



LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring Tier 2 Spring 2004
Lab ID: H04050024-016
Client Sample ID: T2/LA-10 (0-2)

Report Date: 07/04/04
Collection Date: 04/30/04 12:00
Date Received: 05/04/04
Matrix: Soil

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
SATURATED PASTE							
pH, Saturated Paste	7.5	s.u.		0.1		ASAM10-3.2	06/28/04 07:41 / rp
Conductivity, Paste Extract	2.52	mmhos/cm		0.01		ASAM10-3	06/28/04 07:41 / rp
Chloride, Saturated Paste	0.71	meq/L		0.01		ASA10-3	06/21/04 13:00 / jdh
Saturation	52.7	wt%		0.1		USDA27a	06/28/04 07:41 / rp
Sodium Adsorption Ratio (SAR)	0.6	unitless		0.1		Calculation	06/28/04 07:41 / rp
Alkalinity, Saturated Paste	5.2	meq/L		1.0		ASA10-3	06/24/04 13:00 / jdh
SATURATED PASTE							
Calcium, Saturated Paste	19.8	meq/l		0.05		SW6010B	06/21/04 01:04 / jdh
Magnesium, Saturated Paste	9.83	meq/l		0.08		SW6010B	06/21/04 01:04 / jdh
Sodium, Saturated Paste	2.40	meq/l		0.04		SW6010B	06/21/04 01:04 / jdh
PHYSICAL CHARACTERISTICS							
Sand	34	wt%		1.0		ASA15-5	06/28/04 07:41 / rp
Silt	41	wt%		1.0		ASA15-5	06/28/04 07:41 / rp
Clay	25	wt%		1.0		ASA15-5	06/28/04 07:41 / rp
Texture	L	unitless				ASA15-5	06/28/04 07:41 / rp
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	29.1	meq/100g		0.09		SW6010B	06/09/04 11:49 / rp
Exchangeable Sodium Percentage	1.6	%		0.1		USDA20b	06/28/04 07:41 / rp
Lime as CaCO3	6.7	wt%		0.1		USDA23c	06/28/04 07:41 / rp
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	0.60	meq/100g		0.04		SW6010B	06/14/04 01:44 / 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 Spring 2004
Lab ID: H04050024-017
Client Sample ID: T2/LA-10 (0-6)

Report Date: 07/04/04
Collection Date: 04/30/04 12:00
Date Received: 05/04/04
Matrix: Soil

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
SATURATED PASTE							
pH, Saturated Paste	7.5	s.u.		0.1		ASAM10-3.2	06/28/04 07:41 / rp
Conductivity, Paste Extract	1.72	mmhos/cm		0.01		ASAM10-3	06/28/04 07:41 / rp
Chloride, Saturated Paste	0.99	meq/L		0.01		ASA10-3	06/21/04 13:00 / jdH
Saturation	50.4	wt%		0.1		USDA27a	06/28/04 07:41 / rp
Sodium Adsorption Ratio (SAR)	0.9	unitless		0.1		Calculation	06/28/04 07:41 / rp
Alkalinity, Saturated Paste	6.2	meq/L		1.0		ASA10-3	06/24/04 13:00 / jdH
Nitrate as N, Saturated Paste	ND	mg/L		0.1		ASA10-3	06/15/04 12:29 / cwh
Sulfate, Saturated Paste	20.2	meq/L		0.002		ASA10-3	06/20/04 13:00 / rp
SATURATED PASTE							
Calcium, Saturated Paste	14.2	meq/l		0.05		SW6010B	06/21/04 01:07 / jdH
Magnesium, Saturated Paste	7.50	meq/l		0.08		SW6010B	06/21/04 01:07 / jdH
Sodium, Saturated Paste	2.96	meq/l		0.04		SW6010B	06/21/04 01:07 / jdH
PHYSICAL CHARACTERISTICS							
Sand	33	wt%		1.0		ASA15-5	06/20/04 13:00 / rp
Silt	43	wt%		1.0		ASA15-5	06/20/04 13:00 / rp
Clay	24	wt%		1.0		ASA15-5	06/20/04 13:00 / rp
Texture	L	unitless				ASA15-5	06/20/04 13:00 / rp
CHEMICAL CHARACTERISTICS							
Fluoride	ND	mg/kg		1.0		A4500-F C	06/17/04 13:00 / ddb
Organic Matter	3.80	wt%		0.02		ASA29-3	06/20/04 13:00 / rp
Cation Exchange Capacity	26.1	meq/100g		0.09		SW6010B	06/09/04 01:23 / rp
Exchangeable Sodium Percentage	2.2	%		0.1		USDA20b	06/28/04 07:41 / rp
Lime as CaCO3	6.4	wt%		0.1		USDA23c	06/28/04 07:41 / rp
Phosphorus	24	mg/kg		0.1		ASA24-5	06/24/04 05:15 / rp
METALS, AMMONIUM ACETATE EXTRACTABLE							
Potassium	223	mg/kg		1		SW6010B	06/14/04 01:47 / rp
Sodium, Extractable	0.71	meq/100g		0.04		SW6010B	06/14/04 01:47 / rp
METALS, WATER EXTRACTABLE							
Selenium	0.044	mg/kg		0.010		SW6020	06/28/04 12:53 / car
METALS, DTPA EXTRACTABLE							
Zinc	0.79	mg/kg		0.02		SW6010B	06/16/04 02:23 / rp

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LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring Tier 2 Spring 2004
Lab ID: H04050024-017
Client Sample ID: T2/LA-10 (0-6)

Report Date: 07/04/04
Collection Date: 04/30/04 12:00
Date Received: 05/04/04
Matrix: Soil

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
METALS, CACL2 EXTRACTABLE							
Barium	5.2	mg/L		0.001		SW6010B	06/16/04 12:37 / rp
Boron	1.1	mg/L		0.04		SW6010B	06/16/04 12:37 / rp

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LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring Tier 2 Spring 2004
Lab ID: H04050024-018
Client Sample ID: T2/LA-10 (6-12)

Report Date: 07/04/04
Collection Date: 04/30/04 12:00
Date Received: 05/04/04
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	06/28/04 07:41 / rp
Conductivity, Paste Extract	1.43	mmhos/cm		0.01		ASAM10-3	06/28/04 07:41 / rp
Chloride, Saturated Paste	0.42	meq/L		0.01		ASA10-3	06/21/04 13:00 / jdh
Saturation	42.8	wt%		0.1		USDA27a	06/28/04 07:41 / rp
Sodium Adsorption Ratio (SAR)	2.1	unitless		0.1		Calculation	06/28/04 07:41 / rp
Alkalinity, Saturated Paste	3.8	meq/L		1.0		ASA10-3	06/24/04 13:00 / jdh
Nitrate as N, Saturated Paste	0.7	mg/L		0.1		ASA10-3	06/15/04 12:31 / cwh
Sulfate, Saturated Paste	14.6	meq/L		0.002		ASA10-3	06/20/04 13:00 / rp
SATURATED PASTE							
Calcium, Saturated Paste	8.43	meq/l		0.05		SW6010B	06/21/04 01:16 / jdh
Magnesium, Saturated Paste	4.33	meq/l		0.08		SW6010B	06/21/04 01:16 / jdh
Sodium, Saturated Paste	5.32	meq/l		0.04		SW6010B	06/21/04 01:16 / jdh
PHYSICAL CHARACTERISTICS							
Sand	32	wt%		1.0		ASA15-5	06/28/04 07:41 / rp
Silt	44	wt%		1.0		ASA15-5	06/28/04 07:41 / rp
Clay	24	wt%		1.0		ASA15-5	06/28/04 07:41 / rp
Texture	L	unitless				ASA15-5	06/28/04 07:41 / rp
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	22.6	meq/100g		0.09		SW6010B	06/09/04 01:26 / rp
Exchangeable Sodium Percentage	3.1	%		0.1		USDA20b	06/28/04 07:41 / rp
Lime as CaCO3	7.8	wt%		0.1		USDA23c	06/28/04 07:41 / rp
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	0.93	meq/100g		0.04		SW6010B	06/14/04 01:50 / rp

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 ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring Tier 2 Spring 2004
Lab ID: H04050024-019
Client Sample ID: T2/LA-10 (12-24)

Report Date: 07/04/04
Collection Date: 04/30/04 12:00
Date Received: 05/04/04
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	06/28/04 07:41 / rp
Conductivity, Paste Extract	3.28	mmhos/cm		0.01		ASAM10-3	06/28/04 07:41 / rp
Chloride, Saturated Paste	0.42	meq/L		0.01		ASA10-3	06/21/04 13:00 / jdh
Saturation	47.4	wt%		0.1		USDA27a	06/28/04 07:41 / rp
Sodium Adsorption Ratio (SAR)	4.2	unitless		0.1		Calculation	06/28/04 07:41 / rp
Alkalinity, Saturated Paste	3.0	meq/L		1.0		ASA10-3	06/24/04 13:00 / jdh
Nitrate as N, Saturated Paste	1.2	mg/L		0.1		ASA10-3	06/15/04 12:33 / cwh
Sulfate, Saturated Paste	43.5	meq/L		0.002		ASA10-3	06/20/04 13:00 / rp
SATURATED PASTE							
Calcium, Saturated Paste	13.7	meq/l		0.05		SW6010B	06/21/04 01:19 / jdh
Magnesium, Saturated Paste	11.9	meq/l		0.08		SW6010B	06/21/04 01:19 / jdh
Sodium, Saturated Paste	15.0	meq/l		0.04		SW6010B	06/21/04 01:19 / jdh
PHYSICAL CHARACTERISTICS							
Sand	28	wt%		1.0		ASA15-5	06/28/04 07:41 / rp
Silt	44	wt%		1.0		ASA15-5	06/28/04 07:41 / rp
Clay	28	wt%		1.0		ASA15-5	06/28/04 07:41 / rp
Texture	CL	unitless				ASA15-5	06/28/04 07:41 / rp
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	25.1	meq/100g		0.09		SW6010B	06/09/04 01:29 / rp
Exchangeable Sodium Percentage	4.2	%		0.1		USDA20b	06/28/04 07:41 / rp
Lime as CaCO3	7.7	wt%		0.1		USDA23c	06/28/04 07:41 / rp
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	1.76	meq/100g		0.04		SW6010B	06/14/04 01:53 / rp

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 ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring Tier 2 Spring 2004
Lab ID: H04050024-020
Client Sample ID: T2/LA-10 (24-36)

Report Date: 07/04/04
Collection Date: 04/30/04 12:00
Date Received: 05/04/04
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	06/28/04 07:41 / rp
Conductivity, Paste Extract	5.28	mmhos/cm		0.01		ASAM10-3	06/28/04 07:41 / rp
Chloride, Saturated Paste	0.14	meq/L		0.01		ASA10-3	06/21/04 13:00 / jdh
Saturation	40.5	wt%		0.1		USDA27a	06/28/04 07:41 / rp
Sodium Adsorption Ratio (SAR)	6.4	unitless		0.1		Calculation	06/28/04 07:41 / rp
Alkalinity, Saturated Paste	2.6	meq/L		1.0		ASA10-3	06/24/04 13:00 / jdh
SATURATED PASTE							
Calcium, Saturated Paste	22.3	meq/l		0.05		SW6010B	06/21/04 01:22 / jdh
Magnesium, Saturated Paste	23.7	meq/l		0.08		SW6010B	06/21/04 01:22 / jdh
Sodium, Saturated Paste	30.9	meq/l		0.04		SW6010B	06/21/04 01:22 / jdh
PHYSICAL CHARACTERISTICS							
Sand	44	wt%		1.0		ASA15-5	06/28/04 07:41 / rp
Silt	33	wt%		1.0		ASA15-5	06/28/04 07:41 / rp
Clay	23	wt%		1.0		ASA15-5	06/28/04 07:41 / rp
Texture	L	unitless				ASA15-5	06/28/04 07:41 / rp
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	19.0	meq/100g		0.09		SW6010B	06/09/04 01:32 / rp
Exchangeable Sodium Percentage	6.4	%		0.1		USDA20b	06/28/04 07:41 / rp
Lime as CaCO3	7.0	wt%		0.1		USDA23c	06/28/04 07:41 / rp
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	2.48	meq/100g		0.04		SW6010B	06/14/04 01:56 / 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 Spring 2004
Lab ID: H04050024-021
Client Sample ID: T2/LA-10 (36-60)

Report Date: 07/04/04
Collection Date: 04/30/04 12:00
Date Received: 05/04/04
Matrix: Soil

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
SATURATED PASTE							
pH, Saturated Paste	8.1	s.u.		0.1		ASAM10-3.2	06/28/04 07:41 / rp
Conductivity, Paste Extract	5.86	mmhos/cm		0.01		ASAM10-3	06/28/04 07:41 / rp
Chloride, Saturated Paste	0.42	meq/L		0.01		ASA10-3	06/21/04 13:00 / jdh
Saturation	38.4	wt%		0.1		USDA27a	06/28/04 07:41 / rp
Sodium Adsorption Ratio (SAR)	6.1	unitless		0.1		Calculation	06/28/04 07:41 / rp
Alkalinity, Saturated Paste	2.2	meq/L		1.0		ASA10-3	06/24/04 13:00 / jdh
SATURATED PASTE							
Calcium, Saturated Paste	20.7	meq/l		0.05		SW6010B	06/21/04 01:28 / jdh
Magnesium, Saturated Paste	25.2	meq/l		0.08		SW6010B	06/21/04 01:28 / jdh
Sodium, Saturated Paste	29.3	meq/l		0.04		SW6010B	06/21/04 01:28 / jdh
PHYSICAL CHARACTERISTICS							
Sand	47	wt%		1.0		ASA15-5	06/28/04 07:41 / rp
Silt	32	wt%		1.0		ASA15-5	06/28/04 07:41 / rp
Clay	21	wt%		1.0		ASA15-5	06/28/04 07:41 / rp
Texture	L	unitless				ASA15-5	06/28/04 07:41 / rp
CHEMICAL CHARACTERISTICS							
Fluoride	1.2	mg/kg		1.0		A4500-F C	06/17/04 13:00 / ddb
Cation Exchange Capacity	16.6	meq/100g		0.09		SW6010B	06/09/04 01:38 / rp
Exchangeable Sodium Percentage	6.9	%		0.1		USDA20b	06/28/04 07:41 / rp
Lime as CaCO3	7.4	wt%		0.1		USDA23c	06/28/04 07:41 / rp
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	2.27	meq/100g		0.04		SW6010B	06/14/04 02:02 / rp
METALS, WATER EXTRACTABLE							
Selenium	0.067	mg/kg		0.010		SW6020	06/28/04 12:57 / car
METALS, CaCl2 EXTRACTABLE							
Barium	0.55	mg/L		0.001		SW6010B	06/16/04 12:40 / rp
Boron	1.2	mg/L		0.04		SW6010B	06/16/04 12:40 / 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 Spring 2004
Lab ID: H04050024-022
Client Sample ID: T2/LA-10 (60-96)

Report Date: 07/04/04
Collection Date: 04/30/04 12:00
Date Received: 05/04/04
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	06/28/04 07:41 / rp
Conductivity, Paste Extract	3.38	mmhos/cm		0.01		ASAM10-3	06/28/04 07:41 / rp
Chloride, Saturated Paste	0.42	meq/L		0.01		ASA10-3	06/21/04 13:00 / jdh
Saturation	23.8	wt%		0.1		USDA27a	06/28/04 07:41 / rp
Sodium Adsorption Ratio (SAR)	6.3	unitless		0.1		Calculation	06/28/04 07:41 / rp
Alkalinity, Saturated Paste	3.0	meq/L		1.0		ASA10-3	06/24/04 13:00 / jdh
SATURATED PASTE							
Calcium, Saturated Paste	10.6	meq/l		0.05		SW6010B	06/21/04 01:31 / jdh
Magnesium, Saturated Paste	14.3	meq/l		0.08		SW6010B	06/21/04 01:31 / jdh
Sodium, Saturated Paste	22.2	meq/l		0.04		SW6010B	06/21/04 01:31 / jdh
PHYSICAL CHARACTERISTICS							
Sand	73	wt%		1.0		ASA15-5	06/28/04 07:41 / rp
Silt	16	wt%		1.0		ASA15-5	06/28/04 07:41 / rp
Clay	11	wt%		1.0		ASA15-5	06/28/04 07:41 / rp
Texture	SL	unitless				ASA15-5	06/28/04 07:41 / rp
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	10.6	meq/100g		0.09		SW6010B	06/09/04 01:41 / rp
Exchangeable Sodium Percentage	7.7	%		0.1		USDA20b	06/28/04 07:41 / rp
Lime as CaCO3	6.7	wt%		0.1		USDA23c	06/28/04 07:41 / rp
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	1.34	meq/100g		0.04		SW6010B	06/14/04 02:10 / rp

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

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