



LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring Tier 2
Lab ID: H04050009-054
Client Sample ID: T2/BHA-10 (0-2)

Report Date: 07/04/04
Collection Date: 04/15/04 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	7.5	s.u.		0.1		ASAM10-3.2	06/24/04 14:41 / rp
Conductivity, Paste Extract	3.36	mmhos/cm		0.01		ASAM10-3	06/24/04 14:41 / rp
Chloride, Saturated Paste	0.99	meq/L		0.01		ASA10-3	06/21/04 13:00 / jdh
Saturation	53.3	wt%		0.1		USDA27a	06/24/04 14:41 / rp
Sodium Adsorption Ratio (SAR)	3.8	unitless		0.1		Calculation	06/24/04 14:41 / rp
Alkalinity, Saturated Paste	4.8	meq/L		1.0		ASA10-3	06/24/04 13:00 / jdh
SATURATED PASTE							
Calcium, Saturated Paste	13.5	meq/l		0.05		SW6010B	06/01/04 02:16 / rp
Magnesium, Saturated Paste	5.77	meq/l		0.08		SW6010B	06/01/04 02:16 / rp
Sodium, Saturated Paste	11.8	meq/l		0.04		SW6010B	06/01/04 02:16 / rp
PHYSICAL CHARACTERISTICS							
Sand	10	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Silt	45	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Clay	45	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Texture	SiC	unitless				ASA15-5	06/24/04 14:41 / rp
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	29.8	meq/100g		0.09		SW6010B	06/15/04 03:41 / rp
Exchangeable Sodium Percentage	2.8	%		0.1		USDA20b	06/24/04 14:41 / rp
Lime as CaCO3	2.3	wt%		0.1		USDA23c	06/24/04 14:41 / rp
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	1.47	meq/100g		0.04		SW6010B	06/04/04 06:07 / 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: H04050009-055
Client Sample ID: T2/BHA-10 (0-6)

Report Date: 07/04/04
Collection Date: 04/15/04 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	1.95	mmhos/cm		0.01		ASAM10-3	06/24/04 14:41 / rp
Chloride, Saturated Paste	1.69	meq/L		0.01		ASA10-3	06/21/04 13:00 / jdH
Saturation	55.7	wt%		0.1		USDA27a	06/24/04 14:41 / rp
Sodium Adsorption Ratio (SAR)	2.5	unitless		0.1		Calculation	06/24/04 14:41 / rp
Alkalinity, Saturated Paste	8.0	meq/L		1.0		ASA10-3	06/24/04 13:00 / jdH
Nitrate as N, Saturated Paste	96.9	mg/L		0.6		ASA10-3	06/15/04 11:19 / cwh
Sulfate, Saturated Paste	5.00	meq/L		0.002		ASA10-3	06/20/04 13:00 / rp
SATURATED PASTE							
Calcium, Saturated Paste	8.24	meq/l		0.05		SW6010B	06/01/04 02:19 / rp
Magnesium, Saturated Paste	3.38	meq/l		0.08		SW6010B	06/01/04 02:19 / rp
Sodium, Saturated Paste	5.95	meq/l		0.04		SW6010B	06/01/04 02:19 / rp
PHYSICAL CHARACTERISTICS							
Sand	11	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	45	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Texture	SiC	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	1.70	wt%		0.02		ASA29-3	06/24/04 14:41 / rp
Cation Exchange Capacity	29.5	meq/100g		0.09		SW6010B	06/15/04 03:44 / rp
Exchangeable Sodium Percentage	2.7	%		0.1		USDA20b	06/24/04 14:41 / rp
Lime as CaCO3	2.3	wt%		0.1		USDA23c	06/24/04 14:41 / rp
Phosphorus	24	mg/kg		0.1		ASA24-5	06/24/04 04:56 / rp
METALS, AMMONIUM ACETATE EXTRACTABLE							
Potassium	305	mg/kg		1		SW6010B	06/04/04 06:10 / rp
Sodium, Extractable	1.13	meq/100g		0.04		SW6010B	06/04/04 06:10 / rp
METALS, WATER EXTRACTABLE							
Selenium	0.059	mg/kg		0.010		SW6020	06/28/04 11:45 / car
METALS, DTPA EXTRACTABLE							
Zinc	0.63	mg/kg		0.02		SW6010B	06/16/04 01:58 / rp

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LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring Tier 2
Lab ID: H04050009-055
Client Sample ID: T2/BHA-10 (0-6)

Report Date: 07/04/04
Collection Date: 04/15/04 16:00
Date Received: 05/03/04
Matrix: Soil

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
METALS, CACL2 EXTRACTABLE							
Barium	5.9	mg/L		0.001		SW6010B	06/16/04 12:04 / rp
Boron	1.1	mg/L		0.04		SW6010B	06/16/04 12:04 / rp

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LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring Tier 2
Lab ID: H04050009-056
Client Sample ID: T2/BHA-10 (6-12)

Report Date: 07/04/04
Collection Date: 04/15/04 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	1.42	mmhos/cm		0.01		ASAM10-3	06/24/04 14:41 / rp
Chloride, Saturated Paste	3.81	meq/L		0.01		ASA10-3	06/21/04 13:00 / jdh
Saturation	58.2	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	25.6	mg/L		0.6		ASA10-3	06/15/04 11:21 / cwh
Sulfate, Saturated Paste	5.79	meq/L		0.002		ASA10-3	06/20/04 13:00 / rp
SATURATED PASTE							
Calcium, Saturated Paste	7.03	meq/l		0.05		SW6010B	06/01/04 02:22 / rp
Magnesium, Saturated Paste	2.86	meq/l		0.08		SW6010B	06/01/04 02:22 / rp
Sodium, Saturated Paste	4.55	meq/l		0.04		SW6010B	06/01/04 02:22 / rp
PHYSICAL CHARACTERISTICS							
Sand	8.0	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	48	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Texture	SiC	unitless				ASA15-5	06/24/04 14:41 / rp
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	31.6	meq/100g		0.09		SW6010B	06/15/04 03:53 / rp
Exchangeable Sodium Percentage	2.5	%		0.1		USDA20b	06/24/04 14:41 / rp
Lime as CaCO3	2.8	wt%		0.1		USDA23c	06/24/04 14:41 / rp
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	1.04	meq/100g		0.04		SW6010B	06/04/04 06:19 / 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: H04050009-057
Client Sample ID: T2/BHA-10 (12-24)

Report Date: 07/04/04
Collection Date: 04/15/04 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	2.14	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	60.7	wt%		0.1		USDA27a	06/24/04 14:41 / rp
Sodium Adsorption Ratio (SAR)	1.6	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	17.5	mg/L		0.6		ASA10-3	06/15/04 11:23 / cwh
Sulfate, Saturated Paste	19.5	meq/L		0.002		ASA10-3	06/20/04 13:00 / rp
SATURATED PASTE							
Calcium, Saturated Paste	11.8	meq/l		0.05		SW6010B	06/01/04 02:25 / rp
Magnesium, Saturated Paste	6.45	meq/l		0.08		SW6010B	06/01/04 02:25 / rp
Sodium, Saturated Paste	4.97	meq/l		0.04		SW6010B	06/01/04 02:25 / rp
PHYSICAL CHARACTERISTICS							
Sand	9.0	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Silt	40	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Clay	51	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Texture	C	unitless				ASA15-5	06/24/04 14:41 / rp
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	28.7	meq/100g		0.09		SW6010B	06/15/04 03:56 / rp
Exchangeable Sodium Percentage	2.8	%		0.1		USDA20b	06/24/04 14:41 / rp
Lime as CaCO3	4.9	wt%		0.1		USDA23c	06/24/04 14:41 / rp
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	1.10	meq/100g		0.04		SW6010B	06/04/04 06:22 / 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: H04050009-058
Client Sample ID: T2/BHA-10 (24-36)

Report Date: 07/04/04
Collection Date: 04/15/04 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	3.32	mmhos/cm		0.01		ASAM10-3	06/24/04 14:41 / rp
Chloride, Saturated Paste	0.42	meq/L		0.01		ASA10-3	06/21/04 13:00 / jdh
Saturation	58.2	wt%		0.1		USDA27a	06/24/04 14:41 / rp
Sodium Adsorption Ratio (SAR)	1.8	unitless		0.1		Calculation	06/24/04 14:41 / rp
Alkalinity, Saturated Paste	2.0	meq/L		1.0		ASA10-3	06/24/04 13:00 / jdh
SATURATED PASTE							
Calcium, Saturated Paste	26.3	meq/l		0.05		SW6010B	06/01/04 02:28 / rp
Magnesium, Saturated Paste	12.7	meq/l		0.08		SW6010B	06/01/04 02:28 / rp
Sodium, Saturated Paste	8.01	meq/l		0.04		SW6010B	06/01/04 02:28 / rp
PHYSICAL CHARACTERISTICS							
Sand	9.0	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Silt	45	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Clay	46	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Texture	SiC	unitless				ASA15-5	06/24/04 14:41 / rp
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	25.8	meq/100g		0.09		SW6010B	06/15/04 03:59 / rp
Exchangeable Sodium Percentage	3.1	%		0.1		USDA20b	06/24/04 14:41 / rp
Lime as CaCO3	4.4	wt%		0.1		USDA23c	06/24/04 14:41 / rp
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	1.27	meq/100g		0.04		SW6010B	06/04/04 06:25 / 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: H04050009-059
 Client Sample ID: T2/BHA-10 (36-60)

Report Date: 07/04/04
 Collection Date: 04/15/04 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	3.51	mmhos/cm		0.01		ASAM10-3	06/24/04 14:41 / rp
Chloride, Saturated Paste	0.42	meq/L		0.01		ASA10-3	06/21/04 13:00 / jdh
Saturation	51.7	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
SATURATED PASTE							
Calcium, Saturated Paste	27.3	meq/l		0.05		SW6010B	06/01/04 02:31 / rp
Magnesium, Saturated Paste	12.1	meq/l		0.08		SW6010B	06/01/04 02:31 / rp
Sodium, Saturated Paste	9.11	meq/l		0.04		SW6010B	06/01/04 02:31 / rp
PHYSICAL CHARACTERISTICS							
Sand	15	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Silt	48	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Clay	37	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	2.1	mg/kg		1.0		A4500-F C	06/17/04 13:00 / ddb
Cation Exchange Capacity	22.8	meq/100g		0.09		SW6010B	06/15/04 04:02 / rp
Exchangeable Sodium Percentage	3.2	%		0.1		USDA20b	06/24/04 14:41 / rp
Lime as CaCO3	2.9	wt%		0.1		USDA23c	06/24/04 14:41 / rp
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	1.21	meq/100g		0.04		SW6010B	06/04/04 06:28 / rp
METALS, WATER EXTRACTABLE							
Selenium	0.049	mg/kg		0.010		SW6020	06/28/04 11:51 / car
METALS, CaCL2 EXTRACTABLE							
Barium	0.54	mg/L		0.001		SW6010B	06/16/04 12:07 / rp
Boron	1.3	mg/L		0.04		SW6010B	06/16/04 12:07 / 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: H04050009-060
Client Sample ID: T2/BHA-10 (60-96)

Report Date: 07/04/04
Collection Date: 04/15/04 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	3.17	mmhos/cm		0.01		ASAM10-3	06/24/04 14:41 / rp
Chloride, Saturated Paste	0.42	meq/L		0.01		ASA10-3	06/21/04 13:00 / jdh
Saturation	51.0	wt%		0.1		USDA27a	06/24/04 14:41 / rp
Sodium Adsorption Ratio (SAR)	1.8	unitless		0.1		Calculation	06/24/04 14:41 / rp
Alkalinity, Saturated Paste	2.0	meq/L		1.0		ASA10-3	06/24/04 13:00 / jdh
SATURATED PASTE							
Calcium, Saturated Paste	22.6	meq/l		0.05		SW6010B	06/01/04 02:34 / rp
Magnesium, Saturated Paste	12.6	meq/l		0.08		SW6010B	06/01/04 02:34 / rp
Sodium, Saturated Paste	7.50	meq/l		0.04		SW6010B	06/01/04 02:34 / rp
PHYSICAL CHARACTERISTICS							
Sand	25	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Silt	38	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Clay	37	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Texture	CL	unitless				ASA15-5	06/24/04 14:41 / rp
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	22.2	meq/100g		0.09		SW6010B	06/15/04 04:05 / rp
Exchangeable Sodium Percentage	3.6	%		0.1		USDA20b	06/24/04 14:41 / rp
Lime as CaCO3	6.5	wt%		0.1		USDA23c	06/24/04 14:41 / rp
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	1.18	meq/100g		0.04		SW6010B	06/04/04 06:31 / rp

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

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