Fibertec
environmental
services

Monday, November 22, 2010

| | |
|---|---|
| Fibertec Project Number: | 42026 |
| Project Identification: | M-222 Slope Evaluation /KG59756 |
| Submittal Date: | 11/12/2010 |

Mr. Davin Ojala
Soil and Materials Engineers, Inc. - Kalamazoo
3301 Tech Circle Drive
Kalamazoo, MI 49008-5611

Dear Mr. Ojala,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note samples will be disposed of 30 days after reporting date.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,

Daryl P. Strandbergh
Laboratory Director

DPS/kc

Enclosures

| | | | | | |
|---|---|---|---|---|---|
| Client Identification: | **Soil and Materials Engineers, Inc. - Kalamazoo** | Sample Description: | **B101 0"-36"** | Chain of Custody: | **102684** |
| Client Project Name: | **M-222 Slope Evaluation** | Sample No: | **1** | Collect Date: | **11/10/10** |
| Client Project No: | **KG59756** | Sample Matrix: | **Soil/Solid** | Collect Time: | **09:30** |

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

**Dry Weight Determination (ASTM D 2974-87)** **Aliquot ID: 42026-001A** **Matrix: Soil/Solid** **Analyst: BMG**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 1. Percent Moisture (Water Content) (NN) | **19** | | % | 0.1 | 1.0 | 11/16/10 | MC101116 | 11/17/10 | MC101116 |

**Michigan 10 Elements by ICP/MS (EPA 3050B/EPA 6020A)** **Aliquot ID: 42026-001A** **Matrix: Soil/Solid** **Analyst: MAP**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 1. Arsenic | **4000** | | µg/kg | 100 | 20 | 11/17/10 | PT10K17E | 11/18/10 | T210K18A |
| 2. Barium | **34000** | | µg/kg | 1000 | 20 | 11/17/10 | PT10K17E | 11/18/10 | T210K18A |
| 3. Cadmium | **63** | | µg/kg | 50 | 20 | 11/17/10 | PT10K17E | 11/18/10 | T210K18A |
| 4. Chromium | **11000** | | µg/kg | 500 | 20 | 11/17/10 | PT10K17E | 11/18/10 | T210K18A |
| 5. Copper | **11000** | | µg/kg | 1000 | 20 | 11/17/10 | PT10K17E | 11/18/10 | T210K18A |
| 6. Lead | **7400** | | µg/kg | 1000 | 20 | 11/17/10 | PT10K17E | 11/18/10 | T210K18A |
| 7. Selenium | **280** | | µg/kg | 200 | 20 | 11/17/10 | PT10K17E | 11/18/10 | T210K18A |
| 8. Silver | U | | µg/kg | 100 | 20 | 11/17/10 | PT10K17E | 11/18/10 | T210K18A |
| 9. Zinc | **43000** | | µg/kg | 1000 | 20 | 11/17/10 | PT10K17E | 11/18/10 | T210K18A |

**Mercury by CVAAS (EPA 7471A)** **Aliquot ID: 42026-001A** **Matrix: Soil/Solid** **Analyst: MAP**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 1. Mercury | U | | µg/kg | 50 | 10 | 11/18/10 | PM10K18A | 11/18/10 | M410K18A |

**Polychlorinated Biphenyls (PCBs) (EPA 3550B/EPA 8082A)** **Aliquot ID: 42026-001A** **Matrix: Soil/Solid** **Analyst: BDA**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 1. Aroclor-1016 | U | | µg/kg | 330 | 10 | 11/16/10 | PS10K16E | 11/17/10 | SB10K17A |
| 2. Aroclor-1221 | U | | µg/kg | 330 | 10 | 11/16/10 | PS10K16E | 11/17/10 | SB10K17A |
| 3. Aroclor-1232 | U | | µg/kg | 330 | 10 | 11/16/10 | PS10K16E | 11/17/10 | SB10K17A |
| 4. Aroclor-1242 | U | | µg/kg | 330 | 10 | 11/16/10 | PS10K16E | 11/17/10 | SB10K17A |
| 5. Aroclor-1248 | U | | µg/kg | 330 | 10 | 11/16/10 | PS10K16E | 11/17/10 | SB10K17A |
| 6. Aroclor-1254 | U | | µg/kg | 330 | 10 | 11/16/10 | PS10K16E | 11/17/10 | SB10K17A |
| 7. Aroclor-1260 | U | | µg/kg | 330 | 10 | 11/16/10 | PS10K16E | 11/17/10 | SB10K17A |
| 8. Aroclor-1262 (NN) | U | | µg/kg | 330 | 10 | 11/16/10 | PS10K16E | 11/17/10 | SB10K17A |
| 9. Aroclor-1268 (NN) | U | | µg/kg | 330 | 10 | 11/16/10 | PS10K16E | 11/17/10 | SB10K17A |

**Volatile Organic Compounds (VOCs) by GC/MS, 5035 (EPA 5035/EPA 8260B)** **Aliquot ID: 42026-001** **Matrix: Soil/Solid** **Analyst: JAS**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 1. Acetone | U | | µg/kg | 1000 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 2. Acrylonitrile | U | | µg/kg | 100 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 3. Benzene | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 4. Bromobenzene | U | | µg/kg | 100 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 5. Bromochloromethane | U | | µg/kg | 100 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |

| | | | | | |
|---|---|---|---|---|---|
| Client Identification: | **Soil and Materials Engineers, Inc. - Kalamazoo** | Sample Description: | **B101 0"-36"** | Chain of Custody: | **102684** |
| Client Project Name: | **M-222 Slope Evaluation** | Sample No: | **1** | Collect Date: | **11/10/10** |
| Client Project No: | **KG59756** | Sample Matrix: | **Soil/Solid** | Collect Time: | **09:30** |

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

**Volatile Organic Compounds (VOCs) by GC/MS, 5035 (EPA 5035/EPA 8260B)** **Aliquot ID: 42026-001** **Matrix: Soil/Solid** **Analyst: JAS**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 6. Bromodichloromethane | U | | µg/kg | 100 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 7. Bromoform | U | | µg/kg | 100 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 8. Bromomethane | U | | µg/kg | 200 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 9. 2-Butanone | U | | µg/kg | 750 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 10. n-Butylbenzene | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 11. sec-Butylbenzene | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 12. tert-Butylbenzene | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 13. Carbon Disulfide | U | | µg/kg | 250 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 14. Carbon Tetrachloride | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 15. Chlorobenzene | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 16. Chloroethane | U | | µg/kg | 250 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 17. Chloroform | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 18. Chloromethane | U | | µg/kg | 250 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 19. 2-Chlorotoluene | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 20. Dibromochloromethane | U | | µg/kg | 100 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 21. 1,2-Dibromo-3-chloropropane | U | | µg/kg | 12 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 22. Dibromomethane | U | | µg/kg | 250 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 23. 1,2-Dichlorobenzene | U | | µg/kg | 100 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 24. 1,3-Dichlorobenzene | U | | µg/kg | 100 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 25. 1,4-Dichlorobenzene | U | | µg/kg | 100 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 26. Dichlorodifluoromethane | U | | µg/kg | 250 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 27. 1,1-Dichloroethane | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 28. 1,2-Dichloroethane | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 29. 1,1-Dichloroethene | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 30. cis-1,2-Dichloroethene | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 31. trans-1,2-Dichloroethene | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 32. 1,2-Dichloropropane | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 33. cis-1,3-Dichloropropene | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 34. trans-1,3-Dichloropropene | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 35. Ethylbenzene | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 36. Ethylene Dibromide | U | | µg/kg | 25 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 37. 2-Hexanone | U | | µg/kg | 2500 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 38. Isopropylbenzene | U | | µg/kg | 250 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 39. Methyl Iodide | U | | µg/kg | 100 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 40. Methylene Chloride | U | | µg/kg | 100 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 41. 2-Methylnaphthalene (NN) | U | | µg/kg | 330 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 42. 4-Methyl-2-pentanone | U | | µg/kg | 2500 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 43. MTBE | U | | µg/kg | 250 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 44. Naphthalene | U | | µg/kg | 330 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 45. n-Propylbenzene | U | | µg/kg | 100 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |

| | | | | | |
|---|---|---|---|---|---|
| Client Identification: | **Soil and Materials Engineers, Inc. - Kalamazoo** | Sample Description: | **B101 0"-36"** | Chain of Custody: | **102684** |
| Client Project Name: | **M-222 Slope Evaluation** | Sample No: | **1** | Collect Date: | **11/10/10** |
| Client Project No: | **KG59756** | Sample Matrix: | **Soil/Solid** | Collect Time: | **09:30** |

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

**Volatile Organic Compounds (VOCs) by GC/MS, 5035 (EPA 5035/EPA 8260B)** **Aliquot ID: 42026-001** **Matrix: Soil/Solid** **Analyst: JAS**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 46. Styrene | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 47. 1,1,1,2-Tetrachloroethane | U | | µg/kg | 100 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 48. 1,1,2,2-Tetrachloroethane | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 49. Tetrachloroethene | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 50. Toluene | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 51. 1,2,4-Trichlorobenzene | U | | µg/kg | 330 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 52. 1,1,1-Trichloroethane | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 53. 1,1,2-Trichloroethane | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 54. Trichloroethene | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 55. Trichlorofluoromethane | U | | µg/kg | 100 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 56. 1,2,3-Trichloropropane | U | | µg/kg | 100 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 57. 1,2,3-Trimethylbenzene (NN) | U | | µg/kg | 100 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 58. 1,2,4-Trimethylbenzene | U | | µg/kg | 100 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 59. 1,3,5-Trimethylbenzene | U | | µg/kg | 100 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 60. Vinyl Chloride | U | | µg/kg | 40 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 61. Xylenes | U | | µg/kg | 150 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |

**Base/Neutral/Acid Semivolatiles by GC/MS (EPA 3550B/EPA 8270C)** **Aliquot ID: 42026-001A** **Matrix: Soil/Solid** **Analyst: TMC**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 1. Acenaphthene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 2. Acenaphthylene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 3. Aniline | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 4. Anthracene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 5. Azobenzene (NN) | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 6. Benzo(a)anthracene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 7. Benzo(a)pyrene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 8. Benzo(b)fluoranthene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 9. Benzo(ghi)perylene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 10. Benzo(k)fluoranthene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 11. Benzyl Alcohol | U | | µg/kg | 3300 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 12. Bis(2-chloroethoxy)methane | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 13. Bis(2-chloroethyl)ether (NN) | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 14. Bis(2-chloroisopropyl) Ether | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 15. Bis(2-ethylhexyl)phthalate (NN) | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 16. 4-Bromophenyl Phenylether (NN) | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 17. Butyl Benzyl Phthalate | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 18. Carbazole | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 19. 4-Chloro-3-methylphenol | U | | µg/kg | 280 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 20. 2-Chloronaphthalene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 21. 2-Chlorophenol | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |

| | | | | | |
|---|---|---|---|---|---|
| Client Identification: | **Soil and Materials Engineers, Inc. - Kalamazoo** | Sample Description: | **B101 0"-36"** | Chain of Custody: | **102684** |
| Client Project Name: | **M-222 Slope Evaluation** | Sample No: | **1** | Collect Date: | **11/10/10** |
| Client Project No: | **KG59756** | Sample Matrix: | **Soil/Solid** | Collect Time: | **09:30** |

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

**Base/Neutral/Acid Semivolatiles by GC/MS (EPA 3550B/EPA 8270C)** **Aliquot ID: 42026-001A** **Matrix: Soil/Solid** **Analyst: TMC**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 22. 4-Chlorophenyl Phenylether | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 23. Chrysene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 24. Dibenzo(a,h)anthracene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 25. Dibenzofuran | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 26. 2,4-Dichlorophenol | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 27. Diethyl Phthalate | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 28. Dimethyl Phthalate | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 29. 2,4-Dimethylphenol | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 30. Di-n-butyl Phthalate | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 31. 2,4-Dinitrophenol | U | | µg/kg | 830 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 32. 2,4-Dinitrotoluene (NN) | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 33. 2,6-Dinitrotoluene (NN) | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 34. Di-n-octyl Phthalate | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 35. Fluoranthene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 36. Fluorene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 37. Hexachlorobenzene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 38. Hexachlorobutadiene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 39. Hexachlorocyclopentadiene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 40. Indeno(1,2,3-cd)pyrene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 41. Isophorone | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 42. 2-Methyl-4,6-dinitrophenol (NN) | U | | µg/kg | 830 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 43. 2-Methylnaphthalene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 44. 2-Methylphenol (NN) | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 45. 3&4-Methylphenol (NN) | U | | µg/kg | 660 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 46. Naphthalene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 47. 2-Nitroaniline | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 48. 3-Nitroaniline | U | | µg/kg | 830 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 49. 4-Nitroaniline | U | | µg/kg | 830 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 50. Nitrobenzene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 51. 2-Nitrophenol | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 52. 4-Nitrophenol | U | | µg/kg | 830 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 53. N-Nitrosodimethylamine | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 54. N-Nitrosodi-n-propylamine | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 55. N-Nitrosodiphenylamine | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 56. Pentachlorophenol | U | | µg/kg | 800 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 57. Phenanthrene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 58. Phenol | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 59. Pyrene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 60. Pyridine | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 61. 2,4,5-Trichlorophenol | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |

| | | | | | |
|---|---|---|---|---|---|
| Client Identification: | **Soil and Materials Engineers, Inc. - Kalamazoo** | Sample Description: | **B101 0"-36"** | Chain of Custody: | **102684** |
| Client Project Name: | **M-222 Slope Evaluation** | Sample No: | **1** | Collect Date: | **11/10/10** |
| Client Project No: | **KG59756** | Sample Matrix: | **Soil/Solid** | Collect Time: | **09:30** |

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

**Base/Neutral/Acid Semivolatiles by GC/MS (EPA 3550B/EPA 8270C)** **Aliquot ID: 42026-001A** **Matrix: Soil/Solid** **Analyst: TMC**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 62 2,4,6-Trichlorophenol | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |

| | | | | | |
|---|---|---|---|---|---|
| Client Identification: | **Soil and Materials Engineers, Inc. - Kalamazoo** | Sample Description: | **B102 0"-26"** | Chain of Custody: | **102684** |
| Client Project Name: | **M-222 Slope Evaluation** | Sample No: | **2** | Collect Date: | **11/10/10** |
| Client Project No: | **KG59756** | Sample Matrix: | **Soil/Solid** | Collect Time: | **11:10** |

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

**Dry Weight Determination (ASTM D 2974-87)** **Aliquot ID: 42026-002A** **Matrix: Soil/Solid** **Analyst: BMG**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 1. Percent Moisture (Water Content) (NN) | **22** | | % | 0.1 | 1.0 | 11/16/10 | MC101116 | 11/17/10 | MC101116 |

**Michigan 10 Elements by ICP/MS (EPA 3050B/EPA 6020A)** **Aliquot ID: 42026-002A** **Matrix: Soil/Solid** **Analyst: MAP**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 1. Arsenic | **2800** | | µg/kg | 100 | 20 | 11/17/10 | PT10K17E | 11/17/10 | T210K17C |
| 2. Barium | **32000** | | µg/kg | 1000 | 20 | 11/17/10 | PT10K17E | 11/17/10 | T210K17C |
| 3. Cadmium | **70** | | µg/kg | 50 | 20 | 11/17/10 | PT10K17E | 11/17/10 | T210K17C |
| 4. Chromium | **8400** | | µg/kg | 500 | 20 | 11/17/10 | PT10K17E | 11/17/10 | T210K17C |
| 5. Copper | **8500** | | µg/kg | 1000 | 20 | 11/17/10 | PT10K17E | 11/17/10 | T210K17C |
| 6. Lead | **5700** | | µg/kg | 1000 | 20 | 11/17/10 | PT10K17E | 11/17/10 | T210K17C |
| 7. Selenium | **220** | | µg/kg | 200 | 20 | 11/17/10 | PT10K17E | 11/17/10 | T210K17C |
| 8. Silver | U | | µg/kg | 100 | 20 | 11/17/10 | PT10K17E | 11/17/10 | T210K17C |
| 9. Zinc | **24000** | | µg/kg | 1000 | 20 | 11/17/10 | PT10K17E | 11/17/10 | T210K17C |

**Mercury by CVAAS (EPA 7471A)** **Aliquot ID: 42026-002A** **Matrix: Soil/Solid** **Analyst: MAP**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 1. Mercury | U | | µg/kg | 50 | 10 | 11/18/10 | PM10K18A | 11/18/10 | M410K18A |

**Polychlorinated Biphenyls (PCBs) (EPA 3550B/EPA 8082A)** **Aliquot ID: 42026-002A** **Matrix: Soil/Solid** **Analyst: BDA**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 1. Aroclor-1016 | U | | µg/kg | 330 | 10 | 11/16/10 | PS10K16E | 11/17/10 | SB10K17A |
| 2. Aroclor-1221 | U | | µg/kg | 330 | 10 | 11/16/10 | PS10K16E | 11/17/10 | SB10K17A |
| 3. Aroclor-1232 | U | | µg/kg | 330 | 10 | 11/16/10 | PS10K16E | 11/17/10 | SB10K17A |
| 4. Aroclor-1242 | U | | µg/kg | 330 | 10 | 11/16/10 | PS10K16E | 11/17/10 | SB10K17A |
| 5. Aroclor-1248 | U | | µg/kg | 330 | 10 | 11/16/10 | PS10K16E | 11/17/10 | SB10K17A |
| 6. Aroclor-1254 | U | | µg/kg | 330 | 10 | 11/16/10 | PS10K16E | 11/17/10 | SB10K17A |
| 7. Aroclor-1260 | U | | µg/kg | 330 | 10 | 11/16/10 | PS10K16E | 11/17/10 | SB10K17A |
| 8. Aroclor-1262 (NN) | U | | µg/kg | 330 | 10 | 11/16/10 | PS10K16E | 11/17/10 | SB10K17A |
| 9. Aroclor-1268 (NN) | U | | µg/kg | 330 | 10 | 11/16/10 | PS10K16E | 11/17/10 | SB10K17A |

**Volatile Organic Compounds (VOCs) by GC/MS, 5035 (EPA 5035/EPA 8260B)** **Aliquot ID: 42026-002** **Matrix: Soil/Solid** **Analyst: JAS**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 1. Acetone | U | | µg/kg | 1000 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 2. Acrylonitrile | U | | µg/kg | 100 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 3. Benzene | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 4. Bromobenzene | U | | µg/kg | 100 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 5. Bromochloromethane | U | | µg/kg | 100 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |

| | | | | | |
|---|---|---|---|---|---|
| Client Identification: | **Soil and Materials Engineers, Inc. - Kalamazoo** | Sample Description: | **B102 0"-26"** | Chain of Custody: | **102684** |
| Client Project Name: | **M-222 Slope Evaluation** | Sample No: | **2** | Collect Date: | **11/10/10** |
| Client Project No: | **KG59756** | Sample Matrix: | **Soil/Solid** | Collect Time: | **11:10** |

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

**Volatile Organic Compounds (VOCs) by GC/MS, 5035 (EPA 5035/EPA 8260B)** **Aliquot ID: 42026-002** **Matrix: Soil/Solid** **Analyst: JAS**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 6. Bromodichloromethane | U | | µg/kg | 100 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 7. Bromoform | U | | µg/kg | 100 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 8. Bromomethane | U | | µg/kg | 200 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 9. 2-Butanone | U | | µg/kg | 750 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 10. n-Butylbenzene | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 11. sec-Butylbenzene | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 12. tert-Butylbenzene | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 13. Carbon Disulfide | U | | µg/kg | 250 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 14. Carbon Tetrachloride | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 15. Chlorobenzene | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 16. Chloroethane | U | | µg/kg | 260 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 17. Chloroform | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 18. Chloromethane | U | | µg/kg | 250 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 19. 2-Chlorotoluene | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 20. Dibromochloromethane | U | | µg/kg | 100 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 21. 1,2-Dibromo-3-chloropropane | U | | µg/kg | 13 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 22. Dibromomethane | U | | µg/kg | 250 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 23. 1,2-Dichlorobenzene | U | | µg/kg | 100 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 24. 1,3-Dichlorobenzene | U | | µg/kg | 100 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 25. 1,4-Dichlorobenzene | U | | µg/kg | 100 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 26. Dichlorodifluoromethane | U | | µg/kg | 250 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 27. 1,1-Dichloroethane | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 28. 1,2-Dichloroethane | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 29. 1,1-Dichloroethene | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 30. cis-1,2-Dichloroethene | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 31. trans-1,2-Dichloroethene | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 32. 1,2-Dichloropropane | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 33. cis-1,3-Dichloropropene | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 34. trans-1,3-Dichloropropene | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 35. Ethylbenzene | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 36. Ethylene Dibromide | U | | µg/kg | 26 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 37. 2-Hexanone | U | | µg/kg | 2500 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 38. Isopropylbenzene | U | | µg/kg | 250 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 39. Methyl Iodide | U | | µg/kg | 100 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 40. Methylene Chloride | U | | µg/kg | 100 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 41. 2-Methylnaphthalene (NN) | U | | µg/kg | 330 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 42. 4-Methyl-2-pentanone | U | | µg/kg | 2500 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 43. MTBE | U | | µg/kg | 250 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 44. Naphthalene | U | | µg/kg | 330 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 45. n-Propylbenzene | U | | µg/kg | 100 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |

| | | | | | |
|---|---|---|---|---|---|
| Client Identification: | **Soil and Materials Engineers, Inc. - Kalamazoo** | Sample Description: | **B102 0"-26"** | Chain of Custody: | **102684** |
| Client Project Name: | **M-222 Slope Evaluation** | Sample No: | **2** | Collect Date: | **11/10/10** |
| Client Project No: | **KG59756** | Sample Matrix: | **Soil/Solid** | Collect Time: | **11:10** |

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

**Volatile Organic Compounds (VOCs) by GC/MS, 5035 (EPA 5035/EPA 8260B)** **Aliquot ID: 42026-002** **Matrix: Soil/Solid** **Analyst: JAS**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 46. Styrene | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 47. 1,1,1,2-Tetrachloroethane | U | | µg/kg | 100 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 48. 1,1,2,2-Tetrachloroethane | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 49. Tetrachloroethene | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 50. Toluene | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 51. 1,2,4-Trichlorobenzene | U | | µg/kg | 330 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 52. 1,1,1-Trichloroethane | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 53. 1,1,2-Trichloroethane | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 54. Trichloroethene | U | | µg/kg | 50 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 55. Trichlorofluoromethane | U | | µg/kg | 100 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 56. 1,2,3-Trichloropropane | U | | µg/kg | 100 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 57. 1,2,3-Trimethylbenzene (NN) | U | | µg/kg | 100 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 58. 1,2,4-Trimethylbenzene | U | | µg/kg | 100 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 59. 1,3,5-Trimethylbenzene | U | | µg/kg | 100 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 60. Vinyl Chloride | U | | µg/kg | 40 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |
| 61. Xylenes | U | | µg/kg | 150 | 1.0 | 11/16/10 | V310K16B | 11/16/10 | V310K16B |

**Base/Neutral/Acid Semivolatiles by GC/MS (EPA 3550B/EPA 8270C)** **Aliquot ID: 42026-002A** **Matrix: Soil/Solid** **Analyst: TMC**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 1. Acenaphthene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 2. Acenaphthylene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 3. Aniline | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 4. Anthracene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 5. Azobenzene (NN) | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 6. Benzo(a)anthracene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 7. Benzo(a)pyrene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 8. Benzo(b)fluoranthene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 9. Benzo(ghi)perylene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 10. Benzo(k)fluoranthene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 11. Benzyl Alcohol | U | | µg/kg | 3300 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 12. Bis(2-chloroethoxy)methane | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 13. Bis(2-chloroethyl)ether (NN) | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 14. Bis(2-chloroisopropyl) Ether | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 15. Bis(2-ethylhexyl)phthalate (NN) | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 16. 4-Bromophenyl Phenylether (NN) | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 17. Butyl Benzyl Phthalate | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 18. Carbazole | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 19. 4-Chloro-3-methylphenol | U | | µg/kg | 280 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 20. 2-Chloronaphthalene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 21. 2-Chlorophenol | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |

| | | | | | |
|---|---|---|---|---|---|
| Client Identification: | **Soil and Materials Engineers, Inc. - Kalamazoo** | Sample Description: | **B102 0"-26"** | Chain of Custody: | **102684** |
| Client Project Name: | **M-222 Slope Evaluation** | Sample No: | **2** | Collect Date: | **11/10/10** |
| Client Project No: | **KG59756** | Sample Matrix: | **Soil/Solid** | Collect Time: | **11:10** |

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

**Base/Neutral/Acid Semivolatiles by GC/MS (EPA 3550B/EPA 8270C)** **Aliquot ID: 42026-002A** **Matrix: Soil/Solid** **Analyst: TMC**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 22. 4-Chlorophenyl Phenylether | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 23. Chrysene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 24. Dibenzo(a,h)anthracene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 25. Dibenzofuran | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 26. 2,4-Dichlorophenol | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 27. Diethyl Phthalate | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 28. Dimethyl Phthalate | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 29. 2,4-Dimethylphenol | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 30. Di-n-butyl Phthalate | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 31. 2,4-Dinitrophenol | U | | µg/kg | 860 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 32. 2,4-Dinitrotoluene (NN) | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 33. 2,6-Dinitrotoluene (NN) | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 34. Di-n-octyl Phthalate | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 35. Fluoranthene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 36. Fluorene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 37. Hexachlorobenzene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 38. Hexachlorobutadiene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 39. Hexachlorocyclopentadiene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 40. Indeno(1,2,3-cd)pyrene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 41. Isophorone | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 42. 2-Methyl-4,6-dinitrophenol (NN) | U | | µg/kg | 830 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 43. 2-Methylnaphthalene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 44. 2-Methylphenol (NN) | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 45. 3&4-Methylphenol (NN) | U | | µg/kg | 660 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 46. Naphthalene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 47. 2-Nitroaniline | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 48. 3-Nitroaniline | U | | µg/kg | 830 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 49. 4-Nitroaniline | U | | µg/kg | 830 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 50. Nitrobenzene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 51. 2-Nitrophenol | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 52. 4-Nitrophenol | U | | µg/kg | 830 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 53. N-Nitrosodimethylamine | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 54. N-Nitrosodi-n-propylamine | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 55. N-Nitrosodiphenylamine | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 56. Pentachlorophenol | U | | µg/kg | 800 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 57. Phenanthrene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 58. Phenol | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 59. Pyrene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 60. Pyridine | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 61. 2,4,5-Trichlorophenol | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |

| | | | | | |
|---|---|---|---|---|---|
| Client Identification: | **Soil and Materials Engineers, Inc. - Kalamazoo** | Sample Description: | **B102 0"-26"** | Chain of Custody: | **102684** |
| Client Project Name: | **M-222 Slope Evaluation** | Sample No: | **2** | Collect Date: | **11/10/10** |
| Client Project No: | **KG59756** | Sample Matrix: | **Soil/Solid** | Collect Time: | **11:10** |

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

**Base/Neutral/Acid Semivolatiles by GC/MS (EPA 3550B/EPA 8270C)** **Aliquot ID: 42026-002A** **Matrix: Soil/Solid** **Analyst: TMC**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 62 2,4,6-Trichlorophenol | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |

| | | | | | |
|---|---|---|---|---|---|
| Client Identification: | **Soil and Materials Engineers, Inc. - Kalamazoo** | Sample Description: | **B103 0"-66"** | Chain of Custody: | **102684** |
| Client Project Name: | **M-222 Slope Evaluation** | Sample No: | **3** | Collect Date: | **11/10/10** |
| Client Project No: | **KG59756** | Sample Matrix: | **Soil/Solid** | Collect Time: | **12:05** |

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

**Dry Weight Determination (ASTM D 2974-87)** **Aliquot ID: 42026-003A** **Matrix: Soil/Solid** **Analyst: BMG**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 1. Percent Moisture (Water Content) (NN) | **26** | | % | 0.1 | 1.0 | 11/16/10 | MC101116 | 11/17/10 | MC101116 |

**Michigan 10 Elements by ICP/MS (EPA 3050B/EPA 6020A)** **Aliquot ID: 42026-003A** **Matrix: Soil/Solid** **Analyst: MAP**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 1. Arsenic | **4800** | | µg/kg | 100 | 20 | 11/17/10 | PT10K17E | 11/17/10 | T210K17C |
| 2. Barium | **39000** | | µg/kg | 1000 | 20 | 11/17/10 | PT10K17E | 11/17/10 | T210K17C |
| 3. Cadmium | **100** | | µg/kg | 50 | 20 | 11/17/10 | PT10K17E | 11/17/10 | T210K17C |
| 4. Chromium | **11000** | | µg/kg | 500 | 20 | 11/17/10 | PT10K17E | 11/17/10 | T210K17C |
| 5. Copper | **13000** | | µg/kg | 1000 | 20 | 11/17/10 | PT10K17E | 11/17/10 | T210K17C |
| 6. Lead | **9500** | | µg/kg | 1000 | 20 | 11/17/10 | PT10K17E | 11/17/10 | T210K17C |
| 7. Selenium | **310** | | µg/kg | 200 | 20 | 11/17/10 | PT10K17E | 11/17/10 | T210K17C |
| 8. Silver | U | | µg/kg | 100 | 20 | 11/17/10 | PT10K17E | 11/17/10 | T210K17C |
| 9. Zinc | **45000** | | µg/kg | 1000 | 20 | 11/17/10 | PT10K17E | 11/17/10 | T210K17C |

**Mercury by CVAAS (EPA 7471A)** **Aliquot ID: 42026-003A** **Matrix: Soil/Solid** **Analyst: MAP**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 1. Mercury | **67** | | µg/kg | 50 | 10 | 11/18/10 | PM10K18A | 11/18/10 | M410K18A |

**Polychlorinated Biphenyls (PCBs) (EPA 3550B/EPA 8082A)** **Aliquot ID: 42026-003A** **Matrix: Soil/Solid** **Analyst: BDA**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 1. Aroclor-1016 | U | | µg/kg | 330 | 10 | 11/16/10 | PS10K16E | 11/17/10 | SB10K17A |
| 2. Aroclor-1221 | U | | µg/kg | 330 | 10 | 11/16/10 | PS10K16E | 11/17/10 | SB10K17A |
| 3. Aroclor-1232 | U | | µg/kg | 330 | 10 | 11/16/10 | PS10K16E | 11/17/10 | SB10K17A |
| 4. Aroclor-1242 | U | | µg/kg | 330 | 10 | 11/16/10 | PS10K16E | 11/17/10 | SB10K17A |
| 5. Aroclor-1248 | U | | µg/kg | 330 | 10 | 11/16/10 | PS10K16E | 11/17/10 | SB10K17A |
| 6. Aroclor-1254 | U | | µg/kg | 330 | 10 | 11/16/10 | PS10K16E | 11/17/10 | SB10K17A |
| 7. Aroclor-1260 | U | | µg/kg | 330 | 10 | 11/16/10 | PS10K16E | 11/17/10 | SB10K17A |
| 8. Aroclor-1262 (NN) | U | | µg/kg | 330 | 10 | 11/16/10 | PS10K16E | 11/17/10 | SB10K17A |
| 9. Aroclor-1268 (NN) | U | | µg/kg | 330 | 10 | 11/16/10 | PS10K16E | 11/17/10 | SB10K17A |

**Volatile Organic Compounds (VOCs) by GC/MS, 5035 (EPA 5035/EPA 8260B)** **Aliquot ID: 42026-003** **Matrix: Soil/Solid** **Analyst: JAS**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 1. Acetone | U | | µg/kg | 1000 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 2. Acrylonitrile | U | | µg/kg | 100 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 3. Benzene | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 4. Bromobenzene | U | | µg/kg | 100 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 5. Bromochloromethane | U | | µg/kg | 100 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |

| | | | | | |
|---|---|---|---|---|---|
| Client Identification: | **Soil and Materials Engineers, Inc. - Kalamazoo** | Sample Description: | **B103 0"-66"** | Chain of Custody: | **102684** |
| Client Project Name: | **M-222 Slope Evaluation** | Sample No: | **3** | Collect Date: | **11/10/10** |
| Client Project No: | **KG59756** | Sample Matrix: | **Soil/Solid** | Collect Time: | **12:05** |

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

**Volatile Organic Compounds (VOCs) by GC/MS, 5035 (EPA 5035/EPA 8260B)** **Aliquot ID: 42026-003** **Matrix: Soil/Solid** **Analyst: JAS**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 6. Bromodichloromethane | U | | µg/kg | 100 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 7. Bromoform | U | | µg/kg | 100 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 8. Bromomethane | U | | µg/kg | 200 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 9. 2-Butanone | U | | µg/kg | 750 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 10. n-Butylbenzene | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 11. sec-Butylbenzene | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 12. tert-Butylbenzene | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 13. Carbon Disulfide | U | | µg/kg | 250 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 14. Carbon Tetrachloride | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 15. Chlorobenzene | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 16. Chloroethane | U | | µg/kg | 340 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 17. Chloroform | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 18. Chloromethane | U | | µg/kg | 250 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 19. 2-Chlorotoluene | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 20. Dibromochloromethane | U | | µg/kg | 100 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 21. 1,2-Dibromo-3-chloropropane | U | | µg/kg | 34 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 22. Dibromomethane | U | | µg/kg | 250 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 23. 1,2-Dichlorobenzene | U | | µg/kg | 100 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 24. 1,3-Dichlorobenzene | U | | µg/kg | 100 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 25. 1,4-Dichlorobenzene | U | | µg/kg | 100 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 26. Dichlorodifluoromethane | U | | µg/kg | 250 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 27. 1,1-Dichloroethane | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 28. 1,2-Dichloroethane | U | | µg/kg | 68 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 29. 1,1-Dichloroethene | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 30. cis-1,2-Dichloroethene | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 31. trans-1,2-Dichloroethene | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 32. 1,2-Dichloropropane | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 33. cis-1,3-Dichloropropene | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 34. trans-1,3-Dichloropropene | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 35. Ethylbenzene | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 36. Ethylene Dibromide | U | | µg/kg | 27 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 37. 2-Hexanone | U | | µg/kg | 2500 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 38. Isopropylbenzene | U | | µg/kg | 250 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 39. Methyl Iodide | U | | µg/kg | 100 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 40. Methylene Chloride | U | | µg/kg | 100 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 41. 2-Methylnaphthalene (NN) | U | | µg/kg | 330 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 42. 4-Methyl-2-pentanone | U | | µg/kg | 2500 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 43. MTBE | U | | µg/kg | 250 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 44. Naphthalene | U | | µg/kg | 330 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 45. n-Propylbenzene | U | | µg/kg | 100 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |

| | | | | | |
|---|---|---|---|---|---|
| Client Identification: | **Soil and Materials Engineers, Inc. - Kalamazoo** | Sample Description: | **B103 0"-66"** | Chain of Custody: | **102684** |
| Client Project Name: | **M-222 Slope Evaluation** | Sample No: | **3** | Collect Date: | **11/10/10** |
| Client Project No: | **KG59756** | Sample Matrix: | **Soil/Solid** | Collect Time: | **12:05** |

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

**Volatile Organic Compounds (VOCs) by GC/MS, 5035 (EPA 5035/EPA 8260B)** **Aliquot ID: 42026-003** **Matrix: Soil/Solid** **Analyst: JAS**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 46. Styrene | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 47. 1,1,1,2-Tetrachloroethane | U | | µg/kg | 100 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 48. 1,1,2,2-Tetrachloroethane | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 49. Tetrachloroethene | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 50. Toluene | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 51. 1,2,4-Trichlorobenzene | U | | µg/kg | 330 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 52. 1,1,1-Trichloroethane | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 53. 1,1,2-Trichloroethane | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 54. Trichloroethene | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 55. Trichlorofluoromethane | U | | µg/kg | 100 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 56. 1,2,3-Trichloropropane | U | | µg/kg | 100 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 57. 1,2,3-Trimethylbenzene (NN) | U | | µg/kg | 100 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 58. 1,2,4-Trimethylbenzene | U | | µg/kg | 100 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 59. 1,3,5-Trimethylbenzene | U | | µg/kg | 100 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 60. Vinyl Chloride | U | | µg/kg | 40 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 61. Xylenes | U | | µg/kg | 150 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |

**Base/Neutral/Acid Semivolatiles by GC/MS (EPA 3550B/EPA 8270C)** **Aliquot ID: 42026-003A** **Matrix: Soil/Solid** **Analyst: TMC**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 1. Acenaphthene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 2. Acenaphthylene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 3. Aniline | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 4. Anthracene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 5. Azobenzene (NN) | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 6. Benzo(a)anthracene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 7. Benzo(a)pyrene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 8. Benzo(b)fluoranthene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 9. Benzo(ghi)perylene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 10. Benzo(k)fluoranthene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 11. Benzyl Alcohol | U | | µg/kg | 3300 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 12. Bis(2-chloroethoxy)methane | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 13. Bis(2-chloroethyl)ether (NN) | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 14. Bis(2-chloroisopropyl) Ether | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 15. Bis(2-ethylhexyl)phthalate (NN) | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 16. 4-Bromophenyl Phenylether (NN) | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 17. Butyl Benzyl Phthalate | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 18. Carbazole | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 19. 4-Chloro-3-methylphenol | U | | µg/kg | 280 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 20. 2-Chloronaphthalene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 21. 2-Chlorophenol | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |

| | | | | | |
|---|---|---|---|---|---|
| Client Identification: | **Soil and Materials Engineers, Inc. - Kalamazoo** | Sample Description: | **B103 0"-66"** | Chain of Custody: | **102684** |
| Client Project Name: | **M-222 Slope Evaluation** | Sample No: | **3** | Collect Date: | **11/10/10** |
| Client Project No: | **KG59756** | Sample Matrix: | **Soil/Solid** | Collect Time: | **12:05** |

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

**Base/Neutral/Acid Semivolatiles by GC/MS (EPA 3550B/EPA 8270C)** **Aliquot ID: 42026-003A** **Matrix: Soil/Solid** **Analyst: TMC**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 22. 4-Chlorophenyl Phenylether | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 23. Chrysene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 24. Dibenzo(a,h)anthracene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 25. Dibenzofuran | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 26. 2,4-Dichlorophenol | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 27. Diethyl Phthalate | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 28. Dimethyl Phthalate | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 29. 2,4-Dimethylphenol | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 30. Di-n-butyl Phthalate | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 31. 2,4-Dinitrophenol | U | | µg/kg | 900 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 32. 2,4-Dinitrotoluene (NN) | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 33. 2,6-Dinitrotoluene (NN) | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 34. Di-n-octyl Phthalate | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 35. Fluoranthene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 36. Fluorene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 37. Hexachlorobenzene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 38. Hexachlorobutadiene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 39. Hexachlorocyclopentadiene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 40. Indeno(1,2,3-cd)pyrene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 41. Isophorone | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 42. 2-Methyl-4,6-dinitrophenol (NN) | U | | µg/kg | 830 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 43. 2-Methylnaphthalene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 44. 2-Methylphenol (NN) | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 45. 3&4-Methylphenol (NN) | U | | µg/kg | 660 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 46. Naphthalene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 47. 2-Nitroaniline | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 48. 3-Nitroaniline | U | | µg/kg | 830 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 49. 4-Nitroaniline | U | | µg/kg | 830 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 50. Nitrobenzene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 51. 2-Nitrophenol | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 52. 4-Nitrophenol | U | | µg/kg | 830 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 53. N-Nitrosodimethylamine | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 54. N-Nitrosodi-n-propylamine | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 55. N-Nitrosodiphenylamine | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 56. Pentachlorophenol | U | | µg/kg | 800 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 57. Phenanthrene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 58. Phenol | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 59. Pyrene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 60. Pyridine | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 61. 2,4,5-Trichlorophenol | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |

| | | | | | |
|---|---|---|---|---|---|
| Client Identification: | **Soil and Materials Engineers, Inc. - Kalamazoo** | Sample Description: | **B103 0"-66"** | Chain of Custody: | **102684** |
| Client Project Name: | **M-222 Slope Evaluation** | Sample No: | **3** | Collect Date: | **11/10/10** |
| Client Project No: | **KG59756** | Sample Matrix: | **Soil/Solid** | Collect Time: | **12:05** |

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

**Base/Neutral/Acid Semivolatiles by GC/MS (EPA 3550B/EPA 8270C)** **Aliquot ID: 42026-003A** **Matrix: Soil/Solid** **Analyst: TMC**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 62 2,4,6-Trichlorophenol | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |

| | | | | | |
|---|---|---|---|---|---|
| Client Identification: | **Soil and Materials Engineers, Inc. - Kalamazoo** | Sample Description: | **B104 0"-26"** | Chain of Custody: | **102684** |
| Client Project Name: | **M-222 Slope Evaluation** | Sample No: | **4** | Collect Date: | **11/10/10** |
| Client Project No: | **KG59756** | Sample Matrix: | **Soil/Solid** | Collect Time: | **10:20** |

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

**Dry Weight Determination (ASTM D 2974-87)** **Aliquot ID: 42026-004A** **Matrix: Soil/Solid** **Analyst: BMG**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 1. Percent Moisture (Water Content) (NN) | **43** | | % | 0.1 | 1.0 | 11/16/10 | MC101116 | 11/17/10 | MC101116 |

**Michigan 10 Elements by ICP/MS (EPA 3050B/EPA 6020A)** **Aliquot ID: 42026-004A** **Matrix: Soil/Solid** **Analyst: MAP**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 1. Arsenic | **1800** | | µg/kg | 100 | 20 | 11/17/10 | PT10K17E | 11/17/10 | T210K17C |
| 2. Barium | **100000** | | µg/kg | 1000 | 20 | 11/17/10 | PT10K17E | 11/17/10 | T210K17C |
| 3. Cadmium | **220** | | µg/kg | 50 | 20 | 11/17/10 | PT10K17E | 11/17/10 | T210K17C |
| 4. Chromium | **16000** | | µg/kg | 500 | 20 | 11/17/10 | PT10K17E | 11/17/10 | T210K17C |
| 5. Copper | **21000** | | µg/kg | 1000 | 20 | 11/17/10 | PT10K17E | 11/17/10 | T210K17C |
| 6. Lead | **11000** | | µg/kg | 1000 | 20 | 11/17/10 | PT10K17E | 11/17/10 | T210K17C |
| 7. Selenium | **1000** | | µg/kg | 200 | 20 | 11/17/10 | PT10K17E | 11/17/10 | T210K17C |
| 8. Silver | U | | µg/kg | 100 | 20 | 11/17/10 | PT10K17E | 11/17/10 | T210K17C |
| 9. Zinc | **79000** | | µg/kg | 1000 | 20 | 11/17/10 | PT10K17E | 11/17/10 | T210K17C |

**Mercury by CVAAS (EPA 7471A)** **Aliquot ID: 42026-004A** **Matrix: Soil/Solid** **Analyst: MAP**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 1. Mercury | **54** | | µg/kg | 50 | 10 | 11/18/10 | PM10K18A | 11/18/10 | M410K18A |

**Polychlorinated Biphenyls (PCBs) (EPA 3550B/EPA 8082A)** **Aliquot ID: 42026-004A** **Matrix: Soil/Solid** **Analyst: BDA**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 1. Aroclor-1016 | U | | µg/kg | 330 | 10 | 11/16/10 | PS10K16E | 11/17/10 | SB10K17A |
| 2. Aroclor-1221 | U | | µg/kg | 330 | 10 | 11/16/10 | PS10K16E | 11/17/10 | SB10K17A |
| 3. Aroclor-1232 | U | | µg/kg | 330 | 10 | 11/16/10 | PS10K16E | 11/17/10 | SB10K17A |
| 4. Aroclor-1242 | U | | µg/kg | 330 | 10 | 11/16/10 | PS10K16E | 11/17/10 | SB10K17A |
| 5. Aroclor-1248 | U | | µg/kg | 330 | 10 | 11/16/10 | PS10K16E | 11/17/10 | SB10K17A |
| 6. Aroclor-1254 | U | | µg/kg | 330 | 10 | 11/16/10 | PS10K16E | 11/17/10 | SB10K17A |
| 7. Aroclor-1260 | U | | µg/kg | 330 | 10 | 11/16/10 | PS10K16E | 11/17/10 | SB10K17A |
| 8. Aroclor-1262 (NN) | U | | µg/kg | 330 | 10 | 11/16/10 | PS10K16E | 11/17/10 | SB10K17A |
| 9. Aroclor-1268 (NN) | U | | µg/kg | 330 | 10 | 11/16/10 | PS10K16E | 11/17/10 | SB10K17A |

**Volatile Organic Compounds (VOCs) by GC/MS, 5035 (EPA 5035/EPA 8260B)** **Aliquot ID: 42026-004** **Matrix: Soil/Solid** **Analyst: JAS**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 1. Acetone | U | | µg/kg | 1000 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 2. Acrylonitrile | U | | µg/kg | 100 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 3. Benzene | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 4. Bromobenzene | U | | µg/kg | 100 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 5. Bromochloromethane | U | | µg/kg | 100 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |

| | | | | | |
|---|---|---|---|---|---|
| Client Identification: | **Soil and Materials Engineers, Inc. - Kalamazoo** | Sample Description: | **B104 0"-26"** | Chain of Custody: | **102684** |
| Client Project Name: | **M-222 Slope Evaluation** | Sample No: | **4** | Collect Date: | **11/10/10** |
| Client Project No: | **KG59756** | Sample Matrix: | **Soil/Solid** | Collect Time: | **10:20** |

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

**Volatile Organic Compounds (VOCs) by GC/MS, 5035 (EPA 5035/EPA 8260B)** **Aliquot ID: 42026-004** **Matrix: Soil/Solid** **Analyst: JAS**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 6. Bromodichloromethane | U | | µg/kg | 100 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 7. Bromoform | U | | µg/kg | 100 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 8. Bromomethane | U | | µg/kg | 200 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 9. 2-Butanone | U | | µg/kg | 750 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 10. n-Butylbenzene | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 11. sec-Butylbenzene | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 12. tert-Butylbenzene | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 13. Carbon Disulfide | U | | µg/kg | 250 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 14. Carbon Tetrachloride | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 15. Chlorobenzene | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 16. Chloroethane | U | | µg/kg | 440 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 17. Chloroform | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 18. Chloromethane | U | | µg/kg | 250 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 19. 2-Chlorotoluene | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 20. Dibromochloromethane | U | | µg/kg | 100 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 21. 1,2-Dibromo-3-chloropropane | U | | µg/kg | 44 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 22. Dibromomethane | U | | µg/kg | 250 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 23. 1,2-Dichlorobenzene | U | | µg/kg | 100 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 24. 1,3-Dichlorobenzene | U | | µg/kg | 100 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 25. 1,4-Dichlorobenzene | U | | µg/kg | 100 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 26. Dichlorodifluoromethane | U | | µg/kg | 250 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 27. 1,1-Dichloroethane | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 28. 1,2-Dichloroethane | U | | µg/kg | 88 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 29. 1,1-Dichloroethene | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 30. cis-1,2-Dichloroethene | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 31. trans-1,2-Dichloroethene | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 32. 1,2-Dichloropropane | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 33. cis-1,3-Dichloropropene | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 34. trans-1,3-Dichloropropene | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 35. Ethylbenzene | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 36. Ethylene Dibromide | U | | µg/kg | 35 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 37. 2-Hexanone | U | | µg/kg | 2500 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 38. Isopropylbenzene | U | | µg/kg | 250 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 39. Methyl Iodide | U | | µg/kg | 100 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 40. Methylene Chloride | U | | µg/kg | 100 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 41. 2-Methylnaphthalene (NN) | U | | µg/kg | 330 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 42. 4-Methyl-2-pentanone | U | | µg/kg | 2500 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 43. MTBE | U | | µg/kg | 250 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 44. Naphthalene | U | | µg/kg | 330 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 45. n-Propylbenzene | U | | µg/kg | 100 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |

| | | | | | |
|---|---|---|---|---|---|
| Client Identification: | **Soil and Materials Engineers, Inc. - Kalamazoo** | Sample Description: | **B104 0"-26"** | Chain of Custody: | **102684** |
| Client Project Name: | **M-222 Slope Evaluation** | Sample No: | **4** | Collect Date: | **11/10/10** |
| Client Project No: | **KG59756** | Sample Matrix: | **Soil/Solid** | Collect Time: | **10:20** |

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

**Volatile Organic Compounds (VOCs) by GC/MS, 5035 (EPA 5035/EPA 8260B)** **Aliquot ID: 42026-004** **Matrix: Soil/Solid** **Analyst: JAS**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 46. Styrene | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 47. 1,1,1,2-Tetrachloroethane | U | | µg/kg | 100 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 48. 1,1,2,2-Tetrachloroethane | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 49. Tetrachloroethene | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 50. Toluene | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 51. 1,2,4-Trichlorobenzene | U | | µg/kg | 330 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 52. 1,1,1-Trichloroethane | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 53. 1,1,2-Trichloroethane | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 54. Trichloroethene | U | | µg/kg | 50 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 55. Trichlorofluoromethane | U | | µg/kg | 100 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 56. 1,2,3-Trichloropropane | U | | µg/kg | 100 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 57. 1,2,3-Trimethylbenzene (NN) | U | | µg/kg | 100 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 58. 1,2,4-Trimethylbenzene | U | | µg/kg | 100 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 59. 1,3,5-Trimethylbenzene | U | | µg/kg | 100 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 60. Vinyl Chloride | U | | µg/kg | 44 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |
| 61. Xylenes | U | | µg/kg | 150 | 1.0 | 11/18/10 | V910K18B | 11/19/10 | V910K18B |

**Base/Neutral/Acid Semivolatiles by GC/MS (EPA 3550B/EPA 8270C)** **Aliquot ID: 42026-004A** **Matrix: Soil/Solid** **Analyst: TMC**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 1. Acenaphthene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 2. Acenaphthylene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 3. Aniline | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 4. Anthracene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 5. Azobenzene (NN) | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 6. Benzo(a)anthracene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 7. Benzo(a)pyrene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 8. Benzo(b)fluoranthene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 9. Benzo(ghi)perylene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 10. Benzo(k)fluoranthene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 11. Benzyl Alcohol | U | | µg/kg | 3300 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 12. Bis(2-chloroethoxy)methane | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 13. Bis(2-chloroethyl)ether (NN) | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 14. Bis(2-chloroisopropyl) Ether | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 15. Bis(2-ethylhexyl)phthalate (NN) | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 16. 4-Bromophenyl Phenylether (NN) | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 17. Butyl Benzyl Phthalate | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 18. Carbazole | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 19. 4-Chloro-3-methylphenol | U | | µg/kg | 280 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 20. 2-Chloronaphthalene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 21. 2-Chlorophenol | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |

| | | | | | |
|---|---|---|---|---|---|
| Client Identification: | **Soil and Materials Engineers, Inc. - Kalamazoo** | Sample Description: | **B104 0"-26"** | Chain of Custody: | **102684** |
| Client Project Name: | **M-222 Slope Evaluation** | Sample No: | **4** | Collect Date: | **11/10/10** |
| Client Project No: | **KG59756** | Sample Matrix: | **Soil/Solid** | Collect Time: | **10:20** |

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

**Base/Neutral/Acid Semivolatiles by GC/MS (EPA 3550B/EPA 8270C)** **Aliquot ID: 42026-004A** **Matrix: Soil/Solid** **Analyst: TMC**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 22. 4-Chlorophenyl Phenylether | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 23. Chrysene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 24. Dibenzo(a,h)anthracene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 25. Dibenzofuran | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 26. 2,4-Dichlorophenol | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 27. Diethyl Phthalate | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 28. Dimethyl Phthalate | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 29. 2,4-Dimethylphenol | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 30. Di-n-butyl Phthalate | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 31. 2,4-Dinitrophenol | U | | µg/kg | 1200 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 32. 2,4-Dinitrotoluene (NN) | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 33. 2,6-Dinitrotoluene (NN) | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 34. Di-n-octyl Phthalate | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 35. Fluoranthene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 36. Fluorene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 37. Hexachlorobenzene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 38. Hexachlorobutadiene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 39. Hexachlorocyclopentadiene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 40. Indeno(1,2,3-cd)pyrene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 41. Isophorone | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 42. 2-Methyl-4,6-dinitrophenol (NN) | U | | µg/kg | 830 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 43. 2-Methylnaphthalene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 44. 2-Methylphenol (NN) | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 45. 3&4-Methylphenol (NN) | U | | µg/kg | 660 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 46. Naphthalene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 47. 2-Nitroaniline | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 48. 3-Nitroaniline | U | | µg/kg | 830 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 49. 4-Nitroaniline | U | | µg/kg | 830 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 50. Nitrobenzene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 51. 2-Nitrophenol | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 52. 4-Nitrophenol | U | | µg/kg | 830 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 53. N-Nitrosodimethylamine | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 54. N-Nitrosodi-n-propylamine | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 55. N-Nitrosodiphenylamine | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 56. Pentachlorophenol | U | | µg/kg | 800 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 57. Phenanthrene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 58. Phenol | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 59. Pyrene | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 60. Pyridine | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |
| 61. 2,4,5-Trichlorophenol | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |

| | | | | | |
|---|---|---|---|---|---|
| Client Identification: | **Soil and Materials Engineers, Inc. - Kalamazoo** | Sample Description: | **B104 0"-26"** | Chain of Custody: | **102684** |
| Client Project Name: | **M-222 Slope Evaluation** | Sample No: | **4** | Collect Date: | **11/10/10** |
| Client Project No: | **KG59756** | Sample Matrix: | **Soil/Solid** | Collect Time: | **10:20** |

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

**Base/Neutral/Acid Semivolatiles by GC/MS (EPA 3550B/EPA 8270C)** **Aliquot ID: 42026-004A** **Matrix: Soil/Solid** **Analyst: TMC**

| Parameter(s) | Result | Q | Units | Reporting Limit | Dilution | Prep Date | Prep Batch | Analysis Date | Analysis Batch |
|---|---|---|---|---|---|---|---|---|---|
| 62 2,4,6-Trichlorophenol | U | | µg/kg | 330 | 1.0 | 11/16/10 | PS10K16E | 11/16/10 | S310K16A |

**Definitions/ Qualifiers:**

**A:** Spike recovery or precision unusable due to dilution.
**B:** The analyte was detected in the associated method blank.
**E:** The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
**J:** The concentration is an estimated value.
**U:** The analyte was not detected at or above the reporting limit.
**X:** Matrix Interference has resulted in a raised reporting limit or distorted result.
**W:** Results reported on a wet-weight basis.
***:** Value reported is outside QA limits

**Exception Summary:**

ACCREDITED IN ACCORDANCE WITH nelac

Accreditation Number:

**100312**