



LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring Tier 2
Lab ID: H04050009-008
Client Sample ID: T2/OAA-10 (0-2)

Report Date: 07/04/04
Collection Date: 04/13/04 17:30
Date Received: 05/03/04
Matrix: Soil

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
SATURATED PASTE							
pH, Saturated Paste	7.4	s.u.		0.1		ASAM10-3.2	06/24/04 14:41 / rp
Conductivity, Paste Extract	0.48	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	44.6	wt%		0.1		USDA27a	06/24/04 14:41 / rp
Sodium Adsorption Ratio (SAR)	0.4	unitless		0.1		Calculation	06/24/04 14:41 / rp
Alkalinity, Saturated Paste	7.0	meq/L		1.0		ASA10-3	06/24/04 13:00 / jdh
SATURATED PASTE							
Calcium, Saturated Paste	2.99	meq/l		0.05		SW6010B	06/01/04 11:08 / rp
Magnesium, Saturated Paste	1.25	meq/l		0.08		SW6010B	06/01/04 11:08 / rp
Sodium, Saturated Paste	0.54	meq/l		0.04		SW6010B	06/01/04 11:08 / rp
PHYSICAL CHARACTERISTICS							
Sand	39	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	17	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Texture	L	unitless				ASA15-5	06/24/04 14:41 / rp
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	19.0	meq/100g		0.09		SW6010B	06/15/04 12:29 / rp
Exchangeable Sodium Percentage	2.2	%		0.1		USDA20b	06/24/04 14:41 / rp
Lime as CaCO3	6.9	wt%		0.1		USDA23c	06/24/04 14:41 / rp
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	0.44	meq/100g		0.04		SW6010B	06/04/04 02:56 / 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: H04050009-009
 Client Sample ID: T2/OAA-10 (0-6)

Report Date: 07/04/04
 Collection Date: 04/13/04 17:30
 Date Received: 05/03/04
 Matrix: Soil

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
SATURATED PASTE							
pH, Saturated Paste	7.4	s.u.		0.1		ASAM10-3.2	06/24/04 14:41 / rp
Conductivity, Paste Extract	0.62	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	42.6	wt%		0.1		USDA27a	06/24/04 14:41 / rp
Sodium Adsorption Ratio (SAR)	0.5	unitless		0.1		Calculation	06/24/04 14:41 / rp
Alkalinity, Saturated Paste	7.4	meq/L		1.0		ASA10-3	06/24/04 13:00 / jdH
Nitrate as N, Saturated Paste	1.0	mg/L		0.1		ASA10-3	06/15/04 12:09 / cwh
Sulfate, Saturated Paste	1.18	meq/L		0.002		ASA10-3	06/20/04 13:00 / rp
SATURATED PASTE							
Calcium, Saturated Paste	3.66	meq/l		0.05		SW6010B	06/01/04 11:11 / rp
Magnesium, Saturated Paste	2.02	meq/l		0.08		SW6010B	06/01/04 11:11 / rp
Sodium, Saturated Paste	0.84	meq/l		0.04		SW6010B	06/01/04 11:11 / rp
PHYSICAL CHARACTERISTICS							
Sand	31	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	21	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Texture	L	unitless				ASA15-5	06/24/04 14:41 / rp
CHEMICAL CHARACTERISTICS							
Fluoride	ND	mg/kg		1.0		A4500-F C	06/17/04 13:00 / ddb
Organic Matter	8.90	wt%		0.02		ASA29-3	06/24/04 14:41 / rp
Cation Exchange Capacity	21.6	meq/100g		0.09		SW6010B	06/15/04 12:32 / rp
Exchangeable Sodium Percentage	1.9	%		0.1		USDA20b	06/24/04 14:41 / rp
Lime as CaCO3	7.5	wt%		0.1		USDA23c	06/24/04 14:41 / rp
Phosphorus	7.0	mg/kg		0.1		ASA24-5	06/24/04 04:40 / rp
METALS, AMMONIUM ACETATE EXTRACTABLE							
Potassium	278	mg/kg		1		SW6010B	06/04/04 02:59 / rp
Sodium, Extractable	0.44	meq/100g		0.04		SW6010B	06/04/04 02:59 / rp
METALS, WATER EXTRACTABLE							
Selenium	0.041	mg/kg		0.010		SW6020	06/24/04 21:13 / car
METALS, DTPA EXTRACTABLE							
Zinc	0.63	mg/kg		0.02		SW6010B	06/16/04 01:16 / rp

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LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring Tier 2
Lab ID: H04050009-009
Client Sample ID: T2/OAA-10 (0-6)

Report Date: 07/04/04
Collection Date: 04/13/04 17:30
Date Received: 05/03/04
Matrix: Soil

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
METALS, CACL2 EXTRACTABLE							
Barium	14	mg/L		0.001		SW6010B	06/16/04 11:13 / rp
Boron	1.5	mg/L		0.04		SW6010B	06/16/04 11:13 / rp

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LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring Tier 2
Lab ID: H04050009-010
Client Sample ID: T2/OAA-10 (6-12)

Report Date: 07/04/04
Collection Date: 04/13/04 17:30
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	0.69	mmhos/cm		0.01		ASAM10-3	06/24/04 14:41 / rp
Chloride, Saturated Paste	0.71	meq/L		0.01		ASA10-3	06/21/04 13:00 / jdH
Saturation	38.6	wt%		0.1		USDA27a	06/24/04 14:41 / rp
Sodium Adsorption Ratio (SAR)	0.8	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
Nitrate as N, Saturated Paste	6.2	mg/L		0.6		ASA10-3	06/15/04 10:33 / cwH
Sulfate, Saturated Paste	1.06	meq/L		0.002		ASA10-3	06/20/04 13:00 / rp
SATURATED PASTE							
Calcium, Saturated Paste	2.77	meq/l		0.05		SW6010B	06/01/04 11:20 / rp
Magnesium, Saturated Paste	2.06	meq/l		0.08		SW6010B	06/01/04 11:20 / rp
Sodium, Saturated Paste	1.26	meq/l		0.04		SW6010B	06/01/04 11:20 / rp
PHYSICAL CHARACTERISTICS							
Sand	30	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Silt	49	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	L	unitless				ASA15-5	06/24/04 14:41 / rp
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	19.9	meq/100g		0.09		SW6010B	06/15/04 12:41 / rp
Exchangeable Sodium Percentage	1.9	%		0.1		USDA20b	06/24/04 14:41 / rp
Lime as CaCO3	8.1	wt%		0.1		USDA23c	06/24/04 14:41 / rp
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	0.43	meq/100g		0.04		SW6010B	06/04/04 03:08 / rp

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LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring Tier 2
Lab ID: H04050009-011
Client Sample ID: T2/OAA-10 (12-24)

Report Date: 07/04/04
Collection Date: 04/13/04 17:30
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	0.63	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	33.5	wt%		0.1		USDA27a	06/24/04 14:41 / rp
Sodium Adsorption Ratio (SAR)	1.9	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
Nitrate as N, Saturated Paste	5.0	mg/L		0.6		ASA10-3	06/15/04 10:37 / cwh
Sulfate, Saturated Paste	1.73	meq/L		0.002		ASA10-3	06/20/04 13:00 / rp
SATURATED PASTE							
Calcium, Saturated Paste	2.01	meq/l		0.05		SW6010B	06/01/04 11:26 / rp
Magnesium, Saturated Paste	1.58	meq/l		0.08		SW6010B	06/01/04 11:26 / rp
Sodium, Saturated Paste	2.51	meq/l		0.04		SW6010B	06/01/04 11:26 / rp
PHYSICAL CHARACTERISTICS							
Sand	38	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	17	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Texture	L	unitless				ASA15-5	06/24/04 14:41 / rp
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	16.5	meq/100g		0.09		SW6010B	06/15/04 12:47 / rp
Exchangeable Sodium Percentage	3.6	%		0.1		USDA20b	06/24/04 14:41 / rp
Lime as CaCO3	8.3	wt%		0.1		USDA23c	06/24/04 14:41 / rp
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	0.68	meq/100g		0.04		SW6010B	06/04/04 03:13 / 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: H04050009-012
Client Sample ID: T2/OAA-10 (24-36)

Report Date: 07/04/04
Collection Date: 04/13/04 17:30
Date Received: 05/03/04
Matrix: Soil

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
SATURATED PASTE							
pH, Saturated Paste	7.9	s.u.		0.1		ASAM10-3.2	06/24/04 14:41 / rp
Conductivity, Paste Extract	1.59	mmhos/cm		0.01		ASAM10-3	06/24/04 14:41 / rp
Chloride, Saturated Paste	0.71	meq/L		0.01		ASA10-3	06/21/04 13:00 / jdh
Saturation	33.2	wt%		0.1		USDA27a	06/24/04 14:41 / rp
Sodium Adsorption Ratio (SAR)	2.8	unitless		0.1		Calculation	06/24/04 14:41 / rp
Alkalinity, Saturated Paste	3.6	meq/L		1.0		ASA10-3	06/24/04 13:00 / jdh
SATURATED PASTE							
Calcium, Saturated Paste	4.53	meq/l		0.05		SW6010B	06/01/04 11:28 / rp
Magnesium, Saturated Paste	4.09	meq/l		0.08		SW6010B	06/01/04 11:28 / rp
Sodium, Saturated Paste	5.81	meq/l		0.04		SW6010B	06/01/04 11:28 / rp
PHYSICAL CHARACTERISTICS							
Sand	41	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	15	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Texture	L	unitless				ASA15-5	06/24/04 14:41 / rp
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	14.1	meq/100g		0.09		SW6010B	06/15/04 12:50 / rp
Exchangeable Sodium Percentage	6.0	%		0.1		USDA20b	06/24/04 14:41 / rp
Lime as CaCO3	8.4	wt%		0.1		USDA23c	06/24/04 14:41 / rp
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	1.03	meq/100g		0.04		SW6010B	06/04/04 03:16 / 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: H04050009-013
Client Sample ID: T2/OAA-10 (36-60)

Report Date: 07/04/04
Collection Date: 04/13/04 17:30
Date Received: 05/03/04
Matrix: Soil

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
SATURATED PASTE							
pH, Saturated Paste	7.9	s.u.		0.1		ASAM10-3.2	06/24/04 14:41 / rp
Conductivity, Paste Extract	2.08	mmhos/cm		0.01		ASAM10-3	06/24/04 14:41 / rp
Chloride, Saturated Paste	0.56	meq/L		0.01		ASA10-3	06/21/04 13:00 / jdh
Saturation	36.4	wt%		0.1		USDA27a	06/24/04 14:41 / rp
Sodium Adsorption Ratio (SAR)	3.9	unitless		0.1		Calculation	06/24/04 14:41 / rp
Alkalinity, Saturated Paste	4.4	meq/L		1.0		ASA10-3	06/24/04 13:00 / jdh
SATURATED PASTE							
Calcium, Saturated Paste	4.51	meq/l		0.05		SW6010B	06/01/04 11:31 / rp
Magnesium, Saturated Paste	6.06	meq/l		0.08		SW6010B	06/01/04 11:31 / rp
Sodium, Saturated Paste	8.92	meq/l		0.04		SW6010B	06/01/04 11:31 / rp
PHYSICAL CHARACTERISTICS							
Sand	35	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Silt	46	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Clay	19	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Texture	L	unitless				ASA15-5	06/24/04 14:41 / rp
CHEMICAL CHARACTERISTICS							
Fluoride	1.1	mg/kg		1.0		A4500-F C	06/17/04 13:00 / ddb
Cation Exchange Capacity	16.3	meq/100g		0.09		SW6010B	06/15/04 12:53 / rp
Exchangeable Sodium Percentage	6.4	%		0.1		USDA20b	06/24/04 14:41 / rp
Lime as CaCO3	8.4	wt%		0.1		USDA23c	06/24/04 14:41 / rp
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	1.37	meq/100g		0.04		SW6010B	06/04/04 03:19 / rp
METALS, WATER EXTRACTABLE							
Selenium	0.044	mg/kg		0.010		SW6020	06/24/04 21:20 / car
METALS, CaCl2 EXTRACTABLE							
Barium	3.9	mg/L		0.001		SW6010B	06/16/04 11:16 / rp
Boron	1.4	mg/L		0.04		SW6010B	06/16/04 11:16 / 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: H04050009-014
Client Sample ID: T2/OAA-10 (60-96)

Report Date: 07/04/04
Collection Date: 04/13/04 17:30
Date Received: 05/03/04
Matrix: Soil

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
SATURATED PASTE							
pH, Saturated Paste	8.1	s.u.		0.1		ASAM10-3.2	06/24/04 14:41 / rp
Conductivity, Paste Extract	3.87	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	37.0	wt%		0.1		USDA27a	06/24/04 14:41 / rp
Sodium Adsorption Ratio (SAR)	7.4	unitless		0.1		Calculation	06/24/04 14:41 / rp
Alkalinity, Saturated Paste	2.8	meq/L		1.0		ASA10-3	06/24/04 13:00 / jdh
SATURATED PASTE							
Calcium, Saturated Paste	6.16	meq/l		0.05		SW6010B	06/01/04 11:34 / rp
Magnesium, Saturated Paste	14.5	meq/l		0.08		SW6010B	06/01/04 11:34 / rp
Sodium, Saturated Paste	23.7	meq/l		0.04		SW6010B	06/01/04 11:34 / rp
PHYSICAL CHARACTERISTICS							
Sand	34	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Silt	47	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Clay	19	wt%		1.0		ASA15-5	06/24/04 14:41 / rp
Texture	L	unitless				ASA15-5	06/24/04 14:41 / rp
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	15.3	meq/100g		0.09		SW6010B	06/15/04 12:56 / rp
Exchangeable Sodium Percentage	7.4	%		0.1		USDA20b	06/24/04 14:41 / rp
Lime as CaCO3	8.3	wt%		0.1		USDA23c	06/24/04 14:41 / rp
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	2.00	meq/100g		0.04		SW6010B	06/04/04 03:22 / rp

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

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