



LABORATORY ANALYTICAL REPORT

Client: AMPP
 Project: Tongue River Monitoring
 Lab ID: H03100107-050
 Client Sample ID: T2/BC-10-(0-2)

Report Date: 02/03/04
 Collection Date: 10/15/03 17:00
 Date Received: 10/16/03
 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	12/08/03 13:35 / jdh
Conductivity, Paste Extract	1.05	mmhos/cm		0.01		ASAM10-3	12/08/03 13:35 / jdh
Saturation	53.0	wt%		0.1		USDA27a	12/08/03 13:35 / jdh
Calcium, Saturated Paste	3.4	meq/l		0.1		SW6010B	11/17/03 10:53 / jdh
Magnesium, Saturated Paste	2.8	meq/l		0.1		SW6010B	11/17/03 10:53 / jdh
Sodium, Saturated Paste	2.5	meq/l		0.1		SW6010B	11/17/03 10:53 / jdh
Sodium Adsorption Ratio (SAR)	1.4	unitless		0.1		Calculation	12/08/03 13:35 / jdh
Alkalinity, Saturated Paste	7.8	meq/L		1.0		ASA10-3	11/25/03 00:00 / jdh
Nitrate as N, Saturated Paste	ND	mg/L		0.1		ASA10-3	12/08/03 15:50 / cwh
Sulfate, Saturated Paste	2.5	meq/L		0.2		ASA10-3	11/18/03 12:36 / jdh
PHYSICAL CHARACTERISTICS							
Sand	18	wt%		1.0		ASA15-5	12/08/03 13:35 / jdh
Silt	51	wt%		1.0		ASA15-5	12/08/03 13:35 / jdh
Clay	31	wt%		1.0		ASA15-5	12/08/03 13:35 / jdh
Texture	SiCL	unitless				ASA15-5	12/08/03 13:35 / jdh
CHEMICAL CHARACTERISTICS							
Fluoride	ND	mg/kg		1.0		A4500-F C	11/19/03 14:45 / ddb
Potassium, NH4OAc Extractable	224	mg/kg		1		AAA13-3	01/15/04 00:00 / jdh
Organic Matter	3.20	wt%		0.02		ASA29-3	12/08/03 13:35 / jdh
Cation Exchange Capacity	41.8	meq/100g		0.1		SW6010B	11/17/03 12:33 / jdh
Exchangeable Sodium Percentage	1.4	%		0.1		USDA20b	12/08/03 13:35 / jdh
Lime as CaCO3	9.7	wt%		0.1		USDA23c	10/31/03 00:00 / jms
Phosphorus	36	mg/kg		0.1		ASA24-5	11/18/03 08:58 / jdh
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	0.7	meq/100g		0.1		SW6010B	11/24/03 03:03 / jdh
METALS, HOT WATER EXTRACTABLE							
Barium	ND	mg/kg		5		SW6010B	11/25/03 15:23 / rjh
Boron	ND	mg/kg		1		SW6010B	11/25/03 15:23 / rjh
Selenium	ND	mg/kg		0.05		SW6020	11/20/03 13:25 / car
METALS, DTPA EXTRACTABLE							
Zinc	0.90	mg/kg		0.02		SW6010B	11/14/03 06:25 / 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
Lab ID: H03100107-051
Client Sample ID: T2/BC-10-(0-6)

Report Date: 02/03/04
Collection Date: 10/15/03 17:00
Date Received: 10/16/03
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	12/08/03 13:35 / jdh
Conductivity, Paste Extract	0.82	mmhos/cm		0.01		ASAM10-3	12/08/03 13:35 / jdh
Saturation	53.3	wt%		0.1		USDA27a	12/08/03 13:35 / jdh
Calcium, Saturated Paste	2.8	meq/l		0.1		SW6010B	11/17/03 10:58 / jdh
Magnesium, Saturated Paste	2.2	meq/l		0.1		SW6010B	11/17/03 10:58 / jdh
Sodium, Saturated Paste	2.6	meq/l		0.1		SW6010B	11/17/03 10:58 / jdh
Sodium Adsorption Ratio (SAR)	1.6	unitless		0.1		Calculation	12/08/03 13:35 / jdh
Alkalinity, Saturated Paste	6.4	meq/L		1.0		ASA10-3	11/25/03 00:00 / jdh
Nitrate as N, Saturated Paste	ND	mg/L		0.1		ASA10-3	12/08/03 15:54 / cwh
Sulfate, Saturated Paste	2.2	meq/L		0.2		ASA10-3	11/18/03 12:41 / jdh
PHYSICAL CHARACTERISTICS							
Sand	17	wt%		1.0		ASA15-5	12/08/03 13:35 / jdh
Silt	51	wt%		1.0		ASA15-5	12/08/03 13:35 / jdh
Clay	32	wt%		1.0		ASA15-5	12/08/03 13:35 / jdh
Texture	SiCL	unitless				ASA15-5	12/08/03 13:35 / jdh
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	41.1	meq/100g		0.1		SW6010B	11/17/03 12:38 / jdh
Exchangeable Sodium Percentage	1.7	%		0.1		USDA20b	12/08/03 13:35 / jdh
Lime as CaCO3	9.6	wt%		0.1		USDA23c	10/31/03 00:00 / jms
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	0.8	meq/100g		0.1		SW6010B	11/24/03 03:08 / jdh

Report Definitions: RL - Analyte reporting limit.
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LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring
Lab ID: H03100107-052
Client Sample ID: T2/BC-10-(6-12)

Report Date: 02/03/04
Collection Date: 10/15/03 17:00
Date Received: 10/16/03
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	12/08/03 13:35 / jdh
Conductivity, Paste Extract	0.82	mmhos/cm		0.01		ASAM10-3	12/08/03 13:35 / jdh
Saturation	53.3	wt%		0.1		USDA27a	12/08/03 13:35 / jdh
Calcium, Saturated Paste	2.2	meq/l		0.1		SW6010B	11/17/03 11:01 / jdh
Magnesium, Saturated Paste	1.9	meq/l		0.1		SW6010B	11/17/03 11:01 / jdh
Sodium, Saturated Paste	3.4	meq/l		0.1		SW6010B	11/17/03 11:01 / jdh
Sodium Adsorption Ratio (SAR)	2.4	unitless		0.1		Calculation	12/08/03 13:35 / jdh
Alkalinity, Saturated Paste	5.6	meq/L		1.0		ASA10-3	11/25/03 00:00 / jdh
Nitrate as N, Saturated Paste	0.7	mg/L		0.1		ASA10-3	12/08/03 15:56 / cwh
Sulfate, Saturated Paste	3.2	meq/L		0.2		ASA10-3	11/18/03 12:44 / jdh
PHYSICAL CHARACTERISTICS							
Sand	13	wt%		1.0		ASA15-5	12/08/03 13:35 / jdh
Silt	51	wt%		1.0		ASA15-5	12/08/03 13:35 / jdh
Clay	36	wt%		1.0		ASA15-5	12/08/03 13:35 / jdh
Texture	SiCL	unitless				ASA15-5	12/08/03 13:35 / jdh
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	45.0	meq/100g		0.1		SW6010B	11/17/03 12:41 / jdh
Exchangeable Sodium Percentage	2.0	%		0.1		USDA20b	12/08/03 13:35 / jdh
Lime as CaCO3	9.7	wt%		0.1		USDA23c	10/31/03 00:00 / jms
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	1.1	meq/100g		0.1		SW6010B	11/24/03 03:11 / jdh

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
Lab ID: H03100107-053
Client Sample ID: T2/BC-10-(12-24)

Report Date: 02/03/04
Collection Date: 10/15/03 17:00
Date Received: 10/16/03
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	12/08/03 13:35 / jdh
Conductivity, Paste Extract	1.63	mmhos/cm		0.01		ASAM10-3	12/08/03 13:35 / jdh
Saturation	155	wt%		0.1		USDA27a	12/08/03 13:35 / jdh
Calcium, Saturated Paste	4.1	meq/l		0.1		SW6010B	11/17/03 11:09 / jdh
Magnesium, Saturated Paste	3.6	meq/l		0.1		SW6010B	11/17/03 11:09 / jdh
Sodium, Saturated Paste	8.1	meq/l		0.1		SW6010B	11/17/03 11:09 / jdh
Sodium Adsorption Ratio (SAR)	4.2	unitless		0.1		Calculation	12/08/03 13:35 / jdh
Alkalinity, Saturated Paste	4.4	meq/L		1.0		ASA10-3	11/25/03 00:00 / jdh
PHYSICAL CHARACTERISTICS							
Sand	8.0	wt%		1.0		ASA15-5	12/08/03 13:35 / jdh
Silt	48	wt%		1.0		ASA15-5	12/08/03 13:35 / jdh
Clay	44	wt%		1.0		ASA15-5	12/08/03 13:35 / jdh
Texture	SiC	unitless				ASA15-5	12/08/03 13:35 / jdh
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	50.8	meq/100g		0.1		SW6010B	11/17/03 12:43 / jdh
Exchangeable Sodium Percentage	1.6	%		0.1		USDA20b	12/08/03 13:35 / jdh
Lime as CaCO3	9.4	wt%		0.1		USDA23c	10/31/03 00:00 / jms
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	2.1	meq/100g		0.1		SW6010B	11/24/03 03:13 / jdh

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
Lab ID: H03100107-054
Client Sample ID: T2/BC-10-(24-36)

Report Date: 02/03/04
Collection Date: 10/15/03 17:00
Date Received: 10/16/03
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	12/08/03 13:35 / jdh
Conductivity, Paste Extract	6.00	mmhos/cm		0.01		ASAM10-3	12/08/03 13:35 / jdh
Saturation	61.9	wt%		0.1		USDA27a	12/08/03 13:35 / jdh
Calcium, Saturated Paste	19.4	meq/l		0.1		SW6010B	11/17/03 11:11 / jdh
Magnesium, Saturated Paste	16.4	meq/l		0.1		SW6010B	11/17/03 11:11 / jdh
Sodium, Saturated Paste	24.7	meq/l		0.1		SW6010B	11/17/03 11:11 / jdh
Sodium Adsorption Ratio (SAR)	5.8	unitless		0.1		Calculation	12/08/03 13:35 / jdh
Alkalinity, Saturated Paste	2.8	meq/L		1.0		ASA10-3	11/25/03 00:00 / jdh
PHYSICAL CHARACTERISTICS							
Sand	4.0	wt%		1.0		ASA15-5	12/08/03 13:35 / jdh
Silt	48	wt%		1.0		ASA15-5	12/08/03 13:35 / jdh
Clay	48	wt%		1.0		ASA15-5	12/08/03 13:35 / jdh
Texture	SiC	unitless				ASA15-5	12/08/03 13:35 / jdh
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	43.7	meq/100g		0.1		SW6010B	11/17/03 12:46 / jdh
Exchangeable Sodium Percentage	3.9	%		0.1		USDA20b	12/08/03 13:35 / jdh
Lime as CaCO3	8.9	wt%		0.1		USDA23c	10/31/03 00:00 / jms
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	3.2	meq/100g		0.1		SW6010B	11/24/03 03:16 / jdh

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
Lab ID: H03100107-055
Client Sample ID: T2/BC-10-(36-60)

Report Date: 02/03/04
Collection Date: 10/15/03 17:00
Date Received: 10/16/03
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	12/08/03 13:35 / jdh
Conductivity, Paste Extract	6.90	mmhos/cm		0.01		ASAM10-3	12/08/03 13:35 / jdh
Saturation	66.1	wt%		0.1		USDA27a	12/08/03 13:35 / jdh
Calcium, Saturated Paste	19.9	meq/l		0.1		SW6010B	11/17/03 11:14 / jdh
Magnesium, Saturated Paste	15.0	meq/l		0.1		SW6010B	11/17/03 11:14 / jdh
Sodium, Saturated Paste	34.3	meq/l		0.1		SW6010B	11/17/03 11:14 / jdh
Sodium Adsorption Ratio (SAR)	8.2	unitless		0.1		Calculation	12/08/03 13:35 / jdh
Alkalinity, Saturated Paste	2.8	meq/L		1.0		ASA10-3	11/25/03 00:00 / jdh
PHYSICAL CHARACTERISTICS							
Sand	5.0	wt%		1.0		ASA15-5	12/08/03 13:35 / jdh
Silt	49	wt%		1.0		ASA15-5	12/08/03 13:35 / jdh
Clay	46	wt%		1.0		ASA15-5	12/08/03 13:35 / jdh
Texture	SiC	unitless				ASA15-5	12/08/03 13:35 / jdh
CHEMICAL CHARACTERISTICS							
Fluoride	ND	mg/kg		1.0		A4500-F C	11/19/03 14:45 / ddb
Cation Exchange Capacity	39.1	meq/100g		0.1		SW6010B	11/17/03 12:48 / jdh
Exchangeable Sodium Percentage	4.8	%		0.1		USDA20b	12/08/03 13:35 / jdh
Lime as CaCO3	9.4	wt%		0.1		USDA23c	10/31/03 00:00 / jms
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	4.1	meq/100g		0.1		SW6010B	11/24/03 03:19 / jdh
METALS, HOT WATER EXTRACTABLE							
Barium	ND	mg/kg		5		SW6010B	11/25/03 15:29 / rth
Boron	ND	mg/kg		1		SW6010B	11/25/03 15:29 / rth
Selenium	ND	mg/kg		0.05		SW6020	11/20/03 13:35 / car

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
Lab ID: H03100107-056
Client Sample ID: T2/BC-10-(60-96)

Report Date: 02/03/04
Collection Date: 10/15/03 17:00
Date Received: 10/16/03
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	12/08/03 13:35 / jdh
Conductivity, Paste Extract	6.98	mmhos/cm		0.01		ASAM10-3	12/08/03 13:35 / jdh
Saturation	49.6	wt%		0.1		USDA27a	12/08/03 13:35 / jdh
Calcium, Saturated Paste	20.0	meq/l		0.1		SW6010B	11/17/03 11:17 / jdh
Magnesium, Saturated Paste	13.9	meq/l		0.1		SW6010B	11/17/03 11:17 / jdh
Sodium, Saturated Paste	33.8	meq/l		0.1		SW6010B	11/17/03 11:17 / jdh
Sodium Adsorption Ratio (SAR)	8.2	unitless		0.1		Calculation	12/08/03 13:35 / jdh
Alkalinity, Saturated Paste	3.3	meq/L		1.0		ASA10-3	11/25/03 00:00 / jdh
PHYSICAL CHARACTERISTICS							
Sand	23	wt%		1.0		ASA15-5	12/08/03 13:35 / jdh
Silt	45	wt%		1.0		ASA15-5	12/08/03 13:35 / jdh
Clay	32	wt%		1.0		ASA15-5	12/08/03 13:35 / jdh
Texture	CL	unitless				ASA15-5	12/08/03 13:35 / jdh
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	30.3	meq/100g		0.1		SW6010B	11/17/03 12:51 / jdh
Exchangeable Sodium Percentage	5.0	%		0.1		USDA20b	12/08/03 13:35 / jdh
Lime as CaCO3	10.2	wt%		0.1		USDA23c	10/31/03 00:00 / jms
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	3.2	meq/100g		0.1		SW6010B	11/24/03 03:27 / jdh

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
Lab ID: H03100107-058
Client Sample ID: T2/BC-1-(0-5)

Report Date: 02/03/04
Collection Date: 10/15/03 17:00
Date Received: 10/16/03
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	12/08/03 13:35 / jdh
Conductivity, Paste Extract	1.23	mmhos/cm		0.01		ASAM10-3	12/08/03 13:35 / jdh
Saturation	50.3	wt%		0.1		USDA27a	12/08/03 13:35 / jdh
Calcium, Saturated Paste	4.7	meq/l		0.1		SW6010B	11/17/03 11:22 / jdh
Magnesium, Saturated Paste	3.8	meq/l		0.1		SW6010B	11/17/03 11:22 / jdh
Sodium, Saturated Paste	4.6	meq/l		0.1		SW6010B	11/17/03 11:22 / jdh
Sodium Adsorption Ratio (SAR)	2.2	unitless		0.1		Calculation	12/08/03 13:35 / jdh
Alkalinity, Saturated Paste	9.7	meq/L		1.0		ASA10-3	11/25/03 00:00 / jdh
Nitrate as N, Saturated Paste	1.0	mg/L		0.1		ASA10-3	12/08/03 15:58 / cwh
Sulfate, Saturated Paste	3.6	meq/L		0.2		ASA10-3	11/18/03 12:47 / jdh
PHYSICAL CHARACTERISTICS							
Sand	17	wt%		1.0		ASA15-5	12/08/03 13:35 / jdh
Silt	52	wt%		1.0		ASA15-5	12/08/03 13:35 / jdh
Clay	31	wt%		1.0		ASA15-5	12/08/03 13:35 / jdh
Texture	SiCL	unitless				ASA15-5	12/08/03 13:35 / jdh
CHEMICAL CHARACTERISTICS							
Potassium, NH4OAc Extractable	190	mg/kg		1		AAA13-3	01/15/04 00:00 / jdh
Organic Matter	2.90	wt%		0.02		ASA29-3	12/08/03 13:35 / jdh
Cation Exchange Capacity	45.8	meq/100g		0.1		SW6010B	11/17/03 01:07 / jdh
Exchangeable Sodium Percentage	1.7	%		0.1		USDA20b	12/08/03 13:35 / jdh
Lime as CaCO3	8.0	wt%		0.1		USDA23c	11/13/03 00:00 / nh
Phosphorus	32	mg/kg		0.1		ASA24-5	11/18/03 09:04 / jdh
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	1.0	meq/100g		0.1		SW6010B	11/24/03 03:32 / jdh
CLAY MINEROLOGY							
Smectite	39	%		1		XrayDiffraction	11/07/03 00:00 / wjj
Illite	22	%		1		XrayDiffraction	11/07/03 00:00 / wjj
Kaolinite	34	%		1		XrayDiffraction	11/07/03 00:00 / wjj
Chlorite	5	%		1		XrayDiffraction	11/07/03 00:00 / wjj

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
Lab ID: H03100107-059
Client Sample ID: T2/BC-1-(5-15)

Report Date: 02/03/04
Collection Date: 10/15/03 17:00
Date Received: 10/16/03
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	12/08/03 13:35 / jdh
Conductivity, Paste Extract	1.19	mmhos/cm		0.01		ASAM10-3	12/08/03 13:35 / jdh
Saturation	48.1	wt%		0.1		USDA27a	12/08/03 13:35 / jdh
Calcium, Saturated Paste	3.3	meq/l		0.1		SW6010B	11/17/03 11:25 / jdh
Magnesium, Saturated Paste	2.9	meq/l		0.1		SW6010B	11/17/03 11:25 / jdh
Sodium, Saturated Paste	5.6	meq/l		0.1		SW6010B	11/17/03 11:25 / jdh
Sodium Adsorption Ratio (SAR)	3.2	unitless		0.1		Calculation	12/08/03 13:35 / jdh
Alkalinity, Saturated Paste	6.7	meq/L		1.0		ASA10-3	11/25/03 00:00 / jdh
Nitrate as N, Saturated Paste	2.9	mg/L		0.1		ASA10-3	12/08/03 16:00 / cwh
Sulfate, Saturated Paste	4.6	meq/L		0.2		ASA10-3	11/18/03 12:50 / jdh
PHYSICAL CHARACTERISTICS							
Sand	15	wt%		1.0		ASA15-5	12/08/03 13:35 / jdh
Silt	53	wt%		1.0		ASA15-5	12/08/03 13:35 / jdh
Clay	32	wt%		1.0		ASA15-5	12/08/03 13:35 / jdh
Texture	SiCL	unitless				ASA15-5	12/08/03 13:35 / jdh
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	38.2	meq/100g		0.1		SW6010B	11/17/03 01:09 / jdh
Exchangeable Sodium Percentage	2.9	%		0.1		USDA20b	12/08/03 13:35 / jdh
Lime as CaCO3	8.1	wt%		0.1		USDA23c	11/13/03 00:00 / nh
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	1.4	meq/100g		0.1		SW6010B	11/24/03 03:34 / 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
Lab ID: H03100107-060
Client Sample ID: T2/BC-1-(15-26)

Report Date: 02/03/04
Collection Date: 10/15/03 17:00
Date Received: 10/16/03
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	12/08/03 13:35 / jdh
Conductivity, Paste Extract	3.90	mmhos/cm		0.01		ASAM10-3	12/08/03 13:35 / jdh
Saturation	70.3	wt%		0.1		USDA27a	12/08/03 13:35 / jdh
Calcium, Saturated Paste	4.4	meq/l		0.1		SW6010B	11/17/03 11:27 / jdh
Magnesium, Saturated Paste	5.7	meq/l		0.1		SW6010B	11/17/03 11:27 / jdh
Sodium, Saturated Paste	31.7	meq/l		0.1		SW6010B	11/17/03 11:27 / jdh
Sodium Adsorption Ratio (SAR)	14	unitless		0.1		Calculation	12/08/03 13:35 / jdh
Alkalinity, Saturated Paste	4.4	meq/L		1.0		ASA10-3	11/25/03 00:00 / jdh
Nitrate as N, Saturated Paste	1.9	mg/L		0.1		ASA10-3	12/08/03 16:02 / cwh
Sulfate, Saturated Paste	35.9	meq/L		0.2		ASA10-3	11/18/03 12:53 / jdh
PHYSICAL CHARACTERISTICS							
Sand	ND	wt%		1.0		ASA15-5	12/08/03 13:35 / jdh
Silt	48	wt%		1.0		ASA15-5	12/08/03 13:35 / jdh
Clay	52	wt%		1.0		ASA15-5	12/08/03 13:35 / jdh
Texture	SiC	unitless				ASA15-5	12/08/03 13:35 / jdh
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	48.3	meq/100g		0.1		SW6010B	11/17/03 01:12 / jdh
Exchangeable Sodium Percentage	7.1	%		0.1		USDA20b	12/08/03 13:35 / jdh
Lime as CaCO3	6.6	wt%		0.1		USDA23c	11/13/03 00:00 / nh
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	5.7	meq/100g		0.1		SW6010B	11/24/03 03:37 / jdh
CLAY MINEROLOGY							
Smectite	30	%		1		XrayDiffraction	11/07/03 00:00 / wjj
Illite	26	%		1		XrayDiffraction	11/07/03 00:00 / wjj
Kaolinite	35	%		1		XrayDiffraction	11/07/03 00:00 / wjj
Chlorite	9	%		1		XrayDiffraction	11/07/03 00:00 / wjj

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
Lab ID: H03100107-061
Client Sample ID: T2/BC-1-(26-60)

Report Date: 02/03/04
Collection Date: 10/15/03 17:00
Date Received: 10/16/03
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	12/08/03 13:35 / jdh
Conductivity, Paste Extract	11.6	mmhos/cm		0.01		ASAM10-3	12/08/03 13:35 / jdh
Saturation	82.6	wt%		0.1		USDA27a	12/08/03 13:35 / jdh
Calcium, Saturated Paste	17.8	meq/l		0.1		SW6010B	11/17/03 11:32 / jdh
Magnesium, Saturated Paste	19.9	meq/l		0.1		SW6010B	11/17/03 11:32 / jdh
Sodium, Saturated Paste	87.5	meq/l		0.1		SW6010B	11/17/03 11:32 / jdh
Sodium Adsorption Ratio (SAR)	20	unitless		0.1		Calculation	12/08/03 13:35 / jdh
Alkalinity, Saturated Paste	2.8	meq/L		1.0		ASA10-3	11/25/03 00:00 / jdh
PHYSICAL CHARACTERISTICS							
Sand	ND	wt%		1.0		ASA15-5	12/08/03 13:35 / jdh
Silt	36	wt%		1.0		ASA15-5	12/08/03 13:35 / jdh
Clay	64	wt%		1.0		ASA15-5	12/08/03 13:35 / jdh
Texture	C	unitless				ASA15-5	12/08/03 13:35 / jdh
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	49.3	meq/100g		0.1		SW6010B	11/17/03 01:17 / jdh
Exchangeable Sodium Percentage	12	%		0.1		USDA20b	12/08/03 13:35 / jdh
Lime as CaCO3	4.8	wt%		0.1		USDA23c	11/13/03 00:00 / nh
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	13.1	meq/100g		0.1		SW6010B	11/24/03 03:42 / jdh

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

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