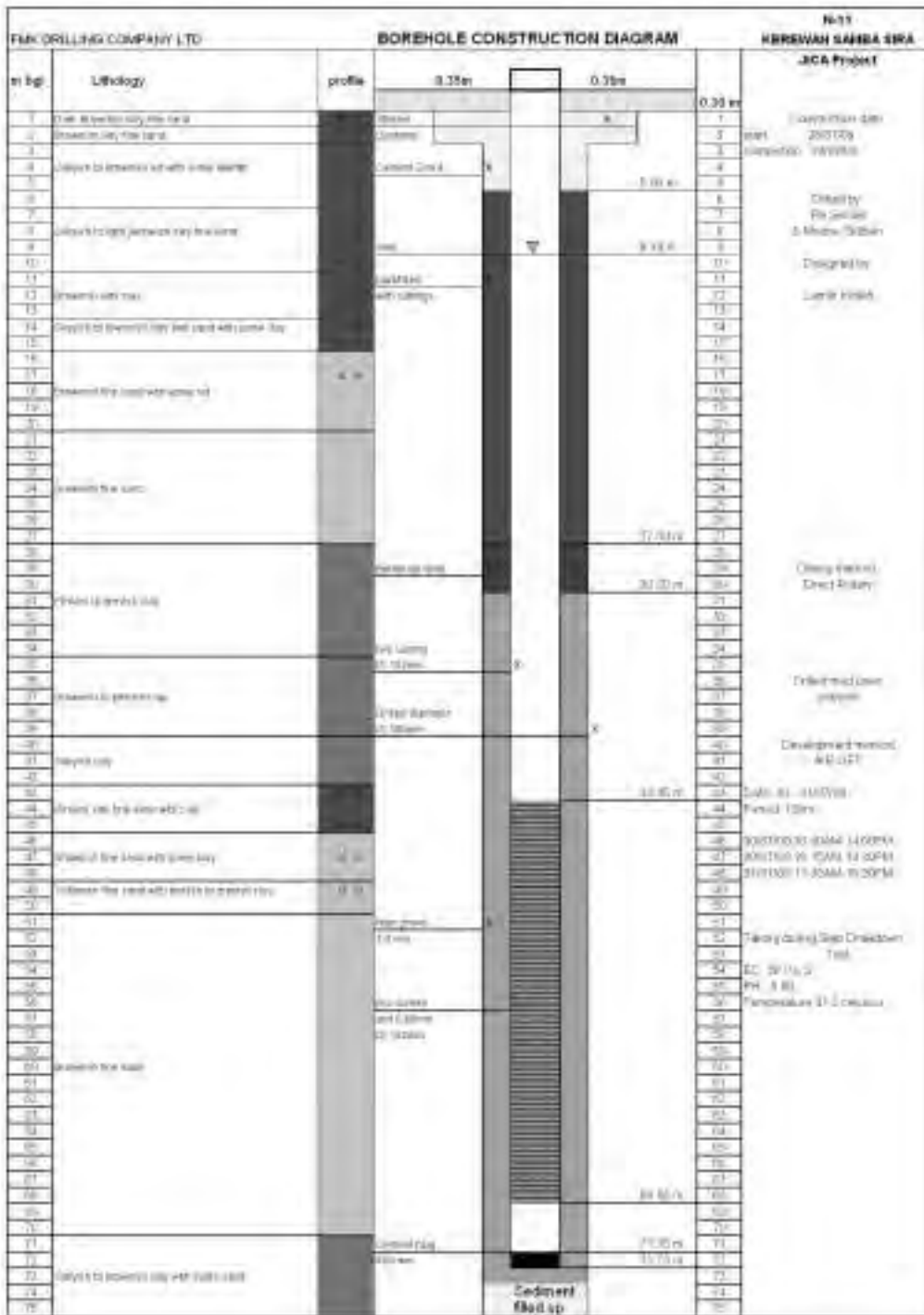


N-09

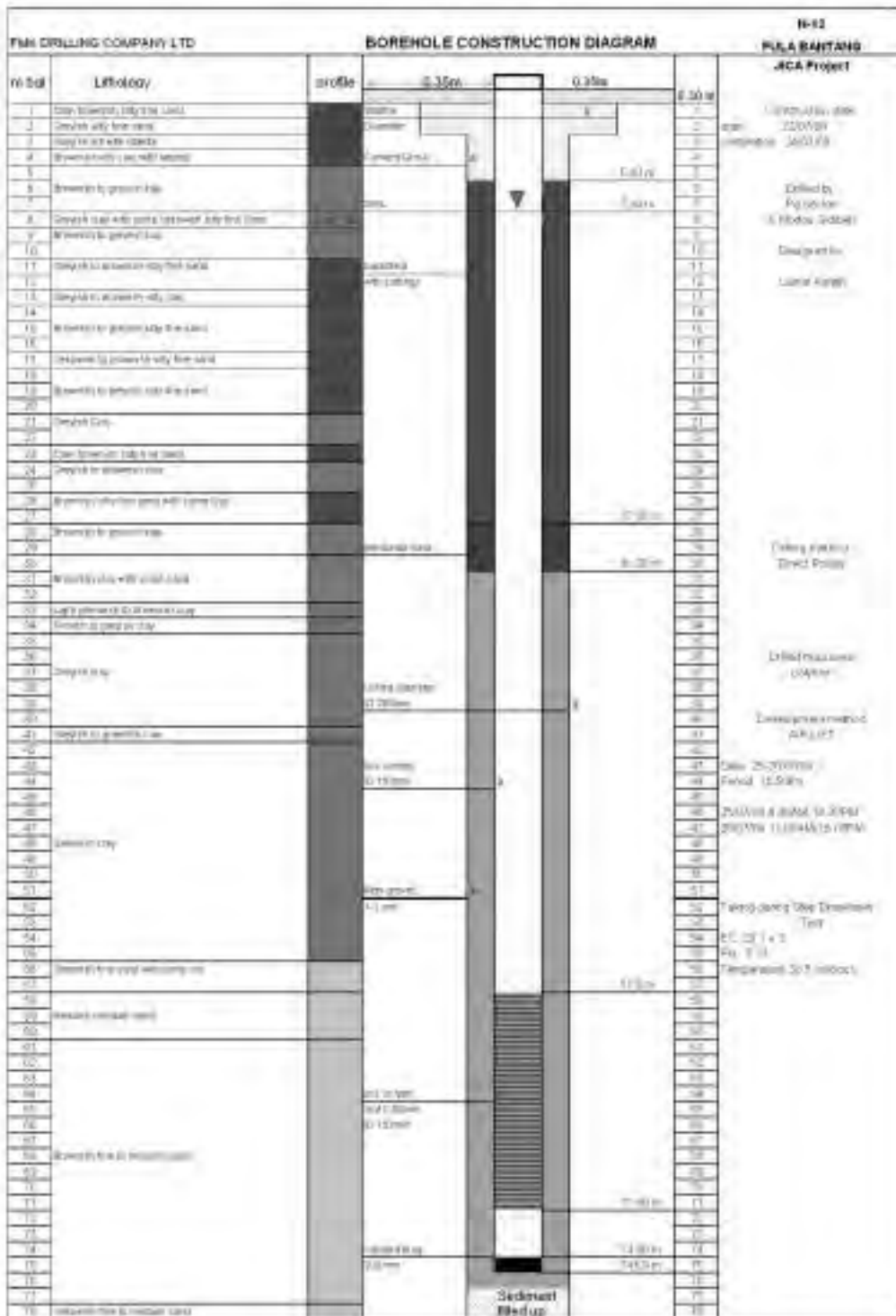
A-130



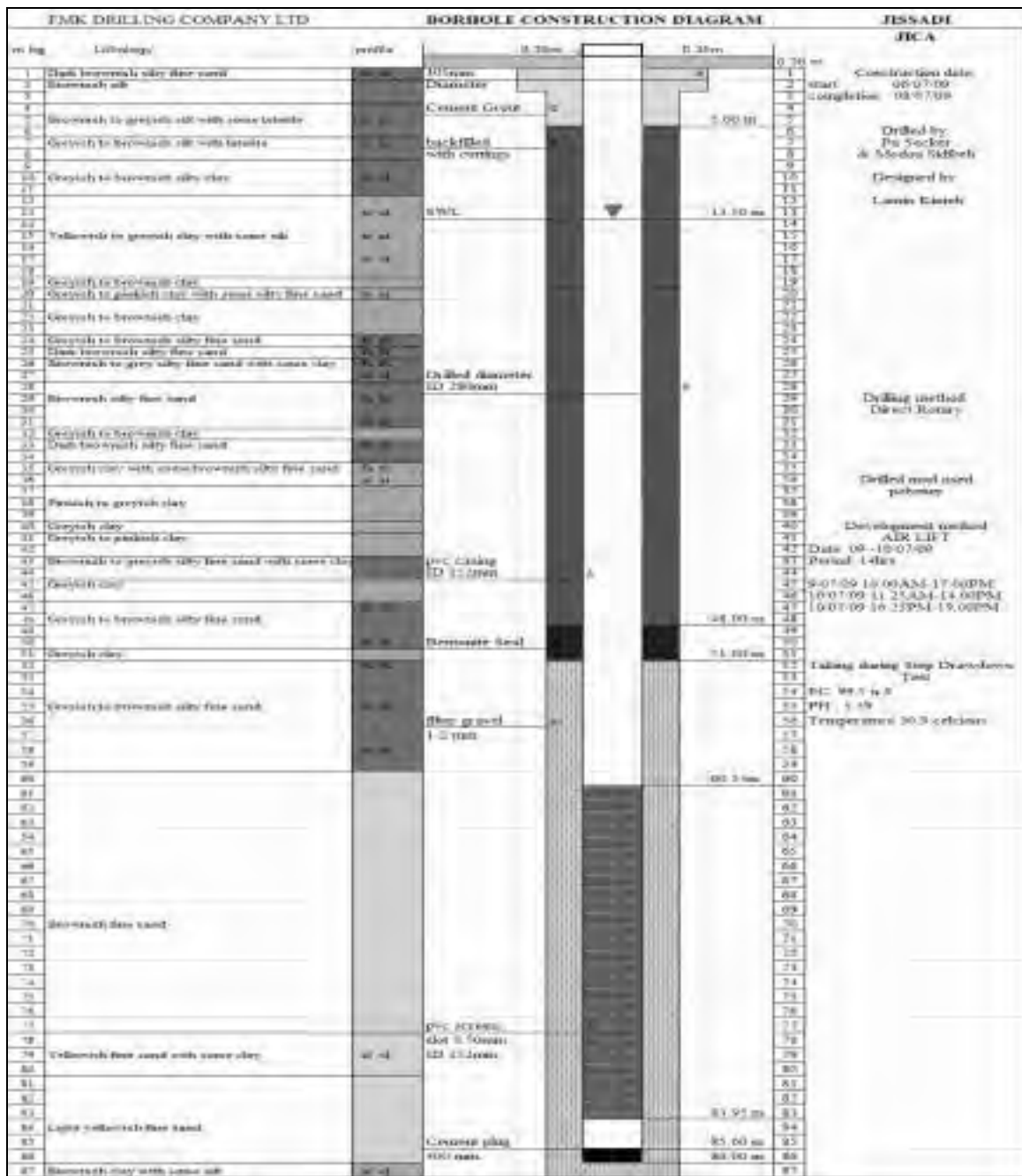
N-10



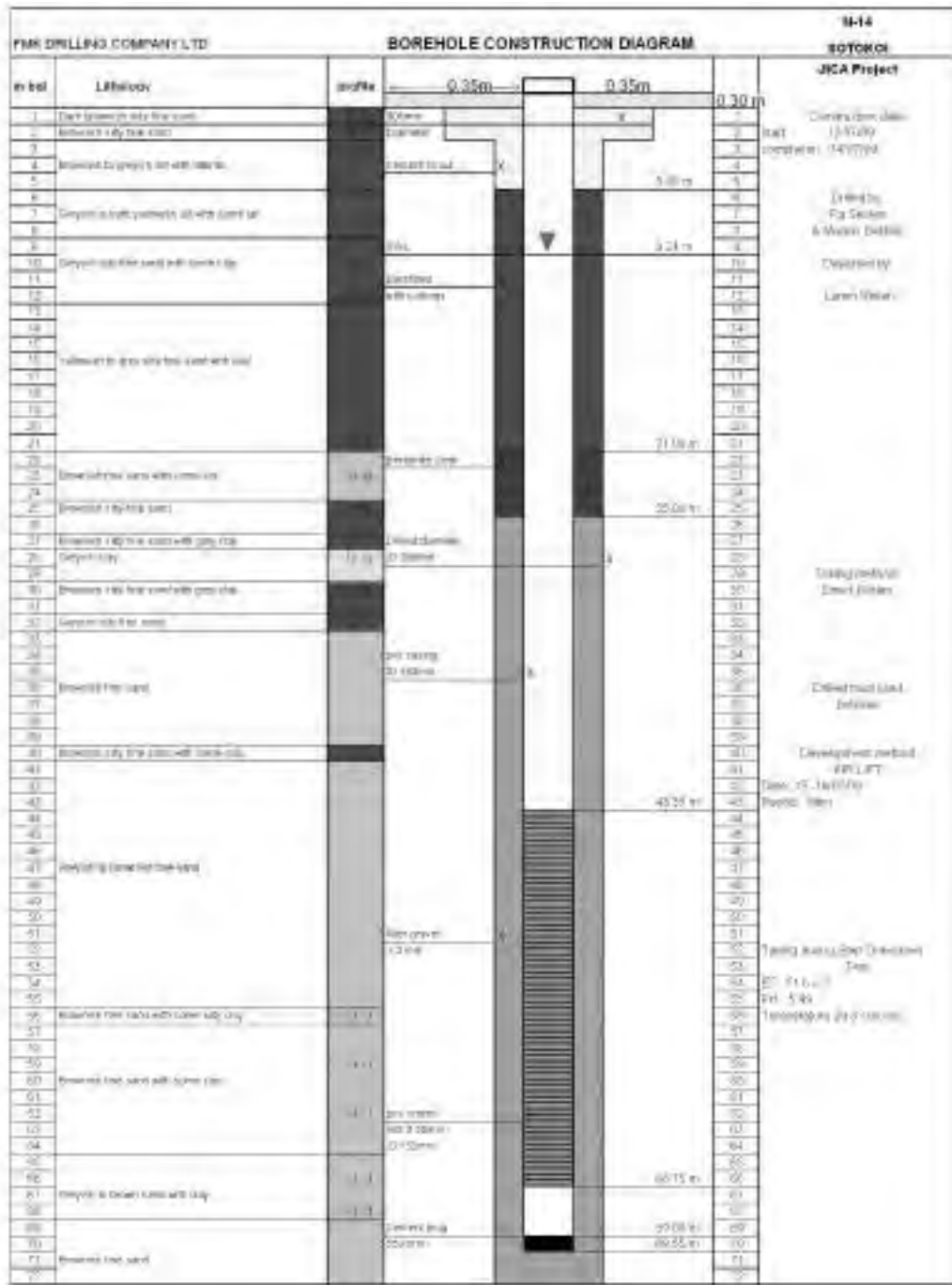
N-11



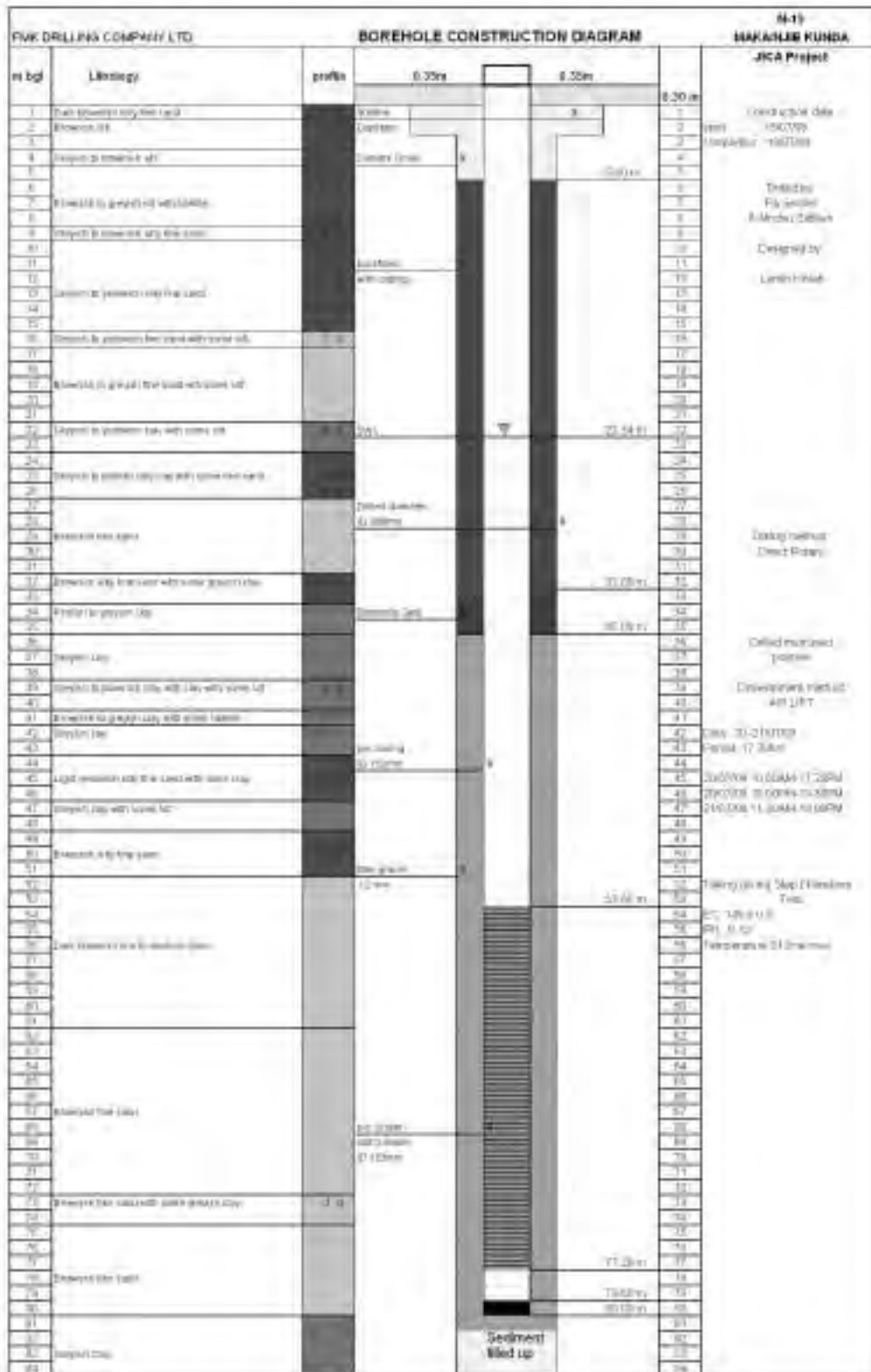
N-12



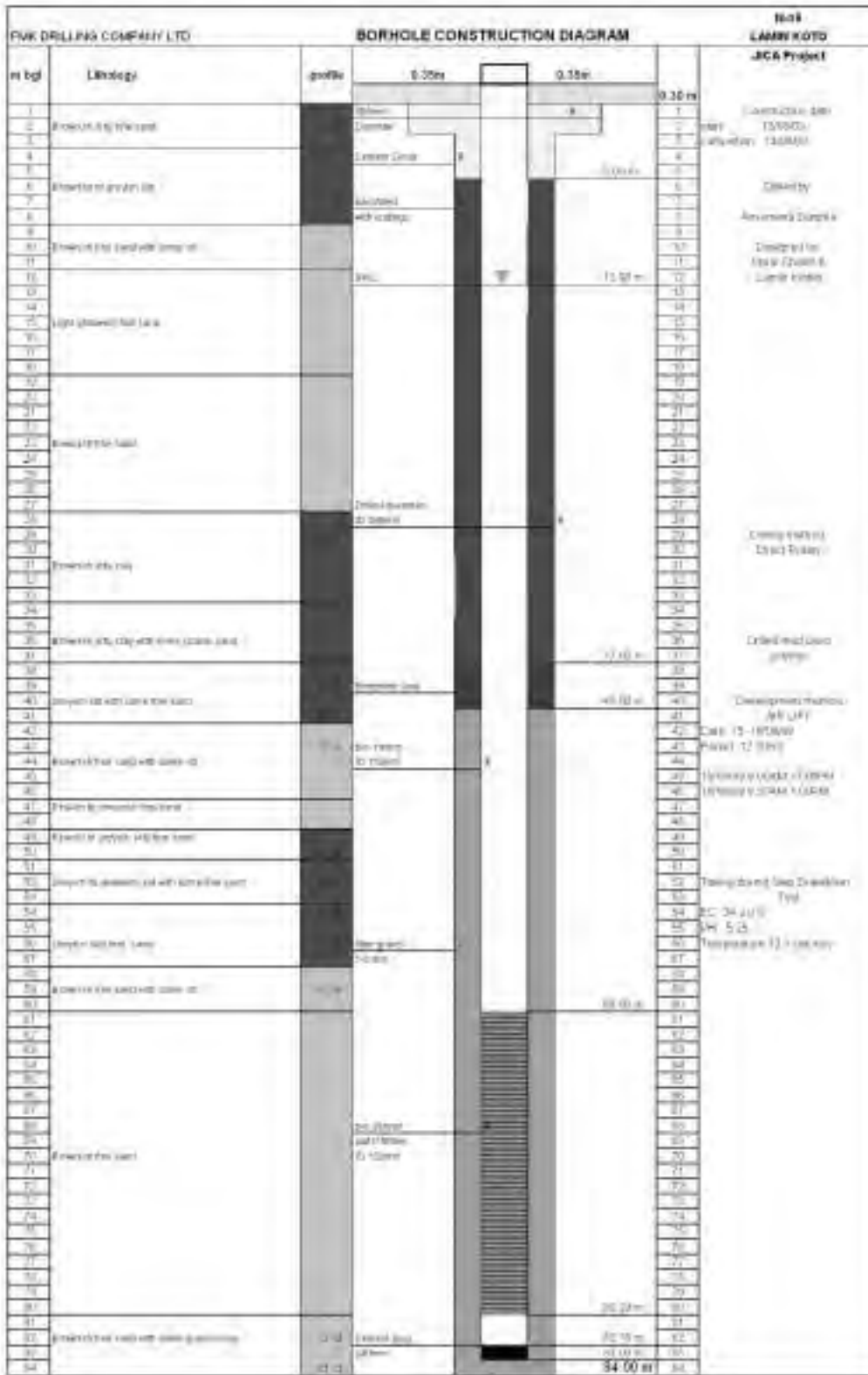
N-13



N-14



N-15



N-16

7-7 地盤調査(土質試験)結果による配水地基礎の研究

資料 7-7 地盤調査（土質試験）結果による配水池基礎の研究

1. 地盤支持力の算定

1) 地盤定数

調査結果から各サイトの配水池における地盤支持力を算定する。内部摩擦角および粘着力は「建築基礎構造設計指針（2001年10月）」より、次式にて内部摩擦角及び年茶苦慮をN値より算定する。

$$\cdot \text{内部摩擦角} : \phi = \sqrt{20N} + 15 \text{ (kgf/cm}^2\text{)} \quad \text{※ただし } N > 5$$

$$\cdot \text{粘着力} : c = 0.625N = \frac{1}{2}q_u \text{ (tf/m}^2\text{)} \quad \text{※}q_u : \text{一軸圧縮強度}$$

また室内土質試験結果とN値より得られた定数を比較し、それぞれの値を検証することとする。

2) 地盤の許容支持力

「国土交通省告示第1113号第2項 地盤の許容応力度を定める方法」より、地盤の許容支持力を算定する。本件での配水池基礎の許容応力度は固定荷重であり、求める長期許容応力度である。

$$\text{長期許容応力度} : q_a = \frac{1}{3}(i_c \alpha C N_c + i_\gamma \beta \gamma_1 B N_\gamma + i_q \gamma_2 D_f N_q) \text{ (kN/m}^2\text{)}$$

ここに、

i_c, i_γ, i_q : 基礎に作用する荷重の鉛直方向に対する傾斜角に応じて次の式によって計算した数値

$$i_c = i_q = (1 - \theta/90)^2, i_\gamma = (1 - \theta/\phi)^2$$

θ : 基礎に作用する荷重の鉛直方向に対する傾斜角 (θ が ϕ を超える場合は ϕ とする, °)

ϕ : 地盤の特性によって求めた内部摩擦角 (°)

α, β : 基礎荷重面の形状係数 (円形の場合それぞれ 1.2, 0.3)

C : 基礎荷重面下にある地盤の粘着力 (kN/m²)

B : 基礎荷重面の短辺又は短径, 円形の場合は直径 (m)

D_f : 基礎に近接した最低地盤面から基礎荷重面までの深さ (m)

N_c, N_q, N_γ : 荷重の傾斜を考慮した支持力係数

| 内部摩擦角 支持力係数 | 0° | 5° | 10° | 15° | 20° | 25° | 28° | 32° | 36° | 40° 以上 |
|----------------|-----|-----|-----|------|------|------|------|------|------|-----------|
| N_c | 5.1 | 6.5 | 8.3 | 11.0 | 14.8 | 20.7 | 25.8 | 35.5 | 50.6 | 75.3 |
| N_y | 0 | 0.1 | 0.4 | 1.1 | 2.9 | 6.8 | 11.2 | 22.0 | 44.4 | 93.7 |
| N_q | 1.0 | 1.6 | 2.5 | 3.9 | 6.4 | 10.7 | 14.7 | 23.2 | 37.8 | 64.2 |

※この表に掲げる内部摩擦角以外の内部摩擦角に応じた N_c 、 N_y 及び N_q は、表に掲げる数値をそれぞれ直線的に補間した数値とする（グラフを作成し読み取る）

ただし標準貫入試験により得られた N 値が 10 未満の層より上位層については除外した上で、配水池のデザインを簡略化するために各サイトにおける基礎深度を、許容応力度の範囲内で可能な限り同じ深度に設定する。

調査後にキャンセルとなったサイトの代替として追加された N-17~19 のサイトについては、地盤調査を実施していないため、同容量の配水池で最も安全側となる他サイトと同様とする。なお実施時に全サイトにおいて施工前に平板載荷試験を実施し、許容応力度を確認する。

また本計画における配水池の構造は高架型円形シリンダータンクで、付帯構造物としては送水管及び配水管が設置されるのみである。またメンテナンスのために人が乗ることはあるが頻度は高くない。このため傾斜荷重については考慮しないこととする。

2. 設計基礎深度と許容支持力

地盤調査結果を元に、前項に従って各サイトでの配水池基礎想定深度の長期許容支持力を算定した結果を、次ページの表に示す。

| サイト (No.) | 水槽 容量 (m ³) | 自重 (t) | 風 荷重 (t) | 基礎 深度 (m) | 上載 荷重 (t) | 基礎 面積 (m ²) | 上載荷重 | | 許容支持力 | | 判定 |
|--------------|-------------------------------|-----------|----------------|-----------------|-----------------|-------------------------------|---------------------|----------------------|----------------------|----------|----|
| | | | | | | | (t/m ²) | (kN/m ²) | (kN/m ²) | (m(GL-)) | |
| | | | | | | | | | | | |
| N-01 | 50 | 115.04 | 3.54 | GL-4.0 | 118.58 | 15.21 | 7.80 | 76.49 | 23.9 | 3.15 | OK |
| | | | | | | | | | 89.64 | 3.85 | |
| N-04 | 30 | 78.72 | 2.56 | GL-5.0 | 81.28 | 12.57 | 6.47 | 63.45 | 44.1 | 3.59 | OK |
| | | | | | | | | | 1,180 | 4.46 | |
| N-05 | 40 | 101.92 | 2.93 | GL-4.0 | 104.85 | 15.21 | 6.89 | 67.57 | 61.6 | 3.65 | OK |
| | | | | | | | | | 236.5 | 4.30 | |
| N-07 | 50 | 115.04 | 3.54 | GL-4.0 | 118.58 | 15.21 | 7.80 | 76.49 | 46.9 | 3.72 | OK |
| | | | | | | | | | 79.0 | 4.65 | |
| N-08 | 30 | 74.88 | 2.56 | GL-1.5 | 77.44 | 12.57 | 6.16 | 60.41 | 81.0 | 1.59 | OK |
| N-09 | 30 | 76.56 | 2.56 | GL-3.0 | 79.12 | 12.57 | 6.29 | 61.68 | 44.3 | 1.80 | OK |
| | | | | | | | | | 90.2 | 2.50 | |
| N-11 | 70 | 146.08 | 4.27 | GL-3.5 | 150.35 | 19.63 | 7.66 | 75.12 | 41.1 | 2.90 | OK |
| | | | | | | | | | 103.6 | 3.53 | |
| N-12 | 30 | 76.56 | 2.56 | GL-3.0 | 79.12 | 12.57 | 6.29 | 61.68 | 61.6 | 2.15 | OK |
| | | | | | | | | | 160.7 | 3.00 | |
| N-13 | 40 | 101.92 | 2.93 | GL-4.0 | 104.85 | 15.21 | 6.89 | 67.57 | 16.5 | 3.15 | OK |
| | | | | | | | | | 118.9 | 4.07 | |
| N-14 | 30 | 76.56 | 2.56 | GL-3.0 | 79.12 | 12.57 | 6.29 | 61.68 | 41.5 | 2.00 | OK |
| | | | | | | | | | 1,134 | 3.00 | |
| | | | | | | | | | 373.6 | 4.00 | |
| N-15 | 60 | 132.96 | 3.67 | GL-3.5 | 136.63 | 19.63 | 6.96 | 68.25 | 24.9 | 2.69 | OK |
| | | | | | | | | | 175.5 | 3.60 | |
| N-16 | 30 | 78.72 | 2.56 | GL-5.0 | 81.28 | 12.57 | 6.47 | 63.45 | 30.8 | 4.05 | OK |
| | | | | | | | | | 74.5 | 4.70 | |
| | | | | | | | | | 415.2 | 5.50 | |

サイト別配水池基礎底面地盤長期許容支持力

次ページ以降に、各サイトにおける調査結果を示す。

| N-01 : Kabocorr & Tampoto & Killy | | 測定・試験深度(m) | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|---------|-------------------|------|------|------|------|------|------|------|------|-------|------|-------|------|-------|------|-------|-------|------|-------|------|-------|------|-------|
| 試験 | 測定項目 | 単位 | 0.30 | 0.80 | 1.22 | 1.50 | 2.00 | 2.50 | 3.15 | 3.50 | 3.75 | 3.85 | 4.40 | 4.68 | 5.00 | 5.54 | 6.00 | 6.57 | 7.55 | 8.00 | 8.60 | 9.00 | 9.57 | 10.00 |
| N 値 | | - | | | 2 | | | | | 2 | | (2) | | 15 | | 40 | | 32 | 33 | | 38 | | 50 | |
| ふるい分け試験 | 礫質土 | % | 0 | | | 0 | 0 | 0 | | 6 | | | 10 | | 28 | | 16 | | | 32 | | 43 | | 42 |
| | 砂 | % | 84 | | | 57 | 55 | 45 | | 45 | | | 42 | | 31 | | 29 | | | 30 | | 34 | | 30 |
| | シルト・粘土 | % | 16 | | | 43 | 45 | 49 | | 49 | | | 48 | | 41 | | 55 | | | 38 | | 23 | | 28 |
| 液性限界塑性限界 | 液性限界 | % | | 28.4 | 31.8 | 29.8 | 30.3 | | 32.6 | | 32.5 | | | 36.1 | | 42.4 | | 37.9 | 35.7 | | 35.1 | | 31.4 | |
| | 塑性限界 | % | | 14.0 | 14.9 | 14.7 | 11.0 | | 15.6 | | 12.8 | | | 18.6 | | 9.9 | | 16.0 | 16.1 | | 12.5 | | 9.5 | |
| | 塑性指数 | % | | 14.4 | 16.9 | 15.1 | 19.3 | | 17.0 | | 19.7 | | | 17.5 | | 32.5 | | 21.9 | 19.6 | | 22.6 | | 21.9 | |
| 自然含水比 | | % | | | 14 | 16 | | 17 | | 15 | | | 13 | | 13 | | 14 | 12 | | 11 | | 11 | | |
| 非排水剪断強度 | | kPa | | | | | | | | | 88 | | | | | | | | | | | | | |
| かさ密度 | 湿潤密度 | tf/m ³ | | | | | | | | | 2.21 | | | | | | | | | | | | | |
| | 乾燥密度 | tf/m ³ | | | | | | | | | 1.92 | | | | | | | | | | | | | |
| みかけ密度 | 湿潤密度 | tf/m ³ | | | 1.7 | | | | 1.7 | | | 1.76 | | 1.7 | | 1.7 | | 1.7 | 1.7 | | 1.7 | | 1.7 | |
| | 乾燥密度 | tf/m ³ | | | | | | | | | 1.49 | | | | | | | | | | | | | |
| 比重試験 | 比重 | tf/m ³ | | | | | | | | | 2.65 | | | | | | | | | | | | | |
| | 含水比 | % | | | | | | | | | 29.2 | | | | | | | | | | | | | |
| | 飽和度 | % | | | | | | | | | 60.9 | | | | | | | | | | | | | |
| | 空隙率 | % | | | | | | | | | 43.6 | | | | | | | | | | | | | |
| | 間隙比 | - | | | | | | | | | 0.775 | | | | | | | | | | | | | |
| 力学試験 | 内部摩擦角 | ° | | | 21.3 | | | | 21.3 | | | 21.8 | | 32.3 | | 43.3 | | 40.3 | 40.7 | | 42.6 | | 46.6 | |
| | 粘着力 | tf/m ² | | | 1.25 | | | | 1.25 | | 4.99 | | 9.38 | | 25.0 | | 20.0 | 20.6 | | 23.7 | | 31.2 | | |
| | 圧縮強度 | kPa | | | 24.5 | | | | 24.5 | | 98 | | 183.9 | | 490.3 | | 392.3 | 404.5 | | 465.8 | | 612.9 | | |
| | 圧縮指数 | - | | | | | | | | | 0.107 | | | | | | | | | | | | | |
| | 圧密係数 | m ² /s | | | | | | | | | 2.40 | | | | | | | | | | | | | |
| 化学試験 | 長期許容支持力 | kN/m ² | | | 15.9 | | | | 23.9 | | 89.6 | | 217.8 | | 1024 | | 911.5 | 966.0 | | 1028 | | 1289 | | |
| | pH | - | | | | | | | | | 4.97 | | | | | | | | | | | | | |
| | 硫酸塩含有量 | mg/g | | | | | | | | | 14 | | | | | | | | | | | | | |

※内部摩擦角，粘着力については N 値より算定，許容支持力は内部摩擦角，粘着力より算定，(N)は前後の N 値から想定，■ 網掛け部分は室内土質試験結果及びその結果からの算定

| N-04 : Kerr Katim | | 測定・試験深度(m) | | | | | | | | | | | | | | | | | | | | |
|-------------------|---------|-------------------|------|------|------|------|------|-------|------|------|------|------|------|-------|------|-------|-------|-------|-------|-------|-------|-------|
| 試験 | 測定項目 | 単位 | 0.30 | 0.50 | 1.30 | 1.50 | 2.08 | 2.50 | 2.75 | 3.00 | 3.05 | 3.59 | 4.00 | 4.46 | 5.00 | 5.60 | 6.55 | 7.55 | 8.55 | 9.00 | 9.50 | 10.00 |
| N 値 | | - | | | 2 | 2 | | (3) | | | | 4 | | 50 | | 50 | 50 | 50 | 50 | 50 | 49 | |
| ふるい分け試験 | 礫質土 | % | 0 | 0 | | 0 | 0 | 0 | | 0 | | 1 | | 38 | | | | | | 5 | | 3 |
| | 砂 | % | 68 | 50 | | 47 | 44 | | 47 | | | 35 | | 31 | | | | | | 39 | | 52 |
| | シルト・粘土 | % | 32 | 50 | | 53 | 56 | | 53 | | | 64 | | 31 | | | | | | 56 | | 45 |
| 液性限界塑性限界 | 液性限界 | % | | | 24.7 | 25.9 | 27.9 | 30.5 | 28.9 | 30.4 | | 27.7 | | 29.2 | 34.2 | 33.3 | 33.4 | 30.4 | 29.7 | 29.1 | | 26.9 |
| | 塑性限界 | % | | | 11.4 | 10.9 | 13.9 | 12.3 | 10.4 | 14.2 | | 14.3 | | 14.8 | 16.5 | 14.8 | 15.6 | 12.4 | 10.6 | 10.8 | | 10.6 |
| | 塑性指数 | % | | | 13.3 | 15.1 | 14.0 | 18.2 | 18.5 | 16.2 | | 13.4 | | 14.4 | 17.7 | 18.5 | 17.8 | 18.0 | 19.0 | 18.3 | | 16.3 |
| 自然含水比 | | % | | | 15 | 15 | | 17 | | | | 15 | | 9.0 | | 9.0 | 9.2 | 8.2 | 7.5 | | 5.8 | |
| 非排水剪断強度 | | kPa | | | | | | | | | 59 | | | | | | | | | | | |
| かさ密度 | 湿潤密度 | tf/m ³ | | | | | | 2.10 | | | | | | | | | | | | | | |
| | 乾燥密度 | tf/m ³ | | | | | | 1.80 | | | | | | | | | | | | | | |
| みかけ密度 | 湿潤密度 | tf/m ³ | | | 1.8 | | 1.8 | | 1.86 | | | 1.8 | | 1.8 | | | | | | | | |
| | 乾燥密度 | tf/m ³ | | | | | | 1.62 | | | | | | | | | | | | | | |
| 比重試験 | 比重 | tf/m ³ | | | | | | 2.67 | | | | | | | | | | | | | | |
| | 含水比 | % | | | | | | 24.3 | | | | | | | | | | | | | | |
| | 飽和度 | % | | | | | | 62.1 | | | | | | | | | | | | | | |
| | 空隙率 | % | | | | | | 55.1 | | | | | | | | | | | | | | |
| | 間隙比 | - | | | | | | 0.650 | | | | | | | | | | | | | | |
| 力学試験 | 内部摩擦角 | ° | | | 21.3 | | 21.3 | | 22.7 | | | 23.9 | | 46.6 | | 46.6 | 46.6 | 46.6 | 46.6 | 46.6 | 46.3 | |
| | 粘着力 | kPa | | | 1.25 | | 1.25 | | 3.97 | | | 2.5 | | 31.2 | | 31.2 | 31.2 | 31.2 | 31.2 | 31.2 | 30.6 | |
| | 圧縮強度 | kPa | | | 24.5 | | 24.5 | | 78 | | | 49.0 | | 612.9 | | 612.9 | 612.9 | 612.9 | 612.9 | 612.9 | 600.6 | |
| | 圧縮指数 | - | | | | | | 0.146 | | | | | | | | | | | | | | |
| | 圧密係数 | m ² /s | | | | | | 9.46 | | | | | | | | | | | | | | |
| 化学試験 | 長期許容支持力 | kN/m ² | | | 16.5 | | 19.9 | | 46.5 | | | 44.1 | | 1180 | | 1224 | 1261 | 1299 | 1338 | 1355 | 1355 | |
| | pH | - | | | | | | 4.28 | | | | | | | | | | | | | | |
| | 硫酸塩含有量 | mg/g | | | | | | 16 | | | | | | | | | | | | | | |

※内部摩擦角，粘着力については N 値より算定，許容支持力は内部摩擦角，粘着力より算定，(N)は前後の N 値から想定，■ 網掛け部分は室内土質試験結果及びその結果からの算定

| N-05 : Madina Kaiaf (Sancha) | | 測定・試験深度(m) | | | | | | | | | | | | | | | | | | | |
|------------------------------|---------|-------------------|------|------|------|------|------|------|------|------|-------|------|-------|------|-------|-------|------|-------|------|-------|-------|
| 試験 | 測定項目 | 単位 | 0.30 | 1.15 | 1.50 | 1.80 | 2.57 | 3.65 | 4.00 | 4.20 | 4.30 | 4.50 | 5.09 | 5.50 | 6.07 | 7.04 | 7.50 | 8.25 | 8.50 | 9.07 | 10.00 |
| N 値 | | - | | 2 | | | | 6 | | | (21) | | 21 | 39 | 31 | | 50 | 50 | | 50 | 50 |
| ふるい分け試験 | 礫質土 | % | | | 0 | | 0 | | 4 | | | 6 | | 6 | | 14 | | 13 | | | |
| | 砂 | % | | | 61 | | 60 | | 36 | | | 33 | | 28 | | 21 | | 28 | | | |
| | シルト・粘土 | % | | | 39 | | 40 | | 60 | | | 61 | | 66 | | 65 | | 59 | | | |
| 液性限界塑性限界 | 液性限界 | % | 15.6 | 26.3 | | | 31.2 | 35.3 | | 37.6 | | 33.7 | 40.0 | | 36.3 | 41.1 | | 39.7 | | | 40.8 |
| | 塑性限界 | % | - | 15.6 | | | 15.9 | 23.2 | | 22.3 | | 18.1 | 25.5 | | 22.0 | 26.3 | | 18.3 | | | 24.9 |
| | 塑性指数 | % | - | 10.7 | | | 15.3 | 12.0 | | 15.2 | | 15.6 | 14.5 | | 14.4 | 14.8 | | 21.5 | | | 15.9 |
| 自然含水比 | | % | | 14 | | 15 | 17 | 16 | | 16 | | | 15 | | 15 | 15 | | 13 | | 14 | 14 |
| 非排水剪断強度 | | kPa | | | | | | | | | 123 | | | | | | | | | | |
| かさ密度 | 湿潤密度 | tf/m ³ | | | | | | | | 2.11 | | | | | | | | | | | |
| | 乾燥密度 | tf/m ³ | | | | | | | | 1.82 | | | | | | | | | | | |
| みかけ密度 | 湿潤密度 | tf/m ³ | | 1.6 | | | | 1.6 | | | | | 1.6 | | 1.6 | 1.6 | | 1.6 | | | 1.6 |
| | 乾燥密度 | tf/m ³ | | | | | | | | | 1.40 | | | | | | | | | | |
| 比重試験 | 比重 | tf/m ³ | | | | | | | | | 2.66 | | | | | | | | | | |
| | 含水比 | % | | | | | | | | | 33.8 | | | | | | | | | | |
| | 飽和度 | % | | | | | | | | | 49.4 | | | | | | | | | | |
| | 空隙率 | % | | | | | | | | | 47.4 | | | | | | | | | | |
| | 間隙比 | - | | | | | | | | | 0.902 | | | | | | | | | | |
| 力学試験 | 内部摩擦角 | ° | | 21.3 | | | | 26.0 | | | 35.5 | | 35.5 | | 42.9 | 39.9 | | 46.6 | | 46.6 | 46.6 |
| | 粘着力 | kPa | | 1.25 | | | 3.75 | | | | 6.47 | | 13.1 | | 24.4 | 19.4 | | 31.2 | | 31.2 | 31.2 |
| | 圧縮強度 | kPa | | 24.5 | | | 73.5 | | | | 127 | | 257.4 | | 478.1 | 380.0 | | 612.9 | | 612.9 | 612.9 |
| | 圧縮指数 | - | | | | | | | | | 0.057 | | | | | | | | | | |
| | 圧密係数 | m ² /s | | | | | | | | | 5.18 | | | | | | | | | | |
| 化学試験 | 長期許容支持力 | kN/m ² | | 15.2 | | | 61.6 | | | | 236.5 | | 377.8 | | 1008 | 980.6 | | 1290 | | 1318 | 1350 |
| | pH | - | | | | | | | | | 4.51 | | | | | | | | | | |
| | 硫酸塩含有量 | mg/g | | | | | | | | | 14 | | | | | | | | | | |

※内部摩擦角，粘着力については N 値より算定，許容支持力は内部摩擦角，粘着力より算定，(N)は前後の N 値から想定，■ 網掛け部分は室内土質試験結果及びその結果からの算定

| N-07 : Ballangharr Complex | | 測定・試験深度(m) | | | | | | | | | | | | | | | | | | | | | |
|----------------------------|---------|-------------------|------|------|------|------|------|-------|------|------|------|------|------|-------|------|------|-------|-------|------|-------|------|-------|-----|
| 試験 | 測定項目 | 単位 | 0.50 | 1.25 | 1.50 | 2.15 | 2.50 | 2.80 | 3.50 | 3.72 | 4.00 | 4.65 | 5.00 | 5.52 | 6.00 | 6.40 | 7.00 | 8.00 | 8.50 | 9.15 | 9.50 | 10.00 | |
| N 値 | | - | | 2 | | 4 | | (5) | | 5 | | 7 | | 10 | | | 43 | 27 | | 50 | | 50 | |
| ふるい分け試験 | 礫質土 | % | 1 | | 0 | | 0 | | 6 | | 8 | | 3 | | 9 | | | | 0 | | 0 | | |
| | 砂 | % | 83 | | 81 | | 63 | | 66 | | 63 | | 74 | | 50 | | | | 28 | | 49 | | |
| | シルト・粘土 | % | 16 | | 19 | | 37 | | 28 | | 29 | | 23 | | 41 | | | | 72 | | 51 | | |
| 液性限界塑性限界 | 液性限界 | % | | 19.8 | 16.5 | | 29.2 | 30.3 | 29.7 | 25.9 | 29.2 | | | 21.6 | 26.0 | 35.1 | 36.7 | 31.6 | 34.5 | 23.2 | 24.9 | 28.6 | |
| | 塑性限界 | % | | 10.2 | - | | 11.9 | 13.6 | 14.9 | 11.3 | 10.0 | | | 8.8 | 10.4 | 13.8 | 14.9 | 12.5 | 10.8 | 12.8 | 11.8 | 15.5 | |
| | 塑性指数 | % | | 9.6 | - | | 17.3 | 16.7 | 14.8 | 14.6 | 19.2 | | | 12.8 | 15.6 | 21.4 | 21.8 | 19.1 | 23.7 | 10.4 | 13.1 | 13.1 | |
| 自然含水比 | | % | | 9.3 | 12 | | | 9.8 | | 8.0 | | 7.7 | | 9.1 | | | 11 | 10 | | 7.1 | | 10 | |
| 非排水剪断強度 | | kPa | | | | | | | | | | | | | | | | | | | | | |
| かさ密度 | 湿潤密度 | tf/m ³ | | | | | | 2.18 | | | | | | | | | | | | | | | |
| | 乾燥密度 | tf/m ³ | | | | | | 1.99 | | | | | | | | | | | | | | | |
| みかけ密度 | 湿潤密度 | tf/m ³ | | 1.6 | | 1.6 | | 1.59 | | 1.6 | | 1.6 | | 1.6 | | | 1.6 | 1.6 | | 1.6 | | 1.6 | 1.6 |
| | 乾燥密度 | tf/m ³ | | | | | | 1.54 | | | | | | | | | | | | | | | |
| 比重試験 | 比重 | tf/m ³ | | | | | | 2.67 | | | | | | | | | | | | | | | |
| | 含水比 | % | | | | | | 27.5 | | | | | | | | | | | | | | | |
| | 飽和度 | % | | | | | | 34.5 | | | | | | | | | | | | | | | |
| | 空隙率 | % | | | | | | 42.3 | | | | | | | | | | | | | | | |
| | 間隙比 | - | | | | | | 0.734 | | | | | | | | | | | | | | | |
| 力学試験 | 内部摩擦角 | ° | | 21.3 | | 23.9 | | 25.0 | | 25.0 | | 26.8 | | 29.1 | | | 44.3 | 38.2 | | 46.6 | | 46.6 | |
| | 粘着力 | kPa | | 1.25 | | 2.50 | | 6.98 | | 3.12 | | 4.37 | | 6.25 | | | 26.9 | 16.9 | | 31.2 | | 31.2 | |
| | 圧縮強度 | kPa | | 24.5 | | 49.0 | | 137 | | 61.3 | | 85.8 | | 122.6 | | | 527.1 | 331.0 | | 612.9 | | 612.9 | |
| | 圧縮指数 | - | | | | | | 0.097 | | | | | | | | | | | | | | | |
| | 圧密係数 | m ² /s | | | | | | 9.85 | | | | | | | | | | | | | | | |
| 化学試験 | 長期許容支持力 | kN/m ² | | 15.6 | | 34.3 | | 75.4 | | 46.9 | | 79.0 | | 129.0 | | | 1115 | 698.6 | | 1320 | | 1350 | |
| | pH | - | | | | 4.58 | | | | | | | | | | | | | | | | | |
| | 硫酸塩含有量 | mg/g | | | | 37 | | | | | | | | | | | | | | | | | |

※内部摩擦角，粘着力についてはN 値より算定，許容支持力は内部摩擦角，粘着力より算定，(N)は前後のN 値から想定，■ 網掛け部分は室内土質試験結果及びその結果からの算定

| N-08 : Jimbala Complex | | 測定・試験深度(m) | | | | | | | | | | | | | | | | | | | | |
|------------------------|---------|-------------------|------|------|-------|-------|------|-------|------|------|-------|-------|------|-------|------|-------|-------|------|-------|------|-------|-------|
| 試験 | 測定項目 | 単位 | 0.50 | 0.80 | 1.59 | 2.00 | 2.22 | 2.70 | 3.02 | 3.50 | 3.75 | 4.50 | 5.00 | 5.55 | 6.00 | 6.50 | 7.55 | 8.00 | 8.55 | 9.00 | 9.57 | 10.00 |
| N 値 | | - | | | 9 | 50 | 24 | | 24 | | (25) | 25 | | 26 | | 24 | 34 | | 50 | | 50 | |
| ふるい分け試験 | 礫質土 | % | 0 | | | 47 | 44 | | | 2 | | | 1 | | 9 | | | 3 | | 1 | | 0 |
| | 砂 | % | 71 | | | 22 | 34 | | 47 | | | | 47 | | 33 | | | 34 | | 21 | | 11 |
| | シルト・粘土 | % | 29 | | | 31 | 22 | | 51 | | | | 52 | | 58 | | | 63 | | 78 | | 89 |
| 液性限界塑性限界 | 液性限界 | % | 15.9 | 32.0 | | 31.9 | 28.7 | 28.1 | | 33.0 | 29.1 | 30.8 | 33.8 | 31.9 | 33.1 | 35.0 | 26.8 | 24.8 | 34.9 | 42.1 | 45.5 | 50.9 |
| | 塑性限界 | % | - | 15.6 | | 15.3 | 14.8 | 12.4 | | 16.8 | 13.0 | 16.2 | 11.7 | 13.4 | 17.0 | 14.5 | 12.5 | 13.3 | 11.4 | 19.0 | 18.9 | 19.5 |
| | 塑性指数 | % | - | 16.4 | | 16.6 | 13.8 | 15.8 | | 16.2 | 16.1 | 14.5 | 22.1 | 18.5 | 16.1 | 20.5 | 14.3 | 11.6 | 23.5 | 23.1 | 26.6 | 31.4 |
| 自然含水比 | | % | | | 12 | 8.9 | | 10 | | | 9.4 | 9.5 | 9.2 | | 11 | 10 | | 13 | | 17 | | |
| 非排水剪断強度 | | kPa | | | | | | | | | | | | | | | | | | | | |
| かさ密度 | 湿潤密度 | tf/m ³ | | | | | | | | | 2.19 | | | | | | | | | | | |
| | 乾燥密度 | tf/m ³ | | | | | | | | | 2.00 | | | | | | | | | | | |
| みかけ密度 | 湿潤密度 | tf/m ³ | | | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.59 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| | 乾燥密度 | tf/m ³ | | | | | | | | | 1.46 | | | | | | | | | | | |
| 比重試験 | 比重 | tf/m ³ | | | | | | | | | 2.66 | | | | | | | | | | | |
| | 含水比 | % | | | | | | | | | 31.0 | | | | | | | | | | | |
| | 飽和度 | % | | | | | | | | | 30.6 | | | | | | | | | | | |
| | 空隙率 | % | | | | | | | | | 45.2 | | | | | | | | | | | |
| | 間隙比 | - | | | | | | | | | 0.824 | | | | | | | | | | | |
| 力学試験 | 内部摩擦角 | ° | | | 28.4 | 46.6 | | 36.9 | | | 37.4 | 37.4 | | 37.8 | | 36.9 | 41.1 | | 46.6 | | 46.6 | |
| | 粘着力 | kPa | | | 5.62 | 31.2 | | 15.0 | | | 4.99 | 15.6 | | 16.2 | | 15.0 | 21.2 | | 31.2 | | 31.2 | |
| | 圧縮強度 | kPa | | | 110.3 | 612.9 | | 294.2 | | | 98 | 306.5 | | 318.7 | | 294.2 | 416.8 | | 612.9 | | 612.9 | |
| | 圧縮指数 | - | | | | | | | | | 0.069 | | | | | | | | | | | |
| | 圧密係数 | m ² /s | | | | | | | | | 21.9 | | | | | | | | | | | |
| 化学試験 | 長期許容支持力 | kN/m ² | | | 81.0 | 1077 | | 438.5 | | | 246.7 | 513.3 | | 584.8 | | 517.7 | 956.5 | | 1292 | | 1326 | |
| | pH | - | | | | | | 4.58 | | | | | | | | | | | | | | |
| | 硫酸塩含有量 | mg/g | | | | | | 25 | | | | | | | | | | | | | | |

※内部摩擦角，粘着力については N 値より算定，許容支持力は内部摩擦角，粘着力より算定，(N)は前後の N 値から想定，■ 網掛け部分は室内土質試験結果及びその結果からの算定

| N-09 : Fass | | 測定・試験深度(m) | | | | | | | | | | | | | | | | | | | |
|-------------|---------|-------------------|------|------|------|------|-------|------|-------|------|-------|------|-------|-------|------|-------|-------|-------|------|-------|-------|
| 試験 | 測定項目 | 単位 | 0.30 | 0.55 | 1.00 | 1.50 | 1.80 | 2.17 | 2.50 | 3.00 | 3.50 | 4.00 | 4.53 | 5.55 | 6.00 | 6.55 | 7.50 | 8.59 | 9.00 | 9.50 | 10.00 |
| N 値 | | - | | | 4 | | (4) | | 9 | | 28 | | 36 | | | 50 | 50 | 50 | | 42 | |
| ふるい分け試験 | 礫質土 | % | 1 | 2 | 16 | | | | | 4 | | 3 | | | 0 | | | | 0 | | 0 |
| | 砂 | % | 67 | 40 | 38 | | | | 45 | | | 48 | | | 65 | | | | 76 | | 75 |
| | シルト・粘土 | % | 32 | 58 | 46 | | | | | 51 | | 49 | | | 35 | | | | 24 | | 25 |
| 液性限界塑性限界 | 液性限界 | % | | 29.9 | 34.2 | 31.5 | 33.5 | | 32.0 | 32.2 | 32.2 | 29.0 | 28.1 | 26.0 | 30.5 | 28.4 | 26.7 | 28.8 | 29.0 | 25.3 | |
| | 塑性限界 | % | | 14.5 | 16.8 | 14.3 | 16.6 | | 15.1 | 17.7 | 17.6 | 13.9 | 15.3 | 14.2 | 14.2 | 15.6 | 11.0 | 13.1 | 14.1 | 15.7 | |
| | 塑性指数 | % | | 15.4 | 17.4 | 17.2 | 16.9 | | 16.9 | 14.5 | 14.6 | 15.1 | 12.8 | 11.8 | 16.3 | 12.8 | 15.7 | 15.7 | 14.9 | 9.6 | |
| 自然含水比 | | % | | | 18 | | 14 | | 14 | | 11 | | 10 | 8.9 | | 6.7 | 6.9 | 9.7 | | 10 | |
| 非排水剪断強度 | | kPa | | | | | | 127 | | | | | | | | | | | | | |
| かさ密度 | 湿潤密度 | tf/m ³ | | | | | 2.06 | | | | | | | | | | | | | | |
| | 乾燥密度 | tf/m ³ | | | | | 1.80 | | | | | | | | | | | | | | |
| みかけ密度 | 湿潤密度 | tf/m ³ | | | 1.7 | | 1.69 | | 1.7 | | 1.7 | | 1.7 | 1.7 | | 1.7 | 1.7 | 1.7 | | 1.7 | |
| | 乾燥密度 | tf/m ³ | | | | | 1.47 | | | | | | | | | | | | | | |
| 比重試験 | 比重 | tf/m ³ | | | | | 2.65 | | | | | | | | | | | | | | |
| | 含水比 | % | | | | | 30.5 | | | | | | | | | | | | | | |
| | 飽和度 | % | | | | | 51.1 | | | | | | | | | | | | | | |
| | 空隙率 | % | | | | | 44.6 | | | | | | | | | | | | | | |
| | 間隙比 | - | | | | | 0.807 | | | | | | | | | | | | | | |
| 力学試験 | 内部摩擦角 | ° | | | 23.9 | | 23.9 | | 28.4 | | 38.7 | | 41.8 | 46.3 | | 46.6 | 46.6 | 46.6 | | 44.0 | |
| | 粘着力 | kPa | | | 2.50 | | 3.98 | | 5.62 | | 17.5 | | 22.5 | 30.6 | | 31.2 | 31.2 | 31.2 | | 26.2 | |
| | 圧縮強度 | kPa | | | 49.0 | | 78 | | 110.3 | | 343.2 | | 441.3 | 600.7 | | 612.9 | 612.9 | 612.9 | | 514.8 | |
| | 圧縮指数 | - | | | | | 0.055 | | | | | | | | | | | | | | |
| | 圧密係数 | m ² /s | | | | | 3.94 | | | | | | | | | | | | | | |
| 化学試験 | 長期許容支持力 | kN/m ² | | | 28.6 | | 44.3 | | 90.2 | | 631.1 | | 906.2 | 1188 | | 1243 | 1278 | 1317 | | 1200 | |
| | pH | - | | | | | 5.13 | | | | | | | | | | | | | | |
| | 硫酸塩含有量 | mg/g | | | | | 220 | | | | | | | | | | | | | | |

※内部摩擦角，粘着力についてはN 値より算定，許容支持力は内部摩擦角，粘着力より算定，(N)は前後のN 値から想定，■ 網掛け部分は室内土質試験結果及びその結果からの算定

| N-11 : Kerewan Samba Sira | | 測定・試験深度(m) | | | | | | | | | | | | | | | | | | | | | |
|---------------------------|---------|-------------------|------|------|------|-------|------|------|------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|
| 試験 | 測定項目 | 単位 | 0.80 | 1.23 | 1.50 | 1.80 | 2.00 | 2.15 | 2.90 | 3.00 | 3.53 | 4.00 | 4.53 | 5.00 | 5.50 | 6.00 | 6.50 | 7.00 | 7.57 | 8.00 | 8.50 | 9.00 | 9.50 |
| N 値 | | - | | 2 | | (2) | | | 4 | | 9 | | 21 | | 30 | | 35 | | 28 | | 42 | | 50 |
| ふるい分け試験 | 礫質土 | % | 0 | | 1 | | 0 | | | 5 | | 14 | | 14 | | 23 | | 9 | | 1 | | 20 | |
| | 砂 | % | 49 | | 42 | | 43 | | 41 | | | 36 | | 30 | | 28 | | 30 | | 30 | | 24 | |
| | シルト・粘土 | % | 51 | | 57 | | 57 | | 54 | | | 50 | | 56 | | 49 | | 61 | | 69 | | 56 | |
| 液性限界塑性限界 | 液性限界 | % | 29.8 | 31.4 | | 32.3 | | | 30.0 | 30.2 | 30.4 | | | 32.1 | | | 34.5 | | 34.3 | 38.3 | 32.1 | 36.9 | 30.7 |
| | 塑性限界 | % | 13.1 | 15.2 | | 12.0 | | | 13.3 | 15.2 | 14.1 | | | 14.3 | | | 15.0 | | 11.9 | 17.1 | 16.5 | 13.5 | 14.1 |
| | 塑性指数 | % | 16.6 | 16.2 | | 20.3 | | | 16.7 | 15.0 | 16.3 | | | 17.8 | | | 19.5 | | 22.4 | 21.1 | 15.6 | 23.4 | 16.6 |
| 自然含水比 | | % | | 17 | | 17 | | | 16 | | 14 | | 12 | | 11 | | 13 | | 12 | | 12 | | 9.2 |
| 非排水剪断強度 | | kPa | | | | | | 37 | | | | | | | | | | | | | | | |
| かさ密度 | 湿潤密度 | tf/m ³ | | | | 2.01 | | | | | | | | | | | | | | | | | |
| | 乾燥密度 | tf/m ³ | | | | 1.72 | | | | | | | | | | | | | | | | | |
| みかけ密度 | 湿潤密度 | tf/m ³ | | 1.8 | | 1.76 | | | 1.8 | | 1.8 | | 1.8 | | 1.8 | | 1.8 | | 1.8 | | 1.8 | | 1.8 |
| | 乾燥密度 | tf/m ³ | | | | 1.52 | | | | | | | | | | | | | | | | | |
| 比重試験 | 比重 | tf/m ³ | | | | 2.65 | | | | | | | | | | | | | | | | | |
| | 含水比 | % | | | | 28.0 | | | | | | | | | | | | | | | | | |
| | 飽和度 | % | | | | 55.0 | | | | | | | | | | | | | | | | | |
| | 空隙率 | % | | | | 42.6 | | | | | | | | | | | | | | | | | |
| | 間隙比 | - | | | | 0.743 | | | | | | | | | | | | | | | | | |
| 力学試験 | 内部摩擦角 | ° | | 21.3 | | 21.3 | | | 23.9 | | 28.4 | | 35.5 | | 39.5 | | 41.5 | | 38.7 | | 44.0 | | 46.6 |
| | 粘着力 | kPa | | 1.25 | | 4.23 | | | 2.5 | | 5.62 | | 13.1 | | 18.7 | | 21.9 | | 17.5 | | 26.2 | | 31.2 |
| | 圧縮強度 | kPa | | 24.5 | | 83 | | | 49.0 | | 110.3 | | 257.4 | | 367.7 | | 429.0 | | 343.2 | | 514.8 | | 612.9 |
| | 圧縮指数 | - | | | | 0.085 | | | | | | | | | | | | | | | | | |
| | 圧密係数 | m ² /s | | | | 9.85 | | | | | | | | | | | | | | | | | |
| 化学試験 | 長期許容支持力 | kN/m ² | | 16.8 | | 38.4 | | | 41.1 | | 103.6 | | 385.8 | | 818.6 | | 993.6 | | 789.6 | | 1202 | | 1391 |
| | pH | - | | | | 5.13 | | | | | | | | | | | | | | | | | |
| | 硫酸塩含有量 | mg/g | | | | 74 | | | | | | | | | | | | | | | | | |

※内部摩擦角, 粘着力については N 値より算定, 許容支持力は内部摩擦角, 粘着力より算定, (N)は前後の N 値から想定, ■ 網掛け部分は室内土質試験結果及びその結果からの算定

| N-12 : Fula Bantang & Sinchu Bora | | 測定・試験深度(m) | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|---------|-------------------|------|------|------|-------|------|-------|------|-------|------|-------|------|-------|------|------|-------|------|-------|------|-------|------|-------|
| 試験 | 測定項目 | 単位 | 0.50 | 1.40 | 2.00 | 2.15 | 2.50 | 3.00 | 3.50 | 4.00 | 4.50 | 5.00 | 5.50 | 5.65 | 6.00 | 6.50 | 7.03 | 7.50 | 8.00 | 8.50 | 9.00 | 9.50 | 10.00 |
| N 値 | | - | | 1 | | (2) | | 13 | | 14 | | 27 | | (27) | | | 17 | | 50 | | 50 | | 22 |
| ふるい分け試験 | 礫質土 | % | 0 | | 1 | | 46 | | 23 | | 2 | | 3 | | 7 | | 1 | | 34 | | 34 | | 3 |
| | 砂 | % | 70 | | 59 | | 34 | | 38 | | 29 | | 18 | | 24 | | 19 | | 23 | | 23 | | 40 |
| | シルト・粘土 | % | 30 | | 40 | | 20 | | 39 | | 69 | | 79 | | 69 | | 80 | | 43 | | 43 | | 57 |
| 液性限界塑性限界 | 液性限界 | % | | 17.7 | 20.9 | | 25.2 | 25.9 | | 27.6 | 37.8 | 40.0 | 46.1 | 38.9 | 40.4 | 41.2 | 23.2 | 28.4 | 29.8 | 32.3 | 33.5 | 28.1 | 18.2 |
| | 塑性限界 | % | | 11.8 | 10.0 | | 12.4 | 15.4 | | 16.3 | 17.2 | 19.5 | 17.3 | 19.9 | 18.3 | 16.6 | 11.7 | 11.4 | 15.9 | 15.7 | 17.8 | 13.8 | - |
| | 塑性指数 | % | | 5.9 | 10.9 | | 12.8 | 10.5 | | 11.4 | 20.6 | 20.6 | 28.8 | 18.9 | 22.2 | 24.6 | 11.5 | 17.0 | 14.0 | 16.7 | 15.8 | 14.3 | - |
| 自然含水比 | | % | | 13 | | 14 | | 10 | | 13 | | 16 | | 21 | | | | | | | | | |
| 非排水剪断強度 | | kPa | | | | | | | | | | | | | | | | | | | | | |
| かさ密度 | 湿潤密度 | tf/m ³ | | | | 2.20 | | | | | | | | | | | | | | | | | |
| | 乾燥密度 | tf/m ³ | | | | 1.93 | | | | | | | | | | | | | | | | | |
| みかけ密度 | 湿潤密度 | tf/m ³ | | 1.9 | | 1.94 | 1.9 | | | 1.9 | | 1.6 | | 1.55 | | | 1.6 | | 1.6 | | 1.6 | | 1.6 |
| | 乾燥密度 | tf/m ³ | | | | 1.73 | | | | | | | | 1.33 | | | | | | | | | |
| 比重試験 | 比重 | tf/m ³ | | | | 2.66 | | | | | | | | 2.66 | | | | | | | | | |
| | 含水比 | % | | | | 20.4 | | | | | | | | 37.5 | | | | | | | | | |
| | 飽和度 | % | | | | 59.8 | | | | | | | | 43.7 | | | | | | | | | |
| | 空隙率 | % | | | | 35.1 | | | | | | | | 50.0 | | | | | | | | | |
| | 間隙比 | - | | | | 0.542 | | | | | | | | 1.002 | | | | | | | | | |
| 力学試験 | 内部摩擦角 | ° | | 19.5 | | 21.3 | | 31.3 | | 31.7 | | 38.2 | | 38.2 | | | 33.4 | | 46.6 | | 46.6 | | 36.0 |
| | 粘着力 | kPa | | 0.62 | | 7.49 | | 8.12 | | 8.75 | | 16.9 | | 6.47 | | | 10.6 | | 31.2 | | 31.2 | | 13.7 |
| | 圧縮強度 | kPa | | 12.3 | | 147 | | 159.4 | | 171.6 | | 331.0 | | 127 | | | 208.4 | | 612.9 | | 612.9 | | 269.7 |
| | 圧縮指数 | - | | | | 0.049 | | | | | | | | 0.090 | | | | | | | | | |
| | 圧密係数 | m ² /s | | | | 2.19 | | | | | | | | 6.56 | | | | | | | | | |
| | 長期許容支持力 | kN/m ² | | 11.1 | | 61.6 | | 160.7 | | 193.4 | | 612.2 | | 358.3 | | | 290.5 | | 1275 | | 1309 | | 539.3 |
| 化学試験 | pH | - | | | 3.8 | | | | | | | | | | | | | | | | | | |
| | 硫酸塩含有量 | mg/g | | | 62 | | | | | | | | | | | | | | | | | | |

※内部摩擦角，粘着力については N 値より算定，許容支持力は内部摩擦角，粘着力より算定，(N)は前後の N 値から想定，■ 網掛け部分は室内土質試験結果及びその結果からの算定

| N-13 : Jissadi Complex | | 測定・試験深度(m) | | | | | | | | | | | | | | | | | | | | | |
|------------------------|---------|-------------------|------|------|------|-------|------|------|------|------|-------|------|-------|------|-------|-------|------|-------|------|-------|------|-------|--|
| 試験 | 測定項目 | 単位 | 0.30 | 0.80 | 1.50 | 1.55 | 2.20 | 2.55 | 3.15 | 3.50 | 4.07 | 4.50 | 5.07 | 5.50 | 6.00 | 7.00 | 7.50 | 8.00 | 8.50 | 9.00 | 9.50 | 10.00 | |
| N 値 | | - | | | | | | | 1 | | 10 | | 24 | | 33 | 39 | | 50 | | 50 | | 50 | |
| ふるい分け試験 | 礫質土 | % | 0 | 0 | 0 | | | | | 8 | | 27 | | 29 | | | 30 | | 53 | | 47 | | |
| | 砂 | % | 67 | 43 | 40 | | | | | 34 | | 27 | | 26 | | | 31 | | 24 | | 27 | | |
| | シルト・粘土 | % | 33 | 57 | 60 | | | | | 58 | | 46 | | 45 | | | 39 | | 23 | | 26 | | |
| 液性限界塑性限界 | 液性限界 | % | | 29.9 | | 32.3 | | | 35.1 | | 33.2 | | 32.0 | 31.7 | 31.7 | 31.2 | | 36.9 | | 32.7 | | 33.5 | |
| | 塑性限界 | % | | 17.9 | | 18.1 | | | 17.0 | | 17.4 | | 19.8 | 20.8 | 18.3 | 18.6 | | 10.6 | | 19.0 | | 17.2 | |
| | 塑性指数 | % | | 12.1 | | 14.2 | | | 18.1 | | 15.8 | | 12.2 | 10.9 | 13.5 | 12.6 | | 26.3 | | 13.7 | | 16.3 | |
| 自然含水比 | | % | | | | 16 | 16 | | 15 | | 12 | | 11 | | 11 | 10 | | 11 | | 11 | | 12 | |
| 非排水剪断強度 | | kPa | | | | | 52 | | | | | | | | | | | | | | | | |
| かさ密度 | 湿潤密度 | tf/m ³ | | | | 2.01 | | | | | | | | | | | | | | | | | |
| | 乾燥密度 | tf/m ³ | | | | 1.74 | | | | | | | | | | | | | | | | | |
| みかけ密度 | 湿潤密度 | tf/m ³ | | | | 1.7 | | | 1.7 | | 1.7 | | 1.7 | | 1.7 | 1.7 | | 1.7 | | 1.7 | | 1.7 | |
| | 乾燥密度 | tf/m ³ | | | | 1.50 | | | | | | | | | | | | | | | | | |
| 比重試験 | 比重 | tf/m ³ | | | | 2.67 | | | | | | | | | | | | | | | | | |
| | 含水比 | % | | | | 29.2 | | | | | | | | | | | | | | | | | |
| | 飽和度 | % | | | | 58.2 | | | | | | | | | | | | | | | | | |
| | 空隙率 | % | | | | 43.8 | | | | | | | | | | | | | | | | | |
| | 間隙比 | - | | | | 0.781 | | | | | | | | | | | | | | | | | |
| 力学試験 | 内部摩擦角 | ° | | | | 21.3 | 21.3 | | 19.5 | | 29.1 | | 36.9 | | 40.7 | 42.9 | | 46.6 | | 46.6 | | 46.6 | |
| | 粘着力 | kPa | | | | 1.25 | 8.97 | | 0.62 | | 6.25 | | 15.0 | | 20.6 | 24.4 | | 31.2 | | 31.2 | | 31.2 | |
| | 圧縮強度 | kPa | | | | 24.5 | 176 | | 12.3 | | 122.6 | | 294.2 | | 404.5 | 478.1 | | 612.9 | | 612.9 | | 612.9 | |
| | 圧縮指数 | - | | | | 0.090 | | | | | | | | | | | | | | | | | |
| | 圧密係数 | m ² /s | | | | 6.79 | | | | | | | | | | | | | | | | | |
| 化学試験 | 長期許容支持力 | kN/m ² | | | | 17.3 | 70.4 | | 16.5 | | 118.9 | | 499.0 | | 909.6 | 1059 | | 1302 | | 1339 | | 1375 | |
| | pH | - | | | | 4.97 | | | | | | | | | | | | | | | | | |
| | 硫酸塩含有量 | mg/g | | | | 240 | | | | | | | | | | | | | | | | | |

※内部摩擦角，粘着力についてはN 値より算定，許容支持力は内部摩擦角，粘着力より算定，(N)は前後のN 値から想定，■ 網掛け部分は室内土質試験結果及びその結果からの算定

| N-14 : Sotokoi | | 測定・試験深度(m) | | | | | | | | | | | | | | | | | | | | |
|----------------|---------|-------------------|------|------|-------|------|-------|-------|-------|-------|-------|-------|------|-------|------|-------|-------|-------|-------|-------|------|-------|
| 試験 | 測定項目 | 単位 | 1.28 | 1.50 | 2.00 | 2.35 | 2.50 | 3.00 | 3.50 | 4.00 | 4.50 | 5.00 | 5.50 | 6.05 | 6.50 | 7.00 | 7.50 | 8.00 | 8.50 | 9.10 | 9.50 | 10.12 |
| N 値 | | - | 2 | (2) | | | | 50 | 21 | 21 | | 17 | 40 | 47 | 47 | | 50 | 50 | 50 | 50 | 50 | 19 |
| ふるい分け試験 | 礫質土 | % | 0 | 0 | | 2 | 2 | 26 | 26 | | | 8 | 16 | 29 | 29 | | 36 | 36 | 36 | 23 | 23 | |
| | 砂 | % | | 49 | | 45 | 45 | 35 | 35 | | | 36 | 32 | 27 | 27 | | 26 | 26 | 26 | 34 | 34 | |
| | シルト・粘土 | % | | 51 | | 53 | 53 | 39 | 39 | | | 56 | 52 | 44 | 44 | | 38 | 38 | 38 | 43 | 43 | |
| 液性限界塑性限界 | 液性限界 | % | 25.3 | 29.8 | 28.0 | | 28.4 | 27.9 | 28.3 | 30.4 | 29.7 | 30.9 | | 33.6 | | 30.0 | 30.5 | 30.6 | 28.9 | 28.9 | 28.8 | |
| | 塑性限界 | % | 13.8 | 13.5 | 15.1 | | 11.2 | 14.6 | 14.7 | 15.3 | 14.3 | 15.3 | | 13.5 | | 13.5 | 14.8 | 14.3 | 11.0 | 13.0 | 13.0 | |
| | 塑性指数 | % | 11.4 | 16.4 | 12.8 | | 17.2 | 13.3 | 13.6 | 15.2 | 15.4 | 15.6 | | 20.1 | | 16.5 | 15.7 | 16.3 | 18.0 | 15.8 | 15.8 | |
| 自然含水比 | | % | 16 | 15 | | | 8.0 | 8.0 | 11 | 11 | 12 | 10 | | 8.7 | | 11 | 8.9 | 8.9 | 13 | 13 | | |
| 非排水剪断強度 | | kPa | | | 38 | | | | | | | | | | | | | | | | | |
| かさ密度 | 湿潤密度 | tf/m ³ | | | 2.08 | | | | | | | | | | | | | | | | | |
| | 乾燥密度 | tf/m ³ | | | 1.81 | | | | | | | | | | | | | | | | | |
| みかけ密度 | 湿潤密度 | tf/m ³ | 1.9 | | 1.96 | | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | | 1.9 | | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | |
| | 乾燥密度 | tf/m ³ | | | 1.70 | | | | | | | | | | | | | | | | | |
| 比重試験 | 比重 | tf/m ³ | | | 2.67 | | | | | | | | | | | | | | | | | |
| | 含水比 | % | | | 21.5 | | | | | | | | | | | | | | | | | |
| | 飽和度 | % | | | 73.5 | | | | | | | | | | | | | | | | | |
| | 空隙率 | % | | | 36.5 | | | | | | | | | | | | | | | | | |
| | 間隙比 | - | | | 0.574 | | | | | | | | | | | | | | | | | |
| 力学試験 | 内部摩擦角 | ° | 21.3 | 21.3 | | | 46.6 | 46.6 | 35.5 | 35.5 | 33.4 | 43.3 | | 45.7 | | 46.6 | 46.6 | 46.6 | 34.5 | 34.5 | | |
| | 粘着力 | kPa | 1.25 | 4.49 | | | 31.2 | 31.2 | 13.1 | 13.1 | 10.6 | 25.0 | | 29.4 | | 31.2 | 31.2 | 31.2 | 11.9 | 11.9 | | |
| | 圧縮強度 | kPa | 24.5 | 88 | | | 613.0 | 613.0 | 257.4 | 257.4 | 208.4 | 490.3 | | 576.1 | | 612.9 | 612.9 | 612.9 | 232.9 | 232.9 | | |
| | 圧縮指数 | - | | | 0.110 | | | | | | | | | | | | | | | | | |
| | 圧密係数 | m ² /s | | | 4.92 | | | | | | | | | | | | | | | | | |
| | 長期許容支持力 | kN/m ² | 16.8 | 41.5 | | | 1134 | 1134 | 373.6 | 373.6 | 277.8 | 1070 | | 1241 | | 1338 | 1338 | 1383 | 435.1 | 435.1 | | |
| 化学試験 | pH | - | | | 5.07 | | | | | | | | | | | | | | | | | |
| | 硫酸塩含有量 | mg/g | | | 138 | | | | | | | | | | | | | | | | | |

※内部摩擦角，粘着力については N 値より算定，許容支持力は内部摩擦角，粘着力より算定，(N)は前後の N 値から想定，■ 網掛け部分は室内土質試験結果及びその結果からの算定

| N-15 : Macca & Nije Kunda | | 測定・試験深度(m) | | | | | | | | | | | | | | | | | | | | |
|---------------------------|---------|-------------------|------|------|------|-------|------|------|-------|------|-------|------|-------|------|-------|------|-------|-------|------|-------|-------|-------|
| 試験 | 測定項目 | 単位 | 0.30 | 1.05 | 1.50 | 1.70 | 2.05 | 2.69 | 3.00 | 3.60 | 4.00 | 4.30 | 4.50 | 5.00 | 5.50 | 6.00 | 6.52 | 7.54 | 8.00 | 8.50 | 9.52 | 10.00 |
| N 値 | | - | | 3 | | (2) | | 2 | | 13 | | 29 | | 50 | | 50 | 50 | 50 | | 50 | 50 | |
| ふるい分け試験 | 礫質土 | % | 0 | | 0 | | | | 1 | | 21 | | | 14 | | 5 | | | 24 | | | 1 |
| | 砂 | % | 79 | | 52 | | | 45 | | 40 | | | | 38 | | 43 | | | 38 | | | 63 |
| | シルト・粘土 | % | 21 | | 48 | | | 54 | | 39 | | | | 48 | | 52 | | | 38 | | | 36 |
| 液性限界塑性限界 | 液性限界 | % | | 25.3 | 25.9 | 26.7 | 25.8 | | 28.4 | 28.2 | 30.9 | | 31.4 | | 32.6 | | 32.6 | 32.6 | | 30.9 | 30.9 | |
| | 塑性限界 | % | | 11.0 | 11.6 | 14.7 | 11.9 | | 14.5 | 14.2 | 13.3 | | 15.3 | | 15.2 | | 14.4 | 14.4 | | 14.1 | 13.7 | |
| | 塑性指数 | % | | 14.3 | 14.3 | 12.0 | 14.0 | | 13.9 | 14.0 | 17.6 | | 16.1 | | 17.3 | | 18.2 | 18.2 | | 16.7 | 17.2 | |
| 自然含水比 | | % | | 13 | | 13 | 14 | | 12 | | 11 | | 10 | | 10 | | 10 | 9.4 | | 12 | 7.6 | |
| 非排水剪断強度 | | kPa | | | | 78 | | | | | | | | | | | | | | | | |
| かさ密度 | 湿潤密度 | tf/m ³ | | | | 2.16 | | | | | | | | | | | | | | | | |
| | 乾燥密度 | tf/m ³ | | | | 1.92 | | | | | | | | | | | | | | | | |
| みかけ密度 | 湿潤密度 | tf/m ³ | | 2.0 | | 2.09 | 2.0 | | 2.0 | | 2.0 | | 2.0 | | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | |
| | 乾燥密度 | tf/m ³ | | | | 1.85 | | | | | | | | | | | | | | | | |
| 比重試験 | 比重 | tf/m ³ | | | | 2.66 | | | | | | | | | | | | | | | | |
| | 含水比 | % | | | | 16.3 | | | | | | | | | | | | | | | | |
| | 飽和度 | % | | | | 76.7 | | | | | | | | | | | | | | | | |
| | 空隙率 | % | | | | 30.1 | | | | | | | | | | | | | | | | |
| | 間隙比 | - | | | | 0.432 | | | | | | | | | | | | | | | | |
| 力学試験 | 内部摩擦角 | ° | | 22.7 | | 21.3 | 21.3 | | 31.1 | | 39.1 | | 46.6 | | 46.6 | | 46.6 | 46.6 | | 46.6 | 46.6 | |
| | 粘着力 | kPa | | 1.87 | | 4.49 | 1.25 | | 8.12 | | 18.1 | | 31.2 | | 31.2 | | 31.2 | 31.2 | | 31.2 | 31.2 | |
| | 圧縮強度 | kPa | | 36.8 | | 88 | 24.5 | | 159.4 | | 355.5 | | 612.9 | | 612.9 | | 612.9 | 612.9 | | 612.9 | 612.9 | |
| | 圧縮指数 | - | | | | 0.035 | | | | | | | | | | | | | | | | |
| | 圧密係数 | m ² /s | | | | 9.85 | | | | | | | | | | | | | | | | |
| 化学試験 | 長期許容支持力 | kN/m ² | | 24.1 | | 41.6 | 24.9 | | 175.5 | | 760.6 | | 1270 | | 1314 | | 1358 | 1399 | | 1442 | | |
| | pH | - | | | | 7.08 | | | | | | | | | | | | | | | | |
| | 硫酸塩含有量 | mg/g | | | | 96 | | | | | | | | | | | | | | | | |

※内部摩擦角, 粘着力については N 値より算定, 許容支持力は内部摩擦角, 粘着力より算定, (N)は前後の N 値から想定, ■ 網掛け部分は室内土質試験結果及びその結果からの算定

| N-16 : Lamin Koto & Badala & Sotokoi | | 測定・試験深度(m) | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------------|---------|-------------------|------|------|-------|------|------|------|------|------|-------|-------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|-----|
| 試験 | 測定項目 | 単位 | 0.85 | 1.39 | 2.00 | 2.35 | 3.00 | 3.20 | 3.50 | 4.05 | 4.50 | 4.70 | 5.30 | 5.50 | 6.00 | 6.50 | 7.00 | 7.50 | 8.00 | 8.50 | 9.00 | 9.60 | 10.00 | |
| N値 | | - | | 1 | (1) | | | 1 | | 2 | | | | 21 | 19 | | 19 | | 19 | 11 | | 11 | | |
| ふるい分け試験 | 礫質土 | % | 0 | | | | 0 | | 0 | | 19 | | 11 | | 20 | | 3 | | 0 | | 0 | | 1 | |
| | 砂 | % | 68 | | | | 63 | | 61 | | 44 | | 51 | | 46 | | 57 | | 69 | | 84 | | 84 | |
| | シルト・粘土 | % | 32 | | | | 37 | | 39 | | 37 | | 38 | | 34 | | 40 | | 31 | | 16 | | 15 | |
| 液性限界塑性限界 | 液性限界 | % | 20.6 | 19.2 | 20.1 | | 21.0 | 21.6 | 21.8 | 22.6 | | 23.7 | 23.6 | 18.3 | 22.2 | 17.8 | | 17.7 | | 18.4 | | | | |
| | 塑性限界 | % | 10.9 | 9.0 | 11.2 | | 11.0 | 10.5 | 12.0 | 11.9 | | 10.5 | 10.5 | 11.2 | 9.8 | 12.1 | | 10.9 | | - | | | | |
| | 塑性指数 | % | 9.7 | 10.2 | 8.9 | | 10.0 | 11.1 | 9.8 | 10.7 | | 13.1 | 13.1 | 7.1 | 12.4 | 5.8 | | 6.8 | | - | | | | |
| 自然含水比 | | % | | 12 | 14 | | | 13 | | 12 | | 9.9 | | 9.5 | | 9.8 | | 8.3 | | 4.8 | | 4.0 | | |
| 非排水剪断強度 | | kPa | | | | 16 | | | | | | | | | | | | | | | | | | |
| かさ密度 | 湿潤密度 | tf/m ³ | | | 2.12 | | | | | | | | | | | | | | | | | | | |
| | 乾燥密度 | tf/m ³ | | | 1.86 | | | | | | | | | | | | | | | | | | | |
| みかけ密度 | 湿潤密度 | tf/m ³ | | 1.8 | 1.86 | | | 1.8 | | 1.8 | | 2.01 | | 2.0 | | 2.0 | | 2.0 | | 2.0 | | 2.0 | | 2.0 |
| | 乾燥密度 | tf/m ³ | | | 1.66 | | | | | | | 1.82 | | | | | | | | | | | | |
| 比重試験 | 比重 | tf/m ³ | | | 2.67 | | | | | | | 2.67 | | | | | | | | | | | | |
| | 含水比 | % | | | 22.7 | | | | | | | 17.6 | | | | | | | | | | | | |
| | 飽和度 | % | | | 51.5 | | | | | | | 59.1 | | | | | | | | | | | | |
| | 空隙率 | % | | | 37.8 | | | | | | | 31.9 | | | | | | | | | | | | |
| | 間隙比 | - | | | 0.608 | | | | | | | 0.470 | | | | | | | | | | | | |
| 力学試験 | 内部摩擦角 | ° | | 19.5 | 19.5 | | 19.5 | 19.5 | 21.3 | | 32.3 | | 35.5 | | 34.5 | | 34.5 | | 34.5 | | 29.8 | | 29.8 | |
| | 粘着力 | kPa | | 0.62 | 8.72 | | 0.62 | 0.62 | 1.25 | | 7.49 | | 13.1 | | 11.9 | | 11.9 | | 11.9 | | 6.87 | | 6.87 | |
| | 圧縮強度 | kPa | | 12.3 | 171 | | 12.3 | 12.3 | 24.5 | | 147 | | 257.4 | | 232.9 | | 232.9 | | 232.9 | | 134.8 | | 134.8 | |
| | 圧縮指数 | - | | | 0.071 | | | | | | 0.034 | | | | | | | | | | | | | |
| | 圧密係数 | m ² /s | | | 13.1 | | | | | | 5.56 | | | | | | | | | | | | | |
| | 長期許容支持力 | kN/m ² | | 10.6 | 59.8 | | 17.3 | 17.3 | 30.8 | | 74.5 | | 415.2 | | 371.6 | | 371.6 | | 392.4 | | 194.6 | | 207.6 | |
| 化学試験 | pH | - | | | | | | | | 7.2 | | | | | | | | | | | | | | |
| | 硫酸塩含有量 | mg/g | | | | | | | | 342 | | | | | | | | | | | | | | |

※内部摩擦角，粘着力についてはN値より算定，許容支持力は内部摩擦角，粘着力より算定，(N)は前後のN値から想定，■網掛け部分は室内土質試験結果及びその結果からの算定



THE GAMBIA ENGINEERING CONSULTANCY SERVICES LTD.
(GAMECS)

BOREHOLE RECORD

| PROJECT: Rural Water Supply - Phase II | | | LOCATION: Kabonuf | | | | | | | | |
|--|---|----------|-------------------|---------|-------------------|-------------|--------------|------------|------|------------|-----------|
| B.H. No | TYPE OF BORING | DATE | Depth (m) | Loggers | Reduced Level (m) | Water Level | Casing Depth | DATE | TIME | | |
| #1 | PERCUSSION | 13.10.08 | | | | | | 13.10.08 | | | |
| | STRATA DESCRIPTION | | | | | | | SAMPLE No. | TYPE | TEST VALUE | TEST TYPE |
| | Brown clayey (BMC) with fibrous material (roots) | | 0.30 | | | | | 1 | B1 | | |
| | | | 0.60 | | | | | 2 | B2 | | |
| | Soft sandy CLAY with some fibrous material (roots) | | 1.20 | | | | 0.80 | 3 | J3 | 3 (40) | B1 |
| | | | 1.50 | | | | | 4 | B3 | | |
| | | | 2.00 | | | | 1.00 | 5 | J2 | | |
| | | | 2.50 | | | | | 6 | B4 | | |
| | Orange brown soft sandy silty CLAY | | 3.10 | | | | 1.60 | 7 | J2 | 3 (40) | B2 |
| | | | 3.50 | | | | | 8 | B5 | | |
| | | | 3.75 | | | | 1.60 | 9 | J105 | | |
| | | | 4.40 | | | | | 11 | B6 | | |
| | Mottled light grey / reddish brown fine sandy silty CLAY with some pebbles (5 to 10mm) | | 4.60 | | | | 3.00 | 12 | J8 | 15 (10) | B5 |
| | | | 5.00 | | | | | 13 | B7 | | |
| | Mottled reddish brown / light grey / orange stiff sandy silty CLAY | | 5.24 | | | | 3.00 | 14 | J8 | 40 (40) | B4 |
| | | | 6.00 | | | | | 16 | B8 | | |
| | Mottled light grey / orange brown / orange very stiff sandy silty CLAY with some pebbles (2 to 25mm). Pebbles becoming numerous from 8.00m. | | 6.80 | | | | 3.00 | 18 | J7 | 20 (100) | B5 |
| | | | 7.00 | | | | | 17 | B9 | | |

SYMBOLS - KEY

- U100g indicates 100mm (very undisturbed) sample
- U100 indicates 100mm (1 (12)) undisturbed sample
- U indicates disturbed bag sample
- J indicates jar sample
- S indicates Standard Penetration Test
- N indicates no. of blows / 1.0m (30cm) penetration
- V indicates vane test

REMARKS

CPT sampler forced at 3.17m sank to 1.20m under the weight of the hammer

GPS Coordinates of Borehole
 28P 080906
 UTM 1400485
 Universal Transverse Mercator
 Zone 14N - 08176

Figures shown (10) indicate penetration capacity at SPT service

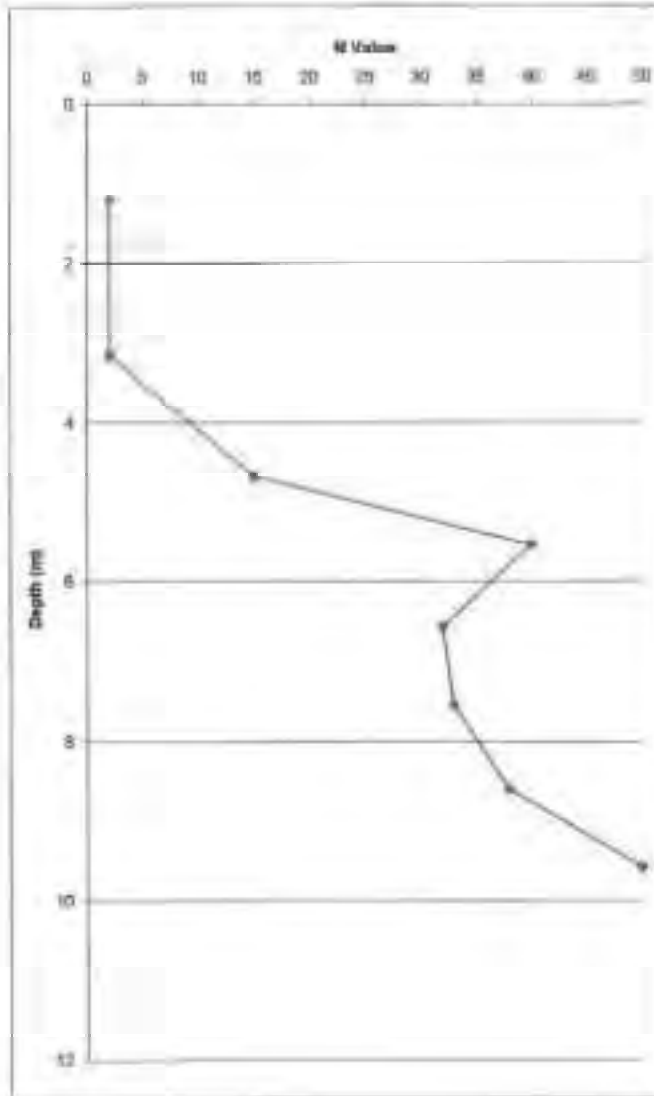
FIG. 13-A SHEET 1 OF 24



**THE GAMBIA ENGINEERING CONSULTANCY SERVICES LTD.
(GAMECS)**

Project: Rural Water Supply - Phase III
Site: Kabocorr
Borehole No.: N1

| Depth (m) | N Value |
|-----------|---------|
| 1.22 | 2 |
| 3.15 | 2 |
| 4.68 | 15 |
| 5.54 | 40 |
| 6.67 | 32 |
| 7.65 | 33 |
| 8.60 | 38 |
| 9.57 | 50 |
| | |
| | |



PLOT OF N VALUE AGAINST DEPTH



**THE GAMBIA ENGINEERING CONSULTANCY SERVICES LTD.
(GAMECS)**

FOUNDATION INDICATOR TEST RESULTS

| | | | |
|---|---------|-------------------------------|---------------|
| CLIENT | | DATE 25.10.98 | |
| PROJECT Rural Water Supply - Phase III | | JOB NO 26704 | |
| SITE Rabnchorf | | | |
| Borehole N1 | | | |
| Depth (m) 0.30 | | | |
| SIEVE ANALYSIS | | ATTERBERG LIMITS | |
| Sieve | Passing | | |
| 25.400 | 100 | Liquid Limit | TEST 1 TEST 2 |
| 19.000 | 100 | | - - |
| 12.500 | 100 | | TEST 3 TEST 4 |
| 9.500 | 100 | | - - |
| 4.750 | 100 | Average LL | - % |
| 2.000 | 100 | | |
| 1.180 | 99 | Plastic Limit | TEST 1 TEST 2 |
| 0.850 | 94 | | - - |
| 0.425 | 61 | | TEST 3 |
| 0.300 | 61 | Average PL | - % |
| 0.150 | 22 | | |
| 0.075 | 16 | Plasticity Index (PI) | - % |
| | | Unified Classification | |
| | | PI Whole sample | - |
| | | % Gravel | 0 |
| | | % Sand | 84 |
| | | % Silt + % Clay | 16 |

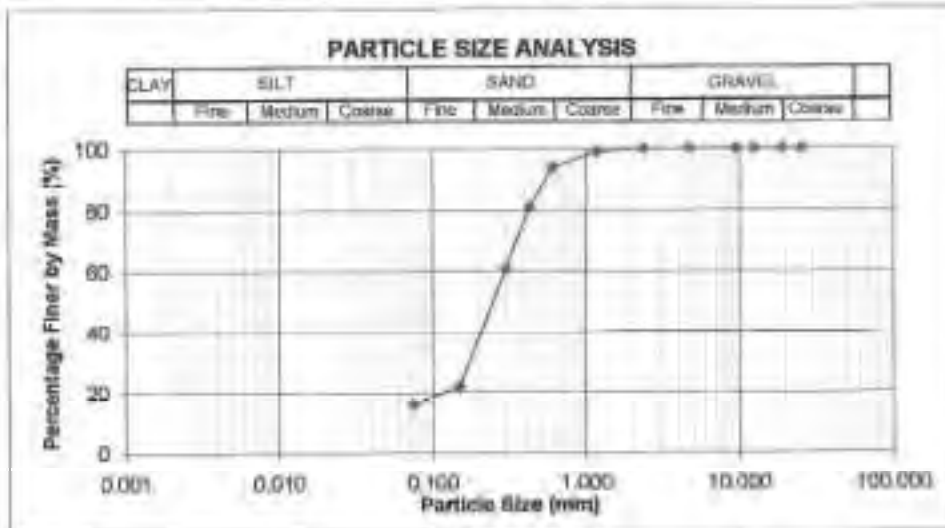


Fig. 13(a)



**THE GAMBIA ENGINEERING CONSULTANCY SERVICES LTD.
(GAMECS)**

FOUNDATION INDICATOR TEST RESULTS

| CLIENT | | DATE | | 25.10.09 | | |
|--|---------|-----------------------|--------|----------|------------------------|------|
| PROJECT Rural Water Supply - Phase III | | JOB NO | | 26700 | | |
| SITE Naboor7 | | | | | | |
| Borehole N1 | | | | | | |
| Depth (m) 1.80 | | | | | | |
| SIEVE ANALYSIS | | ATTERBERG LIMITS | | | | |
| Sieve | Passing | Liquid Limit | TEST 1 | TEST 2 | Unified Classification | |
| 25-400 | 100 | | 31.05 | 30.08 | | |
| 19.000 | 100 | Average LL | TEST 3 | TEST 4 | PI Whole sample | 13.8 |
| 12.500 | 100 | | 29.41 | 26.63 | | |
| 9.500 | 100 | Plastic Limit | TEST 1 | TEST 2 | % Gravel | 0 |
| 4.750 | 100 | | 14.85 | 14.67 | | |
| 2.360 | 100 | Average PL | TEST 3 | | % Sand | 67 |
| 1.180 | 100 | | 14.7 | | | |
| 0.800 | 94 | Plasticity Index (PI) | | | % SS + % Clay | 41 |
| 0.425 | 88 | | 15.1 | | | |
| 0.300 | 75 | | | | | |
| 0.150 | 47 | | | | | |
| 0.075 | 43 | | | | | |

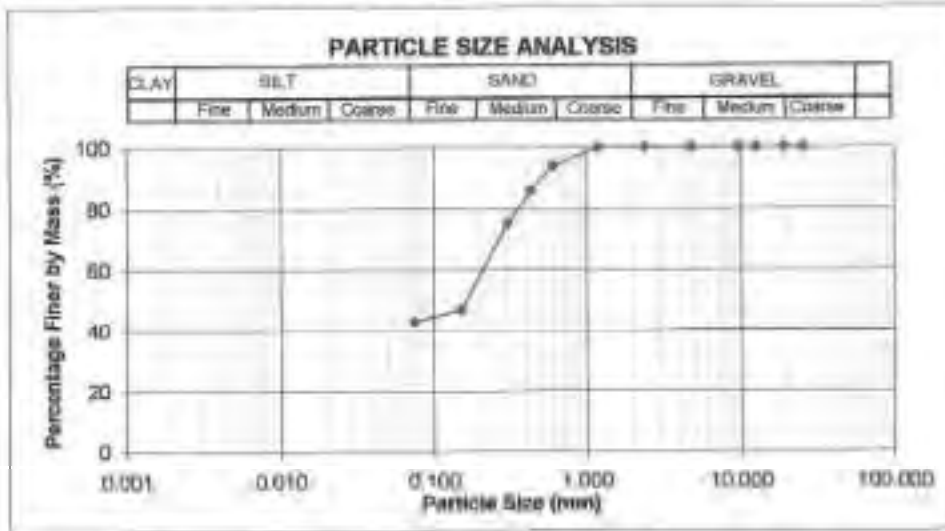


Fig. 1399



**THE GAMBIA ENGINEERING CONSULTANCY SERVICES LTD.
(GAMECS)**

FOUNDATION INDICATOR TEST RESULTS

| CLIENT | | DATE | | 28.10.09 | |
|--|---------|-----------------------|--------|----------|------------------------|
| PROJECT Rural Water Supply - Phase III | | JOB NO | | 28708 | |
| SITE Kahoon | | | | | |
| Borehole N1 | | | | | |
| Depth (m) 9.88 | | | | | |
| SIEVE ANALYSIS | | ATTERBERG LIMITS | | | |
| Sieve | Passing | Liquid Limit | TEST 1 | TEST 2 | Unified Classification |
| 25.400 | 100 | | - | - | PI Whole sample |
| 19.000 | 100 | | TEST 3 | TEST 4 | |
| 12.500 | 100 | | - | - | % Gravel |
| 9.500 | 100 | | - | - | |
| 4.750 | 100 | Average LL | - | % | 0 |
| 2.360 | 100 | Plastic Limit | TEST 1 | TEST 2 | % Sand |
| 1.180 | 100 | | - | - | 55 |
| 0.850 | 98 | | TEST 3 | | % Silt + % Clay |
| 0.425 | 86 | | - | - | 48 |
| 0.300 | 75 | Average PL | - | % | |
| 0.150 | 48 | Plasticity Index (PI) | - | % | |
| 0.075 | 45 | | - | % | |

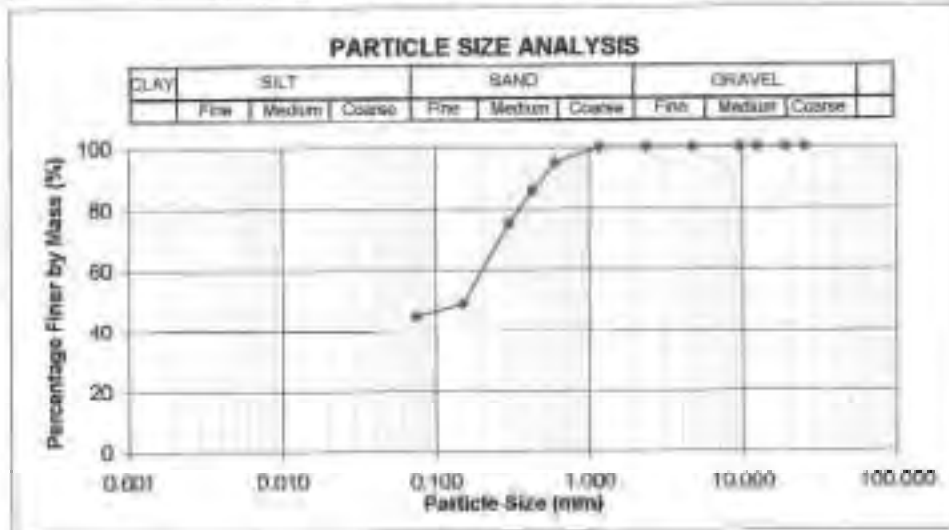


Fig. 13(f)



**THE GAMBIA ENGINEERING CONSULTANCY SERVICES LTD.
(GAMECS)**

FOUNDATION INDICATOR TEST RESULTS

| CLIENT | | DATE | | 28.10.09 | | |
|--|---------|-----------------------|--------|----------|------------------------|----|
| PROJECT Rural Water Supply - Phase III | | JOB NO. | | 26798 | | |
| SITE Katicoon | | | | | | |
| Borehole N1 | | | | | | |
| Depth (m) 3.60 | | | | | | |
| SIEVE ANALYSIS | | ATYERBERG LIMITS | | | | |
| Sieve | Passing | Liquid Limit | TEST 1 | TEST 2 | Unified Classification | |
| 25.400 | 100 | | - | - | | |
| 19.000 | 100 | Average LL | TEST 3 | TEST 4 | PI Whole sample | - |
| 12.500 | 100 | | - | - | | |
| 9.500 | 100 | Plastic Limit | TEST 1 | TEST 2 | % Gravel | 6 |
| 4.750 | 97 | | - | - | | |
| 2.000 | 84 | Average PL | TEST 3 | - | % Sand | 45 |
| 1.180 | 93 | | - | - | | |
| 0.850 | 90 | Plasticity Index (PI) | - | - | % Silt + % Clay | 49 |
| 0.425 | 85 | | - | - | | |
| 0.300 | 79 | | | | | |
| 0.150 | 65 | | | | | |
| 0.075 | 49 | | | | | |

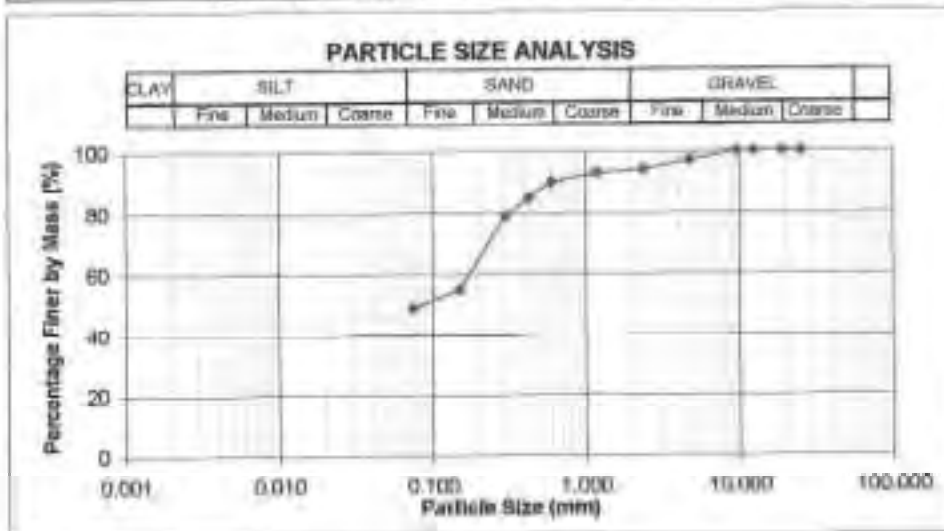


Fig. 13(h)



**THE GAMBIA ENGINEERING CONSULTANCY SERVICES LTD.
(GAMECS)**

FOUNDATION INDICATOR TEST RESULTS

| | | | |
|---|---------|------------------------------|---------------|
| CLIENT | | DATE 25.10.09 | |
| PROJECT Rural Water Supply - Phase III | | JOB NO. 26789 | |
| SITE Kalicover | | | |
| Borehole N1 | | | |
| Depth (m) 4.40 | | | |
| SIEVE ANALYSIS | | ATTERBERG LIMITS | |
| Sieve | Passing | Liquid Limit | TEST 1 TEST 2 |
| 25.400 | 100 | | - - |
| 19.000 | 100 | | - - |
| 12.500 | 99 | | TEST 3 TEST 4 |
| 9.500 | 98 | | - - |
| 4.750 | 92 | Average LL | - % |
| 2.360 | 90 | Plastic Limit | TEST 1 TEST 3 |
| 1.180 | 89 | | - - |
| 0.600 | 88 | | TEST 4 |
| 0.425 | 81 | | - - |
| 0.300 | 78 | Average PL | - % |
| 0.150 | 53 | Plasticity Index (PI) | - % |
| 0.075 | 48 | | - % |
| | | Unified Classification | |
| | | PI Whole sample | |
| | | % Gravel | 10 |
| | | % Sand | 40 |
| | | % SIL + % Clay | 48 |

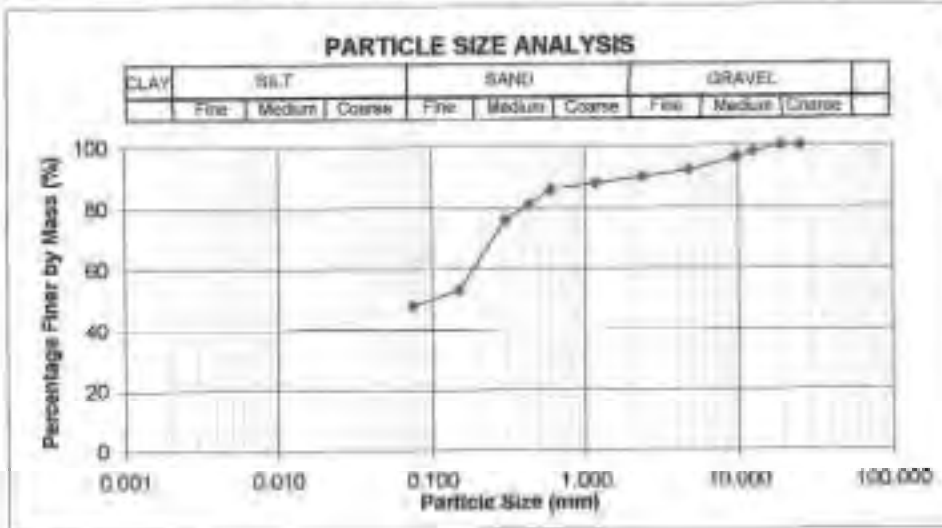


Fig. 13@



**THE GAMBIA ENGINEERING CONSULTANCY SERVICES LTD.
(GAMECS)**

FOUNDATION INDICATOR TEST RESULTS

| CLIENT | | DATE 25.10.09 | | |
|---|---------|-----------------------|---------------|------------------------|
| PROJECT Rural Water Supply - Phase III | | JOB NO 25708 | | |
| SITE Kabocott | | | | |
| Borehole N1 | | | | |
| Depth (m) 8.00 | | | | |
| SIEVE ANALYSIS | | ATTERBERG LIMITS | | |
| Sieve | Passing | Liquid Limit | TEST 1 TEST 2 | Unified Classification |
| 25.000 | 100 | | - - | |
| 19.000 | 96 | | - - | |
| 12.500 | 92 | | TEST 3 TEST 4 | PI Whole sample |
| 0.500 | 57 | | - - | |
| 4.750 | 77 | Average LL | - % | % Gravel |
| 2.360 | 72 | | | |
| 1.180 | 70 | Plastic Limit | TEST 1 TEST 2 | % Sand |
| 0.600 | 68 | | - - | |
| 0.425 | 65 | | TEST 3 | % Silt + % Clay |
| 0.300 | 61 | | - - | |
| 0.150 | 46 | Average PL | - % | |
| 0.075 | 41 | | | |
| | | Plasticity Index (PI) | - % | |

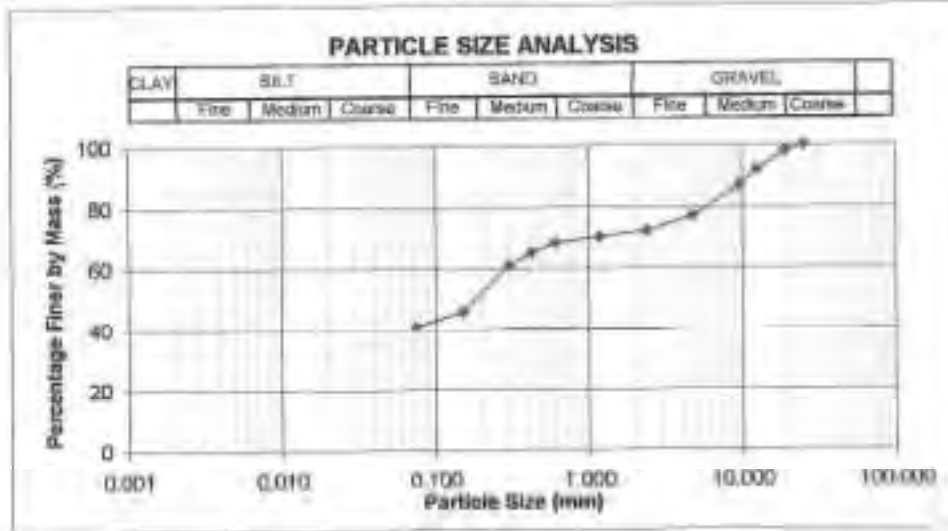


Fig. 1307



**THE GAMBIA ENGINEERING CONSULTANCY SERVICES LTD.
(GAMECS)**

FOUNDATION INDICATOR TEST RESULTS

| CLIENT | | DATE | | 25.10.09 | | |
|--|---------|-----------------------|--------|----------|------------------------|----|
| PROJECT Rural Water Supply - Phase III | | JOB NO | | 26708 | | |
| SITE Kabonon | | | | | | |
| Borehole N1 | | | | | | |
| Depth (m) 6.00 | | | | | | |
| SIEVE ANALYSIS | | ATTEBERG LIMITS | | | | |
| Sieve | Passing | Liquid Limit | TEST 1 | TEST 2 | Unified Classification | |
| 25.000 | 100 | | - | - | | |
| 19.000 | 100 | Average LL | TEST 3 | TEST 4 | PI Whole sample | |
| 12.500 | 98 | | - | - | | |
| 9.500 | 98 | Plastic Limit | TEST 1 | TEST 2 | % Gravel | 16 |
| 4.750 | 88 | | - | - | | |
| 2.000 | 84 | Average PL | TEST 3 | | % Sand | 89 |
| 1.180 | 82 | | - | - | | |
| 0.850 | 81 | Plasticity Index (PI) | | | % SIL + % Clay | 85 |
| 0.425 | 78 | | - | - | | |
| 0.300 | 75 | | | | | |
| 0.150 | 61 | | | | | |
| 0.075 | 55 | | | | | |

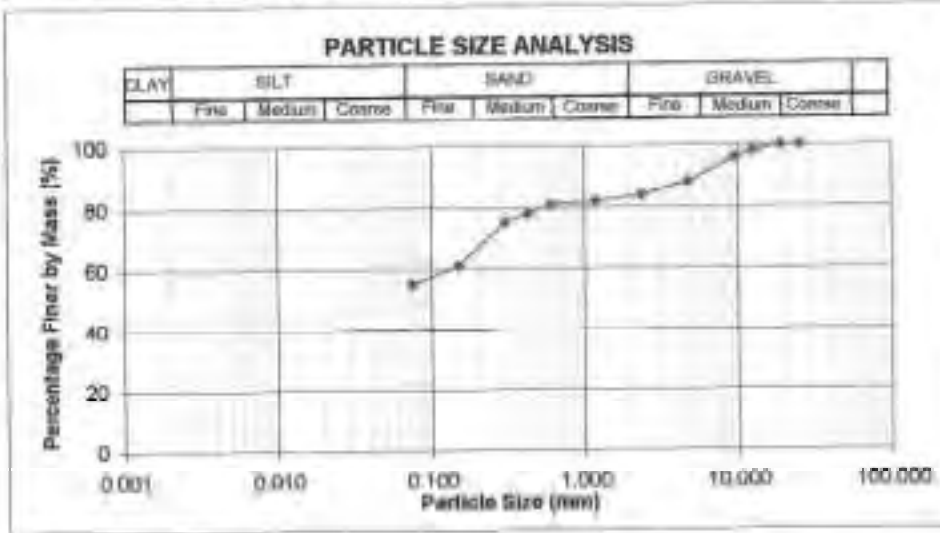


Fig. 13(n)



**THE GAMBIA ENGINEERING CONSULTANCY SERVICES LTD.
(GAMECS)**

FOUNDATION INDICATOR TEST RESULTS

| CLIENT | | DATE | | 25.10.09 | |
|--|---------|-----------------------|--------|----------|------------------------|
| PROJECT Rural Water Supply - Phase III | | JOB NO | | 25708 | |
| SITE Kabocoff | | | | | |
| Borehole N1 | | | | | |
| Depth (m) 8.69 | | | | | |
| SIEVE ANALYSIS | | ATTERBERG LIMITS | | | |
| Sieve | Passing | Liquid Limit | TEST 1 | TEST 2 | Unified Classification |
| 25.000 | 100 | | TEST 3 | TEST 4 | |
| 19.000 | 95 | Average LL | - | % | % Gravel |
| 12.500 | 86 | | | | |
| 9.500 | 82 | Plastic Limit | TEST 1 | TEST 2 | % Sand |
| 4.750 | 73 | | TEST 3 | | |
| 2.360 | 66 | Average PL | - | % | % Sand |
| 1.180 | 64 | | | | |
| 0.850 | 62 | Plasticity Index (PI) | - | % | % Silt + % Clay |
| 0.425 | 60 | | | | |
| 0.300 | 56 | | | | |
| 0.150 | 43 | | | | |
| 0.075 | 38 | | | | |

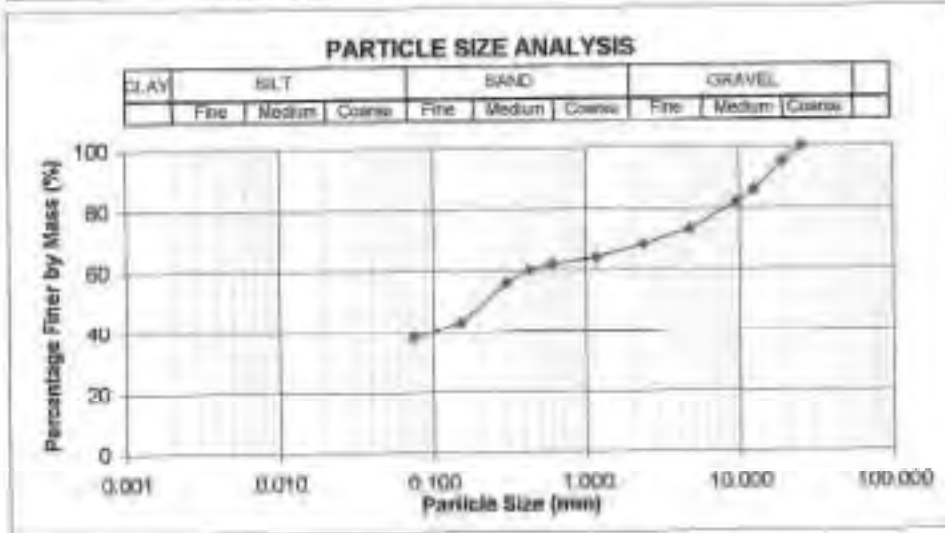


Fig. 13(q)



**THE GAMBIA ENGINEERING CONSULTANCY SERVICES LTD.
(GAMECS)**

FOUNDATION INDICATOR TEST RESULTS

| CLIENT | | DATE | | 28.10.88 | |
|--|---------|-----------------------|--------|----------|------------------------|
| PROJECT Rural Water Supply - Phase III | | JOB NO | | 28798 | |
| SITE Kabocorr | | | | | |
| Borehole N1 | | | | | |
| Depth (m) 9.60 | | | | | |
| SIEVE ANALYSIS | | ATTENBERG LIMITS | | | |
| Sieve | Passing | Liquid Limit | TEST 1 | TEST 2 | Unified Classification |
| 25.400 | 87 | | - | - | |
| 19.000 | 83 | Average LL | TEST 3 | TEST 4 | PI Whole sample |
| 12.500 | 78 | | - | - | |
| 9.500 | 73 | Plastic Limit | TEST 1 | TEST 2 | % Gravel |
| 4.750 | 63 | | | | |
| 2.360 | 57 | Average PL | TEST 3 | - | % Sand |
| 1.180 | 52 | | | | |
| 0.850 | 49 | Plasticity Index (PI) | - | % | % Silt + % Clay |
| 0.425 | 46 | | | | |
| 0.300 | 42 | | | | |
| 0.150 | 27 | | | | |
| 0.075 | 23 | | | | |

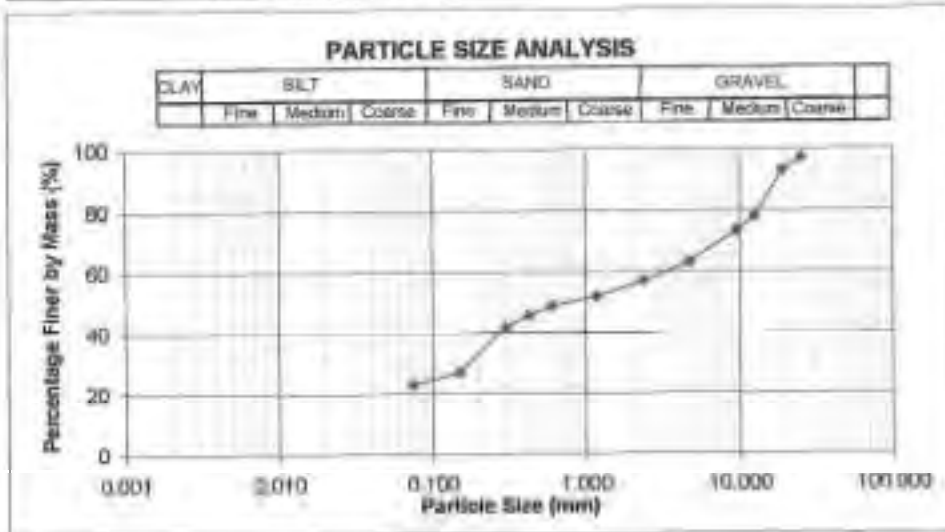


Fig. 13(s)



**THE GAMBIA ENGINEERING CONSULTANCY SERVICES LTD.
(GAMECS)**

FOUNDATION INDICATOR TEST RESULTS

| CLIENT | | DATE | | 25.10.08 | |
|----------------|---------|---------------------------------|--------|----------|------------------------|
| PROJECT | | Fairal Water Supply - Phase III | | JOB NO | |
| SITE | | Kaboocan | | 25708 | |
| Borehole | | N1 | | | |
| Depth (m) | | 10.00 | | | |
| SIEVE ANALYSIS | | ATTERBERG LIMITS | | | |
| Sieve | Passing | Liquid Limit | TEST 1 | TEST 2 | Unified Classification |
| 25.400 | 99 | | - | - | |
| 19.000 | 90 | Average LL | TEST 3 | TEST 4 | PI Whole sample |
| 12.500 | 82 | | - | - | - |
| 8.500 | 75 | Plastic Limit | TEST 1 | TEST 2 | % Gravel |
| 4.750 | 64 | | - | - | 42 |
| 2.360 | 58 | Average PL | TEST 3 | - | % Sand |
| 1.180 | 53 | | - | - | 30 |
| 0.850 | 50 | Plasticity Index (PI) | TEST 4 | - | % Silt + % Clay |
| 0.425 | 47 | | - | - | 28 |
| 0.300 | 44 | - | - | - | |
| 0.150 | 32 | - | - | - | |
| 0.075 | 28 | - | - | - | |

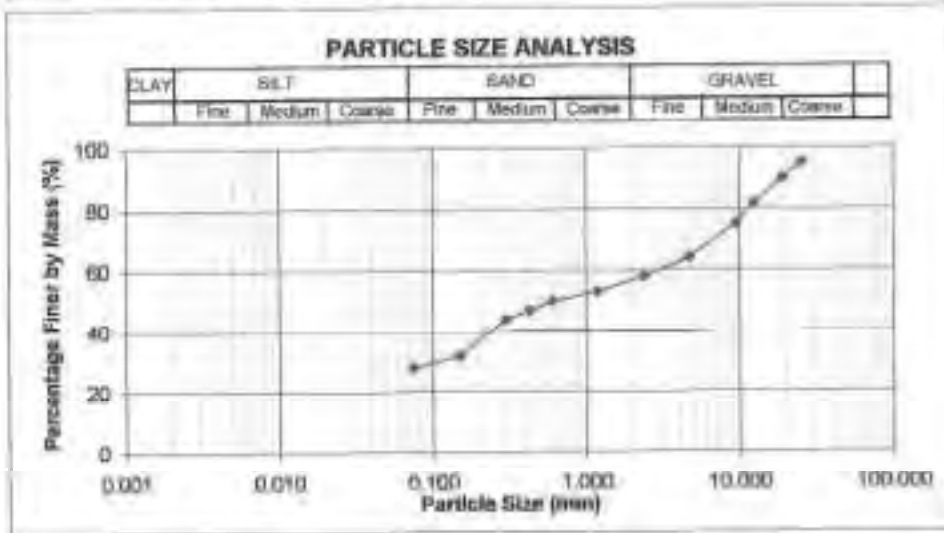


Fig. 13.00