<table>
<thead>
<tr>
<th>Depth to Top of Soil Layer (feet)</th>
<th>Depth to Bottom of Soil Layer (feet)</th>
<th>Material Type</th>
<th>USCS Group Symbol (ASTM D2487)</th>
<th>Susceptible Soil? (Y, N)</th>
<th>Total Soil Unit Weight $\gamma_s$ (pcf)</th>
<th>Field SPT Blow Count $N_{Field}$ (blows/ft)</th>
<th>Type of Soil Sampler</th>
<th>Fines Content FC (%)</th>
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</table>

**SEISMIC DESIGN PARAMETERS**

- Earthquake Moment Magnitude, $M_w$: 7.00
- Peak Ground Acceleration, $A_{max}$: 0.83 g
- Required Factor of Safety, FS: 1.20

**BORING DATA AND SITE CONDITIONS**

- Boring No.: B-1
- Ground Surface Elevation: 1,000.00 feet
- Proposed Grade Elevation: 1,000.00 feet
- GWL Depth Measured During Test: 15.00 feet
- GWL Depth Used in Design: 10.00 feet
- Borehole Diameter: 8.00 inches
- Hammer Weight: 140.00 pounds
- Hammer Drop: 30.00 inches
- Hammer Energy Efficiency Ratio, ER (%): 80.00 %
- Hammer Distance to Ground Surface: 5.00 feet
- Topographic Site Condition: TSC3 (Level Ground with Nearby Free Face)
  - Ground Slope, S (%): Leave this blank
  - Free Face Distance to Slope Height Ratio, (L/H): 5.00 <-- Enter (L/H)    Enter H >>> 15.00 feet
SUMMARY OF RESULTS

Severity of Liquefaction:
Total Thickness of Liquefiable Soils: 20.00 feet (cumulative total thickness in the upper 65 feet)
Liquefaction Potential Index (LPI): 19.01

Seismic Ground Settlements:
- Project Location
- Total Seismic Settlement: 2.27 inches

Seismic Lateral Displacements:
- Cyclic Lateral Displacement: 1.93 inches

NOTES AND REFERENCES

- This method of analysis is based on observed seismic performance of level ground sites using correlation with normalized and fines-corrected SPT blow count, \( (N_1)^{60cs} = f \) where \( (N_1)^{60cs} = N_{field} \times C_N \times C_{E} \times C_{B} \times C_{R} \times C_{S} \)
- Seismic susceptibility screening is performed to identify soil layers assumed to be non-liquefiable based on laboratory test results using the criteria proposed by Cetin and Seed (2003)
- Ishihara and Yoshimine (1992), "Saturated Soils"
- **Residual strength values of liquefied soils are based on correlation with post-earthquake, normalized and fines-corrected SPT blow count derived by Idriss and Boulanger (2008)."

REFERENCES:

5. Ishihara and Yoshimine (1992), "Saturated Soils"
9. SPTLIQ.xlsm SPTLIQ Output Sheet 1