



LABORATORY ANALYTICAL REPORT

Client: AMPP
 Project: Tongue River Monitoring Tier 2
 Lab ID: H04100167-055
 Client Sample ID: T2/BC-10-(0-6")

Report Date: 11/22/04
 Collection Date: 10/13/04 17:00
 Date Received: 10/20/04
 Matrix: Soil

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
SATURATED PASTE							
pH, sat. paste	7.4	s.u.		0.1		ASAM10-3.2	11/22/04 07:49 / jdh
Conductivity, Paste Extract	1.40	mmhos/cm		0.01		ASAM10-3	11/22/04 07:49 / jdh
Saturation	54.8	%		0.1		USDA27a	11/22/04 07:49 / jdh
Sodium Adsorption Ratio (SAR)	2.0	unitless		0.01		Calculation	11/22/04 07:49 / jdh
Alkalinity, Saturated Paste	5.8	meq/L		1.0		ASA10-3	11/22/04 13:00 / jdh
Nitrate as N, Saturated Paste	ND	mg/L		0.1		ASA10-3	11/10/04 13:17 / cwh
SATURATED PASTE							
Calcium, Saturated Paste	5.62	meq/l		0.05		SW6010B	11/04/04 02:18 / rp
Magnesium, Saturated Paste	3.95	meq/l		0.08		SW6010B	11/04/04 02:18 / rp
Sodium, Saturated Paste	4.46	meq/l		0.04		SW6010B	11/04/04 02:18 / rp
Sulfate, Saturated Paste	6.22	meq/l		0.002		SW6010B	11/04/04 02:18 / rp
PHYSICAL CHARACTERISTICS							
Sand	17	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Silt	68	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Clay	15	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Texture	SiL	unitless				ASA15-5	11/22/04 07:49 / jdh
CHEMICAL CHARACTERISTICS							
Fluoride	1.4	mg/kg		1.0		A4500-F C	11/22/04 13:00 / jdh
Potassium, NH4OAc Extractable	220	mg/kg		1		ASA13-3	11/22/04 13:00 / jdh
Organic Matter	2.50	%		0.02		ASA29-3	11/22/04 07:49 / jdh
Cation Exchange Capacity	27.1	meq/100g		0.09		SW6010B	11/09/04 04:58 / rp
Lime as CaCO3	7.1	%		0.1		USDA23c	11/09/04 00:00 / jdh
Phosphorus	14	mg/kg		0.1		ASA24-5	11/12/04 07:34 / rp
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	1.04	meq/100g		0.04		SW6010B	11/08/04 02:20 / rp
EXCHANGEABLES							
Exchangeable Sodium	0.8	meq/100g		0.1		Calculation	11/22/04 07:49 / jdh
Exchangeable Sodium Percentage	2.9	%		0.1		USDA20a	11/22/04 07:49 / jdh
METALS, DTPA EXTRACTABLE							
Zinc	0.82	mg/kg		0.02		SW6010B	11/09/04 11:24 / rp
METALS, CaCL2 EXTRACTABLE							
Barium	5.6	mg/L		0.04		SW6010B	11/09/04 09:51 / rp

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

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



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Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
METALS, CACL2 EXTRACTABLE							
Boron	1.9	mg/L		0.04		SW6010B	11/09/04 09:51 / rp
Selenium	ND	mg/L		0.10		SW6010B	11/09/04 09:51 / rp

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LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring Tier 2
Lab ID: H04100167-056
Client Sample ID: T2/BC-10-(6-12")

Report Date: 11/22/04
Collection Date: 10/13/04 17:00
Date Received: 10/20/04
Matrix: Soil

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
SATURATED PASTE							
pH, sat. paste	7.7	s.u.		0.1		ASAM10-3.2	11/22/04 07:49 / jdh
Conductivity, Paste Extract	2.34	mmhos/cm		0.01		ASAM10-3	11/22/04 07:49 / jdh
Saturation	56.9	%		0.1		USDA27a	11/22/04 07:49 / jdh
Sodium Adsorption Ratio (SAR)	4.4	unitless		0.01		Calculation	11/22/04 07:49 / jdh
Alkalinity, Saturated Paste	3.9	meq/L		1.0		ASA10-3	11/22/04 13:00 / jdh
Nitrate as N, Saturated Paste	1.7	mg/L		0.1		ASA10-3	11/10/04 13:20 / cwh
SATURATED PASTE							
Calcium, Saturated Paste	6.70	meq/l		0.05		SW6010B	11/04/04 02:21 / rp
Magnesium, Saturated Paste	5.40	meq/l		0.08		SW6010B	11/04/04 02:21 / rp
Sodium, Saturated Paste	10.7	meq/l		0.04		SW6010B	11/04/04 02:21 / rp
Sulfate, Saturated Paste	18.0	meq/l		0.002		SW6010B	11/04/04 02:21 / rp
PHYSICAL CHARACTERISTICS							
Sand	16	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Silt	50	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Clay	34	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Texture	SiCL	unitless				ASA15-5	11/22/04 07:49 / jdh
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	26.5	meq/100g		0.09		SW6010B	11/09/04 05:01 / rp
Lime as CaCO3	7.2	%		0.1		USDA23c	11/09/04 00:00 / jdh
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	1.88	meq/100g		0.04		SW6010B	11/08/04 02:23 / rp
EXCHANGEABLES							
Exchangeable Sodium	1.3	meq/100g		0.1		Calculation	11/22/04 07:49 / jdh
Exchangeable Sodium Percentage	4.8	%		0.1		USDA20a	11/22/04 07:49 / jdh

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LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring Tier 2
Lab ID: H04100167-057
Client Sample ID: T2/BC-10-(12-24")

Report Date: 11/22/04
Collection Date: 10/13/04 17:00
Date Received: 10/20/04
Matrix: Soil

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
SATURATED PASTE							
pH, sat. paste	7.7	s.u.		0.1		ASAM10-3.2	11/22/04 07:49 / jdh
Conductivity, Paste Extract	3.12	mmhos/cm		0.01		ASAM10-3	11/22/04 07:49 / jdh
Saturation	59.8	%		0.1		USDA27a	11/22/04 07:49 / jdh
Sodium Adsorption Ratio (SAR)	4.6	unitless		0.01		Calculation	11/22/04 07:49 / jdh
Alkalinity, Saturated Paste	1.9	meq/L		1.0		ASA10-3	11/22/04 13:00 / jdh
Nitrate as N, Saturated Paste	2.1	mg/L		0.1		ASA10-3	11/10/04 13:22 / cwh
SATURATED PASTE							
Calcium, Saturated Paste	11.0	meq/l		0.05		SW6010B	11/04/04 02:24 / rp
Magnesium, Saturated Paste	9.22	meq/l		0.08		SW6010B	11/04/04 02:24 / rp
Sodium, Saturated Paste	14.7	meq/l		0.04		SW6010B	11/04/04 02:24 / rp
Sulfate, Saturated Paste	30.9	meq/l		0.002		SW6010B	11/04/04 02:24 / rp
PHYSICAL CHARACTERISTICS							
Sand	9.0	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Silt	56	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Clay	35	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Texture	SiCL	unitless				ASA15-5	11/22/04 07:49 / jdh
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	28.4	meq/100g		0.09		SW6010B	11/09/04 05:04 / rp
Lime as CaCO3	6.5	%		0.1		USDA23c	11/09/04 00:00 / jdh
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	2.44	meq/100g		0.04		SW6010B	11/08/04 02:26 / rp
EXCHANGEABLES							
Exchangeable Sodium	1.6	meq/100g		0.1		Calculation	11/22/04 07:49 / jdh
Exchangeable Sodium Percentage	5.5	%		0.1		USDA20a	11/22/04 07:49 / jdh

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LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring Tier 2
Lab ID: H04100167-058
Client Sample ID: T2/BC-10-(24-36")

Report Date: 11/22/04
Collection Date: 10/13/04 17:00
Date Received: 10/20/04
Matrix: Soil

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
SATURATED PASTE							
pH, sat. paste	7.8	s.u.		0.1		ASAM10-3.2	11/22/04 07:49 / jdh
Conductivity, Paste Extract	6.64	mmhos/cm		0.01		ASAM10-3	11/22/04 07:49 / jdh
Saturation	65.9	%		0.1		USDA27a	11/22/04 07:49 / jdh
Sodium Adsorption Ratio (SAR)	9.1	unitless		0.01		Calculation	11/22/04 07:49 / jdh
Alkalinity, Saturated Paste	3.2	meq/L		1.0		ASA10-3	11/22/04 13:00 / jdh
SATURATED PASTE							
Calcium, Saturated Paste	23.8	meq/l		0.05		SW6010B	11/04/04 02:27 / rp
Magnesium, Saturated Paste	18.0	meq/l		0.08		SW6010B	11/04/04 02:27 / rp
Sodium, Saturated Paste	41.8	meq/l		0.04		SW6010B	11/04/04 02:27 / rp
PHYSICAL CHARACTERISTICS							
Sand	7.0	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Silt	50	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Clay	43	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Texture	SiC	unitless				ASA15-5	11/22/04 07:49 / jdh
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	31.5	meq/100g		0.09		SW6010B	11/09/04 05:07 / rp
Lime as CaCO3	6.5	%		0.1		USDA23c	11/09/04 00:00 / jdh
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	5.80	meq/100g		0.04		SW6010B	11/08/04 02:29 / rp
EXCHANGEABLES							
Exchangeable Sodium	3.0	meq/100g		0.1		Calculation	11/22/04 07:49 / jdh
Exchangeable Sodium Percentage	9.7	%		0.1		USDA20a	11/22/04 07:49 / jdh

Report Definitions: RL - Analyte reporting limit.
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 ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring Tier 2
Lab ID: H04100167-059
Client Sample ID: T2/BC-10-(36-60")

Report Date: 11/22/04
Collection Date: 10/13/04 17:00
Date Received: 10/20/04
Matrix: Soil

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
SATURATED PASTE							
pH, sat. paste	7.8	s.u.		0.1		ASAM10-3.2	11/22/04 07:49 / jdh
Conductivity, Paste Extract	6.98	mmhos/cm		0.01		ASAM10-3	11/22/04 07:49 / jdh
Saturation	73.7	%		0.1		USDA27a	11/22/04 07:49 / jdh
Sodium Adsorption Ratio (SAR)	11	unitless		0.01		Calculation	11/22/04 07:49 / jdh
Alkalinity, Saturated Paste	2.3	meq/L		1.0		ASA10-3	11/22/04 13:00 / jdh
SATURATED PASTE							
Calcium, Saturated Paste	22.3	meq/l		0.05		SW6010B	11/04/04 02:30 / rp
Magnesium, Saturated Paste	15.8	meq/l		0.08		SW6010B	11/04/04 02:30 / rp
Sodium, Saturated Paste	48.5	meq/l		0.04		SW6010B	11/04/04 02:30 / rp
PHYSICAL CHARACTERISTICS							
Sand	3.0	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Silt	49	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Clay	48	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Texture	SiC	unitless				ASA15-5	11/22/04 07:49 / jdh
CHEMICAL CHARACTERISTICS							
Fluoride	1.3	mg/kg		1.0		A4500-F C	11/22/04 13:00 / jdh
Cation Exchange Capacity	28.7	meq/100g		0.09		SW6010B	11/09/04 05:10 / rp
Lime as CaCO3	6.5	%		0.1		USDA23c	11/09/04 00:00 / jdh
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	7.29	meq/100g		0.04		SW6010B	11/08/04 02:32 / rp
EXCHANGEABLES							
Exchangeable Sodium	3.7	meq/100g		0.1		Calculation	11/22/04 07:49 / jdh
Exchangeable Sodium Percentage	13	%		0.1		USDA20a	11/22/04 07:49 / jdh
METALS, CACL2 EXTRACTABLE							
Barium	0.43	mg/L		0.04		SW6010B	11/09/04 09:54 / rp
Boron	2.4	mg/L		0.04		SW6010B	11/09/04 09:54 / rp
Selenium	ND	mg/L		0.10		SW6010B	11/09/04 09:54 / 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: H04100167-060
Client Sample ID: T2/BC-10-(60-90")

Report Date: 11/22/04
Collection Date: 10/13/04 17:00
Date Received: 10/20/04
Matrix: Soil

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
SATURATED PASTE							
pH, sat. paste	7.8	s.u.		0.1		ASAM10-3.2	11/22/04 07:49 / jdh
Conductivity, Paste Extract	6.01	mmhos/cm		0.01		ASAM10-3	11/22/04 07:49 / jdh
Saturation	65.9	%		0.1		USDA27a	11/22/04 07:49 / jdh
Sodium Adsorption Ratio (SAR)	9.2	unitless		0.01		Calculation	11/22/04 07:49 / jdh
Alkalinity, Saturated Paste	2.2	meq/L		1.0		ASA10-3	11/22/04 13:00 / jdh
SATURATED PASTE							
Calcium, Saturated Paste	22.2	meq/l		0.05		SW6010B	11/04/04 02:33 / rp
Magnesium, Saturated Paste	13.4	meq/l		0.08		SW6010B	11/04/04 02:33 / rp
Sodium, Saturated Paste	38.6	meq/l		0.04		SW6010B	11/04/04 02:33 / rp
PHYSICAL CHARACTERISTICS							
Sand	13	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Silt	42	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Clay	45	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Texture	SiC	unitless				ASA15-5	11/22/04 07:49 / jdh
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	24.8	meq/100g		0.09		SW6010B	11/09/04 05:13 / rp
Lime as CaCO3	7.0	%		0.1		USDA23c	11/09/04 00:00 / jdh
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	5.40	meq/100g		0.04		SW6010B	11/08/04 02:35 / rp
EXCHANGEABLES							
Exchangeable Sodium	2.9	meq/100g		0.1		Calculation	11/22/04 07:49 / jdh
Exchangeable Sodium Percentage	12	%		0.1		USDA20a	11/22/04 07:49 / 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 Tier 2
Lab ID: H04100167-061
Client Sample ID: T2/BC-10-(0-2")

Report Date: 11/22/04
Collection Date: 10/13/04 17:00
Date Received: 10/20/04
Matrix: Soil

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
SATURATED PASTE							
pH, sat. paste	7.3	s.u.		0.1		ASAM10-3.2	11/22/04 07:49 / jdh
Conductivity, Paste Extract	1.60	mmhos/cm		0.01		ASAM10-3	11/22/04 07:49 / jdh
Saturation	61.2	%		0.1		USDA27a	11/22/04 07:49 / jdh
Sodium Adsorption Ratio (SAR)	1.6	unitless		0.01		Calculation	11/22/04 07:49 / jdh
Alkalinity, Saturated Paste	10.8	meq/L		1.0		ASA10-3	11/22/04 13:00 / jdh
SATURATED PASTE							
Calcium, Saturated Paste	6.72	meq/l		0.05		SW6010B	11/04/04 02:39 / rp
Magnesium, Saturated Paste	5.40	meq/l		0.08		SW6010B	11/04/04 02:39 / rp
Sodium, Saturated Paste	3.94	meq/l		0.04		SW6010B	11/04/04 02:39 / rp
PHYSICAL CHARACTERISTICS							
Sand	21	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Silt	50	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Clay	29	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Texture	CL	unitless				ASA15-5	11/22/04 07:49 / jdh
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	26.6	meq/100g		0.09		SW6010B	11/09/04 05:19 / rp
Lime as CaCO3	7.0	%		0.1		USDA23c	11/09/04 00:00 / jdh
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	0.91	meq/100g		0.04		SW6010B	11/08/04 02:47 / rp
EXCHANGEABLES							
Exchangeable Sodium	0.7	meq/100g		0.1		Calculation	11/22/04 07:49 / jdh
Exchangeable Sodium Percentage	2.5	%		0.1		USDA20a	11/22/04 07:49 / jdh

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 ND - Not detected at the reporting limit.