



1. Pile Details & CASE Method Preliminary Results

|                    |                         |
|--------------------|-------------------------|
| Project Name       | Bone Valley ATV Park Br |
| Project Number     | 220208.044              |
| Pier/Cap & Pile No | EB 2-4                  |
| Operator           | EM                      |
| Date               | Nov 16, 22              |
| Batter Angle       | 0                       |
| Batter H:V         | 0                       |

|                  |                        |
|------------------|------------------------|
| Area             | 2090.3 cm <sup>2</sup> |
| Pile Size        | 45.72 cm               |
| E. Modulus       | 43060 MPa              |
| @ Gauge: WS      | 4233 m/s               |
| Overall WC       | 4233 m/s               |
| Sensor to Toe LE | 30.48 m                |
| Pile Length      | 35.36 m                |

|          |          |         |
|----------|----------|---------|
| FMX      | EMX      |         |
| 4772 kN  | 32.0 kJ  |         |
| BTA      | LTD      |         |
| 93 %     | 25.82 m  |         |
| CSX      | CSB      | TSX     |
| 22.8 MPa | 20.6 MPa | 3.5 MPa |

Pile Model

|   | Start (m) | Geometry | Area (sq.cm) | Perimeter (cm) | E. Mod (MPa) | Density (kg/m <sup>3</sup> ) | %Z     |
|---|-----------|----------|--------------|----------------|--------------|------------------------------|--------|
| 1 | 0.0       | Square   | 2090.3       | 182.9          | 43060        | 2402.8                       | 100.0% |
|   |           |          |              |                |              |                              |        |
|   |           |          |              |                |              |                              |        |
|   |           |          |              |                |              |                              |        |
|   |           |          |              |                |              |                              |        |
|   |           |          |              |                |              |                              |        |
|   |           |          |              |                |              |                              |        |
|   |           |          |              |                |              |                              |        |
|   |           |          |              |                |              |                              |        |
|   |           |          |              |                |              |                              |        |

CASE method

| JC  | Max CASE [RXn] | Est. Side R [SFn] | Unloading [RUn] |
|-----|----------------|-------------------|-----------------|
| 0.0 | 5148           | 1682              | 5986            |
| 0.1 | 4785           | 1564              | 5707            |
| 0.2 | 4435           | 1449              | 5441            |
| 0.3 | 4093           | 1337              | 5182            |
| 0.4 | 3917           | 1280              | 5090            |
| 0.5 | 3790           | 1238              | 5047            |
| 0.6 | 3674           | 1201              | 5015            |
| 0.7 | 3559           | 1163              | 4983            |
| 0.8 | 3452           | 1128              | 4961            |
| 0.9 | 3348           | 1094              | 4940            |
| 1.0 | 3247           | 1061              | 4924            |
| 1.1 | 3152           | 1030              | 4912            |
| 1.2 | 3056           | 998               | 4900            |
| 1.3 | 2960           | 967               | 4888            |
| 1.4 | 2867           | 937               | 4879            |
| 1.5 | 2776           | 907               | 4872            |
| 1.6 | 2686           | 877               | 4865            |
| 1.7 | 2622           | 857               | 4885            |
| 1.8 | 2603           | 851               | 4950            |
| 1.9 | 2587           | 845               | 5018            |
| 2.0 | 2576           | 842               | 5091            |

User Comments

N\_GAPA Generated Comments

CSB = Estimated Compression Stress @ pile toe  
 In CASE method, CSB is an estimate defined as (RX0 - 0.5 SFT)/A. The value 0.5 is a scaling factor - typically between 0.5 and 1.0 - to account for:  
 i) unknown non-uniform contact between pile toe and soil/rock  
 ii) coarse SFT estimate

FMX = Maximum Hammer Input Force  
 BTA = Preliminary Integrity Indicator

EMX = Maximum Transferred Energy  
 LTD = Length from Gauge to Anomaly (if BTA < 100%)

CSX = Compression Stress at Gauge Level  
 TSX = Maximum Tension Stress



## 2. Signal Matching Summary Results

Total Signal Matching Capacity RU = 1042.8 kip 4638 kN 473.0 tn

|             |           |              |           |         |        |                  |        |              |          |
|-------------|-----------|--------------|-----------|---------|--------|------------------|--------|--------------|----------|
| Total RU    | 4638.4 kN | Activated RU | 4638.4 kN | Obs DFN | 3.2 mm | Observed Blows   | 31 /dm | CSX at Gauge | 22.8 MPa |
| End Bearing | 3597.3 kN | Calc. DMX    | 10.0 mm   | Top DFN | 1.9 mm | Calculated Blows | 88 /dm | CS           | 23.3 MPa |
| Match MQ    | 1.41      | Calc. DBX    | 5.3 mm    | Toe DFN | 1.2 mm |                  |        | TS           | 2.6 MPa  |

| Model Parameters |         |
|------------------|---------|
| Soil Segments    | 13      |
| Toe Gap          | 0.00 mm |
| Unloading [UN]   | 0.96    |
| Residual [RSA]   | 0       |
| BC Match         | 1       |
| Dashpot          |         |
| Skin [SK]        | 0.00    |
| Toe [BT]         | 0.00    |
| Damping          |         |
| Skin [SO]        | 2       |
| Toe [OP]         | 2       |
| Pile [PI]        | 2.00 %  |
| Extra Toe        | 0.00 m  |
| Extra Gap        | 0.0 mm  |



RU = Resistance      DMX = Max pile top displacement      DBX = Max pile toe displacement      DFN = Permanent (i.e., final) displacement  
 Obs = Observed      Calc. = Calculated (estimated)      CS = Max compression stress (signal match method result) along the pile  
 TS = Max tension stress (signal match method result) along the pile

Signal match method result are user dependent.  
 The user(s) that collect dynamic test data and perform analyses/ reports is (are) responsible for data quality,  
 proper usage and interpretation of data and results.







### 5. Node Map

