



LABORATORY ANALYTICAL REPORT

Client: AMPP  
 Project: Tongue River Monitoring  
 Lab ID: H03100062-001  
 Client Sample ID: T2/GA-10-(0-6")

Report Date: 01/20/04  
 Collection Date: 10/08/03 17:00  
 Date Received: 10/10/03  
 Matrix: Soil

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
<b>SATURATED PASTE</b>							
pH-SatPst	7.8	s.u.		0.1		ASAM10-3.2	11/17/03 13:25 / rp
COND	0.59	mmhos/cm		0.01		ASAM10-3	11/17/03 13:25 / rp
Percent Sat	45.1	wt%		0.1		USDA27a	11/17/03 13:25 / rp
Ca-SatPst	3.1	meq/l		0.1		SW6010B	10/28/03 02:22 / rp
Mg-SatPst	1.6	meq/l		0.1		SW6010B	10/28/03 02:22 / rp
Na-SatPst	1.4	meq/l		0.1		SW6010B	10/28/03 02:22 / rp
SAR	0.9	unitless		0.1		Calculation	11/17/03 13:25 / rp
Alk-SatPst	4.3	meq/L		1.0		ASA10-3	10/22/03 00:00 / rp
Nitrate as N, Saturated Paste	2.6	mg/L		0.1		ASA10-3	10/30/03 08:00 / cwh
SO4-SatPst	< 0.2	meq/L		0.2		ASA10-3	10/30/03 03:23 / rp
<b>PHYSICAL CHARACTERISTICS</b>							
Sand	29	wt%		1.0		ASA15-5	11/17/03 13:25 / rp
Silt	45	wt%		1.0		ASA15-5	11/17/03 13:25 / rp
Clay	26	wt%		1.0		ASA15-5	11/17/03 13:25 / rp
Texture	L	unitless				ASA15-5	11/17/03 13:25 / rp
C=Clay, S=Sand(y), Si=Silt(y), L=Loam(y)							
<b>CHEMICAL CHARACTERISTICS</b>							
F	1.4	mg/kg		1.0		A4500-F C	10/31/03 11:30 / ddb
K-EXT	198	mg/kg		1		AAA13-3	01/15/04 00:00 / jdh
OM-WB	2.60	wt%		0.02		ASA29-3	11/17/03 13:25 / rp
CEC	29.4	meq/100g		0.1		SW6010B	10/28/03 01:08 / rp
ESP	1.6	%		0.1		USDA20b	11/17/03 13:25 / rp
Lime as CaCO3	5.6	wt%		0.1		USDA23c	10/27/03 00:00 / nh
P-Olsen	14	mg/kg		0.1		ASA24-5	11/04/03 03:45 / rp
<b>METALS, AMMONIUM ACETATE EXTRACTABLE</b>							
Na-Av	0.5	meq/100g		0.1		SW6010B	10/24/03 04:21 / rp
<b>METALS, HOT WATER EXTRACTABLE</b>							
Ba-H2O	< 5	mg/kg		5		SW6020	10/31/03 23:12 / jjw
B-H2O	0.4	mg/kg		0.1		SW6020	10/31/03 23:12 / jjw
Se-H2O	< 0.01	mg/kg		0.01		SW6020	10/31/03 23:12 / jjw
<b>METALS, DTPA EXTRACTABLE</b>							
Zn-DTPA	0.59	mg/kg		0.02		SW6010B	10/31/03 02:20 / 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  
 Lab ID: H03100062-002  
 Client Sample ID: T2/GA-10-(6-12")

Report Date: 01/20/04  
 Collection Date: 10/08/03 17:00  
 Date Received: 10/10/03  
 Matrix: Soil

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
<b>SATURATED PASTE</b>							
pH-SatPst	7.7	s.u.		0.1		ASAM10-3.2	11/17/03 13:25 / rp
COND	0.69	mmhos/cm		0.01		ASAM10-3	11/17/03 13:25 / rp
Percent Sat	43.2	wt%		0.1		USDA27a	11/17/03 13:25 / rp
Ca-SatPst	3.5	meq/l		0.1		SW6010B	10/30/03 12:47 / rp
Mg-SatPst	1.9	meq/l		0.1		SW6010B	10/30/03 12:47 / rp
Na-SatPst	2.4	meq/l		0.1		SW6010B	10/30/03 12:47 / rp
SAR	1.4	unitless		0.1		Calculation	11/17/03 13:25 / rp
Alk-SatPst	5.2	meq/L		1.0		ASA10-3	10/31/03 00:00 / cwh
Nitrate as N, Saturated Paste	0.5	mg/L		0.1		ASA10-3	10/30/03 08:00 / cwh
SO4-SatPst	2.9	meq/L		0.1		ASA10-3	10/31/03 06:54 / rp
<b>PHYSICAL CHARACTERISTICS</b>							
Sand	28	wt%		1.0		ASA15-5	11/17/03 13:25 / rp
Silt	44	wt%		1.0		ASA15-5	11/17/03 13:25 / rp
Clay	28	wt%		1.0		ASA15-5	11/17/03 13:25 / rp
Texture	CL	unitless				ASA15-5	11/17/03 13:25 / rp
C=Clay, S=Sand(y), Si=Silt(y), L=Loam(y)							
<b>CHEMICAL CHARACTERISTICS</b>							
CEC	13.7	meq/100g		0.1		SW6010B	10/31/03 11:12 / rp
ESP	3.5	%		0.1		USDA20b	11/17/03 13:25 / rp
Lime as CaCO3	6.0	wt%		0.1		USDA23c	10/27/03 00:00 / nh
<b>METALS, AMMONIUM ACETATE EXTRACTABLE</b>							
Na-Av	0.6	meq/100g		0.1		SW6010B	10/24/03 04:23 / 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  
 Lab ID: H03100062-003  
 Client Sample ID: T2/GA-10-(12-24")

Report Date: 01/20/04  
 Collection Date: 10/08/03 17:00  
 Date Received: 10/10/03  
 Matrix: Soil

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
<b>SATURATED PASTE</b>							
pH-SatPst	7.9	s.u.		0.1		ASAM10-3.2	11/17/03 13:25 / rp
COND	1.84	mmhos/cm		0.01		ASAM10-3	11/17/03 13:25 / rp
Percent Sat	50.2	wt%		0.1		USDA27a	11/17/03 13:25 / rp
Ca-SatPst	6.3	meq/l		0.1		SW6010B	10/30/03 12:50 / rp
Mg-SatPst	6.4	meq/l		0.1		SW6010B	10/30/03 12:50 / rp
Na-SatPst	8.9	meq/l		0.1		SW6010B	10/30/03 12:50 / rp
SAR	3.5	unitless		0.1		Calculation	11/17/03 13:25 / rp
Alk-SatPst	3.6	meq/L		1.0		ASA10-3	10/31/03 00:00 / cwh
Nitrate as N, Saturated Paste	0.4	mg/L		0.1		ASA10-3	10/30/03 08:00 / cwh
SO4-SatPst	19.6	meq/L		0.1		ASA10-3	10/31/03 06:57 / rp
<b>PHYSICAL CHARACTERISTICS</b>							
Sand	28	wt%		1.0		ASA15-5	11/17/03 13:25 / rp
Silt	44	wt%		1.0		ASA15-5	11/17/03 13:25 / rp
Clay	28	wt%		1.0		ASA15-5	11/17/03 13:25 / rp
Texture	CL	unitless				ASA15-5	11/17/03 13:25 / rp
C=Clay, S=Sand(y), Si=Silt(y), L=Loam(y)							
<b>CHEMICAL CHARACTERISTICS</b>							
CEC	20.5	meq/100g		0.1		SW6010B	10/28/03 01:00 / rp
ESP	5.0	%		0.1		USDA20b	11/17/03 13:25 / rp
Lime as CaCO3	7.3	wt%		0.1		USDA23c	10/27/03 00:00 / nh
<b>METALS, AMMONIUM ACETATE EXTRACTABLE</b>							
Na-Av	1.5	meq/100g		0.1		SW6010B	10/24/03 04:26 / rp

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

**Client:** AMPP  
**Project:** Tongue River Monitoring  
**Lab ID:** H03100062-004  
**Client Sample ID:** T2/GA-10-(24-36")

**Report Date:** 01/20/04  
**Collection Date:** 10/08/03 17:00  
**Date Received:** 10/10/03  
**Matrix:** Soil

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
<b>SATURATED PASTE</b>							
pH-SatPst	8.1	s.u.		0.1		ASAM10-3.2	11/17/03 13:25 / rp
COND	6.80	mmhos/cm		0.01		ASAM10-3	11/17/03 13:25 / rp
Percent Sat	40.1	wt%		0.1		USDA27a	11/17/03 13:25 / rp
Ca-SatPst	21.0	meq/l		0.1		SW6010B	10/28/03 02:25 / rp
Mg-SatPst	32.7	meq/l		0.1		SW6010B	10/28/03 02:25 / rp
Na-SatPst	40.6	meq/l		0.1		SW6010B	10/28/03 02:25 / rp
SAR	7.8	unitless		0.1		Calculation	11/17/03 13:25 / rp
Alk-SatPst	2.2	meq/L		1.0		ASA10-3	10/22/03 00:00 / rp
<b>PHYSICAL CHARACTERISTICS</b>							
Sand	33	wt%		1.0		ASA15-5	11/17/03 13:25 / rp
Silt	45	wt%		1.0		ASA15-5	11/17/03 13:25 / rp
Clay	22	wt%		1.0		ASA15-5	11/17/03 13:25 / rp
Texture	L	unitless				ASA15-5	11/17/03 13:25 / rp
C=Clay, S=Sand(y), Si=Silt(y), L=Loam(y)							
<b>CHEMICAL CHARACTERISTICS</b>							
CEC	22.7	meq/100g		0.1		SW6010B	10/28/03 01:10 / rp
ESP	5.4	%		0.1		USDA20b	11/17/03 13:25 / rp
Lime as CaCO3	7.2	wt%		0.1		USDA23c	10/27/03 00:00 / nh
<b>METALS, AMMONIUM ACETATE EXTRACTABLE</b>							
Na-Av	2.9	meq/100g		0.1		SW6010B	10/24/03 04:29 / rp

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LABORATORY ANALYTICAL REPORT

Client: AMPP  
 Project: Tongue River Monitoring  
 Lab ID: H03100062-005  
 Client Sample ID: T2/GA-10-(36-60")

Report Date: 01/20/04  
 Collection Date: 10/08/03 17:00  
 Date Received: 10/10/03  
 Matrix: Soil

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
<b>SATURATED PASTE</b>							
pH-SatPst	8.0	s.u.		0.1		ASAM10-3.2	11/17/03 13:25 / rp
COND	5.82	mmhos/cm		0.01		ASAM10-3	11/17/03 13:25 / rp
Percent Sat	36.2	wt%		0.1		USDA27a	11/17/03 13:25 / rp
Ca-SatPst	16.8	meq/l		0.1		SW6010B	10/28/03 02:27 / rp
Mg-SatPst	22.9	meq/l		0.1		SW6010B	10/28/03 02:27 / rp
Na-SatPst	37.1	meq/l		0.1		SW6010B	10/28/03 02:27 / rp
SAR	8.3	unitless		0.1		Calculation	11/17/03 13:25 / rp
Alk-SatPst	2.4	meq/L		1.0		ASA10-3	10/22/03 00:00 / rp
<b>PHYSICAL CHARACTERISTICS</b>							
Sand	56	wt%		1.0		ASA15-5	11/17/03 13:25 / rp
Silt	28	wt%		1.0		ASA15-5	11/17/03 13:25 / rp
Clay	16	wt%		1.0		ASA15-5	11/17/03 13:25 / rp
Texture	SL	unitless				ASA15-5	11/17/03 13:25 / rp
C=Clay, S=Sand(y), Si=Silt(y), L=Loam(y)							
<b>CHEMICAL CHARACTERISTICS</b>							
F	1.7	mg/kg		1.0		A4500-F C	10/31/03 11:30 / ddb
CEC	17.5	meq/100g		0.1		SW6010B	10/28/03 01:13 / rp
ESP	7.6	%		0.1		USDA20b	11/17/03 13:25 / rp
Lime as CaCO3	5.5	wt%		0.1		USDA23c	10/27/03 00:00 / nh
<b>METALS, AMMONIUM ACETATE EXTRACTABLE</b>							
Na-Av	2.7	meq/100g		0.1		SW6010B	10/24/03 04:31 / rp
<b>METALS, HOT WATER EXTRACTABLE</b>							
Ba-H2O	< 5	mg/kg		5		SW6020	10/31/03 23:17 / jjw
B-H2O	0.8	mg/kg		0.1		SW6020	10/31/03 23:17 / jjw
Se-H2O	0.02	mg/kg		0.01		SW6020	10/31/03 23:17 / jjw

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



LABORATORY ANALYTICAL REPORT

Client: AMPP  
 Project: Tongue River Monitoring  
 Lab ID: H03100062-006  
 Client Sample ID: T2/GA-10-(60-96")

Report Date: 01/20/04  
 Collection Date: 10/08/03 17:00  
 Date Received: 10/10/03  
 Matrix: Soil

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
<b>SATURATED PASTE</b>							
pH-SatPst	8.1	s.u.		0.1		ASAM10-3.2	11/17/03 13:25 / rp
COND	1.37	mmhos/cm		0.01		ASAM10-3	11/17/03 13:25 / rp
Percent Sat	30.5	wt%		0.1		USDA27a	11/17/03 13:25 / rp
Ca-SatPst	2.4	meq/l		0.1		SW6010B	10/28/03 02:30 / rp
Mg-SatPst	3.2	meq/l		0.1		SW6010B	10/28/03 02:30 / rp
Na-SatPst	7.0	meq/l		0.1		SW6010B	10/28/03 02:30 / rp
SAR	4.2	unitless		0.1		Calculation	11/17/03 13:25 / rp
Alk-SatPst	3.0	meq/L		1.0		ASA10-3	10/22/03 00:00 / rp
<b>PHYSICAL CHARACTERISTICS</b>							
Sand	76	wt%		1.0		ASA15-5	11/17/03 13:25 / rp
Silt	16	wt%		1.0		ASA15-5	11/17/03 13:25 / rp
Clay	8.0	wt%		1.0		ASA15-5	11/17/03 13:25 / rp
Texture	SL	unitless				ASA15-5	11/17/03 13:25 / rp
C=Clay, S=Sand(y), Si=Silt(y), L=Loam(y)							
<b>CHEMICAL CHARACTERISTICS</b>							
CEC	17.0	meq/100g		0.1		SW6010B	10/28/03 01:16 / rp
ESP	3.8	%		0.1		USDA20b	11/17/03 13:25 / rp
Lime as CaCO3	5.3	wt%		0.1		USDA23c	10/27/03 00:00 / nh
<b>METALS, AMMONIUM ACETATE EXTRACTABLE</b>							
Na-Av	0.9	meq/100g		0.1		SW6010B	10/24/03 04:34 / 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  
 Lab ID: H03100062-007  
 Client Sample ID: T2/GA-10-(0-2")

Report Date: 01/20/04  
 Collection Date: 10/08/03 17:00  
 Date Received: 10/10/03  
 Matrix: Soil

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
<b>SATURATED PASTE</b>							
pH-SatPst	7.7	s.u.		0.1		ASAM10-3.2	11/17/03 13:25 / rp
COND	0.76	mmhos/cm		0.01		ASAM10-3	11/17/03 13:25 / rp
Percent Sat	45.1	wt%		0.1		USDA27a	11/17/03 13:25 / rp
Ca-SatPst	4.2	meq/l		0.1		SW6010B	10/28/03 02:32 / rp
Mg-SatPst	2.4	meq/l		0.1		SW6010B	10/28/03 02:32 / rp
Na-SatPst	1.4	meq/l		0.1		SW6010B	10/28/03 02:32 / rp
SAR	0.8	unitless		0.1		Calculation	11/17/03 13:25 / rp
Alk-SatPst	5.9	meq/L		1.0		ASA10-3	10/22/03 00:00 / rp
<b>PHYSICAL CHARACTERISTICS</b>							
Sand	35	wt%		1.0		ASA15-5	11/17/03 13:25 / rp
Silt	41	wt%		1.0		ASA15-5	11/17/03 13:25 / rp
Clay	24	wt%		1.0		ASA15-5	11/17/03 13:25 / rp
Texture	L	unitless				ASA15-5	11/17/03 13:25 / rp
C=Clay, S=Sand(y), Si=Silt(y), L=Loam(y)							
<b>CHEMICAL CHARACTERISTICS</b>							
CEC	33.4	meq/100g		0.1		SW6010B	10/28/03 01:18 / rp
ESP	1.1	%		0.1		USDA20b	11/17/03 13:25 / rp
Lime as CaCO3	5.6	wt%		0.1		USDA23c	10/27/03 00:00 / nh
<b>METALS, AMMONIUM ACETATE EXTRACTABLE</b>							
Na-Av	0.4	meq/100g		0.1		SW6010B	10/24/03 04:42 / 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  
 Lab ID: H03100062-009  
 Client Sample ID: T2/GA-1-(0-6")

Report Date: 01/20/04  
 Collection Date: 10/08/03 17:00  
 Date Received: 10/10/03  
 Matrix: Soil

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
<b>SATURATED PASTE</b>							
pH-SatPst	7.7	s.u.		0.1		ASAM10-3.2	11/17/03 13:25 / rp
COND	0.62	mmhos/cm		0.01		ASAM10-3	11/17/03 13:25 / rp
Percent Sat	66.3	wt%		0.1		USDA27a	11/17/03 13:25 / rp
Ca-SatPst	3.4	meq/l		0.1		SW6010B	10/28/03 02:38 / rp
Mg-SatPst	1.7	meq/l		0.1		SW6010B	10/28/03 02:38 / rp
Na-SatPst	1.5	meq/l		0.1		SW6010B	10/28/03 02:38 / rp
SAR	0.9	unitless		0.1		Calculation	11/17/03 13:25 / rp
Alk-SatPst	4.9	meq/L		1.0		ASA10-3	10/22/03 00:00 / rp
Nitrate as N, Saturated Paste	4.8	mg/L		0.1		ASA10-3	10/30/03 08:00 / cwh
SO4-SatPst	1.4	meq/L		0.1		ASA10-3	10/30/03 03:40 / rp
<b>PHYSICAL CHARACTERISTICS</b>							
Sand	5.0	wt%		1.0		ASA15-5	11/17/03 13:25 / rp
Silt	47	wt%		1.0		ASA15-5	11/17/03 13:25 / rp
Clay	48	wt%		1.0		ASA15-5	11/17/03 13:25 / rp
Texture	SiC	unitless				ASA15-5	11/17/03 13:25 / rp
C=Clay, S=Sand(y), Si=Silt(y), L=Loam(y)							
<b>CHEMICAL CHARACTERISTICS</b>							
K-EXT	299	mg/kg		1		AAA13-3	01/15/04 00:00 / jd
OM-WB	3.10	wt%		0.02		ASA29-3	11/17/03 13:25 / rp
CEC	35.1	meq/100g		0.1		SW6010B	10/28/03 01:29 / rp
ESP	1.2	%		0.1		USDA20b	11/17/03 13:25 / rp
Lime as CaCO3	5.4	wt%		0.1		USDA23c	10/27/03 00:00 / nh
P-Olsen	21	mg/kg		0.1		ASA24-5	11/04/03 03:48 / rp
<b>METALS, AMMONIUM ACETATE EXTRACTABLE</b>							
Na-Av	0.5	meq/100g		0.1		SW6010B	10/24/03 04:47 / rp
<b>METALS, DTPA EXTRACTABLE</b>							
Zn-DTPA	0.70	mg/kg		0.02		SW6010B	10/31/03 02:23 / rp
<b>CLAY MINEROLOGY</b>							
Smectite	3	%		1		XrayDiffraction	11/07/03 00:00 / wjj
Illite	42	%		1		XrayDiffraction	11/07/03 00:00 / wjj
Kaolinite	42	%		1		XrayDiffraction	11/07/03 00:00 / wjj
Chlorite	12	%		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: H03100062-010  
 Client Sample ID: T2/GA-1-(6-12")

Report Date: 01/20/04  
 Collection Date: 10/08/03 17:00  
 Date Received: 10/10/03  
 Matrix: Soil

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
<b>SATURATED PASTE</b>							
pH-SatPst	7.8	s.u.		0.1		ASAM10-3.2	11/17/03 13:25 / rp
COND	0.69	mmhos/cm		0.01		ASAM10-3	11/17/03 13:25 / rp
Percent Sat	55.9	wt%		0.1		USDA27a	11/17/03 13:25 / rp
Ca-SatPst	3.5	meq/l		0.1		SW6010B	10/28/03 02:40 / rp
Mg-SatPst	1.7	meq/l		0.1		SW6010B	10/28/03 02:40 / rp
Na-SatPst	2.2	meq/l		0.1		SW6010B	10/28/03 02:40 / rp
SAR	1.4	unitless		0.1		Calculation	11/17/03 13:25 / rp
Alk-SatPst	3.8	meq/L		1.0		ASA10-3	10/22/03 00:00 / rp
Nitrate as N, Saturated Paste	21.5	mg/L		0.6		ASA10-3	10/30/03 08:00 / cwh
SO4-SatPst	3.1	meq/L		0.1		ASA10-3	10/30/03 03:42 / rp
<b>PHYSICAL CHARACTERISTICS</b>							
Sand	4.0	wt%		1.0		ASA15-5	11/17/03 13:25 / rp
Silt	51	wt%		1.0		ASA15-5	11/17/03 13:25 / rp
Clay	45	wt%		1.0		ASA15-5	11/17/03 13:25 / rp
Texture	SiC	unitless				ASA15-5	11/17/03 13:25 / rp
C=Clay, S=Sand(y), Si=Silt(y), L=Loam(y)							
<b>CHEMICAL CHARACTERISTICS</b>							
CEC	34.9	meq/100g		0.1		SW6010B	10/28/03 01:31 / rp
ESP	1.6	%		0.1		USDA20b	11/17/03 13:25 / rp
Lime as CaCO3	6.8	wt%		0.1		USDA23c	10/27/03 00:00 / nh
<b>METALS, AMMONIUM ACETATE EXTRACTABLE</b>							
Na-Av	0.7	meq/100g		0.1		SW6010B	10/24/03 04:50 / 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  
 Lab ID: H03100062-011  
 Client Sample ID: T2/GA-1-(12-26")

Report Date: 01/20/04  
 Collection Date: 10/08/03 17:00  
 Date Received: 10/10/03  
 Matrix: Soil

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
<b>SATURATED PASTE</b>							
pH-SatPst	7.9	s.u.		0.1		ASAM10-3.2	11/17/03 13:25 / rp
COND	0.63	mmhos/cm		0.01		ASAM10-3	11/17/03 13:25 / rp
Percent Sat	61.3	wt%		0.1		USDA27a	11/17/03 13:25 / rp
Ca-SatPst	2.7	meq/l		0.1		SW6010B	10/28/03 02:45 / rp
Mg-SatPst	1.3	meq/l		0.1		SW6010B	10/28/03 02:45 / rp
Na-SatPst	1.8	meq/l		0.1		SW6010B	10/28/03 02:45 / rp
SAR	1.3	unitless		0.1		Calculation	11/17/03 13:25 / rp
Alk-SatPst	2.0	meq/L		1.0		ASA10-3	10/22/03 00:00 / rp
Nitrate as N, Saturated Paste	3.3	mg/L		0.1		ASA10-3	10/30/03 08:00 / cwh
SO4-SatPst	3.6	meq/L		0.1		ASA10-3	10/30/03 03:48 / rp
<b>PHYSICAL CHARACTERISTICS</b>							
Sand	< 1.0	wt%		1.0		ASA15-5	11/17/03 13:25 / rp
Silt	54	wt%		1.0		ASA15-5	11/17/03 13:25 / rp
Clay	46	wt%		1.0		ASA15-5	11/17/03 13:25 / rp
Texture	SiC	unitless				ASA15-5	11/17/03 13:25 / rp
C=Clay, S=Sand(y), Si=Silt(y), L=Loam(y)							
<b>CHEMICAL CHARACTERISTICS</b>							
CEC	40.1	meq/100g		0.1		SW6010B	10/28/03 01:37 / rp
ESP	1.5	%		0.1		USDA20b	11/17/03 13:25 / rp
Lime as CaCO3	6.2	wt%		0.1		USDA23c	10/27/03 00:00 / nh
<b>METALS, AMMONIUM ACETATE EXTRACTABLE</b>							
Na-Av	0.7	meq/100g		0.1		SW6010B	10/24/03 04:55 / rp
<b>CLAY MINEROLOGY</b>							
Smectite	25	%		1		XrayDiffraction	11/07/03 00:00 / wjj
Illite	31	%		1		XrayDiffraction	11/07/03 00:00 / wjj
Kaolinite	38	%		1		XrayDiffraction	11/07/03 00:00 / wjj
Chlorite	7	%		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: H03100062-012  
 Client Sample ID: T2/GA-1-(26-42")

Report Date: 01/20/04  
 Collection Date: 10/08/03 17:00  
 Date Received: 10/10/03  
 Matrix: Soil

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
<b>SATURATED PASTE</b>							
pH-SatPst	7.9	s.u.		0.1		ASAM10-3.2	11/17/03 13:25 / rp
COND	0.58	mmhos/cm		0.01		ASAM10-3	11/17/03 13:25 / rp
Percent Sat	59.1	wt%		0.1		USDA27a	11/17/03 13:25 / rp
Ca-SatPst	2.5	meq/l		0.1		SW6010B	10/28/03 02:48 / rp
Mg-SatPst	1.4	meq/l		0.1		SW6010B	10/28/03 02:48 / rp
Na-SatPst	1.8	meq/l		0.1		SW6010B	10/28/03 02:48 / rp
SAR	1.3	unitless		0.1		Calculation	11/17/03 13:25 / rp
Alk-SatPst	2.2	meq/L		1.0		ASA10-3	10/22/03 00:00 / rp
<b>PHYSICAL CHARACTERISTICS</b>							
Sand	< 1.0	wt%		1.0		ASA15-5	11/17/03 13:25 / rp
Silt	54	wt%		1.0		ASA15-5	11/17/03 13:25 / rp
Clay	46	wt%		1.0		ASA15-5	11/17/03 13:25 / rp
Texture	SiC	unitless				ASA15-5	11/17/03 13:25 / rp
C=Clay, S=Sand(y), Si=Silt(y), L=Loam(y)							
<b>CHEMICAL CHARACTERISTICS</b>							
CEC	36.7	meq/100g		0.1		SW6010B	10/28/03 01:39 / rp
ESP	1.2	%		0.1		USDA20b	11/17/03 13:25 / rp
Lime as CaCO3	7.1	wt%		0.1		USDA23c	10/27/03 00:00 / nh
<b>METALS, AMMONIUM ACETATE EXTRACTABLE</b>							
Na-Av	0.6	meq/100g		0.1		SW6010B	10/24/03 04:57 / 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  
 Lab ID: H03100062-013  
 Client Sample ID: T2/GA-1-(42-49")

Report Date: 01/20/04  
 Collection Date: 10/08/03 17:00  
 Date Received: 10/10/03  
 Matrix: Soil

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
<b>SATURATED PASTE</b>							
pH-SatPst	7.9	s.u.		0.1		ASAM10-3.2	11/17/03 13:25 / rp
COND	0.67	mmhos/cm		0.01		ASAM10-3	11/17/03 13:25 / rp
Percent Sat	51.2	wt%		0.1		USDA27a	11/17/03 13:25 / rp
Ca-SatPst	2.8	meq/l		0.1		SW6010B	10/28/03 02:51 / rp
Mg-SatPst	2.0	meq/l		0.1		SW6010B	10/28/03 02:51 / rp
Na-SatPst	1.9	meq/l		0.1		SW6010B	10/28/03 02:51 / rp
SAR	1.2	unitless		0.1		Calculation	11/17/03 13:25 / rp
Alk-SatPst	2.2	meq/L		1.0		ASA10-3	10/22/03 00:00 / rp
<b>PHYSICAL CHARACTERISTICS</b>							
Sand	5.0	wt%		1.0		ASA15-5	11/17/03 13:25 / rp
Silt	63	wt%		1.0		ASA15-5	11/17/03 13:25 / rp
Clay	32	wt%		1.0		ASA15-5	11/17/03 13:25 / rp
Texture	SiCL	unitless				ASA15-5	11/17/03 13:25 / rp
C=Clay, S=Sand(y), Si=Silt(y), L=Loam(y)							
<b>CHEMICAL CHARACTERISTICS</b>							
CEC	38.0	meq/100g		0.1		SW6010B	10/28/03 01:42 / rp
ESP	1.4	%		0.1		USDA20b	11/17/03 13:25 / rp
Lime as CaCO3	7.3	wt%		0.1		USDA23c	10/27/03 00:00 / nh
<b>METALS, AMMONIUM ACETATE EXTRACTABLE</b>							
Na-Av	0.6	meq/100g		0.1		SW6010B	10/24/03 05:00 / 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  
 Lab ID: H03100062-014  
 Client Sample ID: T2/GA-1-(49-72")

Report Date: 01/20/04  
 Collection Date: 10/08/03 17:00  
 Date Received: 10/10/03  
 Matrix: Soil

Analyses	Result	Units	Qual	MCL/		Method	Analysis Date / By
				RL	QCL		
<b>SATURATED PASTE</b>							
pH-SatPst	8.0	s.u.		0.1		ASAM10-3.2	11/17/03 13:25 / rp
COND	0.89	mmhos/cm		0.01		ASAM10-3	11/17/03 13:25 / rp
Percent Sat	64.7	wt%		0.1		USDA27a	11/17/03 13:25 / rp
Ca-SatPst	2.8	meq/l		0.1		SW6010B	10/28/03 02:53 / rp
Mg-SatPst	2.9	meq/l		0.1		SW6010B	10/28/03 02:53 / rp
Na-SatPst	2.4	meq/l		0.1		SW6010B	10/28/03 02:53 / rp
SAR	1.4	unitless		0.1		Calculation	11/17/03 13:25 / rp
Alk-SatPst	2.4	meq/L		1.0		ASA10-3	10/22/03 00:00 / rp
<b>PHYSICAL CHARACTERISTICS</b>							
Sand	< 1.0	wt%		1.0		ASA15-5	11/17/03 13:25 / rp
Silt	58	wt%		1.0		ASA15-5	11/17/03 13:25 / rp
Clay	42	wt%		1.0		ASA15-5	11/17/03 13:25 / rp
Texture	SiC	unitless				ASA15-5	11/17/03 13:25 / rp
C=Clay, S=Sand(y), Si=Silt(y), L=Loam(y)							
<b>CHEMICAL CHARACTERISTICS</b>							
CEC	31.4	meq/100g		0.1		SW6010B	10/28/03 01:44 / rp
ESP	1.8	%		0.1		USDA20b	11/17/03 13:25 / rp
Lime as CaCO3	7.2	wt%		0.1		USDA23c	10/27/03 00:00 / nh
<b>METALS, AMMONIUM ACETATE EXTRACTABLE</b>							
Na-Av	0.7	meq/100g		0.1		SW6010B	10/24/03 05:03 / rp

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

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