



LABORATORY ANALYTICAL REPORT

Client: AMPP
 Project: Tongue River Monitoring Tier 2
 Lab ID: H04100167-017
 Client Sample ID: T2/GC-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	7.9	s.u.		0.1		ASAM10-3.2	11/22/04 07:49 / jdh
Conductivity, Paste Extract	1.12	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)	1.1	unitless		0.01		Calculation	11/22/04 07:49 / jdh
Alkalinity, Saturated Paste	8.8	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 12:37 / cwh
SATURATED PASTE							
Calcium, Saturated Paste	6.22	meq/l		0.05		SW6010B	11/04/04 11:42 / rp
Magnesium, Saturated Paste	3.91	meq/l		0.08		SW6010B	11/04/04 11:42 / rp
Sodium, Saturated Paste	2.50	meq/l		0.04		SW6010B	11/04/04 11:42 / rp
Sulfate, Saturated Paste	3.11	meq/l		0.002		SW6010B	11/04/04 11:42 / rp
PHYSICAL CHARACTERISTICS							
Sand	13	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Silt	51	%		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	1.1	mg/kg		1.0		A4500-F C	11/22/04 13:00 / jdh
Potassium, NH4OAc Extractable	256	mg/kg		1		ASA13-3	11/22/04 13:00 / jdh
Organic Matter	3.30	%		0.02		ASA29-3	11/22/04 07:49 / jdh
Cation Exchange Capacity	30.9	meq/100g		0.09		SW6010B	11/05/04 10:54 / rp
Lime as CaCO3	8.2	%		0.1		USDA23c	11/09/04 00:00 / jdh
Phosphorus	16	mg/kg		0.1		ASA24-5	11/12/04 07:18 / rp
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	0.63	meq/100g		0.04		SW6010B	11/08/04 11:50 / rp
EXCHANGEABLES							
Exchangeable Sodium	0.5	meq/100g		0.1		Calculation	11/22/04 07:49 / jdh
Exchangeable Sodium Percentage	1.6	%		0.1		USDA20a	11/22/04 07:49 / jdh
METALS, DTPA EXTRACTABLE							
Zinc	0.62	mg/kg		0.02		SW6010B	11/09/04 10:54 / rp
METALS, CaCL2 EXTRACTABLE							
Barium	6.8	mg/L		0.04		SW6010B	11/09/04 09:06 / 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	1.5	mg/L		0.04		SW6010B	11/09/04 09:06 / rp
Selenium	ND	mg/L		0.10		SW6010B	11/09/04 09:06 / rp

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LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring Tier 2
Lab ID: H04100167-018
Client Sample ID: T2/GC-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	7.6	s.u.		0.1		ASAM10-3.2	11/22/04 07:49 / jdh
Conductivity, Paste Extract	0.94	mmhos/cm		0.01		ASAM10-3	11/22/04 07:49 / jdh
Saturation	55.8	%		0.1		USDA27a	11/22/04 07:49 / jdh
Sodium Adsorption Ratio (SAR)	1.4	unitless		0.01		Calculation	11/22/04 07:49 / jdh
Alkalinity, Saturated Paste	4.8	meq/L		1.0		ASA10-3	11/22/04 13:00 / jdh
Nitrate as N, Saturated Paste	1.0	mg/L		0.1		ASA10-3	11/10/04 12:39 / cwh
SATURATED PASTE							
Calcium, Saturated Paste	4.45	meq/l		0.05		SW6010B	11/04/04 11:45 / rp
Magnesium, Saturated Paste	2.83	meq/l		0.08		SW6010B	11/04/04 11:45 / rp
Sodium, Saturated Paste	2.74	meq/l		0.04		SW6010B	11/04/04 11:45 / rp
Sulfate, Saturated Paste	3.96	meq/l		0.002		SW6010B	11/04/04 11:45 / rp
PHYSICAL CHARACTERISTICS							
Sand	11	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Silt	52	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Clay	37	%		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	22.6	meq/100g		0.09		SW6010B	11/05/04 10:57 / rp
Lime as CaCO3	8.9	%		0.1		USDA23c	11/09/04 00:00 / jdh
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	0.78	meq/100g		0.04		SW6010B	11/08/04 11:53 / rp
EXCHANGEABLES							
Exchangeable Sodium	0.6	meq/100g		0.1		Calculation	11/22/04 07:49 / jdh
Exchangeable Sodium Percentage	2.8	%		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: H04100167-019
Client Sample ID: T2/GC-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	7.6	s.u.		0.1		ASAM10-3.2	11/22/04 07:49 / jdh
Conductivity, Paste Extract	1.25	mmhos/cm		0.01		ASAM10-3	11/22/04 07:49 / jdh
Saturation	51.1	%		0.1		USDA27a	11/22/04 07:49 / jdh
Sodium Adsorption Ratio (SAR)	1.5	unitless		0.01		Calculation	11/22/04 07:49 / jdh
Alkalinity, Saturated Paste	3.6	meq/L		1.0		ASA10-3	11/22/04 13:00 / jdh
Nitrate as N, Saturated Paste	5.1	mg/L		0.6		ASA10-3	11/10/04 12:41 / cwh
SATURATED PASTE							
Calcium, Saturated Paste	5.32	meq/l		0.05		SW6010B	11/04/04 11:48 / rp
Magnesium, Saturated Paste	3.54	meq/l		0.08		SW6010B	11/04/04 11:48 / rp
Sodium, Saturated Paste	3.23	meq/l		0.04		SW6010B	11/04/04 11:48 / rp
Sulfate, Saturated Paste	7.27	meq/l		0.002		SW6010B	11/04/04 11:48 / rp
PHYSICAL CHARACTERISTICS							
Sand	12	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Silt	54	%		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	25.2	meq/100g		0.09		SW6010B	11/05/04 11:06 / rp
Lime as CaCO3	9.3	%		0.1		USDA23c	11/09/04 00:00 / jdh
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	0.82	meq/100g		0.04		SW6010B	11/08/04 11:56 / rp
EXCHANGEABLES							
Exchangeable Sodium	0.6	meq/100g		0.1		Calculation	11/22/04 07:49 / jdh
Exchangeable Sodium Percentage	2.6	%		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: H04100167-020
Client Sample ID: T2/GC-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	7.7	s.u.		0.1		ASAM10-3.2	11/22/04 07:49 / jdh
Conductivity, Paste Extract	1.43	mmhos/cm		0.01		ASAM10-3	11/22/04 07:49 / jdh
Saturation	43.9	%		0.1		USDA27a	11/22/04 07:49 / jdh
Sodium Adsorption Ratio (SAR)	1.4	unitless		0.01		Calculation	11/22/04 07:49 / jdh
Alkalinity, Saturated Paste	3.3	meq/L		1.0		ASA10-3	11/22/04 13:00 / jdh
SATURATED PASTE							
Calcium, Saturated Paste	6.43	meq/l		0.05		SW6010B	11/04/04 11:57 / rp
Magnesium, Saturated Paste	4.47	meq/l		0.08		SW6010B	11/04/04 11:57 / rp
Sodium, Saturated Paste	3.33	meq/l		0.04		SW6010B	11/04/04 11:57 / rp
PHYSICAL CHARACTERISTICS							
Sand	22	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Silt	50	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Clay	28	%		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	25.0	meq/100g		0.09		SW6010B	11/05/04 11:09 / rp
Lime as CaCO3	9.1	%		0.1		USDA23c	11/09/04 00:00 / jdh
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	0.74	meq/100g		0.04		SW6010B	11/08/04 11:59 / rp
EXCHANGEABLES							
Exchangeable Sodium	0.6	meq/100g		0.1		Calculation	11/22/04 07:49 / jdh
Exchangeable Sodium Percentage	2.4	%		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: H04100167-021
Client Sample ID: T2/GC-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	7.6	s.u.		0.1		ASAM10-3.2	11/22/04 07:49 / jdh
Conductivity, Paste Extract	0.76	mmhos/cm		0.01		ASAM10-3	11/22/04 07:49 / jdh
Saturation	36.7	%		0.1		USDA27a	11/22/04 07:49 / jdh
Sodium Adsorption Ratio (SAR)	1.2	unitless		0.01		Calculation	11/22/04 07:49 / jdh
Alkalinity, Saturated Paste	3.6	meq/L		1.0		ASA10-3	11/22/04 13:00 / jdh
SATURATED PASTE							
Calcium, Saturated Paste	3.80	meq/l		0.05		SW6010B	11/04/04 12:03 / rp
Magnesium, Saturated Paste	2.54	meq/l		0.08		SW6010B	11/04/04 12:03 / rp
Sodium, Saturated Paste	2.14	meq/l		0.04		SW6010B	11/04/04 12:03 / rp
PHYSICAL CHARACTERISTICS							
Sand	40	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Silt	40	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Clay	20	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Texture	L	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	20.9	meq/100g		0.09		SW6010B	11/05/04 11:15 / rp
Lime as CaCO3	8.1	%		0.1		USDA23c	11/09/04 00:00 / jdh
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	0.68	meq/100g		0.04		SW6010B	11/08/04 12:05 / rp
EXCHANGEABLES							
Exchangeable Sodium	0.6	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, CACL2 EXTRACTABLE							
Barium	5.3	mg/L		0.04		SW6010B	11/09/04 09:09 / rp
Boron	1.6	mg/L		0.04		SW6010B	11/09/04 09:09 / rp
Selenium	ND	mg/L		0.10		SW6010B	11/09/04 09:09 / rp

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LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring Tier 2
Lab ID: H04100167-022
Client Sample ID: T2/GC-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	7.5	s.u.		0.1		ASAM10-3.2	11/22/04 07:49 / jdh
Conductivity, Paste Extract	0.65	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)	1.1	unitless		0.01		Calculation	11/22/04 07:49 / jdh
Alkalinity, Saturated Paste	3.8	meq/L		1.0		ASA10-3	11/22/04 13:00 / jdh
SATURATED PASTE							
Calcium, Saturated Paste	2.87	meq/l		0.05		SW6010B	11/04/04 12:06 / rp
Magnesium, Saturated Paste	2.65	meq/l		0.08		SW6010B	11/04/04 12:06 / rp
Sodium, Saturated Paste	1.80	meq/l		0.04		SW6010B	11/04/04 12:06 / rp
PHYSICAL CHARACTERISTICS							
Sand	63	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Silt	26	%		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							
Cation Exchange Capacity	15.1	meq/100g		0.09		SW6010B	11/05/04 11:18 / rp
Lime as CaCO3	6.8	%		0.1		USDA23c	11/09/04 00:00 / jdh
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	0.51	meq/100g		0.04		SW6010B	11/08/04 12:07 / rp
EXCHANGEABLES							
Exchangeable Sodium	0.4	meq/100g		0.1		Calculation	11/22/04 07:49 / jdh
Exchangeable Sodium Percentage	3.0	%		0.1		USDA20a	11/22/04 07:49 / jdh

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

MCL - Maximum contaminant level.
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LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring Tier 2
Lab ID: H04100167-023
Client Sample ID: T2/GC-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	1.29	mmhos/cm		0.01		ASAM10-3	11/22/04 07:49 / jdh
Saturation	69.7	%		0.1		USDA27a	11/22/04 07:49 / jdh
Sodium Adsorption Ratio (SAR)	0.98	unitless		0.01		Calculation	11/22/04 07:49 / jdh
Alkalinity, Saturated Paste	9.2	meq/L		1.0		ASA10-3	11/22/04 13:00 / jdh
SATURATED PASTE							
Calcium, Saturated Paste	5.69	meq/l		0.05		SW6010B	11/04/04 12:09 / rp
Magnesium, Saturated Paste	3.57	meq/l		0.08		SW6010B	11/04/04 12:09 / rp
Sodium, Saturated Paste	2.11	meq/l		0.04		SW6010B	11/04/04 12:09 / rp
PHYSICAL CHARACTERISTICS							
Sand	12	%		1.0		ASA15-5	11/22/04 07:49 / jdh
Silt	53	%		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	31.5	meq/100g		0.09		SW6010B	11/05/04 11:21 / rp
Lime as CaCO3	8.0	%		0.1		USDA23c	11/09/04 00:00 / jdh
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	0.63	meq/100g		0.04		SW6010B	11/08/04 12:10 / rp
EXCHANGEABLES							
Exchangeable Sodium	0.5	meq/100g		0.1		Calculation	11/22/04 07:49 / jdh
Exchangeable Sodium Percentage	1.5	%		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.