AECOM

PROJECT: Kingston Dredge Cell Failure RCA
JOB NUMBER: 60095742
DATA REDUCTION: RR

**VANE SHEAR TEST RESULTS**

(*) Vane Size:
2.0 = SMALL (11CM X 5CM) VANE
1.0 = MEDIUM (13CM X 6.5 CM) VANE
0.5 = LARGE (17.2CM X 8CM) VANE

| Boring Number | Test Date | Operator | Ground Surf. Elevation (ft) | Vane Tip Depth (ft) | Approx Tip Elevation (ft) | Vane Constant (kg-m/cm) | Vane Size (*) | $a_p$ (in) | Peak $S_u$ (psf) | Peak Failure Type | $a_r$ (in) | Residual $S_u$ (tsf) | Sensitivity Peak/Res PEAK/REM. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 09-100A | 2/3/09 | MB | 767.27 | 36.0 | 731.27 | 1.0643 | 1.0 | 2.39 | 1325 | A | 0.31 | 175 | 7.6 |
| 09-100A | 2/3/09 | MB | 767.27 | 40.0 | 727.27 | 1.0643 | 2.0 | 3.69 | 4075 | NA | | | |
| 09-100A | 2/3/09 | MB | 767.27 | 41.5 | 725.77 | 1.0643 | 2.0 | 2.66 | 2925 | A | 0.33 | 375 | 7.8 |
| 09-100A | 2/3/09 | MB | 767.27 | 43.0 | 724.27 | 1.0643 | 2.0 | 2.85 | 3150 | A | 0.96 | 1050 | 3.0 |
| 09-101A | 2/1/09 | MB | 768.10 | 40.0 | 728.1 | 1.0643 | 2.0 | 2.42 | 2675 | C | 0.12 | 125 | 21.4 |
| 09-101A | 2/1/09 | MB | 768.10 | 46.5 | 721.6 | 1.0643 | 2.0 | 1.92 | 2125 | A | 0.28 | 300 | 7.1 |
| 09-101A | 2/1/09 | MB | 768.10 | 48.0 | 720.1 | 1.0643 | 2.0 | 1.65 | 1825 | A | 0.20 | 225 | 8.1 |
| 09-102A | 1/22/09 | MB | 761.68 | 42.0 | 719.68 | 1.0643 | 1.0 | 2.45 | 1350 | A | 0.95 | 525 | 2.6 |
| 09-102A | 1/22/09 | MB | 761.68 | 43.5 | 718.18 | 1.0643 | 1.0 | 3.68 | 2025 | NA | | | |
| 09-102A | 1/22/09 | MB | 761.68 | 45.0 | 716.68 | 1.0643 | 1.0 | 3.58 | 1975 | NA | | | |
| 09-103A | 1/23/09 | MB | 766.11 | 36.0 | 730.11 | 1.0643 | 1.0 | 1.58 | 875 | B | 0.32 | 175 | 5.0 |
| 09-103A | 1/23/09 | MB | 766.11 | 37.5 | 728.61 | 1.0643 | 1.0 | 2.62 | 1450 | A | 0.49 | 275 | 5.3 |
| 09-103A | 1/23/09 | MB | 766.11 | 39.0 | 727.11 | 1.0643 | 1.0 | 1.49 | 825 | B | 0.25 | 150 | 5.5 |
| 09-103A | 1/23/09 | MB | 766.11 | 40.5 | 725.61 | 1.0643 | 1.0 | 1.40 | 775 | B | 0.47 | 250 | 3.1 |
| 09-103A | 1/23/09 | MB | 766.11 | 42.0 | 724.11 | 1.0643 | 0.5 | 1.91 | 525 | A | 0.48 | 125 | 4.2 |
| 09-103A | 1/23/09 | MB | 766.11 | 43.5 | 722.61 | 1.0643 | 0.5 | 3.41 | 950 | A | 1.22 | 325 | 2.9 |
| 09-104A | 1/20/09 | RR | 761.28 | 25.0 | 736.28 | 1.0643 | 0.5 | 2.93 | 800 | A | 1.34 | 375 | 2.1 |
| 09-104A | 1/20/09 | RR | 761.28 | 26.5 | 734.78 | 1.0643 | 0.5 | 3.82 | 1050 | NA | | | |
| 09-104A | 1/20/09 | RR | 761.28 | 28.0 | 733.28 | 1.0643 | 1.0 | 3.68 | 2025 | A | 1.08 | 600 | 3.4 |
| 09-104A | 1/20/09 | RR | 761.28 | 32.0 | 729.28 | 1.0643 | 1.0 | 3.37 | 1850 | A | 1.22 | 675 | 2.7 |
| 09-104A | 1/20/09 | RR | 761.28 | 33.5 | 727.78 | 1.0643 | 1.0 | 3.34 | 1850 | A | 0.79 | 425 | 4.4 |
| 09-104A | 1/20/09 | RR | 761.28 | 35.0 | 726.28 | 1.0643 | 1.0 | 2.54 | 1400 | A | 0.75 | 425 | 3.3 |
| 09-105A | 2/1/09 | JD | 748.73 | 14.0 | 734.73 | 1.0286 | 1.0 | 1.64 | 875 | B | 0.42 | 225 | 3.9 |
| 09-105A | 2/1/09 | JD | 748.73 | 15.5 | 733.23 | 1.0286 | 2.0 | 2.05 | 2175 | B | 0.77 | 850 | 2.6 |
| 09-105A | 2/1/09 | JD | 748.73 | 17.0 | 731.73 | 1.0286 | 2.0 | 3.46 | 3700 | A | 1.05 | 1150 | 3.2 |
| 09-106A | 1/22/09 | RT | 754.69 | 29.0 | 725.69 | 1.0286 | 1.0 | 2.36 | 1250 | A | 0.57 | 325 | 3.8 |
| 09-106A | 1/22/09 | RT | 754.69 | 30.0 | 724.69 | 1.0286 | 1.0 | 1.98 | 1050 | A | 0.47 | 250 | 4.2 |
| 09-107A | 2/19/09 | JC | 762.42 | 29.0 | 733.42 | 1.0286 | 1.0 | 3.51 | 1875 | NA | | | |
| 09-107A | 2/19/09 | JC | 762.42 | 31.0 | 731.42 | 1.0286 | 2.0 | 1.68 | 1800 | B | 0.38 | 425 | 4.2 |
| 09-107A | 2/19/09 | JC | 762.42 | 49.0 | 713.42 | 1.0286 | 2.0 | 1.39 | 1475 | B | 0.55 | 600 | 2.5 |
| 09-108A | 2/11/09 | JC | 759.27 | 25.0 | 734.27 | 1.0286 | 1.0 | 1.21 | 650 | A | 0.11 | 50 | 13.0 |
| 09-108A | 2/11/09 | JC | 759.27 | 26.5 | 732.77 | 1.0286 | 1.0 | 1.12 | 600 | B | 0.30 | 175 | 3.4 |
| 09-109A | 2/14/09 | JC | 763.27 | 27.0 | 736.27 | 1.0286 | 1.0 | 1.27 | 675 | A | 0.10 | 50 | 13.5 |
| 09-109A | 2/14/09 | JC | 763.27 | 29.0 | 734.27 | 1.0286 | 1.0 | 1.37 | 725 | B | 0.43 | 225 | 3.2 |
| 09-109A | 2/14/09 | JC | 763.27 | 31.0 | 732.27 | 1.0286 | 1.0 | 1.70 | 900 | B | 0.09 | 50 | 18.0 |
| 09-109A | 2/14/09 | JC | 763.27 | 33.0 | 730.27 | 1.0286 | 1.0 | 2.80 | 1500 | A | 0.78 | 425 | 3.5 |
| 09-109A | 2/14/09 | JC | 763.27 | 35.0 | 728.27 | 1.0286 | 1.0 | 1.84 | 975 | A | 0.51 | 275 | 3.5 |
| 09-110A | 2/25/09 | RT | 774.77 | 39.0 | 735.77 | 1.0286 | 1.0 | 2.02 | 1075 | A | 0.24 | 125 | 8.6 |
| 09-110A | 2/25/09 | RT | 774.77 | 40.5 | 734.27 | 1.0286 | 1.0 | 3.68 | 1950 | NA | | | |
| 09-110A | 2/25/09 | RT | 774.77 | 42.0 | 732.77 | 1.0286 | 1.0 | 3.62 | 1925 | NA | | | |
| 09-200A | 1/22/09 | RT | 765.15 | 36.0 | 729.15 | 1.0286 | 1.0 | 1.53 | 825 | C | 0.57 | 325 | 2.5 |
| 09-200A | 1/22/09 | RT | 765.15 | 43.5 | 721.65 | 1.0286 | 1.0 | 3.93 | 2100 | NA | | | |
| 09-201A | 2/8/09 | JC | 760.51 | 27.5 | 733.01 | 1.0643 | 1.0 | 1.60 | 875 | C | 1.60 | 875 | 1.0 |
| 09-201A | 2/8/09 | JC | 760.51 | 29.0 | 731.51 | 1.0286 | 1.0 | 2.36 | 1250 | B | 0.93 | 525 | 2.4 |
| 09-201A | 2/8/09 | JC | 760.51 | 30.5 | 730.01 | 1.0286 | 1.0 | 2.41 | 1275 | A | 0.52 | 275 | 4.6 |
| 09-202A | 2/11/09 | JD | 761.31 | 30.5 | 730.81 | 1.0286 | 2.0 | 1.30 | 1375 | C | 0.38 | 425 | 3.2 |
| 09-202A | 2/12/09 | JD | 761.31 | 32.5 | 728.81 | 1.0286 | 2.0 | 1.65 | 1750 | B | 0.35 | 375 | 4.7 |
| 09-203A | 2/14/09 | JD | 759.36 | 27.5 | 731.86 | 1.0286 | 2.0 | 3.48 | 3700 | A | 0.83 | 925 | 4.0 |
| 09-203A | 2/14/09 | JD | 759.36 | 29.5 | 729.86 | 1.0286 | 2.0 | 3.10 | 3300 | NA | | | |
| 09-204A | 1/24/09 | BM | 759.55 | 14.0 | 745.55 | 1.0286 | 1.0 | 3.88 | 2075 | NA | | | |

**Peak Failure Type:** (A) Well-Defined Peak Failure (B) Moderately Well-Defined Peak Failure (C) Not Well-Defined Peak Failure (NA) Peak Failure Strength Not Reached

AECOM

PROJECT: Kingston Dredge Cell Failure RCA
JOB NUMBER: 60095742
DATA REDUCTION: RR

**VANE SHEAR TEST RESULTS**

(*) Vane Size:
2.0 = SMALL (11CM X 5CM) VANE
1.0 = MEDIUM (13CM X 6.5 CM) VANE
0.5 = LARGE (17.2CM X 8CM) VANE

| Boring Number | Test Date | Operator | Ground Surf. Elevation (ft) | Vane Tip Depth (ft) | Approx Tip Elevation (ft) | Vane Constant (kg-m/cm) | Vane Size (*) | $a_p$ (in) | Peak $S_u$ (psf) | Peak Failure Type | $a_r$ (in) | Residual $S_u$ (tsf) | Sensitivity Peak/Res PEAK/REM. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 09-204A | 1/24/09 | BM | 759.55 | 15.5 | 744.05 | 1.0286 | 1.0 | 3.87 | 2075 | NA | | | |
| 09-204A | 1/24/09 | BM | 759.55 | 17.0 | 742.55 | 1.0286 | 2.0 | 2.52 | 2675 | A | 0.44 | 475 | 5.6 |
| 09-204A | 1/24/09 | BM | 759.55 | 18.5 | 741.05 | 1.0286 | 2.0 | 2.62 | 2800 | A | 0.78 | 850 | 3.3 |
| 09-204A | 1/24/09 | BM | 759.55 | 20.0 | 739.55 | 1.0286 | 2.0 | 2.35 | 2500 | A | 0.92 | 1025 | 2.4 |
| 09-204A | 1/24/09 | BM | 759.55 | 21.5 | 738.05 | 1.0286 | 2.0 | 2.33 | 2475 | A | 0.93 | 1025 | 2.4 |
| 09-204A | 1/24/09 | BM | 759.55 | 23.0 | 736.55 | 1.0286 | 2.0 | 3.01 | 3200 | A | 0.54 | 600 | 5.3 |
| 09-205A | 1/26/09 | BM | 754.33 | 15.0 | 739.33 | 1.0286 | 2.0 | 0.24 | 250 | B | 0.10 | 100 | 2.5 |
| 09-205A | 1/26/09 | BM | 754.33 | 17.0 | 737.33 | 1.0286 | 2.0 | 0.86 | 925 | C | 0.36 | 400 | 2.3 |
| 09-205A | 1/26/09 | BM | 754.33 | 19.0 | 735.33 | 1.0286 | 2.0 | 0.54 | 575 | C | 0.08 | 100 | 5.8 |
| 09-205A | 1/26/09 | BM | 754.33 | 21.0 | 733.33 | 1.0286 | 1.0 | 2.12 | 1125 | B | 0.13 | 75 | 15.0 |
| 09-206A | 1/29/09 | BM | 754.98 | 15.5 | 739.48 | 1.0286 | 2.0 | 1.26 | 1350 | C | 1.06 | 1175 | 1.1 |
| 09-206A | 1/29/09 | BM | 754.98 | 17.0 | 737.98 | 1.0286 | 2.0 | 1.95 | 2075 | C | 1.32 | 1450 | 1.4 |
| 09-206A | 1/29/09 | BM | 754.98 | 18.5 | 736.48 | 1.0286 | 2.0 | 1.79 | 1900 | C | 1.48 | 1625 | 1.2 |
| 09-206A | 1/29/09 | BM | 754.98 | 20.0 | 734.98 | 1.0286 | 2.0 | 2.03 | 2175 | B | 0.68 | 750 | 2.9 |
| 09-206A | 1/29/09 | BM | 754.98 | 21.5 | 733.48 | 1.0286 | 1.0 | 3.75 | 2000 | A | 1.09 | 600 | 3.3 |
| 09-206A | 1/29/09 | BM | 754.98 | 23.0 | 731.98 | 1.0286 | 1.0 | 3.60 | 1925 | A | 0.82 | 450 | 4.3 |
| 09-206A | 1/29/09 | BM | 754.98 | 24.5 | 730.48 | 1.0286 | 1.0 | 2.30 | 1225 | A | 0.77 | 425 | 2.9 |
| 09-207A | 1/30/09 | JD | 747.31 | 15.0 | 732.31 | 1.0286 | 1.0 | 2.46 | 1300 | C | 1.00 | 550 | 2.4 |
| 09-207A | 1/30/09 | JD | 747.31 | 16.5 | 730.81 | 1.0286 | 1.0 | 1.88 | 1000 | B | 0.51 | 275 | 3.6 |
| 09-207A | 1/30/09 | JD | 747.31 | 18.0 | 729.31 | 1.0286 | 1.0 | 3.76 | 2000 | B | 0.62 | 350 | 5.7 |
| 09-207A | 1/30/09 | JD | 747.31 | 19.5 | 727.81 | 1.0286 | 1.0 | 4.02 | 2150 | NA | | | |
| 09-207A | 1/30/09 | JD | 747.31 | 21.0 | 726.31 | 1.0286 | 1.0 | 3.94 | 2100 | NA | | | |
| 09-207A | 1/30/09 | JD | 747.31 | 22.5 | 724.81 | 1.0286 | 2.0 | 2.53 | 2700 | B | 0.93 | 1025 | 2.6 |
| 09-208A | 3/15/09 | JC | 744.85 | 7.0 | 737.85 | 1.0286 | 2.0 | 2.12 | 2250 | C | 0.90 | 1000 | 2.3 |
| 09-208A | 3/15/09 | JC | 744.85 | 8.5 | 736.35 | 1.0286 | 2.0 | 1.90 | 2025 | C | 1.23 | 1350 | 1.5 |
| 09-208A | 3/15/09 | JC | 744.85 | 10.0 | 734.85 | 1.0286 | 2.0 | 1.98 | 2100 | C | 1.04 | 1150 | 1.8 |
| 09-208A | 3/15/09 | JC | 744.85 | 11.5 | 733.35 | 1.0286 | 2.0 | 1.69 | 1800 | C | 0.85 | 950 | 1.9 |
| 09-208A | 3/15/09 | JC | 744.85 | 13.0 | 731.85 | 1.0286 | 2.0 | 2.49 | 2650 | B | 1.12 | 1225 | 2.2 |
| 09-209A | 3/10/09 | BM | 746.42 | 8.5 | 737.92 | 1.0286 | 2.0 | 2.01 | 2150 | B | 0.29 | 325 | 6.6 |
| 09-209A | 3/10/09 | BM | 746.42 | 10.5 | 735.92 | 1.0286 | 2.0 | 2.07 | 2200 | B | 1.40 | 1550 | 1.4 |
| 09-209A | 3/10/09 | BM | 746.42 | 12.5 | 733.92 | 1.0286 | 2.0 | 1.90 | 2025 | A | 0.60 | 650 | 3.1 |
| 09-209A | 3/10/09 | BM | 746.42 | 14.0 | 732.42 | 1.0286 | 2.0 | 1.76 | 1875 | B | 0.36 | 400 | 4.7 |
| 09-210A | 3/4/09 | JC | 749.94 | 11.5 | 738.44 | 1.0286 | 1.0 | 2.91 | 1550 | C | 1.72 | 950 | 1.6 |
| 09-210A | 3/4/09 | JC | 749.94 | 13.5 | 736.44 | 1.0286 | 1.0 | 4.04 | 2150 | NA | | | |
| 09-210A | 3/4/09 | JC | 749.94 | 14.0 | 735.94 | 1.0286 | 2.0 | 2.38 | 2550 | C | 0.91 | 1000 | 2.6 |
| 09-211A | 3/4/09 | MB | 765.43 | 25.5 | 739.93 | 1.0643 | 2.0 | 2.24 | 2475 | B | 1.14 | 1250 | 2.0 |
| 09-211A | 3/4/09 | MB | 765.43 | 27.5 | 737.93 | 1.0643 | 2.0 | 2.51 | 2775 | A | 1.18 | 1300 | 2.1 |
| 09-303A | 2/5/09 | BM | 817.49 | 89.0 | 728.49 | 1.0643 | 2.0 | 2.11 | 2325 | A | 0.64 | 700 | 3.3 |
| 09-303A | 2/5/09 | BM | 817.49 | 90.5 | 726.99 | 1.0643 | 2.0 | 1.97 | 2175 | B | 1.33 | 1475 | 1.5 |
| 09-303A | 2/5/09 | BM | 817.49 | 92.0 | 725.49 | 1.0643 | 2.0 | 2.28 | 2525 | B | 1.62 | 1800 | 1.4 |
| 09-303A | 2/5/09 | BM | 817.49 | 93.5 | 723.99 | 1.0643 | 2.0 | 3.59 | 3950 | NA | | | |
| 09-303A | 2/5/09 | BM | 817.49 | 95.0 | 722.49 | 1.0643 | 2.0 | 3.80 | 4200 | NA | | | |
| 09-303A | 2/5/09 | BM | 817.49 | 102.0 | 715.49 | 1.0643 | 2.0 | 1.72 | 1900 | A | 0.29 | 325 | 5.8 |
| 09-303A | 2/5/09 | BM | 817.49 | 104.0 | 713.49 | 1.0643 | 2.0 | 2.29 | 2525 | A | 0.62 | 675 | 3.7 |
| 09-303A | 2/5/09 | BM | 817.49 | 106.0 | 711.49 | 1.0643 | 2.0 | 2.04 | 2250 | A | 0.47 | 525 | 4.3 |
| 09-402A | 2/14/09 | MB | 765.03 | 38.5 | 726.53 | 1.0643 | 2.0 | 0.45 | 500 | C | 0.29 | 325 | 1.5 |
| 09-402A | 2/14/09 | MB | 765.03 | 40.5 | 724.53 | 1.0643 | 1.0 | 1.22 | 675 | A | 0.30 | 175 | 3.9 |
| 09-402A | 2/14/09 | MB | 765.03 | 42.5 | 722.53 | 1.0643 | 1.0 | 3.30 | 1825 | A | 0.91 | 500 | 3.7 |
| 09-402A | 2/14/09 | MB | 765.03 | 44.5 | 720.53 | 1.0643 | 1.0 | 1.67 | 925 | B | 0.52 | 275 | 3.4 |
| 09-402A | 2/14/09 | MB | 765.03 | 46.5 | 718.53 | 1.0643 | 1.0 | 1.12 | 625 | B | 0.44 | 250 | 2.5 |

**Peak Failure Type:** (A) Well-Defined Peak Failure (B) Moderately Well-Defined Peak Failure (C) Not Well-Defined Peak Failure (NA) Peak Failure Strength Not Reached

AECOM

PROJECT: Kingston Dredge Cell Failure RCA
JOB NUMBER: 60095742
DATA REDUCTION: RR

**VANE SHEAR TEST RESULTS**

(*) Vane Size:
2.0 = SMALL (11CM X 5CM) VANE
1.0 = MEDIUM (13CM X 6.5 CM) VANE
0.5 = LARGE (17.2CM X 8CM) VANE

| Boring Number | Test Date | Operator | Ground Surf. Elevation (ft) | Vane Tip Depth (ft) | Approx Tip Elevation (ft) | Vane Constant (kg-m/cm) | Vane Size (*) | $a_p$ (in) | Peak $S_u$ (psf) | Peak Failure Type | $a_r$ (in) | Residual $S_u$ (tsf) | Sensitivity Peak/Res PEAK/REM. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 09-402A | 2/14/09 | MB | 765.03 | 48.5 | 716.53 | 1.0643 | 1.0 | 1.72 | 950 | A | 0.31 | 175 | 5.4 |
| 09-402A | 2/14/09 | MB | 765.03 | 50.5 | 714.53 | 1.0643 | 1.0 | 2.83 | 1550 | A | 0.31 | 175 | 8.9 |
| 09-404A | 2/21/09 | BZ | 763.62 | 40.5 | 723.12 | 1.0286 | 1.0 | 3.83 | 2050 | A | 0.88 | 475 | 4.3 |
| 09-404A | 2/21/09 | BZ | 763.62 | 42.5 | 721.12 | 1.0286 | 1.0 | 3.26 | 1750 | A | 0.72 | 400 | 4.4 |
| 09-404A | 2/21/09 | BZ | 763.62 | 44.5 | 719.12 | 1.0286 | 1.0 | 2.11 | 1125 | A | 0.13 | 75 | 15.0 |
| 09-404A | 2/21/09 | BZ | 763.62 | 46.5 | 717.12 | 1.0286 | 1.0 | 2.82 | 1500 | A | 0.48 | 275 | 5.5 |
| 09-404A | 2/21/09 | BZ | 763.62 | 48.5 | 715.12 | 1.0286 | 1.0 | 2.57 | 1375 | A | 0.33 | 175 | 7.9 |
| 09-406A | 2/12/09 | MB | 764.42 | 35.5 | 728.92 | 1.0643 | 1.0 | 3.67 | 2025 | NA | | | |
| 09-406A | 2/12/09 | MB | 764.42 | 37.0 | 727.42 | 1.0643 | 1.0 | 3.90 | 2150 | NA | 0.70 | 375 | 5.7 |
| 09-406A | 2/12/09 | MB | 764.42 | 38.5 | 725.92 | 1.0643 | 2.0 | 0.41 | 450 | C | 0.17 | 200 | 2.3 |
| 09-406A | 2/12/09 | MB | 764.42 | 40.5 | 723.92 | 1.0643 | 1.0 | 3.82 | 2100 | NA | 0.90 | 500 | 4.2 |
| 09-406A | 2/12/09 | MB | 764.42 | 42.5 | 721.92 | 1.0643 | 2.0 | 0.64 | 700 | C | 0.22 | 250 | 2.8 |
| 09-406A | 2/12/09 | MB | 764.42 | 44.5 | 719.92 | 1.0643 | 1.0 | 1.29 | 700 | B | 0.33 | 175 | 4.0 |
| 09-406A | 2/12/09 | MB | 764.42 | 46.5 | 717.92 | 1.0643 | 0.5 | 2.97 | 825 | A | 0.77 | 200 | 4.1 |
| 09-406A | 2/12/09 | MB | 764.42 | 48.5 | 715.92 | 1.0643 | 0.5 | 3.42 | 950 | A | 0.54 | 150 | 6.3 |
| 09-406A | 2/12/09 | MB | 764.42 | 50.0 | 714.42 | 1.0643 | 1.0 | 1.83 | 1000 | A | 0.18 | 100 | 10.0 |
| 09-408A | 3/10/09 | JD | 764.35 | 36.5 | 727.85 | 1.0643 | 1.0 | 2.60 | 1425 | A | 0.44 | 250 | 5.7 |
| 09-408A | 3/10/09 | JD | 764.35 | 38.5 | 725.85 | 1.0643 | 1.0 | 3.62 | 2000 | A | 0.58 | 325 | 6.2 |
| 09-408A | 3/10/09 | JD | 764.35 | 40.5 | 723.85 | 1.0643 | 1.0 | 3.20 | 1775 | A | 0.40 | 225 | 7.9 |
| 09-408A | 3/10/09 | JD | 764.35 | 42.5 | 721.85 | 1.0643 | 1.0 | 3.41 | 1875 | A | 0.55 | 300 | 6.3 |
| 09-408A | 3/10/09 | JD | 764.35 | 44.5 | 719.85 | 1.0643 | 1.0 | 3.57 | 1975 | NA | | | |
| 09-410A | 2/10/09 | MB | 762.08 | 12.0 | 750.08 | 1.0643 | 1.0 | 3.81 | 2100 | NA | 2.47 | 1375 | 1.5 |
| 09-410A | 2/10/09 | MB | 762.08 | 15.0 | 747.08 | 1.0643 | 2.0 | 1.94 | 2150 | C | 1.12 | 1225 | 1.8 |
| 09-410A | 2/10/09 | MB | 762.08 | 17.5 | 744.58 | 1.0643 | 2.0 | 2.20 | 2425 | B | 0.28 | 300 | 8.1 |
| 09-410A | 2/10/09 | MB | 762.08 | 20.0 | 742.08 | 1.0643 | 2.0 | 1.30 | 1425 | C | 0.21 | 225 | 6.3 |
| 09-410A | 2/10/09 | MB | 762.08 | 22.5 | 739.58 | 1.0643 | 2.0 | 1.00 | 1100 | C | 0.07 | 75 | 14.7 |
| 09-410A | 2/10/09 | MB | 762.08 | 25.0 | 737.08 | 1.0643 | 2.0 | 0.84 | 925 | C | 0.08 | 100 | 9.3 |
| 09-410A | 2/10/09 | MB | 762.08 | 27.5 | 734.58 | 1.0643 | 1.0 | 3.30 | 1825 | A | 0.21 | 125 | 14.6 |
| 09-410A | 2/10/09 | MB | 762.08 | 35.0 | 727.08 | 1.0643 | 2.0 | 3.50 | 3850 | A | 1.09 | 1200 | 3.2 |
| 09-410A | 2/10/09 | MB | 762.08 | 37.5 | 724.58 | 1.0643 | 2.0 | 2.56 | 2825 | A | 0.89 | 975 | 2.9 |
| 09-413A | 1/30/09 | MB | 764.49 | 6.0 | 758.49 | 1.0643 | 1.0 | 2.35 | 1300 | B | 1.82 | 1000 | 1.3 |
| 09-413A | 1/30/09 | MB | 764.49 | 8.5 | 755.99 | 1.0643 | 1.0 | 3.68 | 2025 | NA | | | |
| 09-413A | 1/30/09 | MB | 764.49 | 11.0 | 753.49 | 1.0643 | 1.0 | 3.56 | 1975 | NA | | | |
| 09-413A | 1/30/09 | MB | 764.49 | 13.5 | 750.99 | 1.0643 | 2.0 | 3.18 | 3500 | B | 1.55 | 1700 | 2.1 |
| 09-413A | 1/30/09 | MB | 764.49 | 15.5 | 748.99 | 1.0643 | 2.0 | 1.75 | 1925 | B | 1.35 | 1500 | 1.3 |
| 09-413A | 1/30/09 | MB | 764.49 | 17.5 | 746.99 | 1.0643 | 2.0 | 0.95 | 1050 | C | 0.90 | 1000 | 1.1 |
| 09-413A | 1/30/09 | MB | 764.49 | 28.0 | 736.49 | 1.0643 | 1.0 | 2.94 | 1625 | A | 0.21 | 125 | 13.0 |
| 09-413A | 1/30/09 | MB | 764.49 | 30.5 | 733.99 | 1.0643 | 1.0 | 3.46 | 1900 | NA | | | |
| 09-413A | 1/30/09 | MB | 764.49 | 34.5 | 729.99 | 1.0643 | 1.0 | 2.51 | 1375 | A | 0.52 | 275 | 5.0 |
| 09-413A | 1/30/09 | MB | 764.49 | 36.5 | 727.99 | 1.0643 | 1.0 | 3.73 | 2050 | NA | | | |
| 09-500A | 3/5/09 | JD | 757.01 | 31.0 | 726.01 | 1.0286 | 1.0 | 3.19 | 1700 | A | 0.69 | 375 | 4.5 |
| 09-500A | 3/5/09 | JD | 757.01 | 32.5 | 724.51 | 1.0286 | 1.0 | 3.00 | 1600 | A | 0.89 | 500 | 3.2 |
| 09-500A | 3/5/09 | JD | 757.01 | 34.5 | 722.51 | 1.0286 | 1.0 | 2.64 | 1400 | A | 0.53 | 300 | 4.7 |
| 09-500A | 3/5/09 | JD | 757.01 | 36.0 | 721.01 | 1.0286 | 1.0 | 3.74 | 2000 | NA | | | |
| 09-502A | 3/6/09 | BZ | 753.16 | 24.0 | 729.16 | 1.0286 | 1.0 | 3.72 | 1975 | NA | | | |
| 09-502A | 3/6/09 | BZ | 753.16 | 24.5 | 728.66 | 1.0286 | 2.0 | 2.76 | 2950 | A | 1.20 | 1325 | 2.2 |
| 09-502A | 3/6/09 | BZ | 753.16 | 25.5 | 727.66 | 1.0286 | 2.0 | 3.20 | 3425 | A | 0.85 | 950 | 3.6 |
| 09-503A | 3/16/09 | JD | 768.25 | 37.0 | 731.25 | 1.0286 | 2.0 | 3.16 | 3375 | A | 0.59 | 650 | 5.2 |
| 09-503A | 3/16/09 | JD | 768.25 | 38.5 | 729.75 | 1.0286 | 2.0 | 2.06 | 2200 | A | 0.39 | 425 | 5.2 |
| 09-503A | 3/16/09 | JD | 768.25 | 41.0 | 727.25 | 1.0286 | 2.0 | 2.47 | 2625 | A | 1.60 | 1775 | 1.5 |

**Peak Failure Type:** (A) Well-Defined Peak Failure (B) Moderately Well-Defined Peak Failure (C) Not Well-Defined Peak Failure (NA) Peak Failure Strength Not Reached

AECOM

PROJECT: Kingston Dredge Cell Failure RCA
JOB NUMBER: 60095742
DATA REDUCTION: RR

**VANE SHEAR TEST RESULTS**

(*) Vane Size:
2.0 = SMALL (11CM X 5CM) VANE
1.0 = MEDIUM (13CM X 6.5 CM) VANE
0.5 = LARGE (17.2CM X 8CM) VANE

| Boring Number | Test Date | Operator | Ground Surf. Elevation (ft) | Vane Tip Depth (ft) | Approx Tip Elevation (ft) | Vane Constant (kg-m/cm) | Vane Size (*) | $a_p$ (in) | Peak $S_u$ (psf) | Peak Failure Type | $a_r$ (in) | Residual $S_u$ (tsf) | Sensitivity Peak/Res PEAK/REM. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 09-503A | 3/16/09 | JD | 768.25 | 43.0 | 725.25 | 1.0286 | 2.0 | 3.36 | 3575 | A | 1.04 | 1150 | 3.1 |
| 09-600A | 3/9/09 | BM | 777.30 | 47.5 | 729.8 | 1.0643 | 1.0 | 3.51 | 1925 | A | 1.25 | 700 | 2.8 |
| 09-600A | 3/9/09 | BM | 777.30 | 48.8 | 728.55 | 1.0643 | 2.0 | 1.44 | 1600 | C | 0.31 | 350 | 4.6 |
| 09-600A | 3/9/09 | BM | 777.30 | 51.5 | 725.8 | 1.0643 | 2.0 | 1.75 | 1925 | A | 0.30 | 325 | 5.9 |
| 09-601A | 3/3/09 | BZ | 775.08 | 40.5 | 734.58 | 1.0286 | 1.0 | 2.33 | 1250 | A | 1.36 | 750 | 1.7 |
| 09-601A | 3/3/09 | BZ | 775.08 | 42.0 | 733.08 | 1.0286 | 1.0 | 3.96 | 2100 | NA | | | |
| 09-601A | 3/3/09 | BZ | 775.08 | 42.5 | 732.58 | 1.0286 | 2.0 | 3.55 | 3775 | A | 0.89 | 975 | 3.9 |
| 09-601A | 3/3/09 | BZ | 775.08 | 44.0 | 731.08 | 1.0286 | 2.0 | 2.88 | 3075 | A | 0.66 | 725 | 4.2 |
| 09-601A | 3/3/09 | BZ | 775.08 | 46.0 | 729.08 | 1.0286 | 2.0 | 2.63 | 2800 | A | 0.38 | 425 | 6.6 |
| 09-601A | 3/3/09 | BZ | 775.08 | 48.0 | 727.08 | 1.0286 | 2.0 | 2.22 | 2375 | A | 0.46 | 500 | 4.8 |
| 09-602A | 3/19/09 | RT | 781.10 | 55.5 | 725.6 | 1.0286 | 1.0 | 2.53 | 1350 | B | 1.37 | 750 | 1.8 |
| 09-602A | 3/19/09 | RT | 781.10 | 62.5 | 718.6 | 1.0286 | 1.0 | 3.84 | 2050 | NA | | | |
| 09-602A | 3/19/09 | RT | 781.10 | 63.5 | 717.6 | 1.0286 | 2.0 | 3.72 | 3975 | A | 1.23 | 1350 | 2.9 |
| 09-602A | 3/19/09 | RT | 781.10 | 64.5 | 716.6 | 1.0286 | 2.0 | 1.36 | 1450 | B | 0.55 | 600 | 2.4 |
| 09-602A | 3/19/09 | RT | 781.10 | 66.0 | 715.1 | 1.0286 | 2.0 | 1.51 | 1600 | A | 0.44 | 475 | 3.4 |
| 09-603A | 3/10/09 | MB | 780.55 | 51.5 | 729.05 | 1.0643 | 1.0 | 3.43 | 1900 | NA | | | |
| 09-604A | 3/2/09 | MB | 782.39 | 62.5 | 719.89 | 1.0643 | 2.0 | 1.83 | 2025 | B | 0.77 | 850 | 2.4 |
| 09-604A | 3/2/09 | MB | 782.39 | 64.5 | 717.89 | 1.0643 | 2.0 | 3.24 | 3575 | B | 1.27 | 1400 | 2.6 |
| 09-604A | 3/2/09 | MB | 782.39 | 66.5 | 715.89 | 1.0643 | 2.0 | 3.22 | 3550 | A | 1.22 | 1350 | 2.6 |
| 09-604A | 3/2/09 | MB | 782.39 | 68.5 | 713.89 | 1.0643 | 2.0 | 2.50 | 2750 | A | 0.78 | 850 | 3.2 |
| 09-604A | 3/2/09 | MB | 782.39 | 70.5 | 711.89 | 1.0643 | 2.0 | 2.13 | 2350 | A | 0.49 | 550 | 4.3 |
| 09-604A | 3/2/09 | MB | 782.39 | 72.0 | 710.39 | 1.0643 | 2.0 | 1.97 | 2175 | A | 0.45 | 500 | 4.4 |
| 09-604A | 3/2/09 | MB | 782.39 | 74.0 | 708.39 | 1.0643 | 2.0 | 3.12 | 3450 | A | 0.75 | 825 | 4.2 |
| 09-605A | 3/1/09 | JC | 781.81 | 50.5 | 731.31 | 1.0286 | 1.0 | 1.72 | 925 | B | 0.80 | 450 | 2.1 |
| 09-605A | 3/1/09 | JC | 781.81 | 52.5 | 729.31 | 1.0286 | 1.0 | 1.04 | 550 | B | 0.20 | 100 | 5.5 |
| 09-605A | 3/1/09 | JC | 781.81 | 54.5 | 727.31 | 1.0286 | 1.0 | 1.91 | 1025 | A | 0.12 | 75 | 13.7 |
| 09-605A | 3/1/09 | JC | 781.81 | 56.5 | 725.31 | 1.0286 | 1.0 | 3.70 | 1975 | NA | | | |
| 09-605A | 3/1/09 | JC | 781.81 | 58.0 | 723.81 | 1.0286 | 2.0 | 2.66 | 2825 | B | 1.88 | 2075 | 1.4 |
| 09-700A | 3/18/09 | BZ | 764.48 | 24.5 | 739.98 | 1.0286 | 1.0 | 0.94 | 500 | A | 0.09 | 50 | 10.0 |
| 09-700A | 3/18/09 | BZ | 764.48 | 26.5 | 737.98 | 1.0286 | 1.0 | 2.36 | 1250 | B | 1.27 | 700 | 1.8 |
| 09-700A | 3/18/09 | BZ | 764.48 | 28.5 | 735.98 | 1.0286 | 1.0 | 3.62 | 1925 | A | 1.68 | 925 | 2.1 |
| 09-700A | 3/18/09 | BZ | 764.48 | 30.5 | 733.98 | 1.0286 | 1.0 | 2.79 | 1500 | A | 0.65 | 350 | 4.3 |
| 09-700A | 3/18/09 | BZ | 764.48 | 32.0 | 732.48 | 1.0286 | 1.0 | 3.33 | 1775 | A | 0.56 | 300 | 5.9 |
| 09-708A1 | 3/21/09 | BZ | 763.71 | 29.5 | 734.21 | 1.0286 | 1.0 | 1.30 | 700 | B | 0.26 | 150 | 4.7 |
| 09-708A1 | 3/21/09 | BZ | 763.71 | 31.5 | 732.21 | 1.0286 | 2.0 | 0.91 | 975 | C | 0.18 | 200 | 4.9 |
| 09-708A1 | 3/21/09 | BZ | 763.71 | 33.5 | 730.21 | 1.0286 | 2.0 | 0.48 | 500 | C | 0.40 | 450 | 1.1 |
| 09-708A1 | 3/21/09 | BZ | 763.71 | 35.5 | 728.21 | 1.0286 | 2.0 | 1.31 | 1400 | B | 0.63 | 700 | 2.0 |
| 09-708A2 | 3/21/09 | BZ | 763.65 | 29.5 | 734.15 | 1.0286 | 1.0 | 0.73 | 400 | B | 0.12 | 75 | 5.3 |
| 09-708A2 | 3/21/09 | BZ | 763.65 | 31.5 | 732.15 | 1.0286 | 2.0 | 1.13 | 1200 | B | 0.40 | 450 | 2.7 |
| 09-708A2 | 3/21/09 | BZ | 763.65 | 33.5 | 730.15 | 1.0286 | 2.0 | 0.95 | 1025 | C | 0.42 | 475 | 2.2 |
| 09-708A2 | 3/21/09 | BZ | 763.65 | 35.5 | 728.15 | 1.0286 | 2.0 | 1.74 | 1850 | B | 0.85 | 950 | 1.9 |
| 09-712A1 | 3/8/09 | BM | 763.77 | 43.0 | 720.77 | 1.0643 | 1.0 | 0.78 | 425 | C | 0.14 | 75 | 5.7 |
| 09-712A1 | 3/8/09 | BM | 763.77 | 44.5 | 719.27 | 1.0643 | 0.5 | 3.71 | 1025 | NA | | | |
| 09-712A1 | 3/8/09 | BM | 763.77 | 46.0 | 717.77 | 1.0643 | 1.0 | 3.71 | 2050 | NA | | | |
| 09-712A1 | 3/8/09 | BM | 763.77 | 47.5 | 716.27 | 1.0643 | 2.0 | 1.50 | 1650 | B | 0.33 | 375 | 4.4 |
| 09-712A2 | 3/22/09 | BZ | 763.67 | 43.0 | 720.67 | 1.0286 | 0.5 | 3.93 | 1050 | NA | | | |
| 09-712A2 | 3/22/09 | BZ | 763.67 | 44.5 | 719.17 | 1.0286 | 1.0 | 3.30 | 1750 | A | 0.93 | 525 | 3.3 |
| 09-712A2 | 3/22/09 | BZ | 763.67 | 46.0 | 717.67 | 1.0286 | 2.0 | 3.23 | 3450 | A | 0.65 | 725 | 4.8 |
| 09-712A2 | 3/22/09 | BZ | 763.67 | 47.5 | 716.17 | 1.0286 | 1.0 | 3.52 | 1875 | A | 1.15 | 625 | 3.0 |
| 09-712A3 | 3/22/09 | BZ | 763.73 | 43.0 | 720.73 | 1.0286 | 0.5 | 3.63 | 975 | NA | | | |

**Peak Failure Type:** (A) Well-Defined Peak Failure (B) Moderately Well-Defined Peak Failure (C) Not Well-Defined Peak Failure (NA) Peak Failure Strength Not Reached

AECOM

PROJECT: Kingston Dredge Cell Failure RCA
JOB NUMBER: 60095742
DATA REDUCTION: RR

**VANE SHEAR TEST RESULTS**

(*) Vane Size:
2.0 = SMALL (11CM X 5CM) VANE
1.0 = MEDIUM (13CM X 6.5 CM) VANE
0.5 = LARGE (17.2CM X 8CM) VANE

| Boring Number | Test Date | Operator | Ground Surf. Elevation (ft) | Vane Tip Depth (ft) | Approx Tip Elevation (ft) | Vane Constant (kg-m/cm) | Vane Size (*) | $a_p$ (in) | Peak $S_u$ (psf) | Peak Failure Type | $a_r$ (in) | Residual $S_u$ (tsf) | Sensitivity Peak/Res PEAK/REM. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 09-712A3 | 3/22/09 | BZ | 763.73 | 44.5 | 719.23 | 1.0286 | 1.0 | 3.61 | 1925 | NA | | | |
| 09-712A3 | 3/22/09 | BZ | 763.73 | 46.0 | 717.73 | 1.0286 | 2.0 | 3.86 | 4125 | NA | | | |
| 09-712A3 | 3/22/09 | BZ | 763.73 | 47.5 | 716.23 | 1.0286 | 2.0 | 3.59 | 3825 | A | 0.48 | 525 | 7.3 |
| 09-800A | 3/17/09 | JD | 792.90 | 30.5 | 762.4 | 1.0286 | 1.0 | 4.00 | 2125 | A | 0.79 | 425 | 5.0 |
| 09-800A | 3/17/09 | JD | 792.90 | 32.0 | 760.9 | 1.0286 | 2.0 | 2.39 | 2550 | A | 0.56 | 625 | 4.1 |
| 09-800A | 3/17/09 | JD | 792.90 | 35.0 | 757.9 | 1.0286 | 2.0 | 1.68 | 1800 | A | 0.39 | 425 | 4.2 |
| 09-801A | 3/17/09 | BZ | 765.13 | 39.5 | 725.63 | 1.0286 | 1.0 | 2.79 | 1500 | A | 0.55 | 300 | 5.0 |
| 09-801A | 3/17/09 | BZ | 765.13 | 41.5 | 723.63 | 1.0286 | 1.0 | 2.64 | 1400 | A | 0.77 | 425 | 3.3 |
| 09-801A | 3/17/09 | BZ | 765.13 | 43.5 | 721.63 | 1.0286 | 1.0 | 3.00 | 1600 | A | 0.63 | 350 | 4.6 |
| 09-801A | 3/17/09 | BZ | 765.13 | 45.5 | 719.63 | 1.0286 | 1.0 | 3.62 | 1925 | NA | | | |
| 09-801A | 3/17/09 | BZ | 765.13 | 47.5 | 717.63 | 1.0286 | 2.0 | 2.54 | 2700 | A | 0.48 | 525 | 5.1 |
| 09-801A | 3/17/09 | BZ | 765.13 | 49.5 | 715.63 | 1.0286 | 2.0 | 1.34 | 1425 | C | 0.50 | 550 | 2.6 |
| 09-801A | 3/17/09 | BZ | 765.13 | 51.5 | 713.63 | 1.0286 | 2.0 | 1.10 | 1175 | B | 0.23 | 250 | 4.7 |
| 09-801A | 3/17/09 | BZ | 765.13 | 53.5 | 711.63 | 1.0286 | 2.0 | 1.23 | 1300 | B | 0.35 | 375 | 3.5 |
| 09-801A | 3/17/09 | BZ | 765.13 | 55.5 | 709.63 | 1.0286 | 2.0 | 0.93 | 1000 | C | 0.29 | 325 | 3.1 |

**Peak Failure Type:** (A) Well-Defined Peak Failure (B) Moderately Well-Defined Peak Failure (C) Not Well-Defined Peak Failure (NA) Peak Failure Strength Not Reached