



LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring Tier 2
Lab ID: H04100167-040
Client Sample ID: T2/DB-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	7.3	s.u.		0.1		ASAM10-3.2	11/22/04 07:49 / jdh
Conductivity, Paste Extract	1.39	mmhos/cm		0.01		ASAM10-3	11/22/04 07:49 / jdh
Saturation	56.4	%		0.1		USDA27a	11/22/04 07:49 / jdh
Sodium Adsorption Ratio (SAR)	2.1	unitless		0.01		Calculation	11/22/04 07:49 / jdh
Alkalinity, Saturated Paste	8.6	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 12:59 / cwh
SATURATED PASTE							
Calcium, Saturated Paste	5.62	meq/l		0.05		SW6010B	11/04/04 01:16 / rp
Magnesium, Saturated Paste	3.76	meq/l		0.08		SW6010B	11/04/04 01:16 / rp
Sodium, Saturated Paste	4.47	meq/l		0.04		SW6010B	11/04/04 01:16 / rp
Sulfate, Saturated Paste	3.55	meq/l		0.002		SW6010B	11/04/04 01:16 / rp
PHYSICAL CHARACTERISTICS							
Sand	20	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Silt	44	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Clay	36	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Texture	SiCL	unitless				ASA15-5	11/22/04 07:49 / jdh
CHEMICAL CHARACTERISTICS							
Fluoride	1.2	mg/kg		1.0		A4500-F C	11/22/04 13:00 / jdh
Potassium, NH4OAc Extractable	250	mg/kg		1		ASA13-3	11/22/04 13:00 / jdh
Organic Matter	2.70	%		0.02		ASA29-3	11/22/04 07:49 / jdh
Cation Exchange Capacity	29.9	meq/100g		0.09		SW6010B	11/09/04 03:50 / rp
Lime as CaCO3	4.3	%		0.1		USDA23c	11/09/04 00:00 / jdh
Phosphorus	8.1	mg/kg		0.1		ASA24-5	11/12/04 07:26 / rp
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	0.94	meq/100g		0.04		SW6010B	11/08/04 01:18 / rp
EXCHANGEABLES							
Exchangeable Sodium	0.7	meq/100g		0.1		Calculation	11/22/04 07:49 / jdh
Exchangeable Sodium Percentage	2.3	%		0.1		USDA20a	11/22/04 07:49 / jdh
METALS, DTPA EXTRACTABLE							
Zinc	0.68	mg/kg		0.02		SW6010B	11/09/04 11:09 / rp
METALS, CaCL2 EXTRACTABLE							
Barium	6.5	mg/L		0.04		SW6010B	11/09/04 09:36 / 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	2.0	mg/L		0.04		SW6010B	11/09/04 09:36 / rp
Selenium	ND	mg/L		0.04		SW6010B	11/09/04 09:36 / rp

Report Definitions: RL - Analyte reporting limit.
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MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring Tier 2
Lab ID: H04100167-041
Client Sample ID: T2/DB-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	7.5	s.u.		0.1		ASAM10-3.2	11/22/04 07:49 / jdh
Conductivity, Paste Extract	1.41	mmhos/cm		0.01		ASAM10-3	11/22/04 07:49 / jdh
Saturation	52.1	%		0.1		USDA27a	11/22/04 07:49 / jdh
Sodium Adsorption Ratio (SAR)	3.0	unitless		0.01		Calculation	11/22/04 07:49 / jdh
Alkalinity, Saturated Paste	7.1	meq/L		1.0		ASA10-3	11/22/04 13:00 / jdh
Nitrate as N, Saturated Paste	0.9	mg/L		0.1		ASA10-3	11/10/04 13:03 / cwh
SATURATED PASTE							
Calcium, Saturated Paste	5.14	meq/l		0.05		SW6010B	11/04/04 01:22 / rp
Magnesium, Saturated Paste	3.25	meq/l		0.08		SW6010B	11/04/04 01:22 / rp
Sodium, Saturated Paste	6.23	meq/l		0.04		SW6010B	11/04/04 01:22 / rp
Sulfate, Saturated Paste	6.86	meq/l		0.002		SW6010B	11/04/04 01:22 / rp
PHYSICAL CHARACTERISTICS							
Sand	23	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Silt	47	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Clay	30	%		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	26.0	meq/100g		0.09		SW6010B	11/09/04 03:56 / rp
Lime as CaCO3	5.5	%		0.1		USDA23c	11/09/04 00:00 / jdh
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	1.23	meq/100g		0.04		SW6010B	11/08/04 01:24 / rp
EXCHANGEABLES							
Exchangeable Sodium	0.9	meq/100g		0.1		Calculation	11/22/04 07:49 / jdh
Exchangeable Sodium Percentage	3.5	%		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: H04100167-042
Client Sample ID: T2/DB-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	1.55	mmhos/cm		0.01		ASAM10-3	11/22/04 07:49 / jdh
Saturation	37.1	%		0.1		USDA27a	11/22/04 07:49 / jdh
Sodium Adsorption Ratio (SAR)	4.1	unitless		0.01		Calculation	11/22/04 07:49 / jdh
Alkalinity, Saturated Paste	3.7	meq/L		1.0		ASA10-3	11/22/04 13:00 / jdh
Nitrate as N, Saturated Paste	4.5	mg/L		0.1		ASA10-3	11/10/04 13:06 / cwh
SATURATED PASTE							
Calcium, Saturated Paste	3.86	meq/l		0.05		SW6010B	11/04/04 01:25 / rp
Magnesium, Saturated Paste	2.75	meq/l		0.08		SW6010B	11/04/04 01:25 / rp
Sodium, Saturated Paste	7.44	meq/l		0.04		SW6010B	11/04/04 01:25 / rp
Sulfate, Saturated Paste	9.12	meq/l		0.002		SW6010B	11/04/04 01:25 / rp
PHYSICAL CHARACTERISTICS							
Sand	40	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Silt	44	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Clay	16	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Texture	L	unitless				ASA15-5	11/22/04 07:49 / jdh
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	15.0	meq/100g		0.09		SW6010B	11/09/04 03:59 / rp
Lime as CaCO3	7.6	%		0.1		USDA23c	11/09/04 00:00 / jdh
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	1.34	meq/100g		0.04		SW6010B	11/08/04 01:27 / rp
EXCHANGEABLES							
Exchangeable Sodium	1.1	meq/100g		0.1		Calculation	11/22/04 07:49 / jdh
Exchangeable Sodium Percentage	7.1	%		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: H04100167-043
Client Sample ID: T2/DB-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	1.93	mmhos/cm		0.01		ASAM10-3	11/22/04 07:49 / jdh
Saturation	33.2	%		0.1		USDA27a	11/22/04 07:49 / jdh
Sodium Adsorption Ratio (SAR)	5.6	unitless		0.01		Calculation	11/22/04 07:49 / jdh
Alkalinity, Saturated Paste	3.5	meq/L		1.0		ASA10-3	11/22/04 13:00 / jdh
SATURATED PASTE							
Calcium, Saturated Paste	4.02	meq/l		0.05		SW6010B	11/04/04 01:28 / rp
Magnesium, Saturated Paste	3.16	meq/l		0.08		SW6010B	11/04/04 01:28 / rp
Sodium, Saturated Paste	10.5	meq/l		0.04		SW6010B	11/04/04 01:28 / rp
PHYSICAL CHARACTERISTICS							
Sand	49	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Silt	39	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Clay	12	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Texture	L	unitless				ASA15-5	11/22/04 07:49 / jdh
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	11.3	meq/100g		0.09		SW6010B	11/09/04 04:02 / rp
Lime as CaCO3	7.6	%		0.1		USDA23c	11/09/04 00:00 / jdh
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	1.34	meq/100g		0.04		SW6010B	11/08/04 01:36 / rp
EXCHANGEABLES							
Exchangeable Sodium	1.0	meq/100g		0.1		Calculation	11/22/04 07:49 / jdh
Exchangeable Sodium Percentage	8.8	%		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: H04100167-044
Client Sample ID: T2/DB-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	7.7	s.u.		0.1		ASAM10-3.2	11/22/04 07:49 / jdh
Conductivity, Paste Extract	2.69	mmhos/cm		0.01		ASAM10-3	11/22/04 07:49 / jdh
Saturation	31.9	%		0.1		USDA27a	11/22/04 07:49 / jdh
Sodium Adsorption Ratio (SAR)	4.8	unitless		0.01		Calculation	11/22/04 07:49 / jdh
Alkalinity, Saturated Paste	2.7	meq/L		1.0		ASA10-3	11/22/04 13:00 / jdh
SATURATED PASTE							
Calcium, Saturated Paste	7.33	meq/l		0.05		SW6010B	11/04/04 01:31 / rp
Magnesium, Saturated Paste	6.35	meq/l		0.08		SW6010B	11/04/04 01:31 / rp
Sodium, Saturated Paste	12.4	meq/l		0.04		SW6010B	11/04/04 01:31 / rp
PHYSICAL CHARACTERISTICS							
Sand	60	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Silt	29	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Clay	11	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Texture	SL	unitless				ASA15-5	11/22/04 07:49 / jdh
CHEMICAL CHARACTERISTICS							
Fluoride	ND	mg/kg		1.0		A4500-F C	11/22/04 13:00 / jdh
Cation Exchange Capacity	10.4	meq/100g		0.09		SW6010B	11/09/04 04:05 / rp
Lime as CaCO3	4.1	%		0.1		USDA23c	11/09/04 00:00 / jdh
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	1.33	meq/100g		0.04		SW6010B	11/08/04 01:39 / rp
EXCHANGEABLES							
Exchangeable Sodium	0.9	meq/100g		0.1		Calculation	11/22/04 07:49 / jdh
Exchangeable Sodium Percentage	9.0	%		0.1		USDA20a	11/22/04 07:49 / jdh
METALS, CACL2 EXTRACTABLE							
Barium	2.3	mg/L		0.04		SW6010B	11/09/04 09:42 / rp
Boron	2.0	mg/L		0.04		SW6010B	11/09/04 09:42 / rp
Selenium	ND	mg/L		0.10		SW6010B	11/09/04 09:42 / rp

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LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring Tier 2
Lab ID: H04100167-045
Client Sample ID: T2/DB-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	7.9	s.u.		0.1		ASAM10-3.2	11/22/04 07:49 / jdh
Conductivity, Paste Extract	2.82	mmhos/cm		0.01		ASAM10-3	11/22/04 07:49 / jdh
Saturation	30.0	%		0.1		USDA27a	11/22/04 07:49 / jdh
Sodium Adsorption Ratio (SAR)	7.7	unitless		0.01		Calculation	11/22/04 07:49 / jdh
Alkalinity, Saturated Paste	2.6	meq/L		1.0		ASA10-3	11/22/04 13:00 / jdh
SATURATED PASTE							
Calcium, Saturated Paste	4.41	meq/l		0.05		SW6010B	11/04/04 01:34 / rp
Magnesium, Saturated Paste	5.24	meq/l		0.08		SW6010B	11/04/04 01:34 / rp
Sodium, Saturated Paste	16.8	meq/l		0.04		SW6010B	11/04/04 01:34 / rp
PHYSICAL CHARACTERISTICS							
Sand	67	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Silt	24	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Clay	9.0	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Texture	SL	unitless				ASA15-5	11/22/04 07:49 / jdh
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	9.73	meq/100g		0.09		SW6010B	11/09/04 04:08 / rp
Lime as CaCO3	7.1	%		0.1		USDA23c	11/09/04 00:00 / jdh
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	1.74	meq/100g		0.04		SW6010B	11/08/04 01:42 / rp
EXCHANGEABLES							
Exchangeable Sodium	1.2	meq/100g		0.1		Calculation	11/22/04 07:49 / jdh
Exchangeable Sodium Percentage	13	%		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: H04100167-046
Client Sample ID: T2/DB-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	7.2	s.u.		0.1		ASAM10-3.2	11/22/04 07:49 / jdh
Conductivity, Paste Extract	0.99	mmhos/cm		0.01		ASAM10-3	11/22/04 07:49 / jdh
Saturation	63.4	%		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	7.8	meq/L		1.0		ASA10-3	11/22/04 13:00 / jdh
SATURATED PASTE							
Calcium, Saturated Paste	4.50	meq/l		0.05		SW6010B	11/04/04 01:43 / rp
Magnesium, Saturated Paste	3.14	meq/l		0.08		SW6010B	11/04/04 01:43 / rp
Sodium, Saturated Paste	3.04	meq/l		0.04		SW6010B	11/04/04 01:43 / rp
PHYSICAL CHARACTERISTICS							
Sand	22	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Silt	40	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Clay	38	%		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	28.5	meq/100g		0.09		SW6010B	11/09/04 04:23 / rp
Lime as CaCO3	4.8	%		0.1		USDA23c	11/09/04 00:00 / jdh
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	0.85	meq/100g		0.04		SW6010B	11/08/04 01:45 / rp
EXCHANGEABLES							
Exchangeable Sodium	0.6	meq/100g		0.1		Calculation	11/22/04 07:49 / jdh
Exchangeable Sodium Percentage	2.3	%		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.