



LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring Tier 2
Lab ID: H04050009-046
Client Sample ID: T2/BA-10 (0-2)

Report Date: 07/04/04
Collection Date: 04/14/04 16:00
Date Received: 05/03/04
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	06/24/04 14:41 / rp
Conductivity, Paste Extract	0.89	mmhos/cm		0.01		ASAM10-3	06/24/04 14:41 / rp
Chloride, Saturated Paste	0.85	meq/L		0.01		ASA10-3	06/21/04 13:00 / jdh
Saturation	53.4	wt%		0.1		USDA27a	06/24/04 14:41 / rp
Sodium Adsorption Ratio (SAR)	0.8	unitless		0.1		Calculation	06/24/04 14:41 / rp
Alkalinity, Saturated Paste	5.8	meq/L		1.0		ASA10-3	06/24/04 13:00 / jdh
SATURATED PASTE							
Calcium, Saturated Paste	5.77	meq/l		0.05		SW6010B	06/01/04 01:44 / rp
Magnesium, Saturated Paste	2.86	meq/l		0.08		SW6010B	06/01/04 01:44 / rp
Sodium, Saturated Paste	1.63	meq/l		0.04		SW6010B	06/01/04 01:44 / rp
PHYSICAL CHARACTERISTICS							
Sand	19	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Silt	54	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Clay	27	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Texture	SiCL	unitless				ASA15-5	06/24/04 14:41 / rp
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	23.3	meq/100g		0.09		SW6010B	06/15/04 03:08 / rp
Exchangeable Sodium Percentage	1.6	%		0.1		USDA20b	06/24/04 14:41 / rp
Lime as CaCO3	5.4	wt%		0.1		USDA23c	06/24/04 14:41 / rp
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	0.45	meq/100g		0.04		SW6010B	06/04/04 05:35 / rp

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 Tier 2
 Lab ID: H04050009-047
 Client Sample ID: T2/BA-10 (0-6)

Report Date: 07/04/04
 Collection Date: 04/14/04 16:00
 Date Received: 05/03/04
 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	06/24/04 14:41 / rp
Conductivity, Paste Extract	0.91	mmhos/cm		0.01		ASAM10-3	06/24/04 14:41 / rp
Chloride, Saturated Paste	0.85	meq/L		0.01		ASA10-3	06/21/04 13:00 / jdH
Saturation	50.6	wt%		0.1		USDA27a	06/24/04 14:41 / rp
Sodium Adsorption Ratio (SAR)	1.0	unitless		0.1		Calculation	06/24/04 14:41 / rp
Alkalinity, Saturated Paste	5.0	meq/L		1.0		ASA10-3	06/24/04 13:00 / jdH
Nitrate as N, Saturated Paste	22.0	mg/L		0.6		ASA10-3	06/15/04 11:11 / cwh
Sulfate, Saturated Paste	2.29	meq/L		0.002		ASA10-3	06/20/04 13:00 / rp
SATURATED PASTE							
Calcium, Saturated Paste	5.54	meq/l		0.05		SW6010B	06/01/04 01:47 / rp
Magnesium, Saturated Paste	2.75	meq/l		0.08		SW6010B	06/01/04 01:47 / rp
Sodium, Saturated Paste	2.07	meq/l		0.04		SW6010B	06/01/04 01:47 / rp
PHYSICAL CHARACTERISTICS							
Sand	18	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Silt	55	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Clay	27	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Texture	SiCL	unitless				ASA15-5	06/24/04 14:41 / rp
CHEMICAL CHARACTERISTICS							
Fluoride	1.2	mg/kg		1.0		A4500-F C	06/17/04 13:00 / ddb
Organic Matter	2.20	wt%		0.02		ASA29-3	06/24/04 14:41 / rp
Cation Exchange Capacity	23.1	meq/100g		0.09		SW6010B	06/15/04 03:11 / rp
Exchangeable Sodium Percentage	1.7	%		0.1		USDA20b	06/24/04 14:41 / rp
Lime as CaCO3	5.4	wt%		0.1		USDA23c	06/24/04 14:41 / rp
Phosphorus	16	mg/kg		0.1		ASA24-5	06/24/04 04:54 / rp
METALS, AMMONIUM ACETATE EXTRACTABLE							
Potassium	131	mg/kg		1		SW6010B	06/04/04 05:38 / rp
Sodium, Extractable	0.49	meq/100g		0.04		SW6010B	06/04/04 05:38 / rp
METALS, WATER EXTRACTABLE							
Selenium	0.058	mg/kg		0.010		SW6020	06/28/04 10:36 / car
METALS, DTPA EXTRACTABLE							
Zinc	0.56	mg/kg		0.02		SW6010B	06/16/04 01:52 / rp

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LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring Tier 2
Lab ID: H04050009-047
Client Sample ID: T2/BA-10 (0-6)

Report Date: 07/04/04
Collection Date: 04/14/04 16:00
Date Received: 05/03/04
Matrix: Soil

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
METALS, CACL2 EXTRACTABLE							
Barium	7.3	mg/L		0.001		SW6010B	06/16/04 11:58 / rp
Boron	1.1	mg/L		0.04		SW6010B	06/16/04 11:58 / rp

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LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring Tier 2
Lab ID: H04050009-048
Client Sample ID: T2/BA-10 (6-12)

Report Date: 07/04/04
Collection Date: 04/14/04 16:00
Date Received: 05/03/04
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	06/24/04 14:41 / rp
Conductivity, Paste Extract	1.09	mmhos/cm		0.01		ASAM10-3	06/24/04 14:41 / rp
Chloride, Saturated Paste	1.83	meq/L		0.01		ASA10-3	06/21/04 13:00 / jdh
Saturation	50.4	wt%		0.1		USDA27a	06/24/04 14:41 / rp
Sodium Adsorption Ratio (SAR)	1.4	unitless		0.1		Calculation	06/24/04 14:41 / rp
Alkalinity, Saturated Paste	4.0	meq/L		1.0		ASA10-3	06/24/04 13:00 / jdh
Nitrate as N, Saturated Paste	41.6	mg/L		0.6		ASA10-3	06/15/04 11:13 / cwh
Sulfate, Saturated Paste	4.10	meq/L		0.002		ASA10-3	06/20/04 13:00 / rp
SATURATED PASTE							
Calcium, Saturated Paste	5.89	meq/l		0.05		SW6010B	06/01/04 01:50 / rp
Magnesium, Saturated Paste	3.52	meq/l		0.08		SW6010B	06/01/04 01:50 / rp
Sodium, Saturated Paste	2.99	meq/l		0.04		SW6010B	06/01/04 01:50 / rp
PHYSICAL CHARACTERISTICS							
Sand	16	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Silt	59	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Clay	25	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Texture	SiL	unitless				ASA15-5	06/24/04 14:41 / rp
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	21.5	meq/100g		0.09		SW6010B	06/15/04 03:14 / rp
Exchangeable Sodium Percentage	2.6	%		0.1		USDA20b	06/24/04 14:41 / rp
Lime as CaCO3	5.9	wt%		0.1		USDA23c	06/24/04 14:41 / rp
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	0.70	meq/100g		0.04		SW6010B	06/04/04 05:41 / rp

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 ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring Tier 2
Lab ID: H04050009-049
Client Sample ID: T2/BA-10 (12-24)

Report Date: 07/04/04
Collection Date: 04/14/04 16:00
Date Received: 05/03/04
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	06/24/04 14:41 / rp
Conductivity, Paste Extract	1.61	mmhos/cm		0.01		ASAM10-3	06/24/04 14:41 / rp
Chloride, Saturated Paste	0.71	meq/L		0.01		ASA10-3	06/21/04 13:00 / jdH
Saturation	43.4	wt%		0.1		USDA27a	06/24/04 14:41 / rp
Sodium Adsorption Ratio (SAR)	2.0	unitless		0.1		Calculation	06/24/04 14:41 / rp
Alkalinity, Saturated Paste	4.0	meq/L		1.0		ASA10-3	06/24/04 13:00 / jdH
Nitrate as N, Saturated Paste	44.5	mg/L		0.6		ASA10-3	06/15/04 11:15 / cwh
Sulfate, Saturated Paste	9.62	meq/L		0.002		ASA10-3	06/20/04 13:00 / rp
SATURATED PASTE							
Calcium, Saturated Paste	6.82	meq/l		0.05		SW6010B	06/01/04 01:53 / rp
Magnesium, Saturated Paste	5.47	meq/l		0.08		SW6010B	06/01/04 01:53 / rp
Sodium, Saturated Paste	4.94	meq/l		0.04		SW6010B	06/01/04 01:53 / rp
PHYSICAL CHARACTERISTICS							
Sand	27	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Silt	52	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Clay	21	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Texture	SiL	unitless				ASA15-5	06/24/04 14:41 / rp
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	19.0	meq/100g		0.09		SW6010B	06/15/04 03:17 / rp
Exchangeable Sodium Percentage	2.1	%		0.1		USDA20b	06/24/04 14:41 / rp
Lime as CaCO3	6.1	wt%		0.1		USDA23c	06/24/04 14:41 / rp
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	0.62	meq/100g		0.04		SW6010B	06/04/04 05:44 / rp

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 ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring Tier 2
Lab ID: H04050009-050
Client Sample ID: T2/BA-10 (24-36)

Report Date: 07/04/04
Collection Date: 04/14/04 16:00
Date Received: 05/03/04
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	06/24/04 14:41 / rp
Conductivity, Paste Extract	1.86	mmhos/cm		0.01		ASAM10-3	06/24/04 14:41 / rp
Chloride, Saturated Paste	1.27	meq/L		0.01		ASA10-3	06/21/04 13:00 / jdh
Saturation	40.5	wt%		0.1		USDA27a	06/24/04 14:41 / rp
Sodium Adsorption Ratio (SAR)	2.0	unitless		0.1		Calculation	06/24/04 14:41 / rp
Alkalinity, Saturated Paste	2.8	meq/L		1.0		ASA10-3	06/24/04 13:00 / jdh
SATURATED PASTE							
Calcium, Saturated Paste	7.32	meq/l		0.05		SW6010B	06/01/04 01:56 / rp
Magnesium, Saturated Paste	5.94	meq/l		0.08		SW6010B	06/01/04 01:56 / rp
Sodium, Saturated Paste	5.24	meq/l		0.04		SW6010B	06/01/04 01:56 / rp
PHYSICAL CHARACTERISTICS							
Sand	38	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Silt	44	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Clay	18	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Texture	L	unitless				ASA15-5	06/24/04 14:41 / rp
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	16.7	meq/100g		0.09		SW6010B	06/15/04 03:20 / rp
Exchangeable Sodium Percentage	4.3	%		0.1		USDA20b	06/24/04 14:41 / rp
Lime as CaCO3	5.5	wt%		0.1		USDA23c	06/24/04 14:41 / rp
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	0.93	meq/100g		0.04		SW6010B	06/04/04 05:47 / rp

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 Tier 2
 Lab ID: H04050009-051
 Client Sample ID: T2/BA-10 (36-60)

Report Date: 07/04/04
 Collection Date: 04/14/04 16:00
 Date Received: 05/03/04
 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	06/24/04 14:41 / rp
Conductivity, Paste Extract	1.61	mmhos/cm		0.01		ASAM10-3	06/24/04 14:41 / rp
Chloride, Saturated Paste	0.85	meq/L		0.01		ASA10-3	06/21/04 13:00 / jdh
Saturation	34.2	wt%		0.1		USDA27a	06/24/04 14:41 / rp
Sodium Adsorption Ratio (SAR)	2.4	unitless		0.1		Calculation	06/24/04 14:41 / rp
Alkalinity, Saturated Paste	3.0	meq/L		1.0		ASA10-3	06/24/04 13:00 / jdh
SATURATED PASTE							
Calcium, Saturated Paste	5.89	meq/l		0.05		SW6010B	06/01/04 02:02 / rp
Magnesium, Saturated Paste	4.67	meq/l		0.08		SW6010B	06/01/04 02:02 / rp
Sodium, Saturated Paste	5.50	meq/l		0.04		SW6010B	06/01/04 02:02 / rp
PHYSICAL CHARACTERISTICS							
Sand	47	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Silt	39	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Clay	14	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Texture	L	unitless				ASA15-5	06/24/04 14:41 / rp
CHEMICAL CHARACTERISTICS							
Fluoride	1.2	mg/kg		1.0		A4500-F C	06/17/04 13:00 / ddb
Cation Exchange Capacity	14.1	meq/100g		0.09		SW6010B	06/15/04 03:26 / rp
Exchangeable Sodium Percentage	4.4	%		0.1		USDA20b	06/24/04 14:41 / rp
Lime as CaCO3	5.8	wt%		0.1		USDA23c	06/24/04 14:41 / rp
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	0.82	meq/100g		0.04		SW6010B	06/04/04 05:53 / rp
METALS, WATER EXTRACTABLE							
Selenium	0.057	mg/kg		0.010		SW6020	06/28/04 10:40 / car
METALS, CaCl2 EXTRACTABLE							
Barium	3.0	mg/L		0.001		SW6010B	06/16/04 12:01 / rp
Boron	1.4	mg/L		0.04		SW6010B	06/16/04 12:01 / rp

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 Tier 2
Lab ID: H04050009-052
Client Sample ID: T2/BA-10 (60-96)

Report Date: 07/04/04
Collection Date: 04/14/04 16:00
Date Received: 05/03/04
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	06/24/04 14:41 / rp
Conductivity, Paste Extract	1.07	mmhos/cm		0.01		ASAM10-3	06/24/04 14:41 / rp
Chloride, Saturated Paste	0.14	meq/L		0.01		ASA10-3	06/21/04 13:00 / jdh
Saturation	27.3	wt%		0.1		USDA27a	06/24/04 14:41 / rp
Sodium Adsorption Ratio (SAR)	2.9	unitless		0.1		Calculation	06/24/04 14:41 / rp
Alkalinity, Saturated Paste	6.0	meq/L		1.0		ASA10-3	06/24/04 13:00 / jdh
SATURATED PASTE							
Calcium, Saturated Paste	3.22	meq/l		0.05		SW6010B	06/01/04 02:05 / rp
Magnesium, Saturated Paste	2.32	meq/l		0.08		SW6010B	06/01/04 02:05 / rp
Sodium, Saturated Paste	4.87	meq/l		0.04		SW6010B	06/01/04 02:05 / rp
PHYSICAL CHARACTERISTICS							
Sand	72	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Silt	20	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Clay	8.0	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Texture	SL	unitless				ASA15-5	06/24/04 14:41 / rp
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	9.57	meq/100g		0.09		SW6010B	06/15/04 03:29 / rp
Exchangeable Sodium Percentage	6.2	%		0.1		USDA20b	06/24/04 14:41 / rp
Lime as CaCO3	5.4	wt%		0.1		USDA23c	06/24/04 14:41 / rp
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	0.72	meq/100g		0.04		SW6010B	06/04/04 05:55 / rp

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

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