Schnabel Engineering

Project Name: Constellation Generation Group C[illegible] Project
Calvert Cliffs Nuclear Power Plant (CCNPP)
Calvert County, Maryland

Project Number: 06120048.00

## SUMMARY OF SOIL LABORATORY TEST RESULTS[1]

| Boring / Test Pit No. | Sample Top Depth (ft.) | Sample Type[2] | USCS Sample Class. (D 2487)[3] | Sieve Results (D 422) | | Atterberg Limits[4] (D 4318) | | | | Organic Content (%) | Natural Moisture (%) (D 2216) | Moist Unit Weight (PCF) | Specific Gravity (D 854) | Moisture-Density Relationship (D 1557) | | Bearing Ratio (D 1883) | | Specimen | | Shear Strength | | | | | | Consolidation (D 2435) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | | | | Total | | Effective | | | | | | |
| | | | | Percent Passing No. 200 | Percent Retained No. 4 | LL | PL | PI | Oven Dried LL | | | | | Dry Unit Wt. (PCF) | Optium Moisture (%) | Dry | Soaked | Intact | Compacted | Test Type[5] | f deg. | C psi | f deg. | C' psi | Failure Crieteron[6] | Ccr | Cec | eo | Pp' tsf |
| B-425 | 70.0 | SPT | MH | | | 77 | 42 | 35 | | | 38.4 | | | | | | | | | | | | | | | | | | |
| B-425 | 75.0 | UD | SC | 45.1 | 0.1 | 41 | 20 | 21 | | | 21.8 | 125.36 | 2.69 | | | | | | | | | | | | | | | | |
| B-425 | 80.0 | SPT | SC | | | | | | | | 31.7 | | | | | | | | | | | | | | | | | | |
| B-425 | 85.0 | SPT | SP | | | | | | | | 19.0 | | | | | | | | | | | | | | | | | | |
| B-425 | 90.0 | SPT | SP | | | | | | | | 20.5 | | | | | | | | | | | | | | | | | | |
| B-425 | 95.0 | SPT | SP | | | | | | | | 17.9 | | | | | | | | | | | | | | | | | | |
| B-427 | 2.5 | SPT | SM | 30.6 | 0.0 | | | | | | 9.4 | | | | | | | | | | | | | | | | | | |
| B-427 | 7.5 | SPT | SP-SM | | | | | | | | 7.9 | | | | | | | | | | | | | | | | | | |
| B-427 | 18.5 | SPT | SM | 12.5 | 1.1 | | | | | | 8.2 | | | | | | | | | | | | | | | | | | |
| B-427 | 28.5 | SPT | SP-SM | 8.4 | 0.2 | | | | | | 12.2 | | | | | | | | | | | | | | | | | | |
| B-427 | 38.5 | SPT | SP | | | | | | | | 13.6 | | | | | | | | | | | | | | | | | | |
| B-427 | 48.5 | SPT | SP-SM | 6.3 | 0.1 | | | | | | 18.6 | | | | | | | | | | | | | | | | | | |
| B-427 | 63.5 | UD | OH | 61.3 | 38.7 | 56 | 18 | 38 | 36 | | 32.8 | 116 | 2.74 | | | | | X | - | Qu | NA | 25 | NA | NA | Dev | | | | |
| | | | | | | | | | | | | | | | | | | X | - | UU | NA | 10.6 | NA | NA | Dev | 0.030 | 0.260 | 1.02 | 8.7 |
| | | | | | | | | | | | | | | | | | | X | - | DS | NA | NA | 29.2 | 6.1 | NA | | | | |
| B-427 | 78.5 | SPT | SM | | | | | | | | 23.1 | | | | | | | | | | | | | | | | | | |
| B-427 | 93.5 | SPT | SM | 34.8 | 24.7 | | | | | | 12.0 | | | | | | | | | | | | | | | | | | |
| B-427 | 103.5 | SPT | SP-SM | 11.2 | 4.1 | | | | | | 24.8 | | | | | | | | | | | | | | | | | | |
| B-427 | 118.5 | SPT | SM | 24.2 | 0.0 | | | | | | 29.2 | | | | | | | | | | | | | | | | | | |
| B-427 | 128.5 | SPT | SM | | | | | | | | 31.4 | | | | | | | | | | | | | | | | | | |
| B-427 | 138.5 | SPT | SM | 29.8 | 0.0 | | | | | | 38.5 | | | | | | | | | | | | | | | | | | |
| B-427 | 148.5 | SPT | SM | 33.1 | 0.0 | | | | | | 44.3 | | | | | | | | | | | | | | | | | | |
| B-428 | 60.0 | UD | CH | 92.6 | 0.0 | 61 | 17 | 44 | 46 | | 37 | 120 | 2.78 | | | | | X | - | Qu | NA | 33.9 | NA | NA | Dev | | | | |
| | | | | | | | | | | | | | | | | | | X | - | UU | NA | 10.3 | NA | NA | Dev | | | | |
| B-428 | 63.0 | UD | CH | | | | | | | 0.1 | | | | | | | | | | | | | | | | | | | |
| B-429 | 45.0 | UD | Not yet available (Fugro) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| B-433 | 5.0 | SPT | ML | | | | | | | | 27.0 | | | | | | | | | | | | | | | | | | |
| B-433 | 10.5 | SPT | SW-SM | 10.2 | 0.1 | | | | | | 5.8 | | | | | | | | | | | | | | | | | | |
| B-433 | 23.5 | SPT | SW-SM | | | | | | | | 14.4 | | | | | | | | | | | | | | | | | | |
| B-433 | 33.5 | SPT | MH | | | | | | | | 23.3 | | | | | | | | | | | | | | | | | | |
| B-433 | 38.5 | UD | CH | 91.0 | 0.0 | 61 | 14 | 47 | | | 33.5 | 113 | 2.77 | | | | | X | - | Qu | NA | 26.4 | NA | NA | Dev | | | | |
| | | | | | | | | | | | | | | | | | | X | - | UU | NA | 22.5 | NA | NA | Dev | 0.040 | 0.280 | 1.00 | 8.3 |
| | | | | | | | | | | | | | | | | | | X | - | DS | NA | NA | 20.2 | 9.4 | NA | | | | |
| B-433 | 43.5 | SPT | CH | | | 59 | 22 | 37 | | | 33.50 | | | | | | | | | | | | | | | | | | |
| B-433 | 48.5 | UD | CH | 94.5 | 0.0 | 64 | 23 | 41 | | | 33.6 | 121 | 2.66 | | | | | X | - | Qu | NA | 6.6 | NA | NA | Dev | | | | |
| | | | | | | | | | | | | | | | | | | X | - | CIU-bar | 8.3 | 6.14 | 19.3 | 4.22 | PSR | 0.030 | 0.310 | 1.16 | 10 |
| B-433 | 53.5 | SPT | CL | | | 45 | 18 | 27 | | | 21.0 | | | | | | | | | | | | | | | | | | |
| B-433 | 58.5 | SPT | SM | 48.2 | 0.0 | 44 | 35 | 9 | | | 29.3 | | | | | | | | | | | | | | | | | | |

Schnabel Engineering

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Calvert Cliffs Nuclear Power Plant (CCNPP)
Calvert County, Maryland

**Project Number:** 06120048.00

## SUMMARY OF SOIL LABORATORY TEST RESULTS[1]

| Boring / Test Pit No. | Sample Top Depth (ft.) | Sample Type[2] | USCS Sample Class. (D 2487)[3] | Sieve Results (D 422) | | Atterberg Limits[4] (D 4318) | | | | Organic Content (%) | Natural Moisture (%) (D 2216) | Moist Unit Weight (PCF) | Specific Gravity (D 854) | Moisture-Density Relationship (D 1557) | | Bearing Ratio (D 1883) | | Specimen | | Shear Strength | | | | | | Consolidation (D 2435) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Percent Passing No. 200 | Percent Retained No. 4 | LL | PL | PI | Oven Dried LL | | | | | Dry Unit Wt. (PCF) | Optimum Moisture (%) | Dry | Soaked | Intact | Compacted | Test Type[5] | Total f deg. | Total C psi | Effective f deg. | Effective C' psi | Failure Criterion[6] | Cer | Cec | eo | Pp' tsf |
| B-433 | 73.5 | SPT | SW-SM | 11.6 | 7.8 | | | | | | 23.7 | | | | | | | | | | | | | | | | | | |
| B-433 | 93.5 | SPT | ML | 12.1 | 1.1 | | | | | | 31.5 | | | | | | | | | | | | | | | | | | |
| B-434 | 7.5 | SPT | SP-SM | | | | | | | | 11.8 | | | | | | | | | | | | | | | | | | |
| B-434 | 13.5 | SPT | SM | 13.9 | 0.8 | | | | | | 7.0 | | | | | | | | | | | | | | | | | | |
| B-434 | 18.5 | SPT | SP-SM | | | | | | | | 10.6 | | | | | | | | | | | | | | | | | | |
| B-434 | 28.5 | SPT | SM | 27.2 | 0.1 | | | | | | 21.9 | | | | | | | | | | | | | | | | | | |
| B-434 | 33.5 | SPT | SM | | | | | | | | 26.6 | | | | | | | | | | | | | | | | | | |
| B-434 | 38.5 | SPT | SM | | | NP | NP | NP | | | 27.4 | | | | | | | | | | | | | | | | | | |
| B-434 | 48.5 | SPT | CH | | | 73 | 24 | 49 | | | 38.2 | | | | | | | | | | | | | | | | | | |
| B-434 | 53.5 | UD | CH | 94.9 | 0.0 | 56 | 23 | 32 | | | 87.8 | 118 | 2.84 | | | | | X | - | Qu | NA | 28.5 | NA | NA | Dev | 0.010 | 0.368 | 1.09 | 14 |
| | | | | | | | | | | | | | | | | | | X | - | UU | NA | 25.4 | NA | NA | Dev | | | | |
| B-434 | 58.5 | SPT | CH | 94.7 | 0.0 | 86 | 22 | 64 | | | 36.6 | | | | | | | | | | | | | | | | | | |
| B-434 | 63.5 | UD | SM | 36.9 | 0.0 | --- | --- | NP | | | 23.7 | 100.5 | 2.72 | | | | | X | - | DS | Test Not Performed | | | | | 0.004 | 0.111 | 0.72 | 11.8 |
| | | | | | | | | | | | | | | | | | | X | - | CIU-bar | Test Not Performed | | | | | | | | |
| B-434 | 68.5 | SPT | SM | | | | | | | | 25.0 | | | | | | | | | | | | | | | | | | |
| B-434 | 73.5 | SPT | SM | | | | | | | | 22.6 | | | | | | | | | | | | | | | | | | |
| B-434 | 78.5 | SPT | SM | | | | | | | | 15.6 | | | | | | | | | | | | | | | | | | |
| B-434 | 83.5 | SPT | CL | | | 30 | 22 | 8 | | | 19.8 | | | | | | | | | | | | | | | | | | |
| B-434 | 88.5 | SPT | SM | | | | | | | | 15.6 | | | | | | | | | | | | | | | | | | |
| B-434 | 93.5 | SPT | SP | | | NP | NP | NP | | | 31.2 | | | | | | | | | | | | | | | | | | |
| B-434 | 98.5 | SPT | SM | | | | | | | | 25.6 | | | | | | | | | | | | | | | | | | |
| B-436 | 7.5 | SPT | SP-SM | 4.9 | 0.5 | | | | | | 3.3 | | | | | | | | | | | | | | | | | | |
| B-436 | 23.5 | SPT | SP-SM | 8.1 | 3.1 | | | | | | 11.1 | | | | | | | | | | | | | | | | | | |
| B-436 | 33.5 | SPT | SM | 26.5 | 0.0 | | | | | | 25.2 | | | | | | | | | | | | | | | | | | |
| B-437 | 13.5 | UD | Not yet available (Fugro) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| B-437 | 98.5 | UD | Not yet available (Fugro) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| B-440 | 2.5 | SPT | SM | 33.2 | 0.1 | | | | | | 8.6 | | | | | | | | | | | | | | | | | | |
| B-440 | 7.5 | SPT | Test Not Performed | | | | | | | | | | | | | | | | | | | | | | | | | | |
| B-440 | 13.5 | SPT | SM | 19.7 | 11.8 | | | | | | 16.1 | | | | | | | | | | | | | | | | | | |
| B-440 | 23.5 | SPT | SP-SM | 8.4 | 0.0 | | | | | | 22.1 | | | | | | | | | | | | | | | | | | |
| B-440 | 33.5 | SPT | SM | 28.4 | 10.8 | | | | | | 20.1 | | | | | | | | | | | | | | | | | | |
| B-440 | 43.5 | SPT | SM | 17.6 | 5.3 | | | | | | 27.1 | | | | | | | | | | | | | | | | | | |
| B-440 | 51.0 | UD | SC | 18.0 | 0.0 | 30 | 21 | 9 | | | 30.0 | 116 | 2.75 | | | | | X | - | Qu | NA | 5.1 | NA | NA | Dev | | | | |
| | | | | | | | | | | | | | | | | | | X | - | DS | NA | NA | 30.3 | 5.5 | NA | | | | |
| B-440 | 63.5 | SPT | SM | 19.5 | 16.8 | | | | | | 19.4 | | | | | | | | | | | | | | | | | | |
| B-440 | 78.5 | SPT | SM | 28.7 | 0.0 | | | | | | 41.0 | | | | | | | | | | | | | | | | | | |
| B-701 | 7.5 | SPT | SM | 27.9 | 0.9 | | | | | | 15.9 | | | | | | | | | | | | | | | | | | |

Schnabel Engineering

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## SUMMARY OF SOIL LABORATORY TEST RESULTS[1]

| Boring / Test Pit No. | Sample Top Depth (ft.) | Sample Type[2] | USCS Sample Class. (D 2487)[3] | Sieve Results (D 422) | | Atterberg Limits[4] (D 4318) | | | | Organic Content (%) | Natural Moisture (%) (D 2216) | Moist Unit Weight (PCF) | Specific Gravity (D 854) | Moisture-Density Relationship (D 1557) | | Bearing Ratio (D 1883) | | Specimen | | Shear Strength | | | | | | Consolidation (D 2435) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | | | | Total | | Effective | | | | | | |
| | | | | Percent Passing No. 200 | Percent Retained No. 4 | LL | PL | PI | Oven Dried LL | | | | | Dry Unit Wt. (PCF) | Optium Moisture (%) | Dry | Soaked | Intact | Compacted | Test Type[5] | f deg. | C psi | f' deg. | C' psi | Failure Criterion[6] | Cer | Cec | eo | Pp' tsf |
| B-701 | 10.5 | SPT | SW-SM | 6.3 | 45.7 | | | | | | 12.4 | | | | | | | | | | | | | | | | | | |
| B-701 | 18.5 | SPT | SM | 21.3 | 2.8 | | | | | | 28.2 | | | | | | | | | | | | | | | | | | |
| B-701 | 28.5 | SPT | SM | 34.3 | 1.7 | | | | | | 37.3 | | | | | | | | | | | | | | | | | | |
| B-701 | 43.5 | UD | MH | 64.1 | 0.0 | 54 | 33 | 21 | | | 37.3 | 116 | 2.64 | | | | | X | - | UU | NA | 24.6 | NA | NA | Dev | | | | |
| B-701 | 48.5 | SPT | SM | 17.5 | 3.9 | | | | | | 33.1 | | | | | | | | | | | | | | | | | | |
| B-701 | 53.5 | SPT | ML | | | | | | | | 42.5 | | | | | | | | | | | | | | | | | | |
| B-701 | 58.5 | SPT | MH | | | | | | | | 55.7 | | | | | | | | | | | | | | | | | | |
| B-701 | 63.5 | SPT | ML | | | | | | | | 40.4 | | | | | | | | | | | | | | | | | | |
| B-701 | 68.5 | SPT | MH | | | | | | | | 48.0 | | | | | | | | | | | | | | | | | | |
| B-703 | 18.5 | SPT | OH | 83.4 | 0.0 | 69 | 25 | 44 | 39 | 0.9 | 45.1 | 106 | 2.70 | | | | | X | - | Qu | Test Not Performed | | | | | 0.003 | 0.300 | 1.31 | 9 |
| B-707 | 2.5 | SPT | CH | | | | | | | | 27.3 | | | | | | | | | | | | | | | | | | |
| B-707 | 7.5 | SPT | CH | 74.6 | 0.0 | 59 | 21 | 38 | | | 32.8 | | | | | | | | | | | | | | | | | | |
| B-707 | 13.5 | SPT | CH | | | | | | | | 32.7 | | | | | | | | | | | | | | | | | | |
| B-707 | 23.5 | SPT | SC | | | | | | | | 29.5 | | | | | | | | | | | | | | | | | | |
| B-707 | 33.5 | SPT | MH | 70.8 | 21.0 | 59 | 45 | 14 | | | 45.5 | | | | | | | | | | | | | | | | | | |
| B-707 | 48.5 | SPT | SP-SM | | | | | | | | 27.0 | | | | | | | | | | | | | | | | | | |
| B-709 | 7.5 | SPT | SC | | | | | | | | 27.3 | | | | | | | | | | | | | | | | | | |
| B-709 | 13.5 | SPT | SM | | | | | | | | 29.1 | | | | | | | | | | | | | | | | | | |
| B-709 | 23.5 | SPT | SC | | | | | | | | 30.4 | | | | | | | | | | | | | | | | | | |
| B-709 | 33.5 | SPT | ML | | | | | | | | 33.8 | | | | | | | | | | | | | | | | | | |
| B-709 | 48.5 | SPT | CL | | | | | | | | 23.0 | | | | | | | | | | | | | | | | | | |
| B-722 | 3.0 | SPT | SP | | | | | | | | 3.5 | | | | | | | | | | | | | | | | | | |
| B-722 | 13.5 | SPT | SP | | | | | | | | 12.4 | | | | | | | | | | | | | | | | | | |
| B-722 | 23.5 | SPT | ML | | | | | | | | 21.1 | | | | | | | | | | | | | | | | | | |
| B-722 | 33.5 | UD | SM | 20.1 | 0.0 | NP | NP | NP | | | 26.8 | 120 | 2.76 | | | | | X | - | Qu | NA | 4.1 | NA | NA | Dev | 0.010 | 0.040 | 0.78 | 6 |
| | | | | | | | | | | | | | | | | | | X | - | UU | NA | 8.5 | NA | NA | Dev | | | | |
| B-722 | 43.5 | SPT | CH | | | | | | | | 37.1 | | | | | | | | | | | | | | | | | | |
| B-722 | 53.5 | SPT | CH | | | | | | | | 41.9 | | | | | | | | | | | | | | | | | | |
| B-722 | 63.5 | SPT | CH | | | | | | | | 47.5 | | | | | | | | | | | | | | | | | | |
| B-722 | 73.5 | SPT | SM | | | | | | | | 18.8 | | | | | | | | | | | | | | | | | | |
| B-723 | 28.5 | UD | CH | 89.7 | 0.0 | 56 | 15 | 41 | | | 31.9 | 120 | 2.71 | | | | | X | - | Qu | NA | 5.8 | NA | NA | Dev | 0.010 | 0.500 | 0.83 | 10.5 |
| | | | | | | | | | | | | | | | | | | X | - | UU | NA | 16.7 | NA | NA | Dev | | | | |
| B-723 | 38.5 | UD | CH | 95.2 | 0.0 | 64 | 19 | 45 | | | 33.9 | 112 | 2.73 | | | | | X | - | UU | NA | 11.7 | NA | NA | Dev | 0.030 | 0.240 | 1.15 | 6.4 |
| B-724 | 73.5 | UD | OL | 60.1 | 0.1 | 45 | 24 | 21 | 32 | 3.2 | 31.9 | 103 | 2.7 | | | | | X | - | DS | NA | NA | 27.5 | 8.2 | NA | | | | |
| B-726 | 23.5 | UD | CH | 96.0 | 0.0 | 69 | 22 | 47 | | | 35.7 | 117 | 2.7 | | | | | X | - | UU | NA | 11.8 | NA | NA | Dev | 0.040 | 0.290 | 1.16 | 10.3 |
| B-729 | 2.5 | SPT | SC | | | | | | | | 16.0 | | | | | | | | | | | | | | | | | | |

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| Boring / Test Pit No. | Sample Top Depth (ft.) | Sample Type[2] | USCS Sample Class. (D 2487)[3] | Sieve Results (D 422) | | Atterberg Limits[4] (D 4318) | | | | Organic Content (%) | Natural Moisture (%) (D 2216) | Moist Unit Weight (PCF) | Specific Gravity (D 854) | Moisture-Density Relationship (D 1557) | | Bearing Ratio (D 1883) | | Specimen | | Shear Strength | | | | | | Consolidation (D 2435) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | | | | Total | | Effective | | | | | | |
| | | | | Percent Passing No. 200 | Percent Retained No. 4 | LL | PL | PI | Oven Dried LL | | | | | Dry Unit Wt. (PCF) | Optium Moisture (%) | Dry | Soaked | Intact | Compacted | Test Type[5] | f deg. | C psi | f deg. | C' psi | Failure Criterion[6] | Cer | Cec | eo | Pp' tsf |
| B-729 | 7.5 | SPT | SP-SM | | | | | | | | 13.5 | | | | | | | | | | | | | | | | | | |
| B-729 | 18.5 | SPT | SP-SM | | | | | | | | 14.2 | | | | | | | | | | | | | | | | | | |
| B-729 | 28.5 | SPT | SP-SM | | | | | | | | 12.5 | | | | | | | | | | | | | | | | | | |
| B-729 | 38.5 | SPT | SM | | | | | | | | 18.4 | | | | | | | | | | | | | | | | | | |
| B-729 | 48.5 | SPT | ML | | | | | | | | 28.2 | | | | | | | | | | | | | | | | | | |
| B-729 | 58.5 | SPT | SM | | | | | | | | 28.8 | | | | | | | | | | | | | | | | | | |
| B-729 | 68.5 | UD | OH | 92.7 | 0.0 | 56 | 18 | 38 | 40 | 1.4 | 32.8 | 118 | 2.79 | | | | | X | - | UU | NA | 19.2 | NA | NA | Dev | 0.040 | 0.290 | 1.05 | 12 |
| B-732 | 15.0 | UD | SC | 32.0 | 2.7 | 26 | 19 | 7 | | | 23.1 | 124 | 2.75 | | | | | X | - | Qu | NA | 6.9 | NA | NA | Dev | 0.010 | 0.080 | 0.82 | 4 |
| | | | | | | | | | | | | | | | | | | X | - | UU | NA | 3.3 | NA | NA | Dev | | | | |
| B-733 | 23.5 | UD | CH | 78.0 | 22.0 | 51 | 15 | 36 | | | 33.2 | 119 | 2.73 | | | | | X | - | Qu | NA | 6 | NA | NA | Dev | 0.020 | 0.180 | 1.00 | 5.7 |
| | | | | | | | | | | | | | | | | | | X | - | UU | NA | 8.1 | NA | NA | Dev | | | | |
| B-735 | 2.5 | SPT | SP-SM | 6.2 | 3.8 | | | | | | 7.6 | | | | | | | | | | | | | | | | | | |
| B-735 | 10.5 | SPT | SM | 27.8 | 0.0 | | | | | | 13.5 | | | | | | | | | | | | | | | | | | |
| B-735 | 18.5 | SPT | SM | 28.1 | 0.0 | NP | NP | NP | | | 28.7 | | | | | | | | | | | | | | | | | | |
| B-735 | 28.0 | UD | CH | 87.1 | 12.9 | 51 | 16 | 35 | | | 32.3 | 119 | | | | | | X | - | UU | NA | 17.5 | NA | NA | Dev | 0.030 | 0.250 | 1.01 | 7.5 |
| | | | | | | | | | | | | | | | | | | X | - | DS | NA | NA | 27.2 | 4.9 | NA | | | | |
| B-735 | 43.5 | SPT | CH | 98.5 | 0.0 | 85 | 30 | 55 | | | 39.6 | | | | | | | | | | | | | | | | | | |
| B-735 | 58.5 | SPT | SP-SM | 5.8 | 0.0 | | | | | | 20.9 | | | | | | | | | | | | | | | | | | |
| B-735 | 73.5 | SPT | SM | 14.3 | 14.7 | | | | | | 24.5 | | | | | | | | | | | | | | | | | | |
| B-737 | 10.5 | UD | CH | 92.9 | 0.0 | 75 | 23 | 52 | | | 37.6 | 113 | 2.63 | | | | | X | - | UU | NA | 8.6 | NA | NA | Dev | 0.030 | 0.200 | 1.13 | 6.1 |
| | | | | | | | | | | | | | | | | | | X | - | DS | NA | NA | 22.7 | 5.2 | NA | | | | |
| B-738 | 5.0 | SPT | SM | | | | | | | | 9.0 | | | | | | | | | | | | | | | | | | |
| B-738 | 10.5 | SPT | SP | | | | | | | | 12.3 | | | | | | | | | | | | | | | | | | |
| B-738 | 18.5 | SPT | CH | | | | | | | | 24.2 | | | | | | | | | | | | | | | | | | |
| B-738 | 28.5 | SPT | MH | | | | | | | | 28.4 | | | | | | | | | | | | | | | | | | |
| B-738 | 35.0 | UD | SC-SM | 25.1 | 0.0 | 26 | 22 | 4 | | | 26.4 | 118 | 2.67 | | | | | X | - | Qu | NA | 5.7 | NA | NA | Dev | 0.010 | 0.040 | 0.78 | 8 |
| | | | | | | | | | | | | | | | | | | X | - | UU | NA | 15.9 | NA | NA | Dev | | | | |
| B-738 | 48.5 | SPT | CH | | | | | | | | 32.1 | | | | | | | | | | | | | | | | | | |
| B-738 | 58.5 | SPT | SC | | | | | | | | 28.7 | | | | | | | | | | | | | | | | | | |
| B-738 | 68.5 | SPT | CL | | | | | | | | 30.9 | | | | | | | | | | | | | | | | | | |
| B-743 | 23.5 | UD | CL | 57.2 | 0.0 | 38 | 13 | 25 | | | 21.1 | 115 | 2.69 | | | | | X | - | DS | NA | NA | 29.2 | 3.7 | NA | | | | |
| B-746 | 2.5 | SPT | ML | | | | | | | | 14.4 | | | | | | | | | | | | | | | | | | |
| B-746 | 7.5 | SPT | SM | 27.3 | 0.0 | | | | | | 25.1 | | | | | | | | | | | | | | | | | | |
| B-746 | 13.5 | UD | SC-SM | 28.8 | 0.0 | 25 | 21 | 4 | | | 27.2 | 121 | 2.76 | | | | | X | - | UU | NA | 7.1 | NA | NA | Dev | 0.010 | 0.060 | 0.83 | 10.8 |
| B-746 | 23.5 | SPT | CH | 86.5 | 0.0 | 52 | 17 | 35 | | | 30.8 | | | | | | | | | | | | | | | | | | |
| B-746 | 33.5 | SPT | CH | 93.6 | 0.0 | 64 | 24 | 40 | | | 34.8 | | | | | | | | | | | | | | | | | | |
| B-746 | 43.5 | SPT | ML | | | 40 | 34 | 6 | | | 29.2 | | | | | | | | | | | | | | | | | | |

Schnabel Engineering

**Project Name:** Constellation Generation Group C... Project
Calvert Cliffs Nuclear Power Plant (CCNPP)
Calvert County, Maryland

**Project Number:** 06120048.00

## SUMMARY OF SOIL LABORATORY TEST RESULTS[1]

| Boring / Test Pit No. | Sample Top Depth (ft.) | Sample Type[2] | USCS Sample Class. (D 2487)[3] | Sieve Results (D 422) | | Atterberg Limits[4] (D 4318) | | | | Organic Content (%) | Natural Moisture (%) (D 2216) | Moist Unit Weight (PCF) | Specific Gravity (D 854) | Moisture-Density Relationship (D 1557) | | Bearing Ratio (D 1883) | | Specimen | | Shear Strength | | | | | | Consolidation (D 2435) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | | | | Total | | Effective | | | | | | |
| | | | | Percent Passing No. 200 | Percent Retained No. 4 | LL | PL | PI | Oven Dried LL | | | | | Dry Unit Wt. (PCF) | Optium Moisture (%) | Dry | Soaked | Intact | Compacted | Test Type[5] | f deg. | C psi | f deg. | C' psi | Failure Crieterion[6] | Cer | Cce | eo | Pp' tsf |
| B-746 | 58.5 | SPT | SM | | | | | | | | 17.9 | | | | | | | | | | | | | | | | | | |
| B-746 | 68.5 | SPT | SM | | | | | | | | 24.8 | | | | | | | | | | | | | | | | | | |
| B-747 | 2.5 | SPT | SM | 36.2 | 0.0 | | | | | | 7.5 | | | | | | | | | | | | | | | | | | |
| B-747 | 5.0 | SPT | ML | 71.2 | 0.0 | | | | | | 12.7 | | | | | | | | | | | | | | | | | | |
| B-747 | 10.5 | SPT | SP-SM | 4.8 | 0.0 | | | | | | 20.3 | | | | | | | | | | | | | | | | | | |
| B-747 | 13.5 | SPT | SM | 20.4 | 0.0 | | | | | | 26.6 | | | | | | | | | | | | | | | | | | |
| B-747 | 18.5 | SPT | SM | 15.0 | 0.1 | | | | | | 23.9 | | | | | | | | | | | | | | | | | | |
| B-747 | 23.5 | SPT | ML | 66.3 | 0.0 | | | | | | 28.2 | | | | | | | | | | | | | | | | | | |
| B-747 | 28.5 | SPT | ML | | | | | | | | 32.6 | | | | | | | | | | | | | | | | | | |
| B-747 | 33.5 | SPT | CH | 77.5 | 0.0 | | | | | | 34.2 | | | | | | | | | | | | | | | | | | |
| B-747 | 38.5 | SPT | CH | 81.5 | 0.1 | | | | | | 32.6 | | | | | | | | | | | | | | | | | | |
| B-747 | 43.5 | SPT | CH | | | | | | | | 27.5 | | | | | | | | | | | | | | | | | | |
| B-747 | 48.5 | SPT | CH | | | | | | | | 39.4 | | | | | | | | | | | | | | | | | | |
| B-747 | 53.5 | SPT | MH | 76.1 | 0.0 | 78 | 47 | 31 | | | 48.6 | | | | | | | | | | | | | | | | | | |
| B-747 | 58.0 | UD | CH | | | 53 | 16 | 37 | | | 35.0 | 108 | 2.73 | | | | | X | - | UU | NA | 23.6 | NA | NA | Dev | 0.020 | 0.260 | 1.09 | 11.3 |
| B-747 | 63.5 | SPT | SC | 38.0 | 18.3 | 43 | 20 | 23 | | | 27.6 | | | | | | | | | | | | | | | | | | |
| B-747 | 68.5 | SPT | SM | | | NP | NP | NP | | | 30.3 | | | | | | | | | | | | | | | | | | |
| B-747 | 73.5 | SPT | SP-SM | | | NP | NP | NP | | | 28.1 | | | | | | | | | | | | | | | | | | |
| B-752 | 2.5 | SPT | SP-SM | 10.0 | 0.5 | | | | | | 5.9 | | | | | | | | | | | | | | | | | | |
| B-752 | 10.5 | SPT | SW-SM | 10.2 | 0.4 | | | | | | 6.7 | | | | | | | | | | | | | | | | | | |
| B-752 | 18.5 | SPT | SW-SM | 13.2 | 6.7 | | | | | | 12.7 | | | | | | | | | | | | | | | | | | |
| B-752 | 28.5 | SPT | SM | 36.9 | 0.0 | | | | | | 29.0 | | | | | | | | | | | | | | | | | | |
| B-752 | 33.5 | SPT | CH | 67.0 | 0.0 | 52 | 23 | 29 | | | 29.1 | | | | | | | | | | | | | | | | | | |
| B-752 | 38.5 | SPT | MH | 80.4 | 0.0 | 63 | 31 | 32 | | | 33.1 | | | | | | | | | | | | | | | | | | |
| B-752 | 43.5 | SPT | MH | | | 71 | 36 | 19 | | | 37.1 | | | | | | | | | | | | | | | | | | |
| B-752 | 48.5 | SPT | CH | | | 68 | 24 | 44 | | | 40.3 | | | | | | | | | | | | | | | | | | |
| B-752 | 53.5 | SPT | SM | 44.9 | 0.0 | 40 | 29 | 11 | | | 27.7 | | | | | | | | | | | | | | | | | | |
| B-752 | 58.0 | UD | OH | 97.9 | 0.0 | 65 | 17 | 48 | 46 | 0.6 | 45.3 | 110 | 2.79 | | | | | X | - | UU | NA | 21.8 | NA | NA | Dev | 0.050 | 0.400 | 1.73 | 10.3 |
| B-752 | 63.5 | SPT | MH | | | 64 | 43 | 21 | | | 37.0 | | | | | | | | | | | | | | | | | | |
| B-752 | 68.5 | SPT | ML | 60.5 | 0.0 | | | | | | 34.6 | | | | | | | | | | | | | | | | | | |
| B-752 | 83.5 | SPT | SP-SM | 10.9 | 8.3 | | | | | | 28.0 | | | | | | | | | | | | | | | | | | |
| B-752 | 98.5 | SPT | SC | 27.2 | 0.2 | | | | | | 31.6 | | | | | | | | | | | | | | | | | | |
| B-765 | 100.0 | UD | SM | Not yet available (Fugro) | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP-B307 | 4.5 | Bulk | SP-SM | 5.8 | 0.0 | | | | | | 2.3 | | | 109.3 | 10.5 | 14.8 | 4.4 | | | | | | | | | | | | |
| TP-B314 | 4.0 | Bulk | CH | 93.1 | 0.0 | 71 | 24 | 47 | | | 37.0 | | | 114.6 | 15.5 | | | | | | | | | | | | | | |
| TP-B315 | 6.0 | Bulk | SP-SM | 9.7 | 0.2 | | | | | | 5.4 | | | 114.9 | 11.4 | 11.6 | 18.9 | | | | | | | | | | | | |
| TP-B334 | 3.0 | Bulk | SM | 13.9 | 0.0 | | | | | | 7.4 | | | 116.3 | 9.3 | | | | | | | | | | | | | | |

Schnabel Engineering

**Project Name:** Constellation Generation Group COLA Project
Calvert Cliffs Nuclear Power Plant (CCNPP)
Calvert County, Maryland

**Project Number:** 06120048.00

## SUMMARY OF SOIL LABORATORY TEST RESULTS[1]

| Boring / Test Pit No. | Sample Top Depth (ft.) | Sample Type[2] | USCS Sample Class. (D 2487)[3] | Sieve Results (D 422) | | Atterberg Limits[4] (D 4318) | | | | Organic Content (%) | Natural Moisture (%) (D 2216) | Moist Unit Weight (PCF) | Specific Gravity (D 854) | Moisture-Density Relationship (D 1557) | | Bearing Ratio (D 1883) | | Specimen | | Shear Strength | | | | | | Consolidation (D 2435) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | | | | Total | | Effective | | | | | | |
| | | | | Percent Passing No. 200 | Percent Retained No. 4 | LL | PL | PI | Oven Dried LL | | | | | Dry Unit Wt. (PCF) | Optium Moisture (%) | Dry | Soaked | Intact | Compacted | Test Type[5] | f deg. | C psi | f deg. | C' psi | Failure Criterion[6] | Cer | Cec | eo | Pp' tsf |
| TP-B334 | 6.0 | Bulk | SM | 13.2 | 0.0 | | | | | | 14.5 | | | 129.8 | 8.0 | | | | | | | | | | | | | | |
| TP-B335 | 3.0 | Bulk | CL | 65.3 | 0.0 | 30 | 20 | 10 | | | 19.0 | | | 128.8 | 9.9 | | | | | | | | | | | | | | |
| TP-B335 | 5.0 | Bulk | SM | 24.6 | 0.0 | | | | | | 8.9 | | | 130.5 | 7.6 | 36.2 | 18.0 | | | | | | | | | | | | |
| TP-B407 | 4.5 | Bulk | SW-SM | 9.0 | 2.2 | | | | | | 7.1 | | | 118.9 | 8.8 | 14.8 | 17.0 | | | | | | | | | | | | |
| TP-B414 | 6.0 | Bulk | SP-SM | 6.4 | 0.0 | | | | | | 6.0 | | | 105.4 | 11.9 | | | | | | | | | | | | | | |
| TP-B415 | 3.0 | Bulk | SP | 3.5 | 0.2 | | | | | | 10.2 | | | 116.7 | 9.8 | 11.1 | 4.7 | | | | | | | | | | | | |
| TP-B423 | 5.0 | Bulk | CL | 51.1 | 0.0 | 24 | 16 | 8 | | | 16.0 | | | 123.4 | 10.8 | | | | | | | | | | | | | | |
| TP-B434 | 2.0 | Bulk | CL | 59.8 | 0.2 | 25 | 18 | 7 | | | 21.0 | | | 127.1 | 10.1 | 9.3 | 3.2 | | | | | | | | | | | | |
| TP-B435 | 5.0 | Bulk | SM | 13.2 | 0.0 | | | | | | 6.0 | | | 119.1 | 8.9 | | | | | | | | | | | | | | |
| TP-B435 | 7.0 | Bulk | SP-SM | 8.3 | 0.8 | | | | | | 4.6 | | | 123.9 | 8.9 | 26.8 | 33.7 | | | | | | | | | | | | |
| TP-B435 | 9.0 | Bulk | SC | 34.1 | 0.0 | 34 | 17 | 17 | | | 6.7 | | | 130.2 | 7.3 | 34.4 | 41.8 | | | | | | | | | | | | |
| TP-B715 | 5.5 | Bulk | SP-SM | 11.0 | 0.9 | | | | | | 4.8 | | | 110.7 | 11.8 | | | | | | | | | | | | | | |
| TP-B716 | 6.0 | Bulk | SP-SM | 6.0 | 1.0 | | | | | | 3.8 | | | 116.3 | 9.4 | | | | | | | | | | | | | | |
| TP-B717 | 7.0 | Bulk | SP-SM | 6.4 | 2.6 | | | | | | 3.4 | | | 123.8 | 10.2 | 17.2 | 23.1 | | | | | | | | | | | | |
| TP-B719 | 0.5 | Bulk | CL | 84.5 | 0.0 | 35 | 22 | 13 | | | 23.9 | | | 118.4 | 13.5 | | | | | | | | | | | | | | |
| TP-B719 | 7.0 | Bulk | SM | 44.3 | 0.0 | | | | | | 26.7 | | | 119.6 | 10.0 | 41.3 | 29.0 | | | | | | | | | | | | |
| TP-B727 | 6.0 | Bulk | SM | 30.1 | 0.0 | | | | | | 10.3 | | | 130.5 | 6.8 | | | | | | | | | | | | | | |
| TP-B744 | 1.5 | Bulk | CL | 64.2 | 0.0 | 25 | 17 | 8 | | | 18.0 | | | 131.2 | 8.0 | | | | | | | | | | | | | | |
| TP-B758 | 2.0 | Bulk | SP-SM | 8.4 | 0.8 | | | | | | 6.0 | | | 121.0 | 8.8 | | | | | | | | | | | | | | |
| TP-B758 | 7.5 | Bulk | SM | 31.1 | 2.6 | | | | | | 11.8 | | | 127.3 | 8.9 | 11.3 | 4.4 | | | | | | | | | | | | |
| TP-C309 | 2.0 | Bulk | SP | 3.7 | 1.2 | | | | | | 4.3 | | | 111.2 | 13.9 | | | | | | | | | | | | | | |
| TP-C309 | 7.0 | Bulk | SP-SM | 7.8 | 0.0 | | | | | | 8.7 | | | 112.3 | 9.8 | | | | | | | | | | | | | | |
| TP-C723 | 2.5 | Bulk | SC | 39.5 | 0.0 | 30 | 15 | 15 | | | 12.0 | | | 132.8 | 7.3 | 26.8 | 17.2 | | | | | | | | | | | | |
| TP-C723 | 6.0 | Bulk | SP-SM | 7.5 | 1.2 | | | | | | 4.6 | | | 113.8 | 6.8 | | | | | | | | | | | | | | |

NOTES:

1. Tests are in accordance with applicable ASTM standards
2. Sample type: SPT = sample obtained from split spoon, UD = undisturbed sample in thin walled sampler
3. Visual-manual procedures (ASTM D 2488) used as appropriate.
4. Key: LL = Liquid Limit; PL = Plastic Limit; PI = Plasticity Index; NP = Nonplastic
5. Test Type: Qu - unconfined compression, UU - Triaxial Unconsolidated, Undrained; CIU-bar - Triaxial Consolidated Undrained; CD - Triaxial Consolidated Drained; DS - Drained Direct Shear
6. Failure Criterion: Dev. - maximum deviator stress; PSR - maximum principal stress ratio; Strain - defined level of axial strain