

Appendix 5 Other Relevant Data

Results of Geological Investigation for the bridges

1) Tenaru 1 and 2 bridge sites

Surrounding of both bridges, Cacao plantations and tropical woods which come close to road sides are surrounding of both bridges. Tenaru 1 bridge is located above Tenaru river and Tenaru 2 bridge is located above Tenaru Creek. Between the two bridges. There is a flat surface of about 800m.

To carry out geological investigation at the bridge location, two boring holes (BH-4, 5) were drilled at Tenaru 1, on the other hand one hole (BH-6) is drilled at Tenaru 2.

In the geological investigation results, layers of silty clay can be detected at Tenaru 2 bridge location only, also, sand, sand with gravels and sand or silt layers can be seen in the drilling hole logs. These layers are distributed from the ground surface till a thick sandy silt layer.

Table-1 Relation between Drilling Location and Bridge

| No. | Drilling depth (m) | Elevation (m) | Underground water depth (m) | Drilling Location |
|-------|--------------------|---------------|-----------------------------|--------------------------|
| BH- 4 | 39.0 | 1.71 | 1.4 | Tenaru 1, Right Abutment |
| BH- 5 | 30.0 | 2.67 | 2.6 | Tenaru 1, Left Abutment |
| BH- 6 | 30.0 | 3.78 | 4.3 | Tenaru 2, Left Abutment |

Summary of drilling holes results are as follows;

Table-2 Distribution of soil layers by drilling

| Layer/ Item | Thickness of Layer (m) | Average N value | Distribution | Skin Friction of Pile(t/m2)* | Remarks |
|---------------------------|------------------------|-----------------|-----------------------|------------------------------|--|
| Silty clay with gravel | 3.5 | 5.7 | Tenaru 2 | 0.71 | Surface layer |
| Sand | 2-2.5 | 5.4 | Tenaru 1, 2 | 1.08 | Medium to fine sand |
| Sand with silt and gravel | 2-3.5 | 10.8 | Tenaru 1, 2 | 2.16 | Sub angular gravel less than 1 or 2cm in diameter (25%), Silt (25%), Coarse sand (50%) |
| Sand (partly with Silt) | 7-9 | 15.1 | Tenaru 1 East side, 2 | 3.02 | Medium and fine sand, Dark green |
| Silt with fine sand | - | 11.7 | Tenaru 2 | 1.46 | Green gray, Fine sand (maximum 40%) |

注) * : Clay=N/8、Sand=N/5 (Specifications for Highway Bridges/ Explanation IV, Substructure)

Based on the above mentioned drilling result, the supporting layer can not be confirmed clearly, therefore applying friction pile for the bridge foundation is necessary. The following table shows ultimate supporting strength of driving pile of steel pipe with 80cm diameter using Meyerhof's formula, which is commonly used to check geo-data.

Table-3 Ultimate supporting strength by Meyerhof in the case of clay stratum (driving pile of steel pipe with 80cm diameter)

| Item / unit | Pile L. (m) | N | Ap (m ²) | 40NAp (tf) | Ns | As (m ²) | NsAs/5 (tf) | Nc | Ac (m ²) | NcAc/2 (tf) | Ru (tf) |
|-------------|-------------|----|----------------------|------------|------|----------------------|-------------|------|----------------------|-------------|---------|
| BH- 4 | 22 | 26 | 0.5 | 520.0 | 9.6 | 17.6 | 33.8 | 9.6 | 17.6 | 84.5 | 638.3 |
| | 29 | 13 | 0.5 | 260.0 | 9.6 | 17.6 | 33.8 | 11.0 | 35.2 | 193.6 | 487.4 |
| 5 | 24 | 13 | 0.5 | 260.0 | 7.8 | 12.6 | 19.7 | 12.6 | 45.2 | 284.8 | 564.5 |
| | 29 | 13 | 0.5 | 260.0 | 7.8 | 12.6 | 19.7 | 21.2 | 57.8 | 612.7 | 892.4 |
| 6 | 22 | 11 | 0.5 | 220.0 | 11.8 | 27.6 | 65.1 | 7.8 | 25.1 | 97.9 | 383.0 |

cf) Steel Pile –The design and Construction- Association of Steel pile, 1994

formula :

| | |
|--|--|
| $R_u = 40N_a A_p + (N_s A_s) / 5 + (N_c A_c) / 2$ | |
| (Calculation formula of supporting strength with considering clayey layer) | |
| Ru : | Ultimate supporting Strength (tf) |
| Ns : | Average N value of sandy layers between the surface and pile toe depth |
| Ap : | Pile toe size (m ²) |
| Nc : | Average N value of clayey layers between the surface and pile toe depth |
| N : | N value of the layer of pile toe depth |
| As : | Pile skin Size of clayey layers between the surface and pile toe depth (m ²) |
| Ac : | Pile skin Size of clayey layers between the surface and pile toe depth (m ²) |

cf) Steel Pile –The design and Construction- Association of Steel pile, 1994

Accordingly supporting strength of an 80cm diameter steel pipe pile and the associated Safety factor can be calculated as follows;

Table-4 Supporting strength with a safety factor

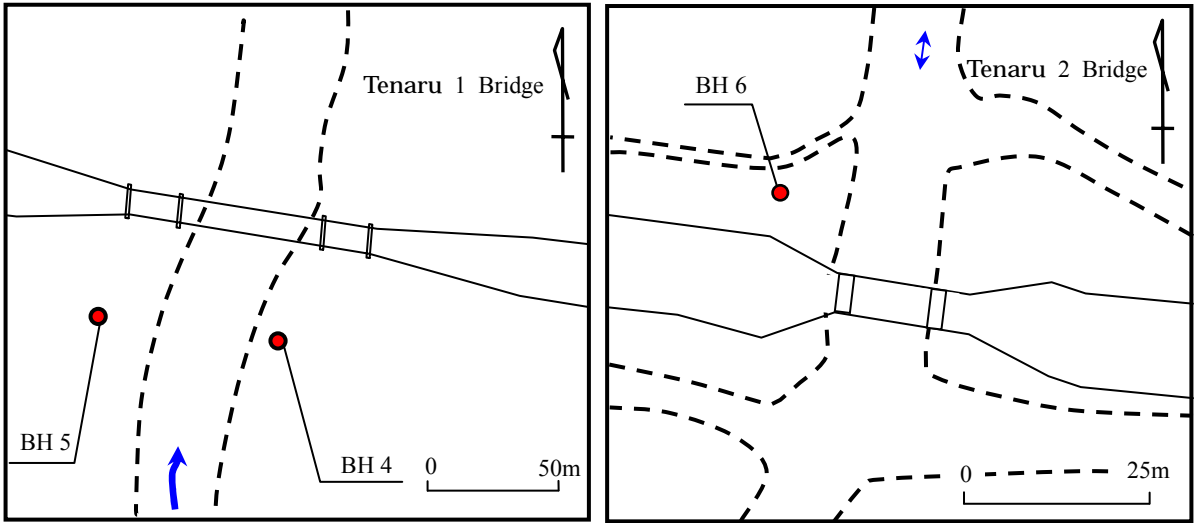
| Item / Unit | Pile Length (m) | Ru (tf) | Safety factor n | Coefficient a | Ra | |
|-------------|-----------------|---------|-----------------|---------------|-------|---------|
| | | | | | (tf) | (kN) |
| BH- 4 | 22 | 638.3 | 4.0 | 1.0 | 159.6 | 1,420.4 |
| | 29 | 487.4 | 4.0 | 1.0 | 121.9 | 1,089.9 |
| 5 | 24 | 564.5 | 4.0 | 1.0 | 141.1 | 1,255.8 |
| | 29 | 892.4 | 4.0 | 1.0 | 223.1 | 1,985.6 |
| 6 | 22 | 383.0 | 4.0 | 1.0 | 95.8 | 852.6 |

Formula :

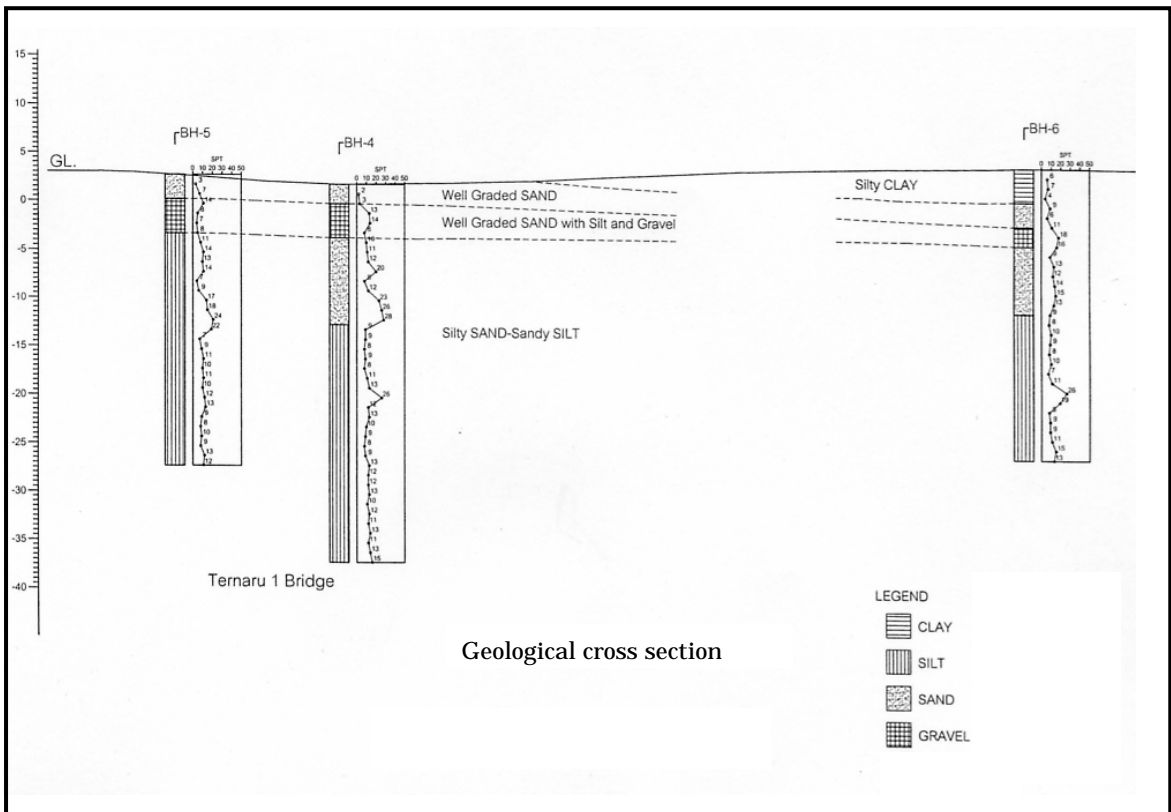
| | |
|---------------------|---|
| $R_a = a * R_u / n$ | |
| Ra : | Supporting strength of driving pile (tf) |
| Ru : | Ultimate supporting strength of driving pile (tf) |
| n : | Safety factor (Friction pile) |
| a : | Coefficient (without loading test result) |

cf) Steel Pile –The design and Construction- Association of Steel pile, 1994







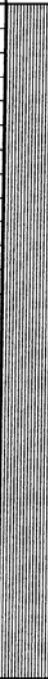
Based on the geological investigation results, the supporting layer can not be found, therefore, the friction piles for supporting the substructure foundation shall be adopted.

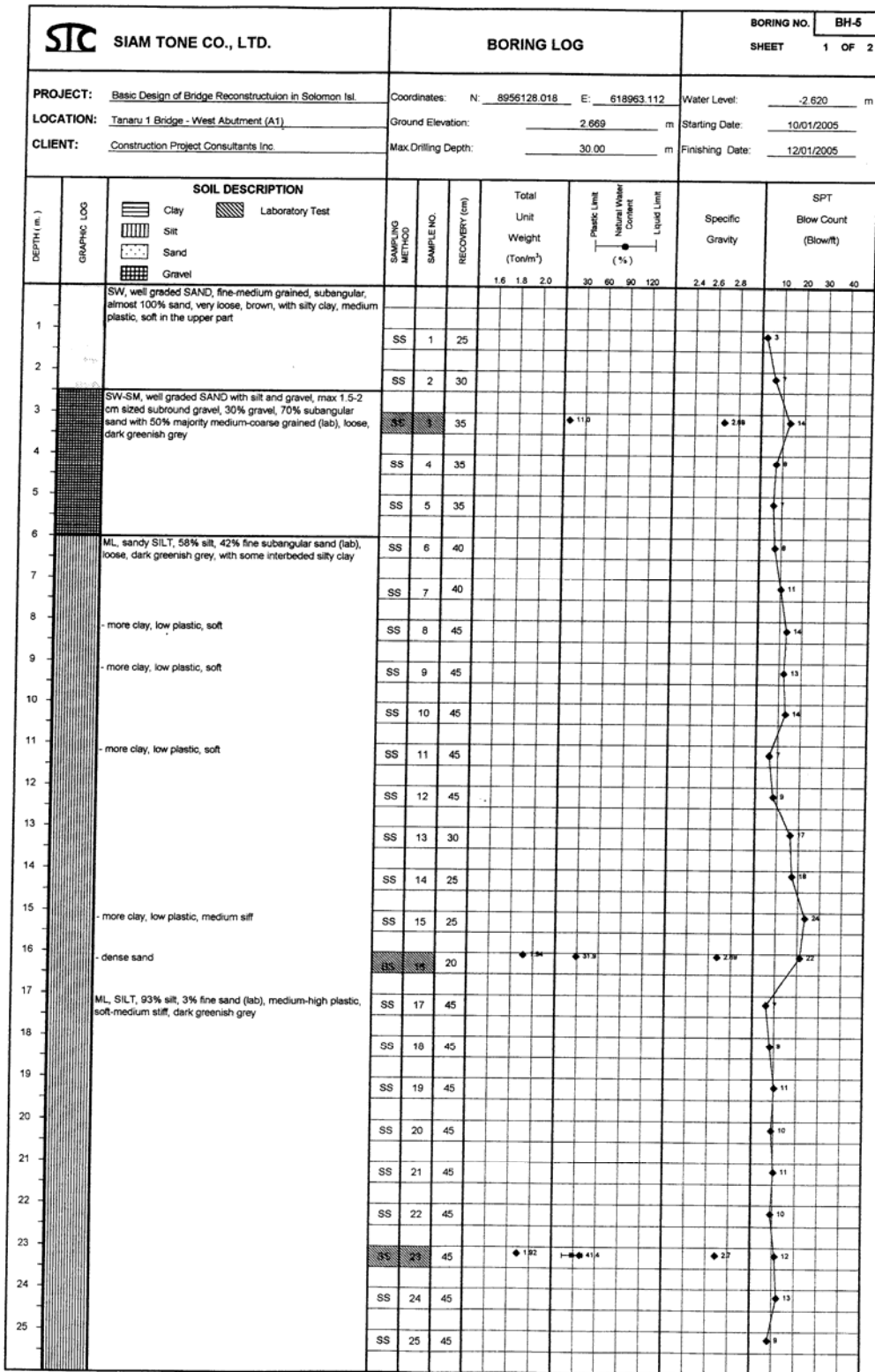




Location of Drilling sites

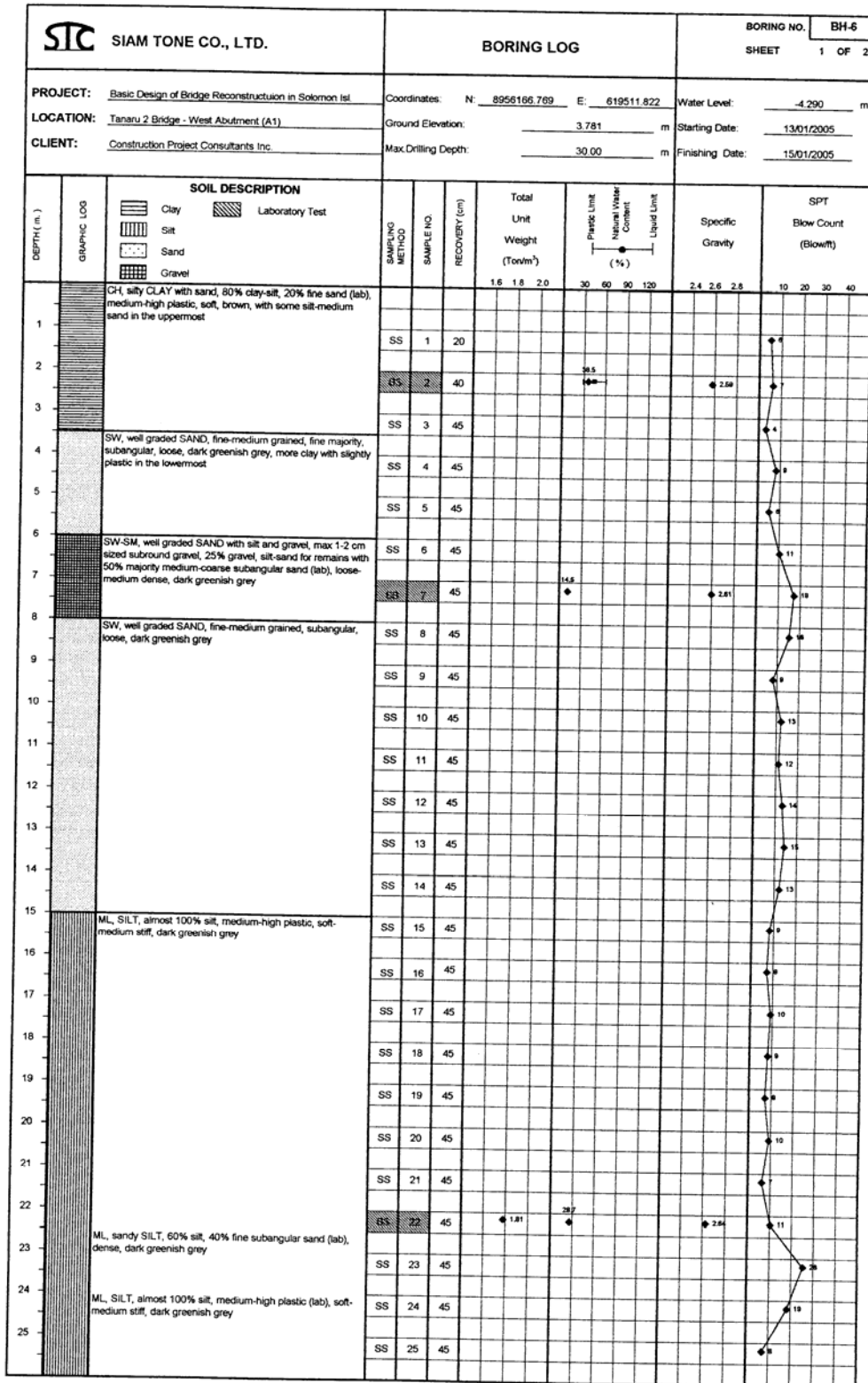









Geological cross section

|  SIAM TONE CO., LTD. | | BORING LOG | | | | BORING NO. BH-4 SHEET 2 OF 2 | | | | | |
|--|--|---|---|----------------------------|------------|---|---|--|------------------|--------------------------|----|
| PROJECT: Basic Design of Bridge Reconstruction in Solomon Isl. | | Coordinates: N: 8956157.398 E: 618982.103 | | Water Level: -1.400 m | | | | | | | |
| LOCATION: Tanaru 1 Bridge - Pier 2 | | Ground Elevation: 1.713 m | | Starting Date: 06/01/2005 | | | | | | | |
| CLIENT: Construction Project Consultants Inc. | | Max. Drilling Depth: 39.00 m | | Finishing Date: 09/01/2005 | | | | | | | |
| DEPTH (m) | GRAPHIC LOG | SOIL DESCRIPTION | | SAMPLING METHOD | SAMPLE NO. | RECOVERY (cm) | Total Unit Weight (Ton/m ³) | Plastic Limit Liquid Limit Natural Water Content (%) | Specific Gravity | SPT Blow Count (Blow/ft) | |
| | |  Clay  Silt  Sand  Gravel  Laboratory Test | 1.6 1.8 2.0 30 60 90 120 2.4 2.6 2.8 10 20 30 40 | | | | | | | | |
| 26 |  | ML, sandy SILT, 70% silty, 30% fine subangular sand (lab), slight plastic, soft, dark greenish grey | | | | | | | | 9 | |
| 27 | | | | | | | | | | | 9 |
| 28 | | | | | | | | | | | 9 |
| 29 | | | | | | | | | | | 15 |
| 30 | | | | | | | | | | | 12 |
| 31 | | | | | | | | | | | 12 |
| 32 | | | | | | | | | | | 13 |
| 33 | | | | | | | | | | | 10 |
| 34 | | | | | | | | | | | 12 |
| 35 | | | | | | | | | | | 11 |
| 36 | | | | | | | | | | | 13 |
| 37 | | | | | | | | | | | 11 |
| 38 | | | | | | | | | | | 13 |
| 39 | | | End of hole @ 39.00 m (full length of drill rod) | | SS | 39 | 45 | | | | 15 |



|  SIAM TONE CO., LTD. | | BORING LOG | | | | BORING NO. BH-5 SHEET 2 OF 2 | | | | | |
|--|---|---|-----------------|----------------------------|------------|---|---|---|------------------|--------------------------|----|
| PROJECT: Basic Design of Bridge Reconstruction in Solomon Isl. | | Coordinates: N: 8956128.018 E: 618963.112 | | Water Level: -2.620 m | | | | | | | |
| LOCATION: Tanaru 1 Bridge - West Abutment (A1) X | | Ground Elevation: 2.669 m | | Starting Date: 10/01/2005 | | | | | | | |
| CLIENT: Construction Project Consultants Inc. | | Max. Drilling Depth: 30.00 m | | Finishing Date: 12/01/2005 | | | | | | | |
| DEPTH (m.) | GRAPHIC LOG | SOIL DESCRIPTION | | SAMPLING METHOD | SAMPLE NO. | RECOVERY (m) | Total Unit Weight (Ton/m ³) | Plastic Limit Natural Water Content (%) Liquid Limit | Specific Gravity | SPT Blow Count (Blow/ft) | |
| | | Clay Silt Sand Gravel | Laboratory Test | | | | | | | | |
| 26 |  | ML, SILT, 93% silt, 3% fine sand (fb), medium-high plastic, soft-medium stiff, dark greenish grey | | | | | | | | | |
| 27 | | | | SS | 26 | 45 | | | | 8 | |
| 28 | | | | | SS | 27 | 45 | | | | 10 |
| 29 | | | | | SS | 28 | 45 | | | | 8 |
| 30 | | | | | SS | 29 | 45 | | | | 13 |
| 30 | | | | | SS | 30 | 45 | | | | 12 |
| | | End of hole @ 30.00 m | | | | | | | | | |



|  SIAM TONE CO., LTD. | | BORING LOG | | | | BORING NO. BH-6 SHEET 2 OF 2 | | | | | | | |
|--|---|--|-----------------|----------------------------|------------|---|---|--|-----------------------|--------------|------------------|--------------------------|--|
| PROJECT: Basic Design of Bridge Reconstruction in Solomon Isl. | | Coordinates: N: 8956166.769 E: 619511.822 | | Water Level: -4.290 m | | | | | | | | | |
| LOCATION: Tanaru 2 Bridge - West Abutment (A1) | | Ground Elevation: 3.781 m | | Starting Date: 13/01/2005 | | | | | | | | | |
| CLIENT: Construction Project Consultants Inc. | | Max. Drilling Depth: 30.00 m | | Finishing Date: 15/01/2005 | | | | | | | | | |
| DEPTH (m.) | GRAPHIC LOG | SOIL DESCRIPTION | | SAMPLING METHOD | SAMPLE NO. | RECOVERY (cm) | Total Unit Weight (Ton/m ³) | Plastic Limit - Natural Water Content - Liquid Limit (%) | | | Specific Gravity | SPT Blow Count (Blow/ft) | |
| | | Clay | Laboratory Test | | | | | Plastic Limit | Natural Water Content | Liquid Limit | | | |
| | |  Clay  Laboratory Test  Silt  Sand  Gravel | | | | | 1.6 1.8 2.0 | 30 60 90 120 | | 2.4 2.6 2.8 | 10 20 30 40 | | |
| 26 |  | ML, SILT, almost 100% silt, medium-high plastic (lab), soft-medium stiff, dark greenish grey | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | |
| | | End of hole @ 30.00 m | | | | | | | | | | | |

2) Ngalimbiu Bridge

Ngalimbiu bridge is located at the down-stream of Ngalimbiu river, which is one of the longest rivers in Guadalcanal Island. This river is meandering on the flat alluvium plain with vast Coconut plantations and dense tropical woods can be seen along river sides. The river width at the planned bridges location is about 150m, and the river-bed is covered with gravels and boulders. During investigation period, which was in the dry season, the depth of river water was less than 2m around the site.

Three drilling holes are dug at upstream side of the existing truss bridge and two of them are on the right side and one is on the left.

Bore-log results show that clayey and sandy layers can be seen alternating for the thickness ranging between 1 and 6m up to 11m in some places. N value of clayey layer shows small value of 2 at the depth of 4 to 10m at BH-1, and a value of 5 was observed at sandy layers. N value of 50 can be found at the depth of 15m and 30m for BH-2 and 3. Respectably, similar N value distribution can be found where N value of 2 at 5m depth for silty sand layer, and value of 50 can be observed at 39m for silty sand layer. At BH-1, large value of 50 at the depth of 35m can be found for gravel layer.

The drilling work has been terminated when N value reaches 50. Bore-logs of each hole are shown on the attached sheet and the supporting layers for piles are considered as follows;

Table-5 Relation between Drilling Location and Bridge

| No. | Drilling depth (m) | Elevation (m) | Underground water depth (m) | Drilling Location |
|-------|--------------------|---------------|-----------------------------|------------------------------------|
| BH- 1 | 37.0 | 9.96 | 0.9 | River-bed near the right side pier |
| BH- 2 | 39.0 | 14.76 | 5.5 | Close to the right bank abutment |
| BH- 3 | 30.0 | 12.30 | 3.1 | the left bank abutment |

The depth of supporting layer and distribution of N value by the investigation results are as follows;

Table-6 Distribution of soil layers by drilling

| No. | Soil, layer | Depth (m) | Thickness of Layer (m) | N value | Average N value |
|------|--------------|-----------|------------------------|---------|-----------------|
| BH-1 | Sand, Gravel | 32 – 36 | 4 | 31 – 50 | 42.2 |
| BH-2 | Sandy silt | 28 – 31 | 3 | 25 – 37 | 32.7 |
| | Silty sand | 37 – | 2 – | 42 – 50 | 44.7 |
| BH-3 | Sandy silt | 27 – | 4 – | 45 – 50 | 48.8 |

注) * : Clay=N/8、 Sand=N/5 (Specifications for Highway Bridges/ Explanation IV, Substructure)

The following table shows the ultimate supporting strength of driving pile of steel pipe pile with 80cm diameter using Meyerhof's formula, which is commonly used to check geo-data.

Table-7 Ultimate supporting strength by Meyerhof in the case of clay stratum
(driving pile of steel pipe with 80cm diameter)

| Item / unit | Pile L. (m) | N | Ap (m ²) | 40NAp (tf) | Ns | As (m ²) | NsAs/5 (tf) | Nc | Ac (m ²) | NcAc/2 (tf) | Ru (tf) |
|-------------|-------------|----|----------------------|------------|------|----------------------|-------------|------|----------------------|-------------|---------|
| BH- 1 | 32 | 31 | 0.5 | 620.0 | 23.7 | 40.2 | 192.9 | 14.1 | 30.1 | 212.2 | 1,026.6 |
| 2 | 29 | 36 | 0.5 | 720.0 | 16.8 | 40.2 | 135.1 | 10.5 | 25.1 | 131.8 | 986.9 |
| | 37 | 42 | 0.5 | 840.0 | 16.8 | 40.2 | 135.1 | 16.3 | 22.6 | 184.2 | 1,159.3 |
| 3 | 27 | 45 | 0.5 | 900.0 | 20.8 | 35.2 | 146.4 | 11.7 | 30.1 | 176.1 | 1,222.5 |

cf) Steel Pile –The design and Construction- Association of Steel pile, 1994

formula :

| | |
|--|--|
| $R_u = 40N_a \cdot A_p + (N_s \cdot A_s) / 5 + (N_c \cdot A_c) / 2$ | |
| (Calculation formula of supporting strength with considering clayey layer) | |
| Ru : | Ultimate supporting Strength (tf) |
| Ns : | Average N value of sandy layers between the surface and pile toe depth |
| Ap : | Pile toe size (m ²) |
| Nc : | Average N value of clayey layers between the surface and pile toe depth |
| N : | N value of the layer of pile toe depth |
| As : | Pile skin Size of clayey layers between the surface and pile toe depth (m ²) |
| Ac : | Pile skin Size of clayey layers between the surface and pile toe depth (m ²) |

cf) Steel Pile –The design and Construction- Association of Steel pile, 1994

Accordingly supporting strength of an 80cm diameter steel pipe pile and the associated safety factor can be calculated as follows;

Table-8 Supporting strength with a safety factor

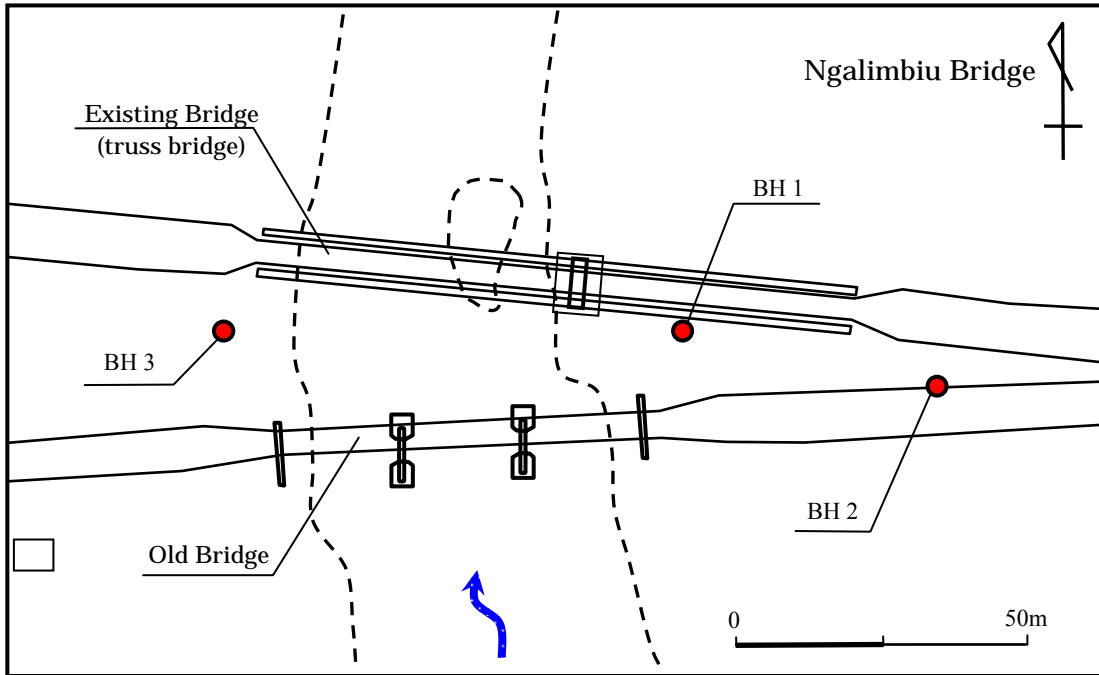
| Item / Unit | Pile Length (m) | Ru (tf) | Safety factor n | Coefficient a | Ra | |
|-------------|-----------------|---------|-----------------|---------------|-------|---------|
| | | | | | (tf) | (kN) |
| BH- 1 | 32 | 1,026.6 | 4.0 | 1.0 | 256.7 | 2,284.6 |
| 2 | 29 | 986.9 | 4.0 | 1.0 | 246.7 | 2,195.6 |
| | 37 | 1,159.3 | 4.0 | 1.0 | 289.8 | 2,579.2 |
| 3 | 27 | 1,222.5 | 4.0 | 1.0 | 305.6 | 2,719.8 |

Formula :

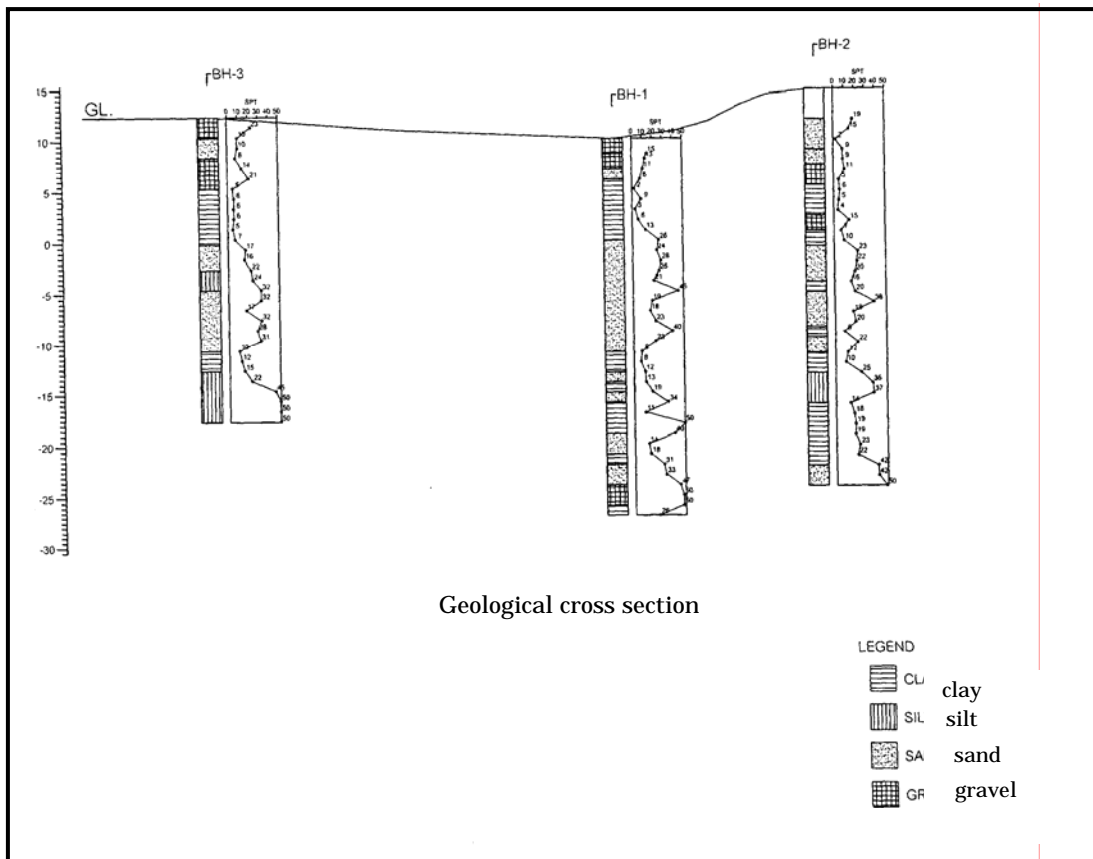
| | |
|--|---|
| $R_a = a \cdot R_u / n$ (Supporting strength formula with safety factor) | |
| Ra : | Supporting strength of driving pile (tf) |
| Ru : | Ultimate supporting strength of driving pile (tf) |
| n : | Safety factor (Friction pile) |
| a : | Coefficient (without loading test result) |

cf) Steel Pile –The design and Construction- Association of Steel pile, 1994

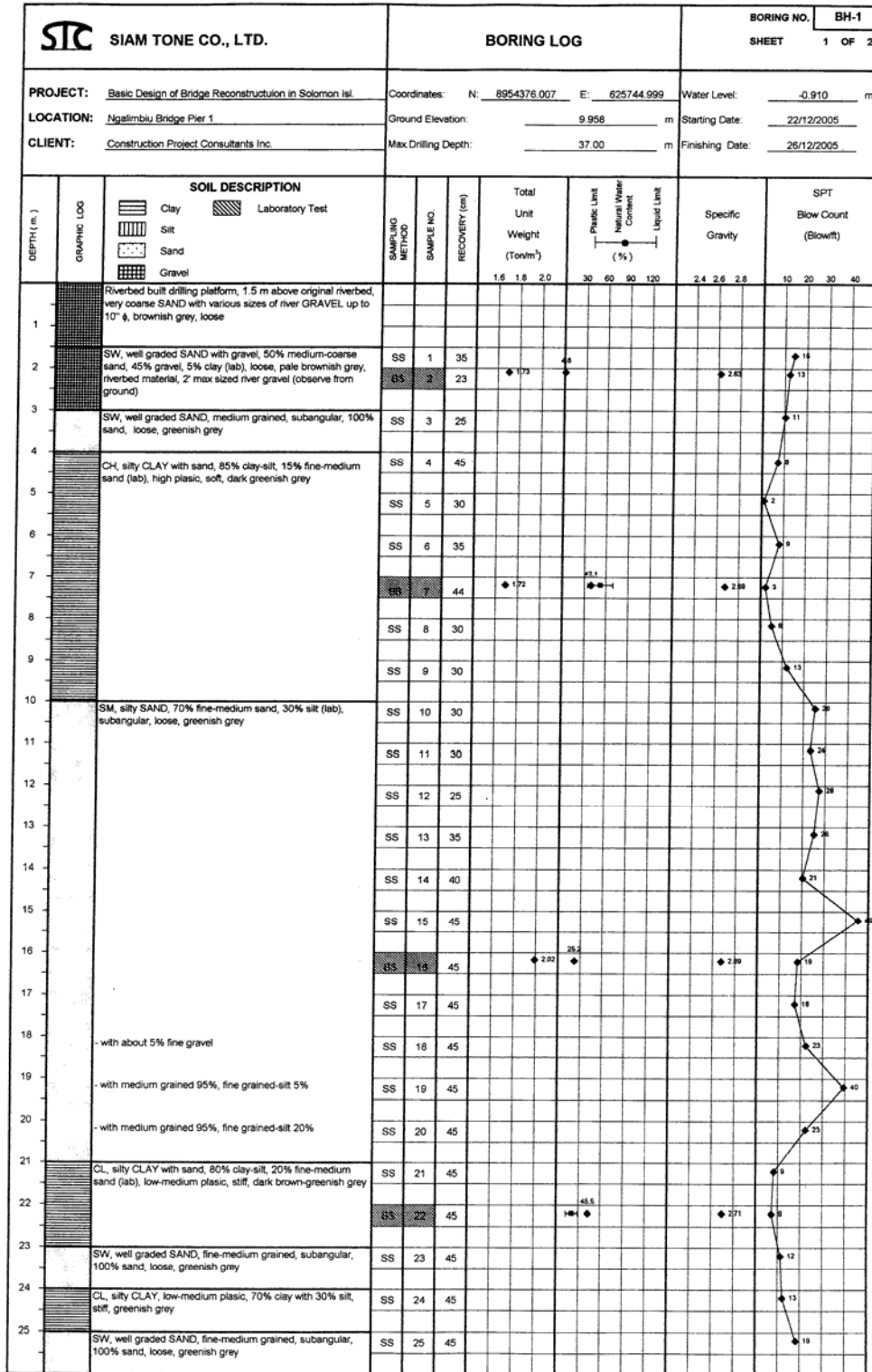
Based on the geological investigation results of a supporting layer for plies and distribution of clayey layers can be found at Ngalimbiu bridge site, the above mentioned the ultimate supporting strength for the substructure foundation shall be adopted.



Drilling Location at the Ngalimbiu Bridge

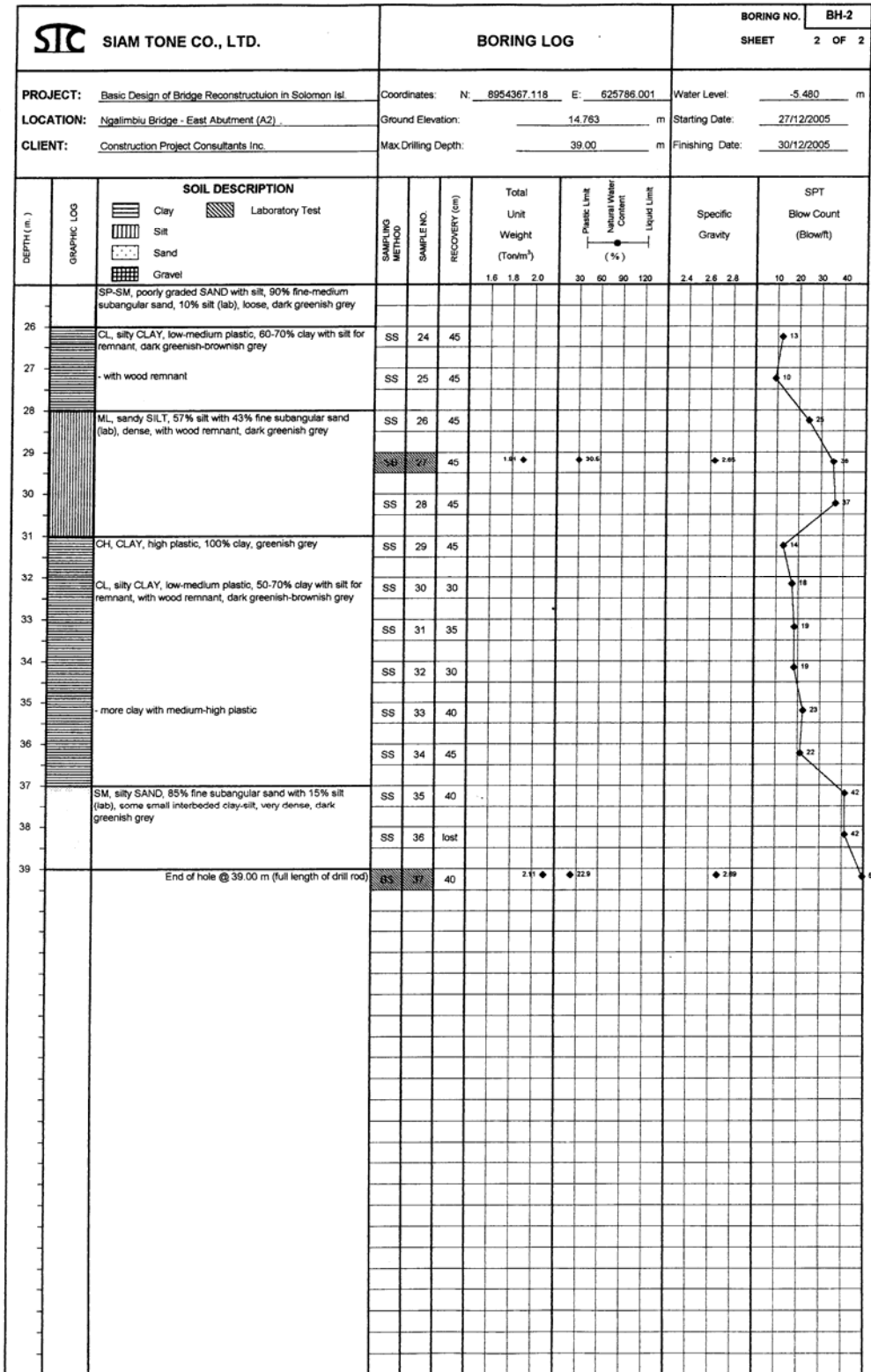


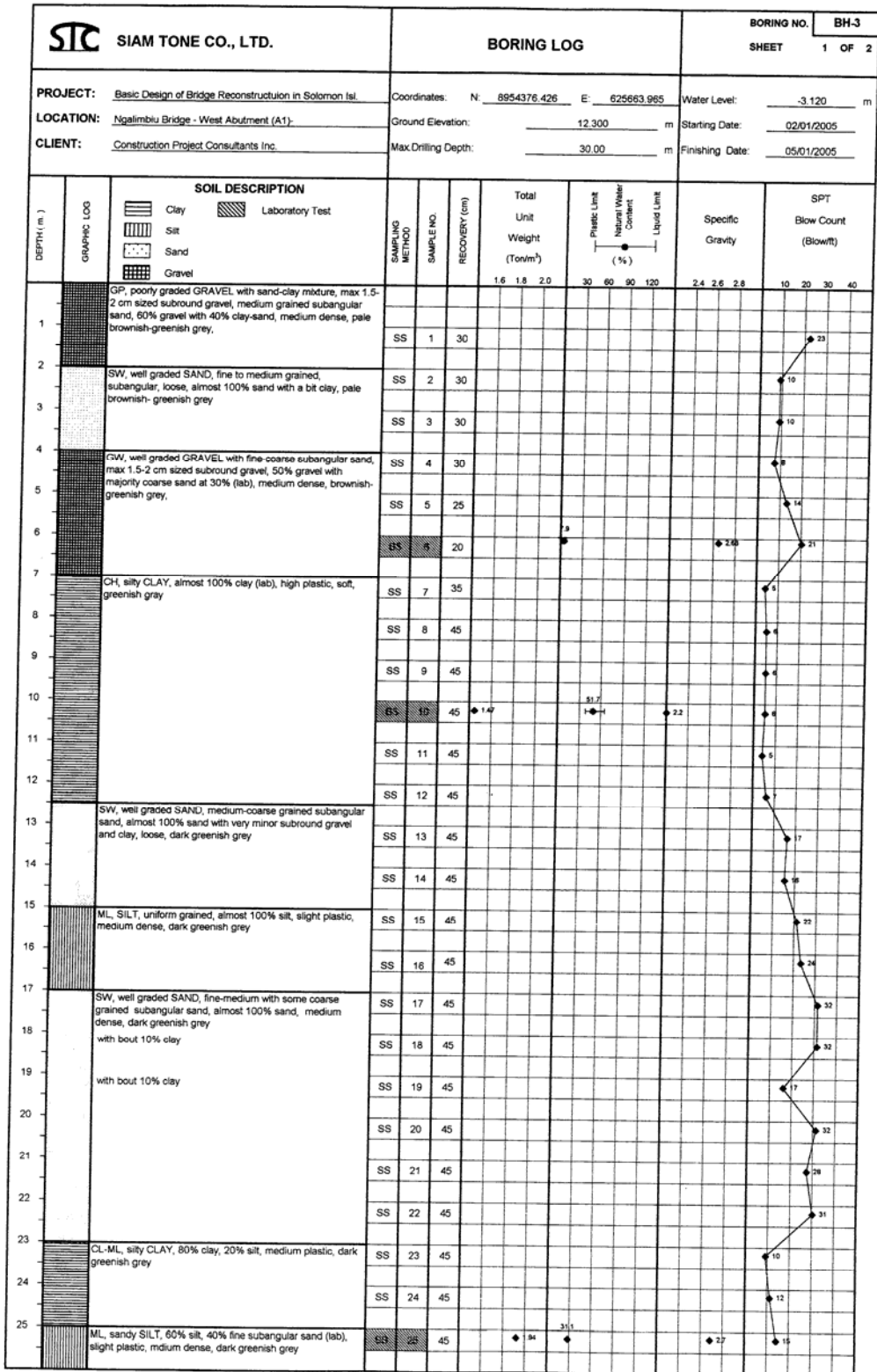
Geological cross section



| STC SIAM TONE CO., LTD. | | BORING LOG | | | | | BORING NO. BH-1 | | | | | | | | |
|---|-------------|---|-----------------|-----------------|----------------------------|---------------|---|------|------|----|--|------|-----|--------------------------|-----|
| | | | | | | | SHEET 2 OF 2 | | | | | | | | |
| PROJECT: Basic Design of Bridge Reconstruction in Solomon Isl. | | Coordinates: N: 8954376.007 E: 625744.999 | | | Water Level: -0.910 m | | | | | | | | | | |
| LOCATION: Ngalmibiu Bridge Pier 1 | | Ground Elevation: 9.958 m | | | Starting Date: 22/12/2005 | | | | | | | | | | |
| CLIENT: Construction Project Consultants Inc. | | Max. Drilling Depth: 37.00 m | | | Finishing Date: 26/12/2005 | | | | | | | | | | |
| DEPTH (m) | GRAPHIC LOG | SOIL DESCRIPTION | | SAMPLING METHOD | SAMPLE NO. | RECOVERY (cm) | Total Unit Weight (Ton/m ³) | | | | Plastic Limit, Natural Water Content, Liquid Limit (%) | | | SPT Blow Count (Blow/ft) | |
| | | Clay | Laboratory Test | | | | 1.6 | 1.8 | 2.0 | 30 | 60 | 90 | 120 | | 2.4 |
| 26 | | SW, well graded SAND, fine-medium grained, subangular, 100% sand, loose, greenish grey | | | | | | | | | | | | | |
| 26 | | CL, CLAY, medium-high plastic, 100% clay, greenish grey | | SS | 26 | 45 | | | | | | | | | 34 |
| 27 | | | | SS | 27 | 45 | | | | | | | | | 31 |
| 28 | | | | SS | 28 | 45 | | | | | | | | | 34 |
| 29 | | SW, well graded SAND, fine-medium grained, subangular, 100% sand, loose, greenish grey | | SS | 29 | 45 | | | | | | | | | 40 |
| 30 | | | | SS | 30 | 45 | | | | | | | | | 34 |
| 31 | | CL, CLAY, medium-high plastic, 100% clay, greenish grey | | SS | 31 | 45 | | | | | | | | | 38 |
| 32 | | SM, silty SAND, 85% fine-coarse subangular sand, 15% clay-silt (lab), slight plastic, greenish grey | | SS | 32 | 45 | | | | | | | | | 31 |
| 33 | | | | SP | 33 | 45 | 171 | 11.8 | | | 2.85 | | | | 33 |
| 34 | | GP, poorly graded GRAVEL-SAND mixture, coarse sand-fine gravel, max gravel size 2 cm ϕ , subangular, 70% sand, 30% gravel, dense, dark greenish grey | | SS | 34 | 45 | | | | | | | | | 37 |
| 35 | | | | SS | 35 | 20 | | | | | | | | | 50 |
| 36 | | CL, silty CLAY, almost 100% clay-silt (lab), medium plastic, dark greenish grey | | SS | 36 | 5 | | | 13.8 | | | 2.85 | | | 50 |
| 37 | | End of Hole @ 37.00 M | | SS | 37 | 40 | | | | | | | | | 26 |

| STC SIAM TONE CO., LTD. | | BORING LOG | | | | | | BORING NO. BH-2 SHEET 1 OF 2 | | | |
|--|-------------|--|-----------------|----------------------------|------------|---------------|---|--|--------------|------------------|--------------------------|
| PROJECT: Basic Design of Bridge Reconstruction in Solomon Isl. | | Coordinates: N: 8954367.118 E: 625786.001 | | Water Level: -5.480 m | | | | | | | |
| LOCATION: Ngalmblu Bridge - East Abutment (A2) | | Ground Elevation: 14.763 m | | Starting Date: 27/12/2005 | | | | | | | |
| CLIENT: Construction Project Consultants Inc. | | Max. Drilling Depth: 39.00 m | | Finishing Date: 30/12/2005 | | | | | | | |
| DEPTH (m.) | GRAPHIC LOG | SOIL DESCRIPTION | | SAMPLING METHOD | SAMPLE NO. | RECOVERY (cm) | Total Unit Weight (Ton/m ³) | Plastic Limit Natural Water Content (%) | Liquid Limit | Specific Gravity | SPT Blow Count (Blow/ft) |
| | | Clay | Laboratory Test | | | | | | | | |
| | | | | | | | 1.6 1.8 2.0 | 30 60 90 120 | | 2.4 2.6 2.8 | 10 20 30 40 |
| 1 | | PVC sleeve preserved during the construction of bridge ramp embankment | | | | | | | | | |
| 3 | | SM, silty SAND with gravel, 50% fine-medium subangular sand, 35% clay-silt, 15% subround gravel (lab), max 3 cm sized gravel (observe), low-medium plastic, some wood remnant, greenish grey | | SS | 1 | 30 | | | | | 19 |
| 4 | | | | SS | 2 | 15 | 19.5 | | 2.67 | | 17 |
| 5 | | | | SS | 3 | 30 | | | | | 2 |
| 6 | | SW, well graded SAND, fine-medium grained, subangular, 100% sand, loose, greenish grey | | SS | 4 | 25 | | | | | 9 |
| 7 | | | | SS | 5 | 15 | | | | | 1 |
| 8 | | GW-SM, well graded GRAVEL with silt, 60% subround gravel, 35% fine-coarse subangular sand, 5% silt (lab), 3.5 cm max sized gravel (observe), loose, greenish grey | | SS | 6 | 10 | 7.9 | | 2.68 | | 11 |
| 9 | | | | SS | 7 | 15 | | | | | 3 |
| 10 | | CL, silty-sandy CLAY, medium plastic, 70-90% clay with mostly silt-fine sand for remnant, greenish grey | | SS | 8 | 20 | | | | | 4 |
| 11 | | | | SS | 9 | 30 | | | | | 5 |
| 12 | | | | SS | 10 | 45 | | | | | 4 |
| 13 | | SP, gravelly SAND, poorly graded, coarse grained, with 30% fine gravel, subangular, very loose, dark grey | | SS | 11 | 45 | | | | | 15 |
| 14 | | CL, silty-sandy CLAY, low plastic, 70% clay with 30% silt-fine sand, greenish grey | | SS | 12 | 45 | | | | | 7 |
| 15 | | | | SS | 13 | 45 | | | | | 10 |
| 16 | | SW, well graded SAND, medium grained, subangular, 100% sand, very loose, dark greenish grey | | SS | 14 | 45 | | | | | 23 |
| 17 | | | | SS | 15 | 45 | | | | | 22 |
| 18 | | | | SS | 16 | 45 | | | | | 20 |
| 19 | | CL, silty CLAY, low plastic, 60 clay with 40% silt, greenish grey | | SS | 17 | 45 | | | | | 16 |
| 20 | | SM, silty SAND, 80% fine-medium subangular sand, 20% silt (lab), loose, dark greenish grey | | SS | 18 | 45 | | | | | 20 |
| 21 | | | | SS | 19 | 45 | 20.3 | | 2.68 | | 38 |
| 22 | | | | SS | 10 | 30 | | | | | 18 |
| 23 | | | | SS | 21 | 45 | | | | | 20 |
| 24 | | CH, CLAY, high plastic, 100% clay with very minor silt, some wood remnant, greenish grey | | SS | 22 | 45 | | | | | 9 |
| 25 | | SP-SM, poorly graded SAND with silt, 90% fine-medium subangular sand, 10% silt (lab), loose, dark greenish grey | | SS | 23 | 30 | 17.3 | | 2.85 | | 22 |





| STC SIAM TONE CO., LTD. | | BORING LOG | | | | BORING NO. BH-3 | | | | | | |
|--|-------------|--|--|----------------------------|------------|-----------------|---|-------------------|---------------------------|------------------|------------------|--------------------------|
| | | | | | | SHEET 2 OF 2 | | | | | | |
| PROJECT: Basic Design of Bridge Reconstruction in Solomon Isl. | | Coordinates: N: 8954376.426 E: 625663.965 | | Water Level: -3.120 m | | | | | | | | |
| LOCATION: Ngaimbiu Bridge - West Abutment (A1) | | Ground Elevation: 12.300 m | | Starting Date: 02/01/2005 | | | | | | | | |
| CLIENT: Construction Project Consultants Inc. | | Max. Drilling Depth: 30.00 m | | Finishing Date: 05/01/2005 | | | | | | | | |
| DEPTH (m.) | GRAPHIC LOG | SOIL DESCRIPTION | | SAMPLING METHOD | SAMPLE NO. | RECOVERY (cm) | Total Unit Weight (Ton/m ³) | Plastic Limit (%) | Natural Water Content (%) | Liquid Limit (%) | Specific Gravity | SPT Blow Count (Blow/ft) |
| | | Clay | Laboratory Test | | | | | | | | | |
| | | <ul style="list-style-type: none"> Clay Silt Sand Gravel | <ul style="list-style-type: none"> Laboratory Test | | | | 1.6 1.8 2.0 | 30 60 90 120 | 2.4 2.6 2.8 | 10 20 30 40 | | |
| 26 | | ML, sandy SILT, 60% silt, 40% fine subangular sand (lab), slight plastic, medium dense, dark greenish grey | | | | | | | | | | |
| 27 | | SS | 26 | 45 | | | | | | | | 22 |
| 28 | | SS | 27 | 45 | | | | | | | | 4 |
| 29 | | SS | 28 | 45 | | | | | | | | 50 |
| 30 | | SE | 29 | 45 | | | | 18.1 | 30.2 | | 2.55 | |
| | | | | SS | 30 | 45 | | | | | | 50 |
| | | End of hole @ 30.00 m | | | | | | | | | | |