ENERGY LABORATORIES, INC. * P.O. Box 5688 * 3161 East Lyndale Ave.* Helena, MT 59604
Toll Free 877.472.0711 * 406.442.0711 * Fax 406.442.0712 * helena@energylab.com

LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring
Lab ID: H03100082-034
Client Sample ID: T2/DB-10-(0-2")

Report Date: 02/03/04
Collection Date: 10/11/03 17:00
Date Received: 10/14/03
Matrix: Soil

Analyses	Result	Units	Qual	RL	MCL/ QCL	Method	Analysis Date / By
SATURATED PASTE							
pH, Saturated Paste	7.3	s.u.		0.1		ASAM10-3.2	12/01/03 11:37 / jdh
Conductivity, Paste Extract	0.77	mmhos/cm		0.01		ASAM10-3	12/01/03 11:37 / jdh
Saturation	63.7	wt%		0.1		USDA27a	12/01/03 11:37 / jdh
Calcium, Saturated Paste	3.5	meq/l		0.1		SW6010B	10/30/03 02:16 / rp
Magnesium, Saturated Paste	2.4	meq/l		0.1		SW6010B	10/30/03 02:16 / rp
Sodium, Saturated Paste	2.3	meq/l		0.1		SW6010B	10/30/03 02:16 / rp
Sodium Adsorption Ratio (SAR)	1.4	unitless		0.1		Calculation	12/01/03 11:37 / jdh
Alkalinity, Saturated Paste	6.8	meq/L		1.0		ASA10-3	11/25/03 00:00 / jdh
PHYSICAL CHARACTERISTICS							
Sand	17	wt%		1.0		ASA15-5	12/01/03 11:37 / jdh
Silt	43	wt%		1.0		ASA15-5	12/01/03 11:37 / jdh
Clay	40	wt%		1.0		ASA15-5	12/01/03 11:37 / jdh
Texture	SiC	unitless				ASA15-5	12/01/03 11:37 / jdh
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	38.1	meq/100g		0.1		SW6010B	11/11/03 06:40 / jdh
Exchangeable Sodium Percentage	2.4	%		0.1		USDA20b	12/01/03 11:37 / jdh
Lime as CaCO3	3.8	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 12:47 / jdh

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

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LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring
Lab ID: H03100082-035
Client Sample ID: T2/DB-10-(0-6")

Report Date: 02/03/04
Collection Date: 10/11/03 17:00
Date Received: 10/14/03
Matrix: Soil

Analyses	Result	Units	Qual	RL	MCL/ QCL	Method	Analysis Date / By
SATURATED PASTE							
pH, Saturated Paste	7.3	s.u.		0.1		ASAM10-3.2	12/01/03 11:37 / jdh
Conductivity, Paste Extract	0.83	mmhos/cm		0.01		ASAM10-3	12/01/03 11:37 / jdh
Saturation	66.1	wt%		0.1		USDA27a	12/01/03 11:37 / jdh
Calcium, Saturated Paste	3.6	meq/l		0.1		SW6010B	10/30/03 02:18 / rp
Magnesium, Saturated Paste	2.5	meq/l		0.1		SW6010B	10/30/03 02:18 / rp
Sodium, Saturated Paste	3.1	meq/l		0.1		SW6010B	10/30/03 02:18 / rp
Sodium Adsorption Ratio (SAR)	1.8	unitless		0.1		Calculation	12/01/03 11:37 / jdh
Alkalinity, Saturated Paste	6.0	meq/L		1.0		ASA10-3	11/25/03 00:00 / jdh
Nitrate as N, Saturated Paste	0.5	mg/L		0.1		ASA10-3	10/30/03 08:00 / cwh
Sulfate, Saturated Paste	2.6	meq/L		0.1		ASA10-3	10/31/03 08:34 / rp
PHYSICAL CHARACTERISTICS							
Sand	21	wt%		1.0		ASA15-5	12/01/03 11:37 / jdh
Silt	42	wt%		1.0		ASA15-5	12/01/03 11:37 / jdh
Clay	37	wt%		1.0		ASA15-5	12/01/03 11:37 / jdh
Texture	CL	unitless				ASA15-5	12/01/03 11:37 / jdh
CHEMICAL CHARACTERISTICS							
Potassium, NH4OAc Extractable	268	mg/kg		1		AAA13-3	01/15/04 00:00 / jdh
Organic Matter	2.80	wt%		0.02		ASA29-3	12/01/03 11:37 / jdh
Cation Exchange Capacity	33.6	meq/100g		0.1		SW6010B	11/11/03 06:43 / jdh
Exchangeable Sodium Percentage	2.7	%		0.1		USDA20b	12/01/03 11:37 / jdh
Lime as CaCO3	4.1	wt%		0.1		USDA23c	10/31/03 00:00 / jms
Phosphorus	16	mg/kg		0.1		ASA24-5	11/18/03 08:35 / jdh
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	1.1	meq/100g		0.1		SW6010B	11/24/03 12:49 / jdh
METALS, DTPA EXTRACTABLE							
Zinc	0.67	mg/kg		0.02		SW6010B	11/14/03 06:00 / jdh

Report Definitions:
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ND - Not detected at the reporting limit.

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LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring
Lab ID: H03100082-036
Client Sample ID: T2/DB-10-(6-12")

Report Date: 02/03/04
Collection Date: 10/11/03 17:00
Date Received: 10/14/03
Matrix: Soil

Analyses	Result	Units	Qual	RL	MCL/ QCL	Method	Analysis Date / By
SATURATED PASTE							
pH, Saturated Paste	7.6	s.u.		0.1		ASAM10-3.2	12/01/03 11:37 / jdh
Conductivity, Paste Extract	0.83	mmhos/cm		0.01		ASAM10-3	12/01/03 11:37 / jdh
Saturation	51.2	wt%		0.1		USDA27a	12/01/03 11:37 / jdh
Calcium, Saturated Paste	2.7	meq/l		0.1		SW6010B	10/30/03 02:21 / rp
Magnesium, Saturated Paste	1.7	meq/l		0.1		SW6010B	10/30/03 02:21 / rp
Sodium, Saturated Paste	4.3	meq/l		0.1		SW6010B	10/30/03 02:21 / rp
Sodium Adsorption Ratio (SAR)	2.9	unitless		0.1		Calculation	12/01/03 11:37 / jdh
Alkalinity, Saturated Paste	4.2	meq/L		1.0		ASA10-3	11/25/03 00:00 / jdh
Nitrate as N, Saturated Paste	0.6	mg/L		0.1		ASA10-3	10/30/03 08:00 / cwh
Sulfate, Saturated Paste	4.8	meq/L		0.1		ASA10-3	10/31/03 08:37 / rp
PHYSICAL CHARACTERISTICS							
Sand	26	wt%		1.0		ASA15-5	12/01/03 11:37 / jdh
Silt	46	wt%		1.0		ASA15-5	12/01/03 11:37 / jdh
Clay	28	wt%		1.0		ASA15-5	12/01/03 11:37 / jdh
Texture	CL	unitless				ASA15-5	12/01/03 00:00 / jdh
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	25.5	meq/100g		0.1		SW6010B	11/11/03 06:46 / jdh
Exchangeable Sodium Percentage	4.7	%		0.1		USDA20b	12/01/03 11:37 / jdh
Lime as CaCO3	5.0	wt%		0.1		USDA23c	10/31/03 00:00 / jms
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	1.4	meq/100g		0.1		SW6010B	11/24/03 12:52 / jdh

Report Definitions:
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LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring
Lab ID: H03100082-037
Client Sample ID: T2/DB-10-(12-24")

Report Date: 02/03/04
Collection Date: 10/11/03 17:00
Date Received: 10/14/03
Matrix: Soil

Analyses	Result	Units	Qual	RL	MCL/ QCL	Method	Analysis Date / By
SATURATED PASTE							
pH, Saturated Paste	7.7	s.u.		0.1		ASAM10-3.2	12/01/03 11:37 / jdh
Conductivity, Paste Extract	1.57	mmhos/cm		0.01		ASAM10-3	12/01/03 11:37 / jdh
Saturation	42.5	wt%		0.1		USDA27a	12/01/03 11:37 / jdh
Calcium, Saturated Paste	5.0	meq/l		0.1		SW6010B	10/30/03 02:24 / rp
Magnesium, Saturated Paste	3.8	meq/l		0.1		SW6010B	10/30/03 02:24 / rp
Sodium, Saturated Paste	7.2	meq/l		0.1		SW6010B	10/30/03 02:24 / rp
Sodium Adsorption Ratio (SAR)	3.4	unitless		0.1		Calculation	12/01/03 11:37 / jdh
Alkalinity, Saturated Paste	3.4	meq/L		1.0		ASA10-3	11/25/03 00:00 / jdh
Nitrate as N, Saturated Paste	0.8	mg/L		0.1		ASA10-3	10/30/03 08:00 / cwh
Sulfate, Saturated Paste	14.4	meq/L		0.1		ASA10-3	10/31/03 08:40 / rp
PHYSICAL CHARACTERISTICS							
Sand	36	wt%		1.0		ASA15-5	12/01/03 11:37 / jdh
Silt	46	wt%		1.0		ASA15-5	12/01/03 11:37 / jdh
Clay	18	wt%		1.0		ASA15-5	12/01/03 11:37 / jdh
Texture	L	unitless				ASA15-5	12/01/03 00:00 / jdh
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	17.6	meq/100g		0.1		SW6010B	11/11/03 06:48 / jdh
Exchangeable Sodium Percentage	7.0	%		0.1		USDA20b	12/01/03 11:37 / jdh
Lime as CaCO3	7.8	wt%		0.1		USDA23c	10/31/03 00:00 / jms
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	1.5	meq/100g		0.1		SW6010B	11/24/03 12:57 / jdh

Report Definitions:
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ND - Not detected at the reporting limit.

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LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring
Lab ID: H03100082-038
Client Sample ID: T2/DB-10-(24-36")

Report Date: 02/03/04
Collection Date: 10/11/03 17:00
Date Received: 10/14/03
Matrix: Soil

Analyses	Result	Units	Qual	RL	MCL/ QCL	Method	Analysis Date / By
SATURATED PASTE							
pH, Saturated Paste	7.8	s.u.		0.1		ASAM10-3.2	12/01/03 11:37 / jdh
Conductivity, Paste Extract	1.51	mmhos/cm		0.01		ASAM10-3	12/01/03 11:37 / jdh
Saturation	36.7	wt%		0.1		USDA27a	12/01/03 11:37 / jdh
Calcium, Saturated Paste	4.4	meq/l		0.1		SW6010B	10/30/03 02:26 / rp
Magnesium, Saturated Paste	3.9	meq/l		0.1		SW6010B	10/30/03 02:26 / rp
Sodium, Saturated Paste	6.6	meq/l		0.1		SW6010B	10/30/03 02:26 / rp
Sodium Adsorption Ratio (SAR)	3.2	unitless		0.1		Calculation	12/01/03 11:37 / jdh
Alkalinity, Saturated Paste	2.8	meq/L		1.0		ASA10-3	11/25/03 00:00 / jdh
PHYSICAL CHARACTERISTICS							
Sand	44	wt%		1.0		ASA15-5	12/01/03 11:37 / jdh
Silt	42	wt%		1.0		ASA15-5	12/01/03 11:37 / jdh
Clay	14	wt%		1.0		ASA15-5	12/01/03 11:37 / jdh
Texture	L	unitless				ASA15-5	12/01/03 11:37 / jdh
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	13.7	meq/100g		0.1		SW6010B	11/11/03 06:56 / jdh
Exchangeable Sodium Percentage	8.0	%		0.1		USDA20b	12/01/03 11:37 / jdh
Lime as CaCO3	7.7	wt%		0.1		USDA23c	10/31/03 00:00 / jms
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	1.3	meq/100g		0.1		SW6010B	11/24/03 01:00 / jdh

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

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LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring
Lab ID: H03100082-039
Client Sample ID: T2/DB-10-(36-60")

Report Date: 02/03/04
Collection Date: 10/11/03 17:00
Date Received: 10/14/03
Matrix: Soil

Analyses	Result	Units	Qual	RL	MCL/ QCL	Method	Analysis Date / By
SATURATED PASTE							
pH, Saturated Paste	7.8	s.u.		0.1		ASAM10-3.2	12/01/03 11:37 / jdh
Conductivity, Paste Extract	1.33	mmhos/cm		0.01		ASAM10-3	12/01/03 11:37 / jdh
Saturation	31.9	wt%		0.1		USDA27a	12/01/03 11:37 / jdh
Calcium, Saturated Paste	3.3	meq/l		0.1		SW6010B	10/30/03 02:29 / rp
Magnesium, Saturated Paste	2.9	meq/l		0.1		SW6010B	10/30/03 02:29 / rp
Sodium, Saturated Paste	6.6	meq/l		0.1		SW6010B	10/30/03 02:29 / rp
Sodium Adsorption Ratio (SAR)	3.7	unitless		0.1		Calculation	12/01/03 11:37 / jdh
Alkalinity, Saturated Paste	3.6	meq/L		1.0		ASA10-3	11/25/03 00:00 / jdh
PHYSICAL CHARACTERISTICS							
Sand	56	wt%		1.0		ASA15-5	12/01/03 11:37 / jdh
Silt	34	wt%		1.0		ASA15-5	12/01/03 11:37 / jdh
Clay	10	wt%		1.0		ASA15-5	12/01/03 11:37 / jdh
Texture	SL	unitless				ASA15-5	12/01/03 11:37 / jdh
CHEMICAL CHARACTERISTICS							
Fluoride	ND	mg/kg		1.0		A4500-F C	11/19/03 14:45 / ddb
Cation Exchange Capacity	10.9	meq/100g		0.1		SW6010B	11/11/03 06:59 / jdh
Exchangeable Sodium Percentage	8.2	%		0.1		USDA20b	12/01/03 11:37 / jdh
Lime as CaCO3	4.3	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 01:08 / jdh
METALS, HOT WATER EXTRACTABLE							
Barium	ND	mg/kg		5		SW6010B	11/24/03 17:08 / rlh
Boron	ND	mg/kg		1		SW6010B	11/24/03 17:08 / rlh
Selenium	ND	mg/kg		0.05		SW6020	11/20/03 12:41 / car

Report Definitions:
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ND - Not detected at the reporting limit.

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LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring
Lab ID: H03100082-040
Client Sample ID: T2/DB-10-(60-96")

Report Date: 02/03/04
Collection Date: 10/11/03 17:00
Date Received: 10/14/03
Matrix: Soil

Analyses	Result	Units	Qual	RL	MCL/ QCL	Method	Analysis Date / By
SATURATED PASTE							
pH, Saturated Paste	7.9	s.u.		0.1		ASAM10-3.2	12/01/03 11:37 / jdh
Conductivity, Paste Extract	1.57	mmhos/cm		0.01		ASAM10-3	12/01/03 11:37 / jdh
Saturation	32.6	wt%		0.1		USDA27a	12/01/03 11:37 / jdh
Calcium, Saturated Paste	3.5	meq/l		0.1		SW6010B	10/30/03 02:31 / rp
Magnesium, Saturated Paste	4.0	meq/l		0.1		SW6010B	10/30/03 02:31 / rp
Sodium, Saturated Paste	7.8	meq/l		0.1		SW6010B	10/30/03 02:31 / rp
Sodium Adsorption Ratio (SAR)	4.0	unitless		0.1		Calculation	12/01/03 11:37 / jdh
Alkalinity, Saturated Paste	2.0	meq/L		1.0		ASA10-3	11/25/03 00:00 / jdh
PHYSICAL CHARACTERISTICS							
Sand	60	wt%		1.0		ASA15-5	12/01/03 11:37 / jdh
Silt	31	wt%		1.0		ASA15-5	12/01/03 11:37 / jdh
Clay	9.0	wt%		1.0		ASA15-5	12/01/03 11:37 / jdh
Texture	SL	unitless				ASA15-5	12/01/03 11:37 / jdh
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	11.6	meq/100g		0.1		SW6010B	11/11/03 07:02 / jdh
Exchangeable Sodium Percentage	7.4	%		0.1		USDA20b	12/01/03 11:37 / jdh
Lime as CaCO3	6.7	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 01:10 / jdh

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

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LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring
Lab ID: H03100082-042
Client Sample ID: T2/DB-1-(0-6")

Report Date: 02/03/04
Collection Date: 10/11/03 17:00
Date Received: 10/14/03
Matrix: Soil

Analyses	Result	Units	Qual	RL	MCL/ QCL	Method	Analysis Date / By
SATURATED PASTE							
pH, Saturated Paste	7.8	s.u.		0.1		ASAM10-3.2	12/01/03 11:37 / jdh
Conductivity, Paste Extract	2.80	mmhos/cm		0.01		ASAM10-3	12/01/03 11:37 / jdh
Saturation	70.3	wt%		0.1		USDA27a	12/01/03 11:37 / jdh
Calcium, Saturated Paste	3.8	meq/l		0.1		SW6010B	11/08/03 01:49 / jdh
Magnesium, Saturated Paste	2.9	meq/l		0.1		SW6010B	11/08/03 01:49 / jdh
Sodium, Saturated Paste	20.9	meq/l		0.1		SW6010B	11/08/03 01:49 / jdh
Sodium Adsorption Ratio (SAR)	11	unitless		0.1		Calculation	12/01/03 11:37 / jdh
Alkalinity, Saturated Paste	8.7	meq/L		1.0		ASA10-3	11/25/03 00:00 / jdh
Nitrate as N, Saturated Paste	2.4	mg/L		0.1		ASA10-3	11/07/03 08:00 / cwh
Sulfate, Saturated Paste	18.5	meq/L		0.2		ASA10-3	11/18/03 11:47 / jdh
PHYSICAL CHARACTERISTICS							
Sand	6.0	wt%		1.0		ASA15-5	12/01/03 11:37 / jdh
Silt	59	wt%		1.0		ASA15-5	12/01/03 11:37 / jdh
Clay	35	wt%		1.0		ASA15-5	12/01/03 11:37 / jdh
Texture	SiCL	unitless				ASA15-5	12/01/03 11:37 / jdh
CHEMICAL CHARACTERISTICS							
Potassium, NH4OAc Extractable	303	mg/kg		1		AAA13-3	01/15/04 00:00 / jdh
Organic Matter	3.20	wt%		0.02		ASA29-3	12/01/03 11:37 / jdh
Cation Exchange Capacity	33.7	meq/100g		0.1		SW6010B	11/11/03 07:09 / jdh
Exchangeable Sodium Percentage	6.8	%		0.1		USDA20b	12/01/03 11:37 / jdh
Lime as CaCO3	4.9	wt%		0.1		USDA23c	10/31/03 00:00 / jms
Phosphorus	31	mg/kg		0.1		ASA24-5	11/18/03 08:38 / jdh
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	3.8	meq/100g		0.1		SW6010B	11/24/03 01:18 / jdh
METALS, DTPA EXTRACTABLE							
Zinc	0.56	mg/kg		0.02		SW6010B	11/14/03 06:03 / jdh
CLAY MINEROLOGY							
Smectite	35	%		1		XrayDiffraction	11/07/03 00:00 / wjj
Illite	22	%		1		XrayDiffraction	11/07/03 00:00 / wjj
Kaolinite	36	%		1		XrayDiffraction	11/07/03 00:00 / wjj
Chlorite	7	%		1		XrayDiffraction	11/07/03 00:00 / wjj

Report Definitions:
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ND - Not detected at the reporting limit.

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LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring
Lab ID: H03100082-043
Client Sample ID: T2/DB-1-(6-12)

Report Date: 02/03/04
Collection Date: 10/11/03 17:00
Date Received: 10/14/03
Matrix: Soil

Analyses	Result	Units	Qual	RL	MCL/ QCL	Method	Analysis Date / By
SATURATED PASTE							
pH, Saturated Paste	8.4	s.u.		0.1		ASAM10-3.2	12/01/03 11:37 / jdh
Conductivity, Paste Extract	18.9	mmhos/cm		0.01		ASAM10-3	12/01/03 11:37 / jdh
Saturation	70.8	wt%		0.1		USDA27a	12/01/03 11:37 / jdh
Calcium, Saturated Paste	24.6	meq/l		0.2		SW6010B	11/08/03 01:52 / jdh
Magnesium, Saturated Paste	29.4	meq/l		0.2		SW6010B	11/08/03 01:52 / jdh
Sodium, Saturated Paste	169	meq/l		0.4		SW6010B	11/08/03 01:52 / jdh
Sodium Adsorption Ratio (SAR)	33	unitless		0.1		Calculation	12/01/03 11:37 / jdh
Alkalinity, Saturated Paste	5.2	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	11/07/03 08:00 / cwh
Sulfate, Saturated Paste	228	meq/L		0.2		ASA10-3	11/18/03 11:50 / jdh
PHYSICAL CHARACTERISTICS							
Sand	8.0	wt%		1.0		ASA15-5	12/01/03 11:37 / jdh
Silt	62	wt%		1.0		ASA15-5	12/01/03 11:37 / jdh
Clay	30	wt%		1.0		ASA15-5	12/01/03 11:37 / jdh
Texture	SiCL	unitless				ASA15-5	12/01/03 11:37 / jdh
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	26.7	meq/100g		0.1		SW6010B	11/11/03 07:12 / jdh
Exchangeable Sodium Percentage	6.6	%		0.1		USDA20b	12/01/03 11:37 / jdh
Lime as CaCO3	7.9	wt%		0.1		USDA23c	10/31/03 00:00 / jms
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	13.7	meq/100g		0.1		SW6010B	11/24/03 01:21 / jdh

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

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LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring
Lab ID: H03100082-044
Client Sample ID: T2/DB-1-(14-25)

Report Date: 02/03/04
Collection Date: 10/11/03 17:00
Date Received: 10/14/03
Matrix: Soil

Analyses	Result	Units	Qual	RL	MCL/ QCL	Method	Analysis Date / By
SATURATED PASTE							
pH, Saturated Paste	8.9	s.u.		0.1		ASAM10-3.2	12/01/03 11:37 / jdh
Conductivity, Paste Extract	16.5	mmhos/cm		0.01		ASAM10-3	12/01/03 11:37 / jdh
Saturation	83.3	wt%		0.1		USDA27a	12/01/03 11:37 / jdh
Calcium, Saturated Paste	7.3	meq/l		0.2		SW6010B	11/08/03 01:54 / jdh
Magnesium, Saturated Paste	13.2	meq/l		0.2		SW6010B	11/08/03 01:54 / jdh
Sodium, Saturated Paste	160	meq/l		0.4		SW6010B	11/08/03 01:54 / jdh
Sodium Adsorption Ratio (SAR)	50	unitless		0.1		Calculation	12/01/03 11:37 / jdh
Alkalinity, Saturated Paste	5.6	meq/L		1.0		ASA10-3	11/25/03 00:00 / jdh
Nitrate as N, Saturated Paste	2.8	mg/L		0.1		ASA10-3	11/07/03 08:00 / cwh
Sulfate, Saturated Paste	187	meq/L		0.2		ASA10-3	11/18/03 11:53 / jdh
PHYSICAL CHARACTERISTICS							
Sand	4.0	wt%		1.0		ASA15-5	12/01/03 11:37 / jdh
Silt	69	wt%		1.0		ASA15-5	12/01/03 11:37 / jdh
Clay	27	wt%		1.0		ASA15-5	12/01/03 11:37 / jdh
Texture	SiCL	unitless				ASA15-5	12/01/03 11:37 / jdh
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	19.3	meq/100g		0.1		SW6010B	11/11/03 07:15 / jdh
Exchangeable Sodium Percentage	23	%		0.1		USDA20b	12/01/03 11:37 / jdh
Lime as CaCO3	10.3	wt%		0.1		USDA23c	10/31/03 00:00 / jms
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	17.9	meq/100g		0.1		SW6010B	11/24/03 01:23 / jdh
CLAY MINEROLOGY							
Smectite	35	%		1		XrayDiffraction	11/07/03 00:00 / wjj
Illite	26	%		1		XrayDiffraction	11/07/03 00:00 / wjj
Kaolinite	33	%		1		XrayDiffraction	11/07/03 00:00 / wjj
Chlorite	6	%		1		XrayDiffraction	11/07/03 00:00 / wjj

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LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring
Lab ID: H03100082-045
Client Sample ID: T2/DB-1-(25-39)

Report Date: 02/03/04
Collection Date: 10/11/03 17:00
Date Received: 10/14/03
Matrix: Soil

Analyses	Result	Units	Qual	RL	MCL/ QCL	Method	Analysis Date / By
SATURATED PASTE							
pH, Saturated Paste	9.1	s.u.		0.1		ASAM10-3.2	12/01/03 11:37 / jdh
Conductivity, Paste Extract	12.8	mmhos/cm		0.01		ASAM10-3	12/01/03 11:37 / jdh
Saturation	47.0	wt%		0.1		USDA27a	12/01/03 11:37 / jdh
Calcium, Saturated Paste	1.2	meq/l		0.2		SW6010B	11/08/03 01:57 / jdh
Magnesium, Saturated Paste	5.9	meq/l		0.2		SW6010B	11/08/03 01:57 / jdh
Sodium, Saturated Paste	115	meq/l		0.4		SW6010B	11/08/03 01:57 / jdh
Sodium Adsorption Ratio (SAR)	61	unitless		0.1		Calculation	12/01/03 11:37 / jdh
Alkalinity, Saturated Paste	5.7	meq/L		1.0		ASA10-3	11/25/03 00:00 / jdh
PHYSICAL CHARACTERISTICS							
Sand	16	wt%		1.0		ASA15-5	12/01/03 11:37 / jdh
Silt	76	wt%		1.0		ASA15-5	12/01/03 11:37 / jdh
Clay	8.0	wt%		1.0		ASA15-5	12/01/03 11:37 / jdh
Texture	SiL	unitless				ASA15-5	12/01/03 11:37 / jdh
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	10.5	meq/100g		0.1		SW6010B	11/11/03 07:17 / jdh
Exchangeable Sodium Percentage	17	%		0.1		USDA20b	12/01/03 11:37 / jdh
Lime as CaCO3	10.3	wt%		0.1		USDA23c	10/31/03 00:00 / jms
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	7.2	meq/100g		0.1		SW6010B	11/24/03 01:26 / jdh

Report Definitions:
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ND - Not detected at the reporting limit.

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LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring
Lab ID: H03100082-046
Client Sample ID: T2/DB-1-(39-44)

Report Date: 02/03/04
Collection Date: 10/11/03 17:00
Date Received: 10/14/03
Matrix: Soil

Analyses	Result	Units	Qual	RL	MCL/ QCL	Method	Analysis Date / By
SATURATED PASTE							
pH, Saturated Paste	9.2	s.u.		0.1		ASAM10-3.2	12/01/03 11:37 / jdh
Conductivity, Paste Extract	14.6	mmhos/cm		0.01		ASAM10-3	12/01/03 11:37 / jdh
Saturation	60.3	wt%		0.1		USDA27a	12/01/03 11:37 / jdh
Calcium, Saturated Paste	1.2	meq/l		0.2		SW6010B	11/08/03 02:00 / jdh
Magnesium, Saturated Paste	7.3	meq/l		0.2		SW6010B	11/08/03 02:00 / jdh
Sodium, Saturated Paste	136	meq/l		0.4		SW6010B	11/08/03 02:00 / jdh
Sodium Adsorption Ratio (SAR)	66	unitless		0.1		Calculation	12/01/03 11:37 / jdh
Alkalinity, Saturated Paste	6.3	meq/L		1.0		ASA10-3	11/25/03 00:00 / jdh
PHYSICAL CHARACTERISTICS							
Sand	24	wt%		1.0		ASA15-5	12/01/03 11:37 / jdh
Silt	60	wt%		1.0		ASA15-5	12/01/03 11:37 / jdh
Clay	16	wt%		1.0		ASA15-5	12/01/03 11:37 / jdh
Texture	SiL	unitless				ASA15-5	12/01/03 11:37 / jdh
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	15.2	meq/100g		0.1		SW6010B	11/11/03 07:20 / jdh
Exchangeable Sodium Percentage	17	%		0.1		USDA20b	12/01/03 11:37 / jdh
Lime as CaCO3	10	wt%		0.1		USDA23c	10/31/03 00:00 / jms
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	10.8	meq/100g		0.1		SW6010B	11/24/03 01:29 / jdh

Report Definitions:
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ND - Not detected at the reporting limit.

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LABORATORY ANALYTICAL REPORT

Client: AMPP
Project: Tongue River Monitoring
Lab ID: H03100082-047
Client Sample ID: T2/DB-1-(44-60)

Report Date: 02/03/04
Collection Date: 10/11/03 17:00
Date Received: 10/14/03
Matrix: Soil

Analyses	Result	Units	Qual	RL	MCL/ QCL	Method	Analysis Date / By
SATURATED PASTE							
pH, Saturated Paste	9.1	s.u.		0.1		ASAM10-3.2	12/01/03 11:37 / jdh
Conductivity, Paste Extract	6.90	mmhos/cm		0.01		ASAM10-3	12/01/03 11:37 / jdh
Saturation	36.9	wt%		0.1		USDA27a	12/01/03 11:37 / jdh
Calcium, Saturated Paste	1.4	meq/l		0.1		SW6010B	11/08/03 02:02 / jdh
Magnesium, Saturated Paste	2.2	meq/l		0.1		SW6010B	11/08/03 02:02 / jdh
Sodium, Saturated Paste	63.3	meq/l		0.1		SW6010B	11/08/03 02:02 / jdh
Sodium Adsorption Ratio (SAR)	48	unitless		0.1		Calculation	12/01/03 11:37 / jdh
Alkalinity, Saturated Paste	4.9	meq/L		1.0		ASA10-3	11/25/03 00:00 / jdh
PHYSICAL CHARACTERISTICS							
Sand	76	wt%		1.0		ASA15-5	12/01/03 11:37 / jdh
Silt	21	wt%		1.0		ASA15-5	12/01/03 11:37 / jdh
Clay	3.0	wt%		1.0		ASA15-5	12/01/03 11:37 / jdh
Texture	LS	unitless				ASA15-5	12/01/03 11:37 / jdh
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	5.6	meq/100g		0.1		SW6010B	11/11/03 07:28 / jdh
Exchangeable Sodium Percentage	28	%		0.1		USDA20b	12/01/03 11:37 / jdh
Lime as CaCO3	8.6	wt%		0.1		USDA23c	10/31/03 00:00 / jms
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, Extractable	3.9	meq/100g		0.1		SW6010B	11/24/03 01:31 / jdh

Report Definitions:
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QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.