



LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring Tier 2
Lab ID: H04050009-062
Client Sample ID: T2/YBA-10 (0-2)

Report Date: 07/04/04
Collection Date: 04/15/04 11:30
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	0.99	meq/L		0.01		ASA10-3	06/21/04 13:00 / jdh
Saturation	50.3	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	4.6	meq/L		1.0		ASA10-3	06/24/04 13:00 / jdh
SATURATED PASTE							
Calcium, Saturated Paste	8.19	meq/l		0.05		SW6010B	06/01/04 02:43 / rp
Magnesium, Saturated Paste	3.33	meq/l		0.08		SW6010B	06/01/04 02:43 / rp
Sodium, Saturated Paste	3.96	meq/l		0.04		SW6010B	06/01/04 02:43 / rp
PHYSICAL CHARACTERISTICS							
Sand	17	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Silt	58	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	23.3	meq/100g		0.09		SW6010B	06/15/04 04:19 / rp
Exchangeable Sodium Percentage	2.0	%		0.1		USDA20b	06/24/04 14:41 / rp
Lime as CaCO3	6.0	wt%		0.1		USDA23c	06/24/04 14:41 / rp
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	0.66	meq/100g		0.04		SW6010B	06/04/04 06:46 / 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: H04050009-063
 Client Sample ID: T2/YBA-10 (0-6)

Report Date: 07/04/04
 Collection Date: 04/15/04 11:30
 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	2.48	mmhos/cm		0.01		ASAM10-3	06/24/04 14:41 / rp
Chloride, Saturated Paste	2.54	meq/L		0.01		ASA10-3	06/21/04 13:00 / jdH
Saturation	49.9	wt%		0.1		USDA27a	06/24/04 14:41 / rp
Sodium Adsorption Ratio (SAR)	2.3	unitless		0.1		Calculation	06/24/04 14:41 / rp
Alkalinity, Saturated Paste	3.8	meq/L		1.0		ASA10-3	06/24/04 13:00 / jdH
Nitrate as N, Saturated Paste	64.6	mg/L		0.6		ASA10-3	06/15/04 11:25 / cwh
Sulfate, Saturated Paste	17.8	meq/L		0.002		ASA10-3	06/20/04 13:00 / rp
SATURATED PASTE							
Calcium, Saturated Paste	14.7	meq/l		0.05		SW6010B	06/01/04 02:52 / rp
Magnesium, Saturated Paste	5.60	meq/l		0.08		SW6010B	06/01/04 02:52 / rp
Sodium, Saturated Paste	7.31	meq/l		0.04		SW6010B	06/01/04 02:52 / rp
PHYSICAL CHARACTERISTICS							
Sand	15	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	26	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Texture	SiL	unitless				ASA15-5	06/24/04 14:41 / rp
CHEMICAL CHARACTERISTICS							
Fluoride	1.6	mg/kg		1.0		A4500-F C	06/17/04 13:00 / ddb
Organic Matter	1.80	wt%		0.02		ASA29-3	06/24/04 14:41 / rp
Cation Exchange Capacity	22.2	meq/100g		0.09		SW6010B	06/15/04 04:22 / rp
Exchangeable Sodium Percentage	3.5	%		0.1		USDA20b	06/24/04 14:41 / rp
Lime as CaCO3	5.8	wt%		0.1		USDA23c	06/24/04 14:41 / rp
Phosphorus	14	mg/kg		0.1		ASA24-5	06/24/04 04:59 / rp
METALS, AMMONIUM ACETATE EXTRACTABLE							
Potassium	147	mg/kg		1		SW6010B	06/04/04 06:49 / rp
Sodium, Extractable	1.15	meq/100g		0.04		SW6010B	06/04/04 06:49 / rp
METALS, WATER EXTRACTABLE							
Selenium	0.084	mg/kg		0.010		SW6020	06/28/04 11:58 / car
METALS, DTPA EXTRACTABLE							
Zinc	0.49	mg/kg		0.02		SW6010B	06/16/04 02:07 / rp

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LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring Tier 2
Lab ID: H04050009-063
Client Sample ID: T2/YBA-10 (0-6)

Report Date: 07/04/04
Collection Date: 04/15/04 11:30
Date Received: 05/03/04
Matrix: Soil

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
METALS, CACL2 EXTRACTABLE							
Barium	4.4	mg/L		0.001		SW6010B	06/16/04 12:10 / rp
Boron	1.4	mg/L		0.04		SW6010B	06/16/04 12:10 / rp

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LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring Tier 2
Lab ID: H04050009-064
Client Sample ID: T2/YBA-10 (6-12)

Report Date: 07/04/04
Collection Date: 04/15/04 11:30
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	2.83	mmhos/cm		0.01		ASAM10-3	06/24/04 14:41 / rp
Chloride, Saturated Paste	5.08	meq/L		0.01		ASA10-3	06/21/04 13:00 / jdH
Saturation	53.0	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	5.4	meq/L		1.0		ASA10-3	06/24/04 13:00 / jdH
Nitrate as N, Saturated Paste	43.7	mg/L		0.6		ASA10-3	06/15/04 11:27 / cwH
Sulfate, Saturated Paste	20.9	meq/L		0.002		ASA10-3	06/20/04 13:00 / rp
SATURATED PASTE							
Calcium, Saturated Paste	15.6	meq/l		0.05		SW6010B	06/01/04 02:55 / rp
Magnesium, Saturated Paste	6.46	meq/l		0.08		SW6010B	06/01/04 02:55 / rp
Sodium, Saturated Paste	9.73	meq/l		0.04		SW6010B	06/01/04 02:55 / rp
PHYSICAL CHARACTERISTICS							
Sand	10	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Silt	63	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	23.8	meq/100g		0.09		SW6010B	06/15/04 04:25 / rp
Exchangeable Sodium Percentage	4.0	%		0.1		USDA20b	06/24/04 14:41 / rp
Lime as CaCO3	6.2	wt%		0.1		USDA23c	06/24/04 14:41 / rp
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	1.46	meq/100g		0.04		SW6010B	06/04/04 06:52 / rp

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LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring Tier 2
Lab ID: H04050009-065
Client Sample ID: T2/YBA-10 (12-24)

Report Date: 07/04/04
Collection Date: 04/15/04 11:30
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	3.48	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	47.4	wt%		0.1		USDA27a	06/24/04 14:41 / rp
Sodium Adsorption Ratio (SAR)	4.8	unitless		0.1		Calculation	06/24/04 14:41 / rp
Alkalinity, Saturated Paste	3.2	meq/L		1.0		ASA10-3	06/24/04 13:00 / jdH
Nitrate as N, Saturated Paste	48.6	mg/L		0.6		ASA10-3	06/15/04 11:29 / cwH
Sulfate, Saturated Paste	29.3	meq/L		0.002		ASA10-3	06/20/04 13:00 / rp
SATURATED PASTE							
Calcium, Saturated Paste	11.7	meq/l		0.05		SW6010B	06/01/04 02:58 / rp
Magnesium, Saturated Paste	7.42	meq/l		0.08		SW6010B	06/01/04 02:58 / rp
Sodium, Saturated Paste	14.7	meq/l		0.04		SW6010B	06/01/04 02:58 / rp
PHYSICAL CHARACTERISTICS							
Sand	14	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Silt	63	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Clay	23	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	22.3	meq/100g		0.09		SW6010B	06/15/04 04:28 / rp
Exchangeable Sodium Percentage	8.3	%		0.1		USDA20b	06/24/04 14:41 / rp
Lime as CaCO3	6.8	wt%		0.1		USDA23c	06/24/04 14:41 / rp
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	2.5	meq/100g				SW6010B	06/06/04 08:15 / rp

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LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring Tier 2
Lab ID: H04050009-066
Client Sample ID: T2/YBA-10 (24-36)

Report Date: 07/04/04
Collection Date: 04/15/04 11:30
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	5.12	mmhos/cm		0.01		ASAM10-3	06/24/04 14:41 / rp
Chloride, Saturated Paste	3.24	meq/L		0.01		ASA10-3	06/21/04 13:00 / jdh
Saturation	43.5	wt%		0.1		USDA27a	06/24/04 14:41 / rp
Sodium Adsorption Ratio (SAR)	5.8	unitless		0.1		Calculation	06/24/04 14:41 / rp
Alkalinity, Saturated Paste	2.4	meq/L		1.0		ASA10-3	06/24/04 13:00 / jdh
SATURATED PASTE							
Calcium, Saturated Paste	18.0	meq/l		0.05		SW6010B	06/01/04 03:04 / rp
Magnesium, Saturated Paste	11.8	meq/l		0.08		SW6010B	06/01/04 03:04 / rp
Sodium, Saturated Paste	22.4	meq/l		0.04		SW6010B	06/01/04 03:04 / rp
PHYSICAL CHARACTERISTICS							
Sand	21	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Silt	58	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	21.5	meq/100g		0.09		SW6010B	06/15/04 04:16 / rp
Exchangeable Sodium Percentage	9.0	%		0.1		USDA20b	06/24/04 14:41 / rp
Lime as CaCO3	6.0	wt%		0.1		USDA23c	06/24/04 14:41 / rp
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	2.9	meq/100g				SW6010B	06/06/04 08:17 / 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: H04050009-067
 Client Sample ID: T2/YBA-10 (36-60)

Report Date: 07/04/04
 Collection Date: 04/15/04 11:30
 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	2.49	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	46.1	wt%		0.1		USDA27a	06/24/04 14:41 / rp
Sodium Adsorption Ratio (SAR)	6.7	unitless		0.1		Calculation	06/24/04 14:41 / rp
Alkalinity, Saturated Paste	3.4	meq/L		1.0		ASA10-3	06/24/04 13:00 / jdh
SATURATED PASTE							
Calcium, Saturated Paste	5.20	meq/l		0.05		SW6010B	06/01/04 03:07 / rp
Magnesium, Saturated Paste	3.28	meq/l		0.08		SW6010B	06/01/04 03:07 / rp
Sodium, Saturated Paste	13.7	meq/l		0.04		SW6010B	06/01/04 03:07 / rp
PHYSICAL CHARACTERISTICS							
Sand	15	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Silt	58	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	1.3	mg/kg		1.0		A4500-F C	06/17/04 13:00 / ddb
Cation Exchange Capacity	19.1	meq/100g		0.09		SW6010B	06/15/04 04:31 / rp
Exchangeable Sodium Percentage	11	%		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	2.6	meq/100g				SW6010B	06/06/04 08:20 / rp
METALS, WATER EXTRACTABLE							
Selenium	0.037	mg/kg		0.010		SW6020	06/28/04 12:02 / car
METALS, CaCL2 EXTRACTABLE							
Barium	2.1	mg/L		0.001		SW6010B	06/16/04 12:19 / rp
Boron	1.2	mg/L		0.04		SW6010B	06/16/04 12:19 / 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: H04050009-068
Client Sample ID: T2/YBA-10 (60-96)

Report Date: 07/04/04
Collection Date: 04/15/04 11:30
Date Received: 05/03/04
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	06/24/04 14:41 / rp
Conductivity, Paste Extract	2.20	mmhos/cm		0.01		ASAM10-3	06/24/04 14:41 / rp
Chloride, Saturated Paste	1.55	meq/L		0.01		ASA10-3	06/21/04 13:00 / jdh
Saturation	46.1	wt%		0.1		USDA27a	06/24/04 14:41 / rp
Sodium Adsorption Ratio (SAR)	10	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
SATURATED PASTE							
Calcium, Saturated Paste	2.78	meq/l		0.05		SW6010B	06/01/04 03:10 / rp
Magnesium, Saturated Paste	1.63	meq/l		0.08		SW6010B	06/01/04 03:10 / rp
Sodium, Saturated Paste	15.2	meq/l		0.04		SW6010B	06/01/04 03:10 / rp
PHYSICAL CHARACTERISTICS							
Sand	23	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Silt	51	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Clay	26	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	23.8	meq/100g		0.09		SW6010B	06/15/04 04:34 / rp
Exchangeable Sodium Percentage	9.5	%		0.1		USDA20b	06/24/04 14:41 / rp
Lime as CaCO3	5.6	wt%		0.1		USDA23c	06/24/04 14:41 / rp
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	2.9	meq/100g				SW6010B	06/06/04 08:23 / rp

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

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