



LABORATORY ANALYTICAL REPORT

Client: Marathon Ashland Pipeline
Site Name: PDC AMPP

Report Date: 01/15/10

Lab ID: B09121817-001
Client Sample ID: PF, 0-2 inches
Matrix: Soil

Collection Date: 12/23/09
Date Received: 12/23/09

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	19	%		1		ASA15-5	01/13/10 07:48 / srm
Silt	42	%		1		ASA15-5	01/13/10 07:48 / srm
Clay	39	%		1		ASA15-5	01/13/10 07:48 / srm
Texture	SiCL					ASA15-5	01/13/10 07:48 / srm
- C = Clay, S = Sand(y), Si = Silt(y), L = Loam(y)							
SATURATED PASTE							
pH, sat. paste	6.80	s.u.		0.10		ASAM10-3.2	01/13/10 08:41 / srm
Conductivity, sat. paste	0.98	mmhos/cm		0.01		ASA10-3	01/13/10 08:41 / srm
Saturation	82.9	%		0.1		USDA27a	01/13/10 08:41 / srm
Calcium, sat. paste	6.33	meq/L		0.05		SW6010B	01/13/10 19:52 / tao
Magnesium, sat. paste	4.05	meq/L		0.08		SW6010B	01/13/10 19:52 / tao
Sodium, sat. paste	0.59	meq/L		0.04		SW6010B	01/13/10 19:52 / tao
Sodium Adsorption Ratio (SAR)	0.26	unitless		0.01		Calculation	01/14/10 10:32 / srm
CHEMICAL CHARACTERISTICS							
Lime as CaCO3	1.2	%		0.1		USDA23c	01/14/10 07:10 / srm
EXCHANGEABLES							
Cation Exchange Capacity	44.9	meq/100g	D	0.1		SW6010B	01/14/10 20:53 / tao
Exchangeable Sodium Percentage	0.15	%		0.01		USDA20a	01/15/10 11:28 / srm
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, extractable	0.11	meq/100g	D	0.0029		SW6010B	01/04/10 23:03 / tao

Report RL - Analyte reporting limit.

Definitions: QCL - Quality control limit.

D - RL increased due to sample matrix interference.

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: Marathon Ashland Pipeline
 Site Name: PDC AMPP

Report Date: 01/15/10

Lab ID: B09121817-002
 Client Sample ID: PF, 0-6 inches
 Matrix: Soil

Collection Date: 12/23/09
 Date Received: 12/23/09

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	17	%		1		ASA15-5	01/13/10 07:48 / srm
Silt	43	%		1		ASA15-5	01/13/10 07:48 / srm
Clay	40	%		1		ASA15-5	01/13/10 07:48 / srm
Texture	SiC					ASA15-5	01/13/10 07:48 / srm
- C = Clay, S = Sand(y), Si = Silt(y), L = Loam(y)							
SATURATED PASTE							
pH, sat. paste	6.90	s.u.		0.10		ASAM10-3.2	01/13/10 08:41 / srm
Conductivity, sat. paste	0.58	mmhos/cm		0.01		ASA10-3	01/13/10 08:41 / srm
Saturation	80.9	%		0.1		USDA27a	01/13/10 08:41 / srm
Calcium, sat. paste	3.51	meq/L		0.05		SW6010B	01/13/10 20:03 / tao
Magnesium, sat. paste	2.24	meq/L		0.08		SW6010B	01/13/10 20:03 / tao
Sodium, sat. paste	0.54	meq/L		0.04		SW6010B	01/13/10 20:03 / tao
Sodium Adsorption Ratio (SAR)	0.32	unitless		0.01		Calculation	01/14/10 10:32 / srm
Sulfate, sat. paste	28	mg/L		1		ASA10-3	01/13/10 16:17 / kh
CHEMICAL CHARACTERISTICS							
Lime as CaCO3	1.2	%		0.1		USDA23c	01/14/10 07:10 / srm
Phosphorus, Olsen	7	mg/kg		1		ASA24-5	01/08/10 10:29 / srm
Nitrate as N, KCL Extract	4	mg/kg		1		ASA33-8	12/31/09 14:25 / srm
Organic Matter	6.26	%		0.02		ASA29-3	01/07/10 16:08 / srm
EXCHANGEABLES							
Cation Exchange Capacity	44.6	meq/100g	D	0.1		SW6010B	01/14/10 21:01 / tao
Exchangeable Sodium Percentage	0.25	%		0.01		USDA20a	01/15/10 11:28 / srm
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, extractable	0.15	meq/100g	D	0.0029		SW6010B	01/04/10 23:07 / tao
Potassium, available	272	mg/kg	D	0.11		SW6010B	01/04/10 23:07 / tao
METALS, DTPA EXTRACTABLE							
Zinc	1.0	mg/kg		0.1		SW6010B	01/07/10 16:48 / tao

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

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

D - RL increased due to sample matrix interference.



LABORATORY ANALYTICAL REPORT

Client: Marathon Ashland Pipeline
 Site Name: PDC AMPP

Report Date: 01/15/10

Lab ID: B09121817-003
 Client Sample ID: PF, 6-12 inches
 Matrix: Soil

Collection Date: 12/23/09
 Date Received: 12/23/09

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	16	%		1		ASA15-5	01/13/10 07:48 / srm
Silt	42	%		1		ASA15-5	01/13/10 07:48 / srm
Clay	42	%		1		ASA15-5	01/13/10 07:48 / srm
Texture	SiC					ASA15-5	01/13/10 07:48 / srm
- C = Clay, S = Sand(y), Si = Silt(y), L = Loam(y)							
SATURATED PASTE							
pH, sat. paste	7.00	s.u.		0.10		ASAM10-3.2	01/13/10 08:41 / srm
Conductivity, sat. paste	0.37	mmhos/cm		0.01		ASA10-3	01/13/10 08:41 / srm
Saturation	69.9	%		0.1		USDA27a	01/13/10 08:41 / srm
Calcium, sat. paste	2.15	meq/L		0.05		SW6010B	01/13/10 20:07 / tao
Magnesium, sat. paste	1.31	meq/L		0.08		SW6010B	01/13/10 20:07 / tao
Sodium, sat. paste	0.42	meq/L		0.04		SW6010B	01/13/10 20:07 / tao
Sodium Adsorption Ratio (SAR)	0.32	unitless		0.01		Calculation	01/14/10 10:32 / srm
Sulfate, sat. paste	20	mg/L		1		ASA10-3	01/13/10 16:52 / kh
CHEMICAL CHARACTERISTICS							
Lime as CaCO3	1.2	%		0.1		USDA23c	01/14/10 07:10 / srm
Nitrate as N, KCL Extract	3	mg/kg		1		ASA33-8	12/31/09 14:25 / srm
EXCHANGEABLES							
Cation Exchange Capacity	43.4	meq/100g	D	0.1		SW6010B	01/14/10 21:04 / tao
Exchangeable Sodium Percentage	0.21	%		0.01		USDA20a	01/15/10 11:28 / srm
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, extractable	0.12	meq/100g	D	0.0029		SW6010B	01/04/10 23:11 / tao

Report Definitions: RL - Analyte reporting limit.

QCL - Quality control limit.

D - RL increased due to sample matrix interference.

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: Marathon Ashland Pipeline
 Site Name: PDC AMPP

Report Date: 01/15/10

Lab ID: B09121817-004
 Client Sample ID: PF, 12-24 inches
 Matrix: Soil

Collection Date: 12/23/09
 Date Received: 12/23/09

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	19	%		1		ASA15-5	01/13/10 07:48 / srm
Silt	38	%		1		ASA15-5	01/13/10 07:48 / srm
Clay	43	%		1		ASA15-5	01/13/10 07:48 / srm
Texture	C					ASA15-5	01/13/10 07:48 / srm
- C = Clay, S = Sand(y), Si = Silt(y), L = Loam(y)							
SATURATED PASTE							
pH, sat. paste	7.30	s.u.		0.10		ASAM10-3.2	01/13/10 08:41 / srm
Conductivity, sat. paste	0.45	mmhos/cm		0.01		ASA10-3	01/13/10 08:41 / srm
Saturation	67.3	%		0.1		USDA27a	01/13/10 08:41 / srm
Calcium, sat. paste	2.60	meq/L		0.05		SW6010B	01/13/10 20:11 / tao
Magnesium, sat. paste	1.57	meq/L		0.08		SW6010B	01/13/10 20:11 / tao
Sodium, sat. paste	0.59	meq/L		0.04		SW6010B	01/13/10 20:11 / tao
Sodium Adsorption Ratio (SAR)	0.41	unitless		0.01		Calculation	01/14/10 10:32 / srm
Sulfate, sat. paste	28	mg/L		1		ASA10-3	01/13/10 17:04 / kh
CHEMICAL CHARACTERISTICS							
Lime as CaCO3	1.5	%		0.1		USDA23c	01/14/10 07:10 / srm
Nitrate as N, KCL Extract	2	mg/kg		1		ASA33-8	12/31/09 14:26 / srm
EXCHANGEABLES							
Cation Exchange Capacity	41.2	meq/100g	D	0.1		SW6010B	01/14/10 21:16 / tao
Exchangeable Sodium Percentage	0.23	%		0.01		USDA20a	01/15/10 11:28 / srm
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, extractable	0.13	meq/100g	D	0.0029		SW6010B	01/04/10 23:15 / tao

Report Definitions: RL - Analyte reporting limit.

QCL - Quality control limit.

D - RL increased due to sample matrix interference.

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: Marathon Ashland Pipeline
Site Name: PDC AMPP

Report Date: 01/15/10

Lab ID: B09121817-005
Client Sample ID: PF, 24-36 inches
Matrix: Soil

Collection Date: 12/23/09
Date Received: 12/23/09

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	23	%		1		ASA15-5	01/13/10 07:48 / srm
Silt	37	%		1		ASA15-5	01/13/10 07:48 / srm
Clay	40	%		1		ASA15-5	01/13/10 07:48 / srm
Texture	C					ASA15-5	01/13/10 07:48 / srm
- C = Clay, S = Sand(y), Si = Silt(y), L = Loam(y)							
SATURATED PASTE							
pH, sat. paste	7.70	s.u.		0.10		ASAM10-3.2	01/13/10 08:41 / srm
Conductivity, sat. paste	0.51	mmhos/cm		0.01		ASA10-3	01/13/10 08:41 / srm
Saturation	60.6	%		0.1		USDA27a	01/13/10 08:41 / srm
Calcium, sat. paste	3.06	meq/L		0.05		SW6010B	01/13/10 20:15 / tao
Magnesium, sat. paste	1.62	meq/L		0.08		SW6010B	01/13/10 20:15 / tao
Sodium, sat. paste	0.70	meq/L		0.04		SW6010B	01/13/10 20:15 / tao
Sodium Adsorption Ratio (SAR)	0.46	unitless		0.01		Calculation	01/14/10 10:32 / srm
CHEMICAL CHARACTERISTICS							
Lime as CaCO3	5.6	%		0.1		USDA23c	01/14/10 07:10 / srm
EXCHANGEABLES							
Cation Exchange Capacity	38.9	meq/100g	D	0.1		SW6010B	01/14/10 21:20 / tao
Exchangeable Sodium Percentage	0.26	%		0.01		USDA20a	01/15/10 11:28 / srm
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, extractable	0.14	meq/100g	D	0.0029		SW6010B	01/04/10 23:18 / tao

Report RL - Analyte reporting limit.

Definitions: QCL - Quality control limit.

D - RL increased due to sample matrix interference.

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: Marathon Ashland Pipeline
Site Name: PDC AMPP

Report Date: 01/15/10

Lab ID: B09121817-006
Client Sample ID: PF, 36-48 inches
Matrix: Soil

Collection Date: 12/23/09
Date Received: 12/23/09

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	25	%		1		ASA15-5	01/13/10 07:48 / srm
Silt	36	%		1		ASA15-5	01/13/10 07:48 / srm
Clay	39	%		1		ASA15-5	01/13/10 07:48 / srm
Texture	CL					ASA15-5	01/13/10 07:48 / srm
- C = Clay, S = Sand(y), Si = Silt(y), L = Loam(y)							
SATURATED PASTE							
pH, sat. paste	7.70	s.u.		0.10		ASAM10-3.2	01/13/10 08:41 / srm
Conductivity, sat. paste	0.56	mmhos/cm		0.01		ASA10-3	01/13/10 08:41 / srm
Saturation	62.2	%		0.1		USDA27a	01/13/10 08:41 / srm
Calcium, sat. paste	3.24	meq/L		0.05		SW6010B	01/13/10 20:19 / tao
Magnesium, sat. paste	2.00	meq/L		0.08		SW6010B	01/13/10 20:19 / tao
Sodium, sat. paste	0.93	meq/L		0.04		SW6010B	01/13/10 20:19 / tao
Sodium Adsorption Ratio (SAR)	0.58	unitless		0.01		Calculation	01/14/10 10:32 / srm
CHEMICAL CHARACTERISTICS							
Lime as CaCO3	6.0	%		0.1		USDA23c	01/14/10 07:10 / srm
EXCHANGEABLES							
Cation Exchange Capacity	39.6	meq/100g	D	0.1		SW6010B	01/14/10 21:24 / tao
Exchangeable Sodium Percentage	0.28	%		0.01		USDA20a	01/15/10 11:28 / srm
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, extractable	0.17	meq/100g	D	0.0029		SW6010B	01/04/10 23:22 / tao

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

D - RL increased due to sample matrix interference.

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: Marathon Ashland Pipeline
Site Name: PDC AMPP

Report Date: 01/15/10

Lab ID: B09121817-007
Client Sample ID: PF, 48-60 inches
Matrix: Soil

Collection Date: 12/23/09
Date Received: 12/23/09

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	28	%		1		ASA15-5	01/13/10 07:48 / srm
Silt	35	%		1		ASA15-5	01/13/10 07:48 / srm
Clay	37	%		1		ASA15-5	01/13/10 07:48 / srm
Texture	CL					ASA15-5	01/13/10 07:48 / srm
- C = Clay, S = Sand(y), Si = Silt(y), L = Loam(y)							
SATURATED PASTE							
pH, sat. paste	7.90	s.u.		0.10		ASAM10-3.2	01/13/10 08:41 / srm
Conductivity, sat. paste	0.60	mmhos/cm		0.01		ASA10-3	01/13/10 08:41 / srm
Saturation	56.9	%		0.1		USDA27a	01/13/10 08:41 / srm
Calcium, sat. paste	3.47	meq/L		0.05		SW6010B	01/13/10 20:22 / tao
Magnesium, sat. paste	2.15	meq/L		0.08		SW6010B	01/13/10 20:22 / tao
Sodium, sat. paste	0.93	meq/L		0.04		SW6010B	01/13/10 20:22 / tao
Sodium Adsorption Ratio (SAR)	0.56	unitless		0.01		Calculation	01/14/10 10:32 / srm
CHEMICAL CHARACTERISTICS							
Lime as CaCO3	4.5	%		0.1		USDA23c	01/14/10 07:10 / srm
EXCHANGEABLES							
Cation Exchange Capacity	36.7	meq/100g	D	0.1		SW6010B	01/14/10 21:27 / tao
Exchangeable Sodium Percentage	0.22	%		0.01		USDA20a	01/15/10 11:28 / srm
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, extractable	0.13	meq/100g	D	0.0029		SW6010B	01/04/10 23:26 / tao

Report RL - Analyte reporting limit.

Definitions: QCL - Quality control limit.

D - RL increased due to sample matrix interference.

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: Marathon Ashland Pipeline
Site Name: PDC AMPP

Report Date: 01/15/10

Lab ID: B09121817-008
Client Sample ID: PF, 60-72 inches
Matrix: Soil

Collection Date: 12/23/09
Date Received: 12/23/09

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	36	%		1		ASA15-5	01/13/10 07:48 / srm
Silt	28	%		1		ASA15-5	01/13/10 07:48 / srm
Clay	36	%		1		ASA15-5	01/13/10 07:48 / srm
Texture	CL					ASA15-5	01/13/10 07:48 / srm
- C = Clay, S = Sand(y), Si = Silt(y), L = Loam(y)							
SATURATED PASTE							
pH, sat. paste	7.50	s.u.		0.10		ASAM10-3.2	01/13/10 08:41 / srm
Conductivity, sat. paste	1.95	mmhos/cm		0.01		ASA10-3	01/13/10 08:41 / srm
Saturation	50.8	%		0.1		USDA27a	01/13/10 08:41 / srm
Calcium, sat. paste	16.9	meq/L		0.05		SW6010B	01/13/10 20:26 / tao
Magnesium, sat. paste	9.57	meq/L		0.08		SW6010B	01/13/10 20:26 / tao
Sodium, sat. paste	1.40	meq/L		0.04		SW6010B	01/13/10 20:26 / tao
Sodium Adsorption Ratio (SAR)	0.38	unitless		0.01		Calculation	01/14/10 10:32 / srm
CHEMICAL CHARACTERISTICS							
Lime as CaCO3	4.4	%		0.1		USDA23c	01/14/10 07:10 / srm
EXCHANGEABLES							
Cation Exchange Capacity	33.6	meq/100g	D	0.1		SW6010B	01/14/10 21:31 / tao
Exchangeable Sodium Percentage	0.31	%		0.01		USDA20a	01/15/10 11:28 / srm
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, extractable	0.18	meq/100g	D	0.0029		SW6010B	01/04/10 23:30 / tao

Report Definitions: RL - Analyte reporting limit.

QCL - Quality control limit.

D - RL increased due to sample matrix interference.

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: Marathon Ashland Pipeline
Site Name: PDC AMPP

Report Date: 01/15/10

Lab ID: B09121817-009
Client Sample ID: PF, 72-96 inches
Matrix: Soil

Collection Date: 12/23/09
Date Received: 12/23/09

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	37	%		1		ASA15-5	01/13/10 07:48 / srm
Silt	31	%		1		ASA15-5	01/13/10 07:48 / srm
Clay	32	%		1		ASA15-5	01/13/10 07:48 / srm
Texture	CL					ASA15-5	01/13/10 07:48 / srm
- C = Clay, S = Sand(y), Si = Silt(y), L = Loam(y)							
SATURATED PASTE							
pH, sat. paste	7.60	s.u.		0.10		ASAM10-3.2	01/13/10 08:41 / srm
Conductivity, sat. paste	2.53	mmhos/cm		0.01		ASA10-3	01/13/10 08:41 / srm
Saturation	56.9	%		0.1		USDA27a	01/13/10 08:41 / srm
Calcium, sat. paste	23.6	meq/L		0.05		SW6010B	01/13/10 20:30 / tao
Magnesium, sat. paste	12.0	meq/L		0.08		SW6010B	01/13/10 20:30 / tao
Sodium, sat. paste	1.68	meq/L	D	0.07		SW6010B	01/13/10 20:30 / tao
Sodium Adsorption Ratio (SAR)	0.40	unitless		0.01		Calculation	01/14/10 10:32 / srm
CHEMICAL CHARACTERISTICS							
Lime as CaCO3	4.2	%		0.1		USDA23c	01/14/10 07:10 / srm
EXCHANGEABLES							
Cation Exchange Capacity	31.1	meq/100g	D	0.1		SW6010B	01/14/10 21:35 / tao
Exchangeable Sodium Percentage	0.15	%		0.01		USDA20a	01/15/10 11:28 / srm
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, extractable	0.14	meq/100g	D	0.0029		SW6010B	01/04/10 23:34 / tao

Report RL - Analyte reporting limit.

Definitions: QCL - Quality control limit.

D - RL increased due to sample matrix interference.

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: Marathon Ashland Pipeline
Site Name: PDC AMPP

Report Date: 01/15/10

Lab ID: B09121817-010
Client Sample ID: PG, 0-2 inches
Matrix: Soil

Collection Date: 12/23/09
Date Received: 12/23/09

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	29	%		1		ASA15-5	01/13/10 07:48 / srm
Silt	36	%		1		ASA15-5	01/13/10 07:48 / srm
Clay	35	%		1		ASA15-5	01/13/10 07:48 / srm
Texture	CL					ASA15-5	01/13/10 07:48 / srm
- C = Clay, S = Sand(y), Si = Silt(y), L = Loam(y)							
SATURATED PASTE							
pH, sat. paste	6.90	s.u.		0.10		ASAM10-3.2	01/13/10 08:41 / srm
Conductivity, sat. paste	0.85	mmhos/cm		0.01		ASA10-3	01/13/10 08:41 / srm
Saturation	74.7	%		0.1		USDA27a	01/13/10 08:41 / srm
Calcium, sat. paste	5.15	meq/L		0.05		SW6010B	01/13/10 20:34 / tao
Magnesium, sat. paste	3.50	meq/L		0.08		SW6010B	01/13/10 20:34 / tao
Sodium, sat. paste	0.64	meq/L		0.04		SW6010B	01/13/10 20:34 / tao
Sodium Adsorption Ratio (SAR)	0.31	unitless		0.01		Calculation	01/14/10 10:32 / srm
CHEMICAL CHARACTERISTICS							
Lime as CaCO3	1.2	%		0.1		USDA23c	01/14/10 07:10 / srm
EXCHANGEABLES							
Cation Exchange Capacity	41.9	meq/100g	D	0.1		SW6010B	01/14/10 21:39 / tao
Exchangeable Sodium Percentage	0.16	%		0.01		USDA20a	01/15/10 11:28 / srm
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, extractable	0.11	meq/100g	D	0.00015		SW6010B	01/05/10 00:13 / tao

Report RL - Analyte reporting limit.

Definitions: QCL - Quality control limit.

D - RL increased due to sample matrix interference.

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: Marathon Ashland Pipeline
 Site Name: PDC AMPP

Report Date: 01/15/10

Lab ID: B09121817-011
 Client Sample ID: PG, 0-6 inches
 Matrix: Soil

Collection Date: 12/23/09
 Date Received: 12/23/09

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	32	%		1		ASA15-5	01/13/10 07:48 / srm
Silt	32	%		1		ASA15-5	01/13/10 07:48 / srm
Clay	36	%		1		ASA15-5	01/13/10 07:48 / srm
Texture	CL					ASA15-5	01/13/10 07:48 / srm
- C = Clay, S = Sand(y), Si = Silt(y), L = Loam(y)							
SATURATED PASTE							
pH, sat. paste	6.80	s.u.		0.10		ASAM10-3.2	01/13/10 08:41 / srm
Conductivity, sat. paste	0.49	mmhos/cm		0.01		ASA10-3	01/13/10 08:41 / srm
Saturation	67.4	%		0.1		USDA27a	01/13/10 08:41 / srm
Calcium, sat. paste	2.77	meq/L		0.05		SW6010B	01/13/10 20:49 / tao
Magnesium, sat. paste	1.88	meq/L		0.08		SW6010B	01/13/10 20:49 / tao
Sodium, sat. paste	0.50	meq/L		0.04		SW6010B	01/13/10 20:49 / tao
Sodium Adsorption Ratio (SAR)	0.33	unitless		0.01		Calculation	01/14/10 10:32 / srm
Sulfate, sat. paste	23	mg/L		1		ASA10-3	01/13/10 17:27 / kh
CHEMICAL CHARACTERISTICS							
Lime as CaCO3	1.0	%		0.1		USDA23c	01/14/10 07:10 / srm
Phosphorus, Olsen	6	mg/kg		1		ASA24-5	01/08/10 10:30 / srm
Nitrate as N, KCL Extract	8	mg/kg		1		ASA33-8	12/31/09 14:27 / srm
Organic Matter	4.86	%		0.02		ASA29-3	01/07/10 16:08 / srm
EXCHANGEABLES							
Cation Exchange Capacity	39.0	meq/100g	D	0.1		SW6010B	01/14/10 21:47 / tao
Exchangeable Sodium Percentage	0.19	%		0.01		USDA20a	01/15/10 11:28 / srm
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, extractable	0.11	meq/100g	D	0.00015		SW6010B	01/05/10 00:21 / tao
Potassium, available	216	mg/kg	D	0.11		SW6010B	01/05/10 00:21 / tao
METALS, DTPA EXTRACTABLE							
Zinc	0.7	mg/kg		0.1		SW6010B	01/07/10 16:52 / tao

Report Definitions: RL - Analyte reporting limit.

QCL - Quality control limit.

D - RL increased due to sample matrix interference.

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: Marathon Ashland Pipeline
 Site Name: PDC AMPP

Report Date: 01/15/10

Lab ID: B09121817-012
 Client Sample ID: PG, 6-12 inches
 Matrix: Soil

Collection Date: 12/23/09
 Date Received: 12/23/09

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	33	%		1		ASA15-5	01/13/10 07:48 / srm
Silt	30	%		1		ASA15-5	01/13/10 07:48 / srm
Clay	37	%		1		ASA15-5	01/13/10 07:48 / srm
Texture	CL					ASA15-5	01/13/10 07:48 / srm
- C = Clay, S = Sand(y), Si = Silt(y), L = Loam(y)							
SATURATED PASTE							
pH, sat. paste	6.80	s.u.		0.10		ASAM10-3.2	01/13/10 08:41 / srm
Conductivity, sat. paste	0.34	mmhos/cm		0.01		ASA10-3	01/13/10 08:41 / srm
Saturation	65.5	%		0.1		USDA27a	01/13/10 08:41 / srm
Calcium, sat. paste	1.90	meq/L		0.05		SW6010B	01/13/10 20:53 / tao
Magnesium, sat. paste	1.30	meq/L		0.08		SW6010B	01/13/10 20:53 / tao
Sodium, sat. paste	0.42	meq/L		0.04		SW6010B	01/13/10 20:53 / tao
Sodium Adsorption Ratio (SAR)	0.33	unitless		0.01		Calculation	01/14/10 10:32 / srm
Sulfate, sat. paste	26	mg/L		1		ASA10-3	01/13/10 17:39 / kh
CHEMICAL CHARACTERISTICS							
Lime as CaCO3	1.1	%		0.1		USDA23c	01/14/10 07:10 / srm
Nitrate as N, KCL Extract	4	mg/kg		1		ASA33-8	12/31/09 14:27 / srm
EXCHANGEABLES							
Cation Exchange Capacity	40.5	meq/100g	D	0.1		SW6010B	01/14/10 22:02 / tao
Exchangeable Sodium Percentage	0.23	%		0.01		USDA20a	01/15/10 11:28 / srm
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, extractable	0.12	meq/100g	D	0.00015		SW6010B	01/05/10 00:24 / tao

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

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

D - RL increased due to sample matrix interference.



LABORATORY ANALYTICAL REPORT

Client: Marathon Ashland Pipeline
 Site Name: PDC AMPP

Report Date: 01/15/10

Lab ID: B09121817-013
 Client Sample ID: PG, 12-24 inches
 Matrix: Soil

Collection Date: 12/23/09
 Date Received: 12/23/09

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	41	%		1		ASA15-5	01/13/10 07:48 / srm
Silt	25	%		1		ASA15-5	01/13/10 07:48 / srm
Clay	34	%		1		ASA15-5	01/13/10 07:48 / srm
Texture	CL					ASA15-5	01/13/10 07:48 / srm
- C = Clay, S = Sand(y), Si = Silt(y), L = Loam(y)							
SATURATED PASTE							
pH, sat. paste	7.30	s.u.		0.10		ASAM10-3.2	01/13/10 08:41 / srm
Conductivity, sat. paste	0.51	mmhos/cm		0.01		ASA10-3	01/13/10 08:41 / srm
Saturation	59.5	%		0.1		USDA27a	01/13/10 08:41 / srm
Calcium, sat. paste	2.73	meq/L		0.05		SW6010B	01/13/10 20:57 / tao
Magnesium, sat. paste	1.92	meq/L		0.08		SW6010B	01/13/10 20:57 / tao
Sodium, sat. paste	0.60	meq/L		0.04		SW6010B	01/13/10 20:57 / tao
Sodium Adsorption Ratio (SAR)	0.39	unitless		0.01		Calculation	01/14/10 10:32 / srm
Sulfate, sat. paste	25	mg/L		1		ASA10-3	01/13/10 17:50 / kh
CHEMICAL CHARACTERISTICS							
Lime as CaCO3	1.4	%		0.1		USDA23c	01/14/10 07:10 / srm
Nitrate as N, KCL Extract	2	mg/kg		1		ASA33-8	12/31/09 14:28 / srm
EXCHANGEABLES							
Cation Exchange Capacity	34.3	meq/100g	D	0.1		SW6010B	01/14/10 22:06 / tao
Exchangeable Sodium Percentage	0.31	%		0.01		USDA20a	01/15/10 11:28 / srm
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, extractable	0.14	meq/100g	D	0.00015		SW6010B	01/05/10 00:28 / tao

Report Definitions: RL - Analyte reporting limit.

QCL - Quality control limit.

D - RL increased due to sample matrix interference.

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: Marathon Ashland Pipeline
Site Name: PDC AMPP

Report Date: 01/15/10

Lab ID: B09121817-014
Client Sample ID: PG, 24-36 inches
Matrix: Soil

Collection Date: 12/23/09
Date Received: 12/23/09

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	43	%		1		ASA15-5	01/13/10 07:48 / srm
Silt	23	%		1		ASA15-5	01/13/10 07:48 / srm
Clay	34	%		1		ASA15-5	01/13/10 07:48 / srm
Texture	CL					ASA15-5	01/13/10 07:48 / srm
- C = Clay, S = Sand(y), Si = Silt(y), L = Loam(y)							
SATURATED PASTE							
pH, sat. paste	7.60	s.u.		0.10		ASAM10-3.2	01/13/10 08:41 / srm
Conductivity, sat. paste	0.50	mmhos/cm		0.01		ASA10-3	01/13/10 08:41 / srm
Saturation	58.9	%		0.1		USDA27a	01/13/10 08:41 / srm
Calcium, sat. paste	2.70	meq/L		0.05		SW6010B	01/13/10 21:01 / tao
Magnesium, sat. paste	1.79	meq/L		0.08		SW6010B	01/13/10 21:01 / tao
Sodium, sat. paste	0.78	meq/L		0.04		SW6010B	01/13/10 21:01 / tao
Sodium Adsorption Ratio (SAR)	0.52	unitless		0.01		Calculation	01/14/10 10:32 / srm
CHEMICAL CHARACTERISTICS							
Lime as CaCO3	2.5	%		0.1		USDA23c	01/14/10 07:10 / srm
EXCHANGEABLES							
Cation Exchange Capacity	32.5	meq/100g	D	0.1		SW6010B	01/14/10 22:09 / tao
Exchangeable Sodium Percentage	0.30	%		0.01		USDA20a	01/15/10 11:28 / srm
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, extractable	0.14	meq/100g	D	0.00015		SW6010B	01/05/10 00:32 / tao

Report RL - Analyte reporting limit.

Definitions: QCL - Quality control limit.

D - RL increased due to sample matrix interference.

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: Marathon Ashland Pipeline
 Site Name: PDC AMPP

Report Date: 01/15/10

Lab ID: B09121817-015
 Client Sample ID: PG, 36-48 inches
 Matrix: Soil

Collection Date: 12/23/09
 Date Received: 12/23/09

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	49	%		1		ASA15-5	01/13/10 07:48 / srm
Silt	22	%		1		ASA15-5	01/13/10 07:48 / srm
Clay	29	%		1		ASA15-5	01/13/10 07:48 / srm
Texture	SCL					ASA15-5	01/13/10 07:48 / srm
- C = Clay, S = Sand(y), Si = Silt(y), L = Loam(y)							
SATURATED PASTE							
pH, sat. paste	7.70	s.u.		0.10		ASAM10-3.2	01/13/10 08:41 / srm
Conductivity, sat. paste	0.60	mmhos/cm		0.01		ASA10-3	01/13/10 08:41 / srm
Saturation	48.5	%		0.1		USDA27a	01/13/10 08:41 / srm
Calcium, sat. paste	3.21	meq/L		0.05		SW6010B	01/13/10 21:05 / tao
Magnesium, sat. paste	2.24	meq/L		0.08		SW6010B	01/13/10 21:05 / tao
Sodium, sat. paste	1.13	meq/L		0.04		SW6010B	01/13/10 21:05 / tao
Sodium Adsorption Ratio (SAR)	0.68	unitless		0.01		Calculation	01/14/10 10:32 / srm
CHEMICAL CHARACTERISTICS							
Lime as CaCO3	3.9	%		0.1		USDA23c	01/14/10 07:10 / srm
EXCHANGEABLES							
Cation Exchange Capacity	30.5	meq/100g	D	0.1		SW6010B	01/14/10 22:13 / tao
Exchangeable Sodium Percentage	0.30	%		0.01		USDA20a	01/15/10 11:28 / srm
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, extractable	0.15	meq/100g	D	0.00015		SW6010B	01/05/10 00:36 / tao

Report Definitions: RL - Analyte reporting limit.

QCL - Quality control limit.

D - RL increased due to sample matrix interference.

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: Marathon Ashland Pipeline
Site Name: PDC AMPP

Report Date: 01/15/10

Lab ID: B09121817-016
Client Sample ID: PG, 48-60 inches
Matrix: Soil

Collection Date: 12/23/09
Date Received: 12/23/09

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	60	%		1		ASA15-5	01/13/10 07:48 / srm
Silt	18	%		1		ASA15-5	01/13/10 07:48 / srm
Clay	22	%		1		ASA15-5	01/13/10 07:48 / srm
Texture	SCL					ASA15-5	01/13/10 07:48 / srm
- C = Clay, S = Sand(y), Si = Silt(y), L = Loam(y)							
SATURATED PASTE							
pH, sat. paste	7.70	s.u.		0.10		ASAM10-3.2	01/13/10 08:41 / srm
Conductivity, sat. paste	0.61	mmhos/cm		0.01		ASA10-3	01/13/10 08:41 / srm
Saturation	38.1	%		0.1		USDA27a	01/13/10 08:41 / srm
Calcium, sat. paste	3.83	meq/L		0.05		SW6010B	01/13/10 21:08 / tao
Magnesium, sat. paste	2.02	meq/L		0.08		SW6010B	01/13/10 21:08 / tao
Sodium, sat. paste	0.95	meq/L		0.04		SW6010B	01/13/10 21:08 / tao
Sodium Adsorption Ratio (SAR)	0.56	unitless		0.01		Calculation	01/14/10 10:32 / srm
CHEMICAL CHARACTERISTICS							
Lime as CaCO3	3.9	%		0.1		USDA23c	01/14/10 07:10 / srm
EXCHANGEABLES							
Cation Exchange Capacity	25.5	meq/100g	D	0.1		SW6010B	01/14/10 22:17 / tao
Exchangeable Sodium Percentage	0.35	%		0.01		USDA20a	01/15/10 11:28 / srm
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, extractable	0.13	meq/100g	D	0.00015		SW6010B	01/05/10 00:40 / tao

Report Definitions: RL - Analyte reporting limit.

QCL - Quality control limit.

D - RL increased due to sample matrix interference.

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: Marathon Ashland Pipeline
Site Name: PDC AMPP

Report Date: 01/15/10

Lab ID: B09121817-017
Client Sample ID: PG, 60-72 inches
Matrix: Soil

Collection Date: 12/23/09
Date Received: 12/23/09

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	63	%		1		ASA15-5	01/13/10 07:48 / srm
Silt	16	%		1		ASA15-5	01/13/10 07:48 / srm
Clay	21	%		1		ASA15-5	01/13/10 07:48 / srm
Texture	SCL					ASA15-5	01/13/10 07:48 / srm
- C = Clay, S = Sand(y), Si = Silt(y), L = Loam(y)							
SATURATED PASTE							
pH, sat. paste	7.60	s.u.		0.10		ASAM10-3.2	01/13/10 08:41 / srm
Conductivity, sat. paste	0.60	mmhos/cm		0.01		ASA10-3	01/13/10 08:41 / srm
Saturation	35.0	%		0.1		USDA27a	01/13/10 08:41 / srm
Calcium, sat. paste	3.63	meq/L		0.05		SW6010B	01/13/10 21:12 / tao
Magnesium, sat. paste	1.85	meq/L		0.08		SW6010B	01/13/10 21:12 / tao
Sodium, sat. paste	0.86	meq/L		0.04		SW6010B	01/13/10 21:12 / tao
Sodium Adsorption Ratio (SAR)	0.52	unitless		0.01		Calculation	01/14/10 10:32 / srm
CHEMICAL CHARACTERISTICS							
Lime as CaCO3	3.4	%		0.1		USDA23c	01/14/10 07:10 / srm
EXCHANGEABLES							
Cation Exchange Capacity	24.1	meq/100g	D	0.1		SW6010B	01/14/10 22:21 / tao
Exchangeable Sodium Percentage	0.40	%		0.01		USDA20a	01/15/10 11:28 / srm
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, extractable	0.13	meq/100g	D	0.00015		SW6010B	01/05/10 00:44 / tao

Report RL - Analyte reporting limit.

Definitions: QCL - Quality control limit.

D - RL increased due to sample matrix interference.

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Client: Marathon Ashland Pipeline
 Site Name: PDC AMPP

Report Date: 01/15/10

Lab ID: B09121817-018
 Client Sample ID: PG, 72-96 inches
 Matrix: Soil

Collection Date: 12/23/09
 Date Received: 12/23/09

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	65	%		1		ASA15-5	01/13/10 07:48 / srm
Silt	15	%		1		ASA15-5	01/13/10 07:48 / srm
Clay	20	%		1		ASA15-5	01/13/10 07:48 / srm
Texture	SCl					ASA15-5	01/13/10 07:48 / srm
- C = Clay, S = Sand(y), Si = Silt(y), L = Loam(y)							
SATURATED PASTE							
pH, sat. paste	7.60	s.u.		0.10		ASAM10-3.2	01/13/10 08:41 / srm
Conductivity, sat. paste	0.69	mmhos/cm		0.01		ASA10-3	01/13/10 08:41 / srm
Saturation	38.3	%		0.1		USDA27a	01/13/10 08:41 / srm
Calcium, sat. paste	4.31	meq/L		0.05		SW6010B	01/13/10 21:16 / tao
Magnesium, sat. paste	2.16	meq/L		0.08		SW6010B	01/13/10 21:16 / tao
Sodium, sat. paste	0.84	meq/L		0.04		SW6010B	01/13/10 21:16 / tao
Sodium Adsorption Ratio (SAR)	0.47	unitless		0.01		Calculation	01/14/10 10:32 / srm
CHEMICAL CHARACTERISTICS							
Lime as CaCO3	3.4	%		0.1		USDA23c	01/14/10 07:10 / srm
EXCHANGEABLES							
Cation Exchange Capacity	23.8	meq/100g	D	0.1		SW6010B	01/14/10 22:25 / tao
Exchangeable Sodium Percentage	0.37	%		0.01		USDA20a	01/15/10 11:28 / srm
METALS, AMMONIUM ACETATE EXTRACTABLE							
Sodium, extractable	0.12	meq/100g	D	0.00015		SW6010B	01/05/10 00:55 / tao

Report Definitions: RL - Analyte reporting limit.

QCL - Quality control limit.

D - RL increased due to sample matrix interference.

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.