



LABORATORY ANALYTICAL REPORT

Client: AMPP
 Project: Tongue River Monitoring
 Lab ID: H03100135-001
 Client Sample ID: T2/YBA-1-(0-15)

Report Date: 02/03/04
 Collection Date: 10/20/03 17:00
 Date Received: 10/27/03
 Matrix: Soil

| Analyses | Result | Units | Qual | MCL/ | | Method | Analysis Date / By |
|---|--------|----------|------|------|-----|-----------------|----------------------|
| | | | | RL | QCL | | |
| SATURATED PASTE | | | | | | | |
| pH, Saturated Paste | 7.7 | s.u. | | 0.1 | | ASAM10-3.2 | 12/09/03 08:48 / jdh |
| Conductivity, Paste Extract | 0.83 | mmhos/cm | | 0.01 | | ASAM10-3 | 12/09/03 08:48 / jdh |
| Saturation | 57.0 | wt% | | 0.1 | | USDA27a | 12/09/03 08:48 / jdh |
| Calcium, Saturated Paste | 3.2 | meq/l | | 0.1 | | SW6010B | 11/17/03 11:38 / jdh |
| Magnesium, Saturated Paste | 1.4 | meq/l | | 0.1 | | SW6010B | 11/17/03 11:38 / jdh |
| Sodium, Saturated Paste | 2.5 | meq/l | | 0.1 | | SW6010B | 11/17/03 11:38 / jdh |
| Sodium Adsorption Ratio (SAR) | 1.6 | unitless | | 0.1 | | Calculation | 12/09/03 08:48 / jdh |
| Alkalinity, Saturated Paste | 5.2 | meq/L | | 1.0 | | ASA10-3 | 11/25/03 00:00 / jdh |
| Nitrate as N, Saturated Paste | 3.0 | mg/L | | 0.1 | | ASA10-3 | 12/08/03 16:04 / cwh |
| Sulfate, Saturated Paste | 2.5 | meq/L | | 0.2 | | ASA10-3 | 11/18/03 12:58 / jdh |
| PHYSICAL CHARACTERISTICS | | | | | | | |
| Sand | 16 | wt% | | 1.0 | | ASA15-5 | 12/09/03 08:48 / jdh |
| Silt | 60 | wt% | | 1.0 | | ASA15-5 | 12/09/03 08:48 / jdh |
| Clay | 24 | wt% | | 1.0 | | ASA15-5 | 12/09/03 08:48 / jdh |
| Texture | SiL | unitless | | | | ASA15-5 | 12/09/03 08:48 / jdh |
| CHEMICAL CHARACTERISTICS | | | | | | | |
| Potassium, NH4OAc Extractable | 170 | mg/kg | | 1 | | AAA13-3 | 01/15/04 00:00 / jdh |
| Organic Matter | 2.00 | wt% | | 0.02 | | ASA29-3 | 12/09/03 08:48 / jdh |
| Cation Exchange Capacity | 33.3 | meq/100g | | 0.1 | | SW6010B | 11/17/03 01:20 / jdh |
| Exchangeable Sodium Percentage | 2.2 | % | | 0.1 | | USDA20b | 12/09/03 08:48 / jdh |
| Lime as CaCO3 | 7.0 | wt% | | 0.1 | | USDA23c | 11/13/03 00:00 / nh |
| Phosphorus | 10 | mg/kg | | 0.1 | | ASA24-5 | 11/18/03 09:07 / jdh |
| METALS, AMMONIUM ACETATE EXTRACTABLE | | | | | | | |
| Sodium, Extractable | 0.9 | meq/100g | | 0.1 | | SW6010B | 11/24/03 03:45 / jdh |
| METALS, DTPA EXTRACTABLE | | | | | | | |
| Zinc | 0.57 | mg/kg | | 0.02 | | SW6010B | 11/25/03 12:34 / jdh |
| CLAY MINEROLOGY | | | | | | | |
| Smectite | 54 | % | | 1 | | XrayDiffraction | 11/07/03 00:00 / wjj |
| Illite | 22 | % | | 1 | | XrayDiffraction | 11/07/03 00:00 / wjj |
| Kaolinite | 23 | % | | 1 | | XrayDiffraction | 11/07/03 00:00 / wjj |
| Chlorite | 2 | % | | 1 | | XrayDiffraction | 11/07/03 00:00 / wjj |

Report RL - Analyte reporting limit.
 Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
 ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: AMPP
 Project: Tongue River Monitoring
 Lab ID: H03100135-002
 Client Sample ID: T2/YBA-1-(15-22)

Report Date: 02/03/04
 Collection Date: 10/20/03 17:00
 Date Received: 10/27/03
 Matrix: Soil

| Analyses | Result | Units | Qual | MCL/ | | Method | Analysis Date / By |
|---|--------|----------|------|------|-----|-----------------|----------------------|
| | | | | RL | QCL | | |
| SATURATED PASTE | | | | | | | |
| pH, Saturated Paste | 7.9 | s.u. | | 0.1 | | ASAM10-3.2 | 12/09/03 08:48 / jdh |
| Conductivity, Paste Extract | 1.28 | mmhos/cm | | 0.01 | | ASAM10-3 | 12/09/03 08:48 / jdh |
| Saturation | 56.4 | wt% | | 0.1 | | USDA27a | 12/09/03 08:48 / jdh |
| Calcium, Saturated Paste | 3.4 | meq/l | | 0.1 | | SW6010B | 11/17/03 11:40 / jdh |
| Magnesium, Saturated Paste | 3.4 | meq/l | | 0.1 | | SW6010B | 11/17/03 11:40 / jdh |
| Sodium, Saturated Paste | 4.7 | meq/l | | 0.1 | | SW6010B | 11/17/03 11:40 / jdh |
| Sodium Adsorption Ratio (SAR) | 2.6 | unitless | | 0.1 | | Calculation | 12/09/03 08:48 / jdh |
| Alkalinity, Saturated Paste | 3.6 | meq/L | | 1.0 | | ASA10-3 | 11/25/03 00:00 / jdh |
| Nitrate as N, Saturated Paste | 5.0 | mg/L | | 0.2 | | ASA10-3 | 12/08/03 16:06 / cwh |
| Sulfate, Saturated Paste | 7.0 | meq/L | | 0.2 | | ASA10-3 | 11/18/03 01:07 / jdh |
| PHYSICAL CHARACTERISTICS | | | | | | | |
| Sand | 4.0 | wt% | | 1.0 | | ASA15-5 | 12/09/03 08:48 / jdh |
| Silt | 72 | wt% | | 1.0 | | ASA15-5 | 12/09/03 08:48 / jdh |
| Clay | 24 | wt% | | 1.0 | | ASA15-5 | 12/09/03 08:48 / jdh |
| Texture | SiL | unitless | | | | ASA15-5 | 12/09/03 08:48 / jdh |
| CHEMICAL CHARACTERISTICS | | | | | | | |
| Cation Exchange Capacity | 30.8 | meq/100g | | 0.1 | | SW6010B | 11/17/03 01:22 / jdh |
| Exchangeable Sodium Percentage | 3.3 | % | | 0.1 | | USDA20b | 12/09/03 08:48 / jdh |
| Lime as CaCO3 | 9.8 | wt% | | 0.1 | | USDA23c | 11/13/03 00:00 / nh |
| METALS, AMMONIUM ACETATE EXTRACTABLE | | | | | | | |
| Sodium, Extractable | 1.3 | meq/100g | | 0.1 | | SW6010B | 11/24/03 03:48 / jdh |
| CLAY MINEROLOGY | | | | | | | |
| Smectite | 54 | % | | 1 | | XrayDiffraction | 11/07/03 00:00 / wjj |
| Illite | 22 | % | | 1 | | XrayDiffraction | 11/07/03 00:00 / wjj |
| Kaolinite | 19 | % | | 1 | | XrayDiffraction | 11/07/03 00:00 / wjj |
| Chlorite | 4 | % | | 1 | | XrayDiffraction | 11/07/03 00:00 / wjj |

Report Definitions: RL - Analyte reporting limit.
 QCL - Quality control limit.

MCL - Maximum contaminant level.
 ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring
Lab ID: H03100135-003
Client Sample ID: T2/YBA-1-(22-41)

Report Date: 02/03/04
Collection Date: 10/20/03 17:00
Date Received: 10/27/03
Matrix: Soil

| Analyses | Result | Units | Qual | MCL/ | | Method | Analysis Date / By |
|---|--------|----------|------|------|-----|-------------|----------------------|
| | | | | RL | QCL | | |
| SATURATED PASTE | | | | | | | |
| pH, Saturated Paste | 8.0 | s.u. | | 0.1 | | ASAM10-3.2 | 12/09/03 08:48 / jdh |
| Conductivity, Paste Extract | 1.59 | mmhos/cm | | 0.01 | | ASAM10-3 | 12/09/03 08:48 / jdh |
| Saturation | 51.2 | wt% | | 0.1 | | USDA27a | 12/09/03 08:48 / jdh |
| Calcium, Saturated Paste | 3.2 | meq/l | | 0.1 | | SW6010B | 11/17/03 11:43 / jdh |
| Magnesium, Saturated Paste | 4.0 | meq/l | | 0.1 | | SW6010B | 11/17/03 11:43 / jdh |
| Sodium, Saturated Paste | 7.6 | meq/l | | 0.1 | | SW6010B | 11/17/03 11:43 / jdh |
| Sodium Adsorption Ratio (SAR) | 4.0 | unitless | | 0.1 | | Calculation | 12/09/03 08:48 / jdh |
| Alkalinity, Saturated Paste | 3.3 | meq/L | | 1.0 | | ASA10-3 | 11/25/03 00:00 / jdh |
| Nitrate as N, Saturated Paste | 5.1 | mg/L | | 0.1 | | ASA10-3 | 12/08/03 16:08 / cwh |
| Sulfate, Saturated Paste | 11.4 | meq/L | | 0.2 | | ASA10-3 | 11/18/03 01:10 / jdh |
| PHYSICAL CHARACTERISTICS | | | | | | | |
| Sand | 16 | wt% | | 1.0 | | ASA15-5 | 12/09/03 08:48 / jdh |
| Silt | 66 | wt% | | 1.0 | | ASA15-5 | 12/09/03 08:48 / jdh |
| Clay | 18 | wt% | | 1.0 | | ASA15-5 | 12/09/03 08:48 / jdh |
| Texture | SiL | unitless | | | | ASA15-5 | 12/09/03 08:48 / jdh |
| CHEMICAL CHARACTERISTICS | | | | | | | |
| Cation Exchange Capacity | 24.6 | meq/100g | | 0.1 | | SW6010B | 11/17/03 01:25 / jdh |
| Exchangeable Sodium Percentage | 5.0 | % | | 0.1 | | USDA20b | 12/09/03 08:48 / jdh |
| Lime as CaCO3 | 7.5 | wt% | | 0.1 | | USDA23c | 11/13/03 00:00 / nh |
| METALS, AMMONIUM ACETATE EXTRACTABLE | | | | | | | |
| Sodium, Extractable | 1.6 | meq/100g | | 0.1 | | SW6010B | 11/24/03 03:50 / jdh |

Report Definitions: RL - Analyte reporting limit.
 QCL - Quality control limit.

MCL - Maximum contaminant level.
 ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring
Lab ID: H03100135-004
Client Sample ID: T2/YBA-1-(41-60)

Report Date: 02/03/04
Collection Date: 10/20/03 17:00
Date Received: 10/27/03
Matrix: Soil

| Analyses | Result | Units | Qual | MCL/ | | Method | Analysis Date / By |
|---|--------|----------|------|------|-----|-------------|----------------------|
| | | | | RL | QCL | | |
| SATURATED PASTE | | | | | | | |
| pH, Saturated Paste | 8.0 | s.u. | | 0.1 | | ASAM10-3.2 | 12/09/03 08:48 / jdh |
| Conductivity, Paste Extract | 3.16 | mmhos/cm | | 0.01 | | ASAM10-3 | 12/09/03 08:48 / jdh |
| Saturation | 62.0 | wt% | | 0.1 | | USDA27a | 12/09/03 08:48 / jdh |
| Calcium, Saturated Paste | 5.5 | meq/l | | 0.1 | | SW6010B | 11/17/03 11:45 / jdh |
| Magnesium, Saturated Paste | 9.1 | meq/l | | 0.1 | | SW6010B | 11/17/03 11:45 / jdh |
| Sodium, Saturated Paste | 14.0 | meq/l | | 0.1 | | SW6010B | 11/17/03 11:45 / jdh |
| Sodium Adsorption Ratio (SAR) | 5.2 | unitless | | 0.1 | | Calculation | 12/09/03 08:48 / jdh |
| Alkalinity, Saturated Paste | 2.8 | meq/L | | 1.0 | | ASA10-3 | 11/25/03 00:00 / jdh |
| PHYSICAL CHARACTERISTICS | | | | | | | |
| Sand | 14 | wt% | | 1.0 | | ASA15-5 | 12/09/03 08:48 / jdh |
| Silt | 57 | wt% | | 1.0 | | ASA15-5 | 12/09/03 08:48 / jdh |
| Clay | 29 | wt% | | 1.0 | | ASA15-5 | 12/09/03 08:48 / jdh |
| Texture | SiCL | unitless | | | | ASA15-5 | 12/09/03 08:48 / jdh |
| CHEMICAL CHARACTERISTICS | | | | | | | |
| Cation Exchange Capacity | 33.6 | meq/100g | | 0.1 | | SW6010B | 11/17/03 01:28 / jdh |
| Exchangeable Sodium Percentage | 6.2 | % | | 0.1 | | USDA20b | 12/09/03 08:48 / jdh |
| Lime as CaCO3 | 6.1 | wt% | | 0.1 | | USDA23c | 11/13/03 00:00 / nh |
| METALS, AMMONIUM ACETATE EXTRACTABLE | | | | | | | |
| Sodium, Extractable | 2.9 | meq/100g | | 0.1 | | SW6010B | 11/24/03 03:53 / jdh |

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
 ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring
Lab ID: H03100135-009
Client Sample ID: T2/YBA-10-(0-2)

Report Date: 02/03/04
Collection Date: 10/20/03 17:00
Date Received: 10/27/03
Matrix: Soil

| Analyses | Result | Units | Qual | MCL/ | | Method | Analysis Date / By |
|---|--------|----------|------|------|-----|-------------|----------------------|
| | | | | RL | QCL | | |
| SATURATED PASTE | | | | | | | |
| pH, Saturated Paste | 7.4 | s.u. | | 0.1 | | ASAM10-3.2 | 12/09/03 08:48 / jdh |
| Conductivity, Paste Extract | 1.71 | mmhos/cm | | 0.01 | | ASAM10-3 | 12/09/03 08:48 / jdh |
| Saturation | 58.1 | wt% | | 0.1 | | USDA27a | 12/09/03 08:48 / jdh |
| Calcium, Saturated Paste | 9.6 | meq/l | | 0.1 | | SW6010B | 11/17/03 11:48 / jdh |
| Magnesium, Saturated Paste | 3.3 | meq/l | | 0.1 | | SW6010B | 11/17/03 11:48 / jdh |
| Sodium, Saturated Paste | 3.7 | meq/l | | 0.1 | | SW6010B | 11/17/03 11:48 / jdh |
| Sodium Adsorption Ratio (SAR) | 1.5 | unitless | | 0.1 | | Calculation | 12/09/03 08:48 / jdh |
| Alkalinity, Saturated Paste | 9.6 | meq/L | | 1.0 | | ASA10-3 | 11/25/03 00:00 / jdh |
| PHYSICAL CHARACTERISTICS | | | | | | | |
| Sand | 13 | wt% | | 1.0 | | ASA15-5 | 12/09/03 08:48 / jdh |
| Silt | 64 | wt% | | 1.0 | | ASA15-5 | 12/09/03 08:48 / jdh |
| Clay | 23 | wt% | | 1.0 | | ASA15-5 | 12/09/03 08:48 / jdh |
| Texture | SiL | unitless | | | | ASA15-5 | 12/09/03 08:48 / jdh |
| CHEMICAL CHARACTERISTICS | | | | | | | |
| Cation Exchange Capacity | 30.7 | meq/100g | | 0.1 | | SW6010B | 11/17/03 01:30 / jdh |
| Exchangeable Sodium Percentage | 2.3 | % | | 0.1 | | USDA20b | 12/09/03 08:48 / jdh |
| Lime as CaCO3 | 6.9 | wt% | | 0.1 | | USDA23c | 11/13/03 00:00 / nh |
| METALS, AMMONIUM ACETATE EXTRACTABLE | | | | | | | |
| Sodium, Extractable | 0.9 | meq/100g | | 0.1 | | SW6010B | 11/24/03 03:55 / jdh |

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: AMPP
 Project: Tongue River Monitoring
 Lab ID: H03100135-010
 Client Sample ID: T2/YBA-10-(0-6)

Report Date: 02/03/04
 Collection Date: 10/20/03 17:00
 Date Received: 10/27/03
 Matrix: Soil

| Analyses | Result | Units | Qual | MCL/ | | Method | Analysis Date / By |
|---|--------|----------|------|------|-----|-------------|----------------------|
| | | | | RL | QCL | | |
| SATURATED PASTE | | | | | | | |
| pH, Saturated Paste | 7.6 | s.u. | | 0.1 | | ASAM10-3.2 | 12/09/03 08:48 / jdh |
| Conductivity, Paste Extract | 1.19 | mmhos/cm | | 0.01 | | ASAM10-3 | 12/09/03 08:48 / jdh |
| Saturation | 58.4 | wt% | | 0.1 | | USDA27a | 12/09/03 08:48 / jdh |
| Calcium, Saturated Paste | 4.8 | meq/l | | 0.1 | | SW6010B | 11/17/03 11:51 / jdh |
| Magnesium, Saturated Paste | 2.1 | meq/l | | 0.1 | | SW6010B | 11/17/03 11:51 / jdh |
| Sodium, Saturated Paste | 3.0 | meq/l | | 0.1 | | SW6010B | 11/17/03 11:51 / jdh |
| Sodium Adsorption Ratio (SAR) | 1.6 | unitless | | 0.1 | | Calculation | 12/09/03 08:48 / jdh |
| Alkalinity, Saturated Paste | 5.2 | meq/L | | 1.0 | | ASA10-3 | 11/25/03 00:00 / jdh |
| Nitrate as N, Saturated Paste | 14.8 | mg/L | | 0.2 | | ASA10-3 | 12/08/03 16:10 / cwh |
| Sulfate, Saturated Paste | 3.2 | meq/L | | 0.2 | | ASA10-3 | 11/18/03 01:13 / jdh |
| PHYSICAL CHARACTERISTICS | | | | | | | |
| Sand | 16 | wt% | | 1.0 | | ASA15-5 | 12/09/03 08:48 / jdh |
| Silt | 59 | wt% | | 1.0 | | ASA15-5 | 12/09/03 08:48 / jdh |
| Clay | 25 | wt% | | 1.0 | | ASA15-5 | 12/09/03 08:48 / jdh |
| Texture | SiL | unitless | | | | ASA15-5 | 12/09/03 08:48 / jdh |
| CHEMICAL CHARACTERISTICS | | | | | | | |
| Fluoride | ND | mg/kg | | 1.0 | | A4500-F C | 11/19/03 14:45 / ddb |
| Potassium, NH4OAc Extractable | 211 | mg/kg | | 1 | | AAA13-3 | 01/15/04 00:00 / jdh |
| Organic Matter | 2.20 | wt% | | 0.02 | | ASA29-3 | 12/09/03 08:48 / jdh |
| Cation Exchange Capacity | 32.9 | meq/100g | | 0.1 | | SW6010B | 11/17/03 01:33 / jdh |
| Exchangeable Sodium Percentage | 2.3 | % | | 0.1 | | USDA20b | 12/09/03 08:48 / jdh |
| Lime as CaCO3 | 6.7 | wt% | | 0.1 | | USDA23c | 11/13/03 00:00 / nh |
| Phosphorus | 15 | mg/kg | | 0.1 | | ASA24-5 | 11/18/03 09:16 / jdh |
| METALS, AMMONIUM ACETATE EXTRACTABLE | | | | | | | |
| Sodium, Extractable | 0.9 | meq/100g | | 0.1 | | SW6010B | 11/24/03 04:03 / jdh |
| METALS, HOT WATER EXTRACTABLE | | | | | | | |
| Barium | ND | mg/kg | | 5 | | SW6010B | 11/24/03 15:55 / rjh |
| Boron | ND | mg/kg | | 1 | | SW6010B | 11/24/03 15:55 / rjh |
| Selenium | ND | mg/kg | | 0.05 | | SW6020 | 11/20/03 10:19 / car |
| METALS, DTPA EXTRACTABLE | | | | | | | |
| Zinc | 0.58 | mg/kg | | 0.02 | | SW6010B | 11/25/03 12:37 / jdh |

Report RL - Analyte reporting limit.
 Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
 ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: AMPP
 Project: Tongue River Monitoring
 Lab ID: H03100135-011
 Client Sample ID: T2/YBA-10-(6-12)

Report Date: 02/03/04
 Collection Date: 10/20/03 17:00
 Date Received: 10/27/03
 Matrix: Soil

| Analyses | Result | Units | Qual | MCL/ | | Method | Analysis Date / By |
|---|--------|----------|------|------|-----|-------------|----------------------|
| | | | | RL | QCL | | |
| SATURATED PASTE | | | | | | | |
| pH, Saturated Paste | 7.7 | s.u. | | 0.1 | | ASAM10-3.2 | 12/09/03 08:48 / jdh |
| Conductivity, Paste Extract | 1.30 | mmhos/cm | | 0.01 | | ASAM10-3 | 12/09/03 08:48 / jdh |
| Saturation | 58.4 | wt% | | 0.1 | | USDA27a | 12/09/03 08:48 / jdh |
| Calcium, Saturated Paste | 5.4 | meq/l | | 0.1 | | SW6010B | 11/17/03 11:56 / jdh |
| Magnesium, Saturated Paste | 2.9 | meq/l | | 0.1 | | SW6010B | 11/17/03 11:56 / jdh |
| Sodium, Saturated Paste | 3.4 | meq/l | | 0.1 | | SW6010B | 11/17/03 11:56 / jdh |
| Sodium Adsorption Ratio (SAR) | 1.7 | unitless | | 0.1 | | Calculation | 12/09/03 08:48 / jdh |
| Alkalinity, Saturated Paste | 4.4 | meq/L | | 1.0 | | ASA10-3 | 11/25/03 00:00 / jdh |
| Nitrate as N, Saturated Paste | 19.8 | mg/L | | 0.6 | | ASA10-3 | 12/08/03 16:14 / cwh |
| Sulfate, Saturated Paste | 6.9 | meq/L | | 0.2 | | ASA10-3 | 11/18/03 01:19 / jdh |
| PHYSICAL CHARACTERISTICS | | | | | | | |
| Sand | 16 | wt% | | 1.0 | | ASA15-5 | 12/09/03 08:48 / jdh |
| Silt | 60 | wt% | | 1.0 | | ASA15-5 | 12/09/03 08:48 / jdh |
| Clay | 24 | wt% | | 1.0 | | ASA15-5 | 12/09/03 08:48 / jdh |
| Texture | SiL | unitless | | | | ASA15-5 | 12/09/03 08:48 / jdh |
| CHEMICAL CHARACTERISTICS | | | | | | | |
| Cation Exchange Capacity | 30.6 | meq/100g | | 0.1 | | SW6010B | 11/17/03 01:38 / jdh |
| Exchangeable Sodium Percentage | 2.3 | % | | 0.1 | | USDA20b | 12/09/03 08:48 / jdh |
| Lime as CaCO3 | 7.0 | wt% | | 0.1 | | USDA23c | 11/13/03 00:00 / nh |
| METALS, AMMONIUM ACETATE EXTRACTABLE | | | | | | | |
| Sodium, Extractable | 0.9 | meq/100g | | 0.1 | | SW6010B | 11/24/03 04:09 / jdh |

Report Definitions: RL - Analyte reporting limit.
 QCL - Quality control limit.

MCL - Maximum contaminant level.
 ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring
Lab ID: H03100135-012
Client Sample ID: T2/YBA-10-(12-24)

Report Date: 02/03/04
Collection Date: 10/20/03 17:00
Date Received: 10/27/03
Matrix: Soil

| Analyses | Result | Units | Qual | MCL/ | | Method | Analysis Date / By |
|---|--------|----------|------|------|-----|-------------|----------------------|
| | | | | RL | QCL | | |
| SATURATED PASTE | | | | | | | |
| pH, Saturated Paste | 7.8 | s.u. | | 0.1 | | ASAM10-3.2 | 12/09/03 08:48 / jdh |
| Conductivity, Paste Extract | 1.83 | mmhos/cm | | 0.01 | | ASAM10-3 | 12/09/03 08:48 / jdh |
| Saturation | 55.5 | wt% | | 0.1 | | USDA27a | 12/09/03 08:48 / jdh |
| Calcium, Saturated Paste | 5.9 | meq/l | | 0.1 | | SW6010B | 11/17/03 11:58 / jdh |
| Magnesium, Saturated Paste | 3.5 | meq/l | | 0.1 | | SW6010B | 11/17/03 11:58 / jdh |
| Sodium, Saturated Paste | 8.0 | meq/l | | 0.1 | | SW6010B | 11/17/03 11:58 / jdh |
| Sodium Adsorption Ratio (SAR) | 3.7 | unitless | | 0.1 | | Calculation | 12/09/03 08:48 / jdh |
| Alkalinity, Saturated Paste | 4.4 | meq/L | | 1.0 | | ASA10-3 | 11/25/03 00:00 / jdh |
| Nitrate as N, Saturated Paste | 10.8 | mg/L | | 0.6 | | ASA10-3 | 12/08/03 16:16 / cwh |
| Sulfate, Saturated Paste | 12.0 | meq/L | | 0.2 | | ASA10-3 | 11/18/03 01:21 / jdh |
| PHYSICAL CHARACTERISTICS | | | | | | | |
| Sand | 10 | wt% | | 1.0 | | ASA15-5 | 12/09/03 08:48 / jdh |
| Silt | 56 | wt% | | 1.0 | | ASA15-5 | 12/09/03 08:48 / jdh |
| Clay | 34 | wt% | | 1.0 | | ASA15-5 | 12/09/03 08:48 / jdh |
| Texture | SiCl | unitless | | | | ASA15-5 | 12/09/03 08:48 / jdh |
| CHEMICAL CHARACTERISTICS | | | | | | | |
| Cation Exchange Capacity | 35.0 | meq/100g | | 0.1 | | SW6010B | 11/17/03 01:41 / jdh |
| Exchangeable Sodium Percentage | 7.3 | % | | 0.1 | | USDA20b | 12/09/03 08:48 / jdh |
| Lime as CaCO3 | 6.7 | wt% | | 0.1 | | USDA23c | 11/13/03 00:00 / nh |
| METALS, AMMONIUM ACETATE EXTRACTABLE | | | | | | | |
| Sodium, Extractable | 3.0 | meq/100g | | 0.1 | | SW6010B | 11/24/03 04:11 / jdh |

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring
Lab ID: H03100135-013
Client Sample ID: T2/YBA-10-(24-36)

Report Date: 02/03/04
Collection Date: 10/20/03 17:00
Date Received: 10/27/03
Matrix: Soil

| Analyses | Result | Units | Qual | MCL/ | | Method | Analysis Date / By |
|---|--------|----------|------|------|-----|-------------|----------------------|
| | | | | RL | QCL | | |
| SATURATED PASTE | | | | | | | |
| pH, Saturated Paste | 7.8 | s.u. | | 0.1 | | ASAM10-3.2 | 12/09/03 08:48 / jdh |
| Conductivity, Paste Extract | 1.78 | mmhos/cm | | 0.01 | | ASAM10-3 | 12/09/03 08:48 / jdh |
| Saturation | 65.5 | wt% | | 0.1 | | USDA27a | 12/09/03 08:48 / jdh |
| Calcium, Saturated Paste | 4.7 | meq/l | | 0.1 | | SW6010B | 11/17/03 12:01 / jdh |
| Magnesium, Saturated Paste | 3.1 | meq/l | | 0.1 | | SW6010B | 11/17/03 12:01 / jdh |
| Sodium, Saturated Paste | 9.0 | meq/l | | 0.1 | | SW6010B | 11/17/03 12:01 / jdh |
| Sodium Adsorption Ratio (SAR) | 4.5 | unitless | | 0.1 | | Calculation | 12/09/03 08:48 / jdh |
| Alkalinity, Saturated Paste | 4.0 | meq/L | | 1.0 | | ASA10-3 | 11/25/03 00:00 / jdh |
| PHYSICAL CHARACTERISTICS | | | | | | | |
| Sand | 23 | wt% | | 1.0 | | ASA15-5 | 12/09/03 08:48 / jdh |
| Silt | 55 | wt% | | 1.0 | | ASA15-5 | 12/09/03 08:48 / jdh |
| Clay | 22 | wt% | | 1.0 | | ASA15-5 | 12/09/03 08:48 / jdh |
| Texture | SiL | unitless | | | | ASA15-5 | 12/09/03 08:48 / jdh |
| CHEMICAL CHARACTERISTICS | | | | | | | |
| Cation Exchange Capacity | 28.5 | meq/100g | | 0.1 | | SW6010B | 11/17/03 01:43 / jdh |
| Exchangeable Sodium Percentage | 3.9 | % | | 0.1 | | USDA20b | 12/09/03 08:48 / jdh |
| Lime as CaCO3 | 7.3 | wt% | | 0.1 | | USDA23c | 11/13/03 00:00 / nh |
| METALS, AMMONIUM ACETATE EXTRACTABLE | | | | | | | |
| Sodium, Extractable | 1.7 | meq/100g | | 0.1 | | SW6010B | 11/24/03 04:14 / jdh |

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
 ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring
Lab ID: H03100135-014
Client Sample ID: T2/YBA-10-(36-60)

Report Date: 02/03/04
Collection Date: 10/20/03 17:00
Date Received: 10/27/03
Matrix: Soil

| Analyses | Result | Units | Qual | MCL/ | | Method | Analysis Date / By |
|---|--------|----------|------|------|-----|-------------|----------------------|
| | | | | RL | QCL | | |
| SATURATED PASTE | | | | | | | |
| pH, Saturated Paste | 7.9 | s.u. | | 0.1 | | ASAM10-3.2 | 12/09/03 08:48 / jdh |
| Conductivity, Paste Extract | 2.42 | mmhos/cm | | 0.01 | | ASAM10-3 | 12/09/03 08:48 / jdh |
| Saturation | 54.5 | wt% | | 0.1 | | USDA27a | 12/09/03 08:48 / jdh |
| Calcium, Saturated Paste | 5.2 | meq/l | | 0.1 | | SW6010B | 11/17/03 12:09 / jdh |
| Magnesium, Saturated Paste | 3.5 | meq/l | | 0.1 | | SW6010B | 11/17/03 12:09 / jdh |
| Sodium, Saturated Paste | 15.5 | meq/l | | 0.1 | | SW6010B | 11/17/03 12:09 / jdh |
| Sodium Adsorption Ratio (SAR) | 7.4 | unitless | | 0.1 | | Calculation | 12/09/03 08:48 / jdh |
| Alkalinity, Saturated Paste | 4.0 | meq/L | | 1.0 | | ASA10-3 | 11/25/03 00:00 / jdh |
| PHYSICAL CHARACTERISTICS | | | | | | | |
| Sand | 18 | wt% | | 1.0 | | ASA15-5 | 12/09/03 08:48 / jdh |
| Silt | 56 | wt% | | 1.0 | | ASA15-5 | 12/09/03 08:48 / jdh |
| Clay | 26 | wt% | | 1.0 | | ASA15-5 | 12/09/03 08:48 / jdh |
| Texture | SiL | unitless | | | | ASA15-5 | 12/09/03 08:48 / jdh |
| CHEMICAL CHARACTERISTICS | | | | | | | |
| Fluoride | ND | mg/kg | | 1.0 | | A4500-F C | 11/19/03 14:45 / ddb |
| Cation Exchange Capacity | 30.7 | meq/100g | | 0.1 | | SW6010B | 11/17/03 01:46 / jdh |
| Exchangeable Sodium Percentage | 5.9 | % | | 0.1 | | USDA20b | 12/09/03 08:48 / jdh |
| Lime as CaCO3 | 6.7 | wt% | | 0.1 | | USDA23c | 11/13/03 00:00 / nh |
| METALS, AMMONIUM ACETATE EXTRACTABLE | | | | | | | |
| Sodium, Extractable | 2.7 | meq/100g | | 0.1 | | SW6010B | 11/24/03 04:17 / jdh |
| METALS, HOT WATER EXTRACTABLE | | | | | | | |
| Barium | ND | mg/kg | | 5 | | SW6010B | 11/24/03 16:03 / rjh |
| Boron | ND | mg/kg | | 1 | | SW6010B | 11/24/03 16:03 / rjh |
| Selenium | ND | mg/kg | | 0.05 | | SW6020 | 11/20/03 10:29 / car |

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring
Lab ID: H03100135-015
Client Sample ID: T2/YBA-10-(60-96)

Report Date: 02/03/04
Collection Date: 10/20/03 17:00
Date Received: 10/27/03
Matrix: Soil

| Analyses | Result | Units | Qual | MCL/ | | Method | Analysis Date / By |
|---|--------|----------|------|------|-----|-------------|----------------------|
| | | | | RL | QCL | | |
| SATURATED PASTE | | | | | | | |
| pH, Saturated Paste | 8.2 | s.u. | | 0.1 | | ASAM10-3.2 | 12/09/03 08:48 / jdh |
| Conductivity, Paste Extract | 2.00 | mmhos/cm | | 0.01 | | ASAM10-3 | 12/09/03 08:48 / jdh |
| Saturation | 69.2 | wt% | | 0.1 | | USDA27a | 12/09/03 08:48 / jdh |
| Calcium, Saturated Paste | 1.7 | meq/l | | 0.1 | | SW6010B | 11/17/03 12:12 / jdh |
| Magnesium, Saturated Paste | 1.2 | meq/l | | 0.1 | | SW6010B | 11/17/03 12:12 / jdh |
| Sodium, Saturated Paste | 15.2 | meq/l | | 0.1 | | SW6010B | 11/17/03 12:12 / jdh |
| Sodium Adsorption Ratio (SAR) | 13 | unitless | | 0.1 | | Calculation | 12/09/03 08:48 / jdh |
| Alkalinity, Saturated Paste | 4.4 | meq/L | | 1.0 | | ASA10-3 | 11/25/03 00:00 / jdh |
| PHYSICAL CHARACTERISTICS | | | | | | | |
| Sand | 14 | wt% | | 1.0 | | ASA15-5 | 12/09/03 08:48 / jdh |
| Silt | 58 | wt% | | 1.0 | | ASA15-5 | 12/09/03 08:48 / jdh |
| Clay | 28 | wt% | | 1.0 | | ASA15-5 | 12/09/03 08:48 / jdh |
| Texture | SiCL | unitless | | | | ASA15-5 | 12/09/03 08:48 / jdh |
| CHEMICAL CHARACTERISTICS | | | | | | | |
| Cation Exchange Capacity | 32.4 | meq/100g | | 0.1 | | SW6010B | 11/17/03 01:48 / jdh |
| Exchangeable Sodium Percentage | 8.6 | % | | 0.1 | | USDA20b | 12/09/03 08:48 / jdh |
| Lime as CaCO3 | 6.6 | wt% | | 0.1 | | USDA23c | 11/13/03 00:00 / nh |
| METALS, AMMONIUM ACETATE EXTRACTABLE | | | | | | | |
| Sodium, Extractable | 3.8 | meq/100g | | 0.1 | | SW6010B | 11/24/03 04:19 / jdh |

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
 ND - Not detected at the reporting limit.