Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10298055

Sample: 502BTS **Lab ID: 10298055022** Collected: 02/26/15 15:10 Received: 02/27/15 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00025	1	03/02/15 10:08	03/02/15 17:08	7440-43-9	
Potassium	**9.2**	mg/L	2.5	1.2	1	03/02/15 10:08	03/02/15 17:08	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.011**	mg/L	0.0025	0.0012	5	03/03/15 11:24	03/03/15 12:57	7440-38-2	
Selenium	**0.0029** J	mg/L	0.0025	0.0012	5	03/03/15 11:24	03/03/15 12:57	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**42.9**	mg/L	1.2	0.60	1		02/27/15 22:41	16887-00-6	
Fluoride	**0.40** J+	mg/L	0.050	0.0060	1		02/27/15 22:41	16984-48-8	
Nitrate as N	**4.5**	mg/L	0.10	0.050	1		02/27/15 22:41	14797-55-8	
Sulfate	**93.3**	mg/L	1.2	0.60	1		02/27/15 22:41	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	**0.063**	mg/L	0.040	0.020	1		03/05/15 12:36	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**2.5**	mg/L	0.50	0.25	100		02/27/15 16:16		

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TECHNICAL REVIEW ACTION SUMMARY

TECHNICAL REVIEW ACTION SUMMARY
SDG 10298055

Arsenic	J1, J+1
Cadmium	J1, U1
Potassium	
Selenium	J1, J2
Phosphorus	

If the field is left blank no actions or qualifications were necessary.

J1	-	Positive result is flagged as estimated (J) due to uncertainty at the low level.
J2	-	Result is flagged as estimated (J) due to non-compliant serial dilution reproducibility.
J+1	-	Positive result is flagged as estimated with the potential for high bias (J+) due to non-compliant MS/MSD recoveries.
U1	-	Positive result is flagged as not-detected at the reported value (U) due to blank contamination.

SAMPLE ID CODES

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

SAMPLE SUMMARY

Project: FMC RCRA
Pace Project No.: 10298055

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10298055001	502115	Water	02/25/15 13:05	02/27/15 09:55
10298055002	502113	Water	02/25/15 13:45	02/27/15 09:55
10298055003	502166	Water	02/25/15 14:45	02/27/15 09:55
10298055004	502168	Water	02/25/15 15:45	02/27/15 09:55
10298055005	502165	Water	02/25/15 17:25	02/27/15 09:55
10298055006	502167	Water	02/25/15 18:05	02/27/15 09:55
10298055007	502183	Water	02/25/15 19:15	02/27/15 09:55
10298055008	502158	Water	02/26/15 08:05	02/27/15 09:55
10298055009	502121	Water	02/26/15 08:50	02/27/15 09:55
10298055010	502122	Water	02/26/15 09:35	02/27/15 09:55
10298055011	502108	Water	02/26/15 10:15	02/27/15 09:55
10298055012	502123 ABC	Water	02/26/15 10:55	02/27/15 09:55
10298055015	502104	Water	02/26/15 12:25	02/27/15 09:55
10298055016	502601	Water	02/26/15 12:50	02/27/15 09:55
10298055017	502155	Water	02/26/15 13:05	02/27/15 09:55
10298055018	502156	Water	02/26/15 13:50	02/27/15 09:55
10298055019	502157ABC	Water	02/26/15 14:35	02/27/15 09:55
10298055022	502BTS	Water	02/26/15 15:10	02/27/15 09:55
10298055023	502701	Water	02/26/15 17:10	02/27/15 09:55
10298055024	502114ABC	Water	02/25/15 12:10	02/27/15 09:55

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LABORATORY CASE NARRATIVE

Pace Analytical Services, Inc.
150 N Ninth Street
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(406)254-7226

PROJECT NARRATIVE

Project: FMC RCRA
Pace Project No.: 10298055

Method: EPA 6010
Description: 6010 MET ICP
Client: FMC
Date: March 11, 2015

General Information:
20 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MPRP/52685

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10298055019

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1909474)
  - Potassium
- MSD (Lab ID: 1909475)
  - Potassium

Additional Comments:

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PROJECT NARRATIVE

Project: FMC RCRA
Pace Project No.: 10298055

Method: EPA 6020
Description: 6020 MET ICPMS
Client: FMC
Date: March 11, 2015

General Information:
20 samples were analyzed for EPA 6020. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3020 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MPRP/52702

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10298055024

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1909482)
  - Arsenic
- MSD (Lab ID: 1909483)
  - Arsenic

Additional Comments:

Analyte Comments:

QC Batch: MPRP/52694

D3: Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

- 502156 (Lab ID: 10298055018)
  - Selenium

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PROJECT NARRATIVE

Project: FMC RCRA
Pace Project No.: 10298055

Method: **EPA 6020**
Description: 6020 MET ICPMS
Client: FMC
Date: March 11, 2015

Analyte Comments:

QC Batch: MPRP/52694

D3: Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

- 502167 (Lab ID: 10298055006)
  - Selenium

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PROJECT NARRATIVE

Project: FMC RCRA
Pace Project No.: 10298055

Method: **SM 4500F/C**
Description: SM4500F-C Fluoride
Client: FMC
Date: March 11, 2015

General Information:
4 samples were analyzed for SM 4500F/C. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: FMC RCRA
Pace Project No.: 10298055

Method: **EPA 300.0**
Description: 300.0 IC Anions
Client: FMC
Date: March 11, 2015

General Information:
20 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

H1: Analysis conducted outside the recognized method holding time.
- 502113 (Lab ID: 10298055002)
- 502114ABC (Lab ID: 10298055024)
- 502115 (Lab ID: 10298055001)
- 502165 (Lab ID: 10298055005)
- 502166 (Lab ID: 10298055003)
- 502167 (Lab ID: 10298055006)
- 502168 (Lab ID: 10298055004)

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/22038

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10297905003,10298055024

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- MS (Lab ID: 1908223)
  - Chloride
  - Fluoride
  - Nitrate as N
  - Sulfate
- MSD (Lab ID: 1908224)
  - Chloride
  - Fluoride
  - Nitrate as N
  - Sulfate

M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.
- MS (Lab ID: 1908630)

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PROJECT NARRATIVE

Project: FMC RCRA
Pace Project No.: 10298055

Method: **EPA 300.0**
Description: 300.0 IC Anions
Client: FMC
Date: March 11, 2015

QC Batch: WETA/22038

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10297905003,10298055024

M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

- Fluoride
- MSD (Lab ID: 1908631)
  - Fluoride

QC Batch: WETA/22046

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10298055012,10298055019

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1908634)
  - Chloride
  - Fluoride
  - Nitrate as N
- MSD (Lab ID: 1908635)
  - Chloride
  - Fluoride
  - Nitrate as N

M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

- MS (Lab ID: 1908634)
  - Sulfate
- MS (Lab ID: 1908636)
  - Chloride
  - Sulfate
- MSD (Lab ID: 1908635)
  - Sulfate
- MSD (Lab ID: 1908637)
  - Chloride
  - Sulfate

Additional Comments:

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PROJECT NARRATIVE

Project: FMC RCRA
Pace Project No.: 10298055

Method: **EPA 350.1**
Description: 350.1 Ammonia
Client: FMC
Date: March 11, 2015

General Information:
20 samples were analyzed for EPA 350.1. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/22080

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10298055012,10298055019

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1910798)
  - Nitrogen, Ammonia
- MSD (Lab ID: 1910799)
  - Nitrogen, Ammonia

Additional Comments:

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PROJECT NARRATIVE

Project: FMC RCRA
Pace Project No.: 10298055

Method: **SM 4500-P E**
Description: Phosphate, Ortho Low Level
Client: FMC
Date: March 11, 2015

General Information:
20 samples were analyzed for SM 4500-P E. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

H1: Analysis conducted outside the recognized method holding time.
- 502113 (Lab ID: 10298055002)
- 502114ABC (Lab ID: 10298055024)
- 502115 (Lab ID: 10298055001)
- 502166 (Lab ID: 10298055003)

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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CHAIN-OF-CUSTODY

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10298055

Page: 1 of 3

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	FMC	Report To:	Ericka Vallance, Hydrometrics	Attention:	Brian McGinnis
Address:	PO BOX 4111	Copy To:	Rob Hartman, MWH	Company Name:	FMC
	POCATELLO, ID 83202		Bruce Wallin, ECCI	Address:	PO BOX 4111 POCATELLO ID 83202
Email To:	brian.mcginnis@fmc.com	Purchase Order No.:		Pace Quote Reference:	
Phone:	Fax:	Project Name:	FMC	Pace Project Manager:	Kabor Xiong
Requested Due Date/TAT:		Project Number:	RCRA	Pace Profile #:	

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☑ RCRA ☐ OTHER ____

Site Location STATE: ID

Section D Required Client Information

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start Date	COLLECTED Composite Start Time	COLLECTED Composite End/Grab Date	COLLECTED Composite End/Grab Time	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	**WQP	TOTAL METALS 6020	TOTAL METALS 6010	FLUORIDE (ISE)	TOTAL PHOS by ICP	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	5 402 114 A	WT	G	--	--	2/25/15	1210		5	3	1	1							X	X	X	X	(extra for lab QC)		SEPERATE WID
2	5 402 114 B	WT	G	--	--		1210		4	2															
3	5 402 114 C	WT	G	--	--		1210		4	2															
4	5 402 115	WT	G	--	--		1305		3	1															001
5	5 402 113	WT	G	--	--		1345																		002
6	5 402 166	WT	G	--	--		1445																		003
7	5 402 168	WT	G	--	--		1545																		004
8	5 402 165	WT	G	--	--		1725																		005
9	5 402 167	WT	G	--	--		1805																		006
10	5 402 183	WT	G	--	--		1915																		007
11	402	WT	G	--	--																				
12	402	WT	G	--	--																				

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Fed Ex Air Bill # 8057 6073 5756	Walter Crane / Hydrometrics	2/26/15	16:00	[signature] PACE	2-27-15	955	2.4	Y	Y	Y
**WQP: 300.0- Cl, SO4, Nitrate, F; Ortho Phos, Ammonia							4.3			
6010: Cadmium, Potassium; 6020: Arsenic, Selenium							4.2			
Total Phos by ICP only on wells 108, 121, 122 & 123										
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Walter Crane

SIGNATURE of SAMPLER: Walter Crane DATE Signed (MM/DD/YY): 02/ /15

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.08, 12-Oct-2007

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CHAIN-OF-CUSTODY / Analytical Request Document

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Section A Required Client Information:

Company:	FMC
Address:	PO BOX 4111
	POCATELLO, ID 83202
Email To:	brian.mcginnis@fmc.com
Phone:	Fax:
Requested Due Date/TAT:	

Section B Required Project Information:

Report To:	Ericka Vallance, Hydrometrics
Copy To:	Rob Hartman, MWH
	Bruce Wallin, ECCI
Purchase Order No.:	
Project Name:	FMC
Project Number:	RCRA

Section C Invoice Information:

Attention:	Brian McGinnis
Company Name:	FMC
Address:	PO BOX 4111 POCATELLO ID 83202
Pace Quote Reference:	
Pace Project Manager:	Kabor Xiong
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☑ RCRA ☐ OTHER

Site Location STATE: ID

Section D Required Client Information

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	COLLECTED Composite Start TIME	COLLECTED Composite End/Grab DATE	COLLECTED Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	**WQP	TOTAL METALS 6020	TOTAL METALS 6010	FLUORIDE (ISE)	TOTAL PHOS by ICP	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	5402158	WT	G	–	–	2/26/15	0805		3	1		1							X	X	X				008
2	5402121	WT	G	–	–		0850		4			2											X		009
3	5402122	WT	G	–	–		0935		4			2											X		010
4	5402108	WT	G	–	–		1015		4			2											X		011
5	5402123A	WT	G	–	–		1055		4			2											X		012
6	5402123B	WT	G	–	–		1055		4			2											X		xx 3/2 ~~013~~ 012
7	5402123C	WT	G	–	–		1055		4			2											X		~~014~~ 012
8	5402104	WT	G	–	–		1225		3			1													015
9	5402601	WT	G	–	–		1250		3			1													016
10	5402155 A WC	WT	G	–	–		1305		5	3		1									2				017
11	402	WT	G	–	–																				
12	402	WT	G	–	–																				

Take extra 1 for lab split

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Fed Ex Air Bill # 8057 6073 5756	Walter Crane / Hydrometrics	2/26/15	1600	PACE	2-27-15	955	2.4	Y	Y	Y
**WQP: 300.0- Cl, SO4, Nitrate, F; Ortho Phos, Ammonia							4.3			
6010: Cadmium, Potassium; 6020: Arsenic, Selenium							4.2			
Total Phos by ICP only on wells 108, 121, 122 & 123										

SAMPLER NAME AND SIGNATURE			
PRINT Name of SAMPLER:	Walter Crane		
SIGNATURE of SAMPLER:	Walter Crane	DATE Signed (MM/DD/YY):	02/26/15

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.08, 12-Oct-2007

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10299055

Section A Required Client Information:

Company:	FMC
Address:	PO BOX 4111
	POCATELLO, ID 83202
Email To:	brian.mcginnis@fmc.com
Phone:	Fax:
Requested Due Date/TAT:	

Section B Required Project Information:

Report To:	Ericka Vallance, Hydrometrics
Copy To:	Rob Hartman, MWH
	Bruce Wallin, ECCI
Purchase Order No.:	
Project Name:	FMC
Project Number:	RCRA

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Attention:	Brian McGinnis
Company Name:	FMC
Address:	PO BOX 4111 POCATELLO ID 83202
Pace Quote Reference:	
Pace Project Manager:	Kabor Xiong
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☑ RCRA ☐ OTHER

Site Location STATE: ID

Section D Required Client Information

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	**WQP	TOTAL METALS 6020	TOTAL METALS 6010	FLUORIDE (ISE)	TOTAL PHOS by ICP	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	5 402 156	WT	G	–	–	2/26/15	1350		5	3	1	1										X			018
2	5 402 157A	WT	G	–	–		1435		5													X			019
3	5 402 157B	WT	G	–	–		1435		5													X			~~020~~ 019
4	5 402 157C	WT	G	–	–		1435		5													X			~~021~~ 019
5	5 402 BTS	WT	G	–	–		1510		3	1															~~022~~ 020
6	DHW 02/27/15 5 402 701	WT	G	–	–	2/26/15	17:10		3									X	X	X					~~023~~ 021
7	402	WT	G	–	–																				
8	402	WT	G	–	–																				
9	402	WT	G	–	–																				
10	402	WT	G	–	–																				
11	402	WT	G	–	–																				
12	402	WT	G	–	–																				

Requested Analysis Filtered (Y/N)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Fed Ex Air Bill # 805397294758	Walter Crane/Hydrometrics	2/26/15	16:00	PACE	2-27-15	955	2.4			
**WQP: 300.0- Cl SO4, Nitrate, F; Ortho Phos, Ammonia							4.3			
6010: Cadmium, Potassium; 6020: Arsenic, Selenium							4.2			
Total Phos by ICP only on wells 108, 121, 122 & 123										
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Walter Crane

SIGNATURE of SAMPLER: Walter Crane — DATE Signed (MM/DD/YY): 02/26/15

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.08, 12-Oct-2007

Pace Analytical®	Document Name: Sample Condition Upon Receipt Form	Document Revised: 28Feb2014 Page 1 of 1
	Document No.: F-MN-L-213-rev.09	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: FMC

Project #: WO#: 10298055 (10298055)

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ SpeeDee ☐ Other:

Tracking Number: See exceptions sheet

Custody Seal on Cooler/Box Present? ☑ Yes ☐ No **Seals Intact?** ☑ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other: **Temp Blank?** ☑ Yes ☐ No

Thermom. Used: ☐ B88A9130516413 ☑ B88A912167504 ☐ B88A9132521491 **Type of Ice:** ☑ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read (°C): See exceptions **Cooler Temp Corrected (°C):** See exceptions **Biological Tissue Frozen?** ☐ Yes ☐ No ☑ N/A

Temp should be above freezing to 6°C **Correction Factor:** +0.1 **Date and Initials of Person Examining Contents:** 2-27-15 SM

	Yes	No	N/A	Comments:
Chain of Custody Present?	☑	☐	☐	1.
Chain of Custody Filled Out?	☑	☐	☐	2.
Chain of Custody Relinquished?	☑	☐	☐	3.
Sampler Name and/or Signature on COC?	☑	☐	☐	4.
Samples Arrived within Hold Time?	☑	☐	☐	5.
Short Hold Time Analysis (<72 hr)?	☑	☐	☐	6.
Rush Turn Around Time Requested?	☐	☑	☐	7.
Sufficient Volume?	☑	☐	☐	8.
Correct Containers Used?	☑	☐	☐	9.
-Pace Containers Used?	☑	☐	☐	
Containers Intact?	☑	☐	☐	10.
Filtered Volume Received for Dissolved Tests?	☐	☐	☑	11.
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: WT	☑	☐	☐	12. The first 3 samples on COC page 1 will be logged in on a seperate WO and have a separate SDWR
All containers needing acid/base preservation have been checked?	☑	☐	☐ N/A	13. ☑ HNO_3 ☑ H_2SO_4 ☐ NaOH ☐ HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide)	☑	☐	☐ N/A	Sample # 1-8, 15-23 1/1 1/1; 9-14 2/2 1/1
Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC	☐	☑		Initial when completed: AA Lot # of added preservative: 1114087
Headspace in VOA Vials (>6mm)?	☐	☐	☑ N/A	14.
Trip Blank Present?	☐	☐	☑ N/A	15.
Trip Blank Custody Seals Present?	☐	☐	☑ N/A	
Pace Trip Blank Lot # (if purchased):				

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: WALTER Date/Time: 02/27/15 @ 11:40

Comments/Resolution: DNM SPOKE W/ WALTER, ADD 502701 TO COC AND RUN FOR WQP, TOTAL METAL 6020 + 6010, WILL SEND FOLLOW-UP E-MAIL

Project Manager Review: Kelly Xiong **Date:** 3/2/15

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical	Document Name: SCUR Exceptions Form	Document Revised: 16Apr2012 Page 1 of 1
	Document No.: F-MN-L-220-Rev.00	Issuing Authority: Pace Minnesota Quality Office

Workorder #: _____

Issue	Sample ID	Container Type/#
tracking number	read temp °C (correction factor)	corrected temp °C
8057 6073 5756	2.3 (+0.1)	2.4
7802 7126 4550	4.2 (+0.1)	4.3
8053 9729 4758	4.1 (+0.1)	4.2

WO#: 1243991

PM: HRZ Due Date: 03/12/15
CLIENT: PACE MPLS

www.pacelabs.com

Chain of Custody

Workorder: 10298055 Workorder Name: FMC RCRA Owner Received Date: 2/27/2015 Results Requested By: 3/12/2015

Report To

Kabor Xiong
Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone (612)607-1700
Fax (612)607-6444

Subcontract To

Pace Analytical Virginia MN
315 Chestnut Street
Virginia, MN 55792
Phone (218)742-1042

Item	Sample ID	Sample Type	Collect Date/Time 1	Lab ID	Matrix	Preserved Containers: HNO3	Requested Analysis: T-phos by 6010	LAB USE ONLY
1	502121	PS	2/26/2015 08:50	10298055009	Water	1	XXXX	009
2	502122	PS	2/26/2015 09:35	10298055010	Water	1		010
3	502108	PS	2/26/2015 10:15	10298055011	Water	1		011
4	502123 ABC	RQS	2/26/2015 10:55	10298055012	Water	3		012
5								

Transfers	Released By	Date/Time	Received By	Date/Time
1	Kabor Xiong		[illegible]	3/3/15 0950
2				
3				

Comments: *L4 Data pkg due 3/19

Cooler Temperature on Receipt 0.3 °C | Custody Seal Y or N | Received on Ice Y or N | Samples Intact Y or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document. This chain of custody is considered complete as is since this information is available in the owner laboratory.

Pace Analytical	Document Name: Sample Condition Upon Receipt Form Document No.: F-VM-C-001-Rev.09	Document Revised: 23Feb2015 Page 1 of 1 Issuing Authority: Pace Virginia, Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: Pace MN

Project #: WO# : 1243991

1243991

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☒ Other: SD

Tracking Number:

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No Seals Intact? ☒ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☒ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other: Temp Blank? ☒ Yes ☐ No

Thermometer Used: ☒ 140792808 Type of Ice: ☒ Wet ☐ Blue ☐ None ☒ Samples on Ice, cooling process has begun

Cooler Temp Read °C: 0.0 Cooler Temp Corrected °C: 0.3 Biological Tissue Frozen? ☐ Yes ☐ No ☒ NA

Temp should be above freezing to 6°C Correction Factor: +0.3 Date and Initials of Person Examining Contents: 3/3/15 DC

Comments:

Chain of Custody Present?	☒ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes	☐ No	☐ N/A	3.
Sampler Name and Signature on COC?	☐ Yes	☐ No	☒ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☒ No	☐ N/A	7.
Sufficient Volume?	☒ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☒ Yes	☐ No	☐ N/A	
Containers Intact?	☒ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☒ N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	☒ Yes	☐ No	☐ N/A	12.
-Includes Date/Time/ID/Analysis Matrix: WT				
All containers needing acid/base preservation will be checked and documented in the pH logbook.	☒ Yes	☐ No	☐ N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	☐ Yes	☐ No	☒ N/A	13.
Headspace in VOA Vials (>6mm)?	☐ Yes	☐ No	☒ N/A	14.
Trip Blank Present?	☐ Yes	☐ No	☒ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☒ N/A	
Pace Trip Blank Lot # (if purchased):				

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

FECAL WAIVER ON FILE Y N TEMPERATURE WAIVER ON FILE Y N

Project Manager Review: Date:

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

March 10, 2015

Ericka Vallance
Hydrometrics
3020 Bozeman Ave
Helena, MT 59601

RE: Project: FMC RCRA
Pace Project No.: 10297680

Dear Ericka Vallance:

Enclosed are the analytical results for sample(s) received by the laboratory between February 25, 2015 and February 26, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kabor Xiong

Kabor Xiong
kabor.xiong@pacelabs.com
Project Manager

Enclosures

cc: Rob Hartman, MWH Americas, Inc.
Bradly Maddock, FMC
Leslie Plazio, FMC
Carrie Ross, FMC
Bruce Wallin, ECCI

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Billings, MT 59101
(406)254-7226

CERTIFICATIONS

Project: FMC RCRA
Pace Project No.: 10297680

Minnesota Certification IDs
1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

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SAMPLE SUMMARY

Project: FMC RCRA
Pace Project No.: 10297680

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10297680001	**502174**	Water	02/24/15 08:30	02/25/15 11:00
10297680002	**502177**	Water	02/24/15 09:35	02/25/15 11:00
10297680003	**502154**	Water	02/24/15 10:15	02/25/15 11:00
10297680004	**502178**	Water	02/24/15 10:55	02/25/15 11:00
10297680005	**502173**	Water	02/24/15 11:55	02/25/15 11:00
10297680006	**502600**	Water	02/24/15 12:30	02/25/15 11:00
10297680007	**502CDI**	Water	02/24/15 12:40	02/25/15 11:00
10297680008	**502171**	Water	02/24/15 12:45	02/25/15 11:00
10297680009	**502128**	Water	02/24/15 13:25	02/25/15 11:00
10297680010	**502127**	Water	02/24/15 16:05	02/26/15 11:45
10297680011	**502700**	Water	02/24/15 17:05	02/26/15 11:45
10297680012	**502124**	Water	02/24/15 17:25	02/26/15 11:45
10297680013	**502126**	Water	02/24/15 16:40	02/26/15 11:45
10297680014	**502149**	Water	02/24/15 18:05	02/26/15 11:45
10297680015	**502148**	Water	02/24/15 18:40	02/26/15 11:45
10297680016	**502147**	Water	02/25/15 08:15	02/26/15 11:45
10297680017	**502180**	Water	02/25/15 09:05	02/26/15 11:45
10297680018	**502172**	Water	02/25/15 10:10	02/26/15 11:45
10297680019	**502131**	Water	02/25/15 11:15	02/26/15 11:45

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SAMPLE ANALYTE COUNT

Project: FMC RCRA
Pace Project No.: 10297680

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10297680001	**502174**	EPA 6010	IP	2	PASI-M
		EPA 6020	TT3	2	PASI-M
		EPA 300.0	MWD	4	PASI-M
		EPA 350.1	PH1	1	PASI-M
		SM 4500-P E	KEO	1	PASI-M
10297680002	**502177**	EPA 6010	IP	2	PASI-M
		EPA 6020	TT3	2	PASI-M
		EPA 300.0	MWD	4	PASI-M
		EPA 350.1	PH1	1	PASI-M
		SM 4500-P E	KEO	1	PASI-M
10297680003	**502154**	EPA 6010	IP	2	PASI-M
		EPA 6020	TT3	2	PASI-M
		EPA 300.0	MWD	4	PASI-M
		EPA 350.1	PH1	1	PASI-M
		SM 4500-P E	KEO	1	PASI-M
10297680004	**502178**	EPA 6010	IP	2	PASI-M
		EPA 6020	TT3	2	PASI-M
		EPA 300.0	MWD	4	PASI-M
		EPA 350.1	PH1	1	PASI-M
		SM 4500-P E	KEO	1	PASI-M
10297680005	**502173**	EPA 6010	IP	2	PASI-M
		EPA 6020	TT3	2	PASI-M
		EPA 300.0	MWD	4	PASI-M
		EPA 350.1	PH1	1	PASI-M
		SM 4500-P E	KEO	1	PASI-M
10297680006	**502600**	EPA 6010	IP	2	PASI-M
		EPA 6020	TT3	2	PASI-M
		EPA 300.0	MWD	4	PASI-M
		EPA 350.1	PH1	1	PASI-M
		SM 4500-P E	KEO	1	PASI-M
10297680007	**502CDI**	EPA 6010	IP	2	PASI-M
		EPA 6020	TT3	2	PASI-M
		EPA 300.0	MWD	4	PASI-M
		EPA 350.1	PH1	1	PASI-M
		SM 4500-P E	KEO	1	PASI-M
10297680008	**502171**	EPA 6010	IP	2	PASI-M
		EPA 6020	TT3	2	PASI-M

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SAMPLE ANALYTE COUNT

Project: FMC RCRA
Pace Project No.: 10297680

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 300.0	MWD	4	PASI-M
		EPA 350.1	PH1	1	PASI-M
		SM 4500-P E	KEO	1	PASI-M
10297680009	**502128**	EPA 6010	IP	2	PASI-M
		EPA 6020	TT3	2	PASI-M
		EPA 300.0	MWD	4	PASI-M
		EPA 350.1	PH1	1	PASI-M
		SM 4500-P E	KEO	1	PASI-M
10297680010	**502127**	EPA 6010	IP	2	PASI-M
		EPA 6020	RJS	2	PASI-M
		EPA 300.0	MWD	4	PASI-M
		EPA 350.1	PH1	1	PASI-M
		SM 4500-P E	KEO	1	PASI-M
10297680011	**502700**	EPA 6010	IP	2	PASI-M
		EPA 6020	RJS	2	PASI-M
		EPA 300.0	MWD	4	PASI-M
		EPA 350.1	PH1	1	PASI-M
		SM 4500-P E	KEO	1	PASI-M
10297680012	**502124**	EPA 6010	IP	2	PASI-M
		EPA 6020	RJS	2	PASI-M
		EPA 300.0	MWD	4	PASI-M
		EPA 350.1	PH1	1	PASI-M
		SM 4500-P E	KEO	1	PASI-M
10297680013	**502126**	EPA 6010	IP	2	PASI-M
		EPA 6020	RJS	2	PASI-M
		EPA 300.0	MWD	4	PASI-M
		EPA 350.1	PH1	1	PASI-M
		SM 4500-P E	KEO	1	PASI-M
10297680014	**502149**	EPA 6010	IP	2	PASI-M
		EPA 6020	RJS	2	PASI-M
		EPA 300.0	MWD	4	PASI-M
		EPA 350.1	PH1	1	PASI-M
		SM 4500-P E	KEO	1	PASI-M
10297680015	**502148**	EPA 6010	IP	2	PASI-M
		EPA 6020	RJS	2	PASI-M
		EPA 300.0	MWD	4	PASI-M
		EPA 350.1	PH1	1	PASI-M

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(406)254-7226

SAMPLE ANALYTE COUNT

Project: FMC RCRA
Pace Project No.: 10297680

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 4500-P E	KEO	1	PASI-M
10297680016	**502147**	EPA 6010	IP	2	PASI-M
		EPA 6020	RJS	2	PASI-M
		EPA 300.0	MWD	4	PASI-M
		EPA 350.1	PH1	1	PASI-M
		SM 4500-P E	KEO	1	PASI-M
10297680017	**502180**	EPA 6010	IP	2	PASI-M
		EPA 6020	RJS	2	PASI-M
		EPA 300.0	MWD	4	PASI-M
		EPA 350.1	PH1	1	PASI-M
		SM 4500-P E	KEO	1	PASI-M
10297680018	**502172**	EPA 6010	IP	2	PASI-M
		EPA 6020	RJS	2	PASI-M
		EPA 300.0	MWD	4	PASI-M
		EPA 350.1	PH1	1	PASI-M
		SM 4500-P E	KEO	1	PASI-M
10297680019	**502131**	EPA 6010	IP	2	PASI-M
		EPA 6020	RJS	2	PASI-M
		SM 4500F/C	DCL	1	PASI-M
		EPA 300.0	MWD	4	PASI-M
		EPA 350.1	PH1	1	PASI-M
		SM 4500-P E	KEO	1	PASI-M

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Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

PROJECT NARRATIVE

Project: FMC RCRA
Pace Project No.: 10297680

Method: **EPA 6010**
Description: 6010 MET ICP
Client: FMC
Date: March 10, 2015

General Information:
19 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

PROJECT NARRATIVE

Project: FMC RCRA
Pace Project No.: 10297680

Method: **EPA 6020**
Description: 6020 MET ICPMS
Client: FMC
Date: March 10, 2015

General Information:
19 samples were analyzed for EPA 6020. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3020 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MPRP/52661

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10297679001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1908174)
  - Selenium
- MSD (Lab ID: 1908175)
  - Selenium

Additional Comments:

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PROJECT NARRATIVE

Project: FMC RCRA
Pace Project No.: 10297680

Method: **SM 4500F/C**
Description: SM4500F-C Fluoride
Client: FMC
Date: March 10, 2015

General Information:
1 sample was analyzed for SM 4500F/C. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: FMC RCRA
Pace Project No.: 10297680

Method: **EPA 300.0**
Description: 300.0 IC Anions
Client: FMC
Date: March 10, 2015

General Information:
19 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/22013

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10297245003,10297680009

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1905918)
  - Fluoride
  - Nitrate as N
- MS (Lab ID: 1906281)
  - Nitrate as N
- MSD (Lab ID: 1906282)
  - Nitrate as N

M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

- MS (Lab ID: 1906281)
  - Chloride
  - Sulfate
- MSD (Lab ID: 1906282)
  - Chloride

QC Batch: WETA/22035

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10297680019

M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

- MS (Lab ID: 1907401)
  - Chloride
  - Fluoride

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PROJECT NARRATIVE

Project: FMC RCRA
Pace Project No.: 10297680

Method: **EPA 300.0**
Description: 300.0 IC Anions
Client: FMC
Date: March 10, 2015

QC Batch: WETA/22035

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10297680019

M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

- Sulfate
- MSD (Lab ID: 1907402)
  - Fluoride

Additional Comments:

Analyte Comments:

QC Batch: WETA/22035

1M: Fluoride spike did not recover due to peak not eluting correctly.

- MS (Lab ID: 1907401)
  - Fluoride
- MSD (Lab ID: 1907402)
  - Fluoride

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PROJECT NARRATIVE

Project: FMC RCRA
Pace Project No.: 10297680

Method: **EPA 350.1**
Description: 350.1 Ammonia
Client: FMC
Date: March 10, 2015

General Information:
19 samples were analyzed for EPA 350.1. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: FMC RCRA
Pace Project No.: 10297680

Method: **SM 4500-P E**
Description: Phosphate, Ortho Low Level
Client: FMC
Date: March 10, 2015

General Information:
19 samples were analyzed for SM 4500-P E. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10297680

Sample: 502174 **Lab ID: 10297680001** Collected: 02/24/15 08:30 Received: 02/25/15 11:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00025	1	02/27/15 12:27	03/02/15 10:38	7440-43-9	
Potassium	**11.1**	mg/L	2.5	1.2	1	02/27/15 12:27	03/02/15 10:38	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.0037**	mg/L	0.00050	0.00025	1	02/26/15 10:41	02/27/15 12:32	7440-38-2	
Selenium	**0.0050**	mg/L	0.00050	0.00025	1	02/26/15 10:41	02/27/15 12:32	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**217**	mg/L	6.0	3.0	5		02/25/15 17:51	16887-00-6	
Fluoride	**0.68**	mg/L	0.050	0.0060	1		02/25/15 13:11	16984-48-8	
Nitrate as N	**4.6**	mg/L	0.10	0.050	1		02/25/15 13:11	14797-55-8	
Sulfate	**93.8**	mg/L	1.2	0.60	1		02/25/15 13:11	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		02/26/15 10:45	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.024**	mg/L	0.0050	0.0025	1		02/25/15 13:39		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10297680

Sample: 502177 **Lab ID: 10297680002** Collected: 02/24/15 09:35 Received: 02/25/15 11:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00025	1	02/27/15 12:27	03/02/15 10:43	7440-43-9	
Potassium	**12.0**	mg/L	2.5	1.2	1	02/27/15 12:27	03/02/15 10:43	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.0042**	mg/L	0.00050	0.00025	1	02/26/15 10:41	02/27/15 12:18	7440-38-2	
Selenium	**0.0043**	mg/L	0.00050	0.00025	1	02/26/15 10:41	02/27/15 12:18	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**193**	mg/L	6.0	3.0	5		02/25/15 18:09	16887-00-6	
Fluoride	**0.66**	mg/L	0.050	0.0060	1		02/25/15 13:27	16984-48-8	
Nitrate as N	**4.1**	mg/L	0.10	0.050	1		02/25/15 13:27	14797-55-8	
Sulfate	**70.6**	mg/L	1.2	0.60	1		02/25/15 13:27	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		02/26/15 10:47	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.025**	mg/L	0.0050	0.0025	1		02/25/15 13:40		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10297680

Sample: 502154 **Lab ID: 10297680003** Collected: 02/24/15 10:15 Received: 02/25/15 11:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00025	1	02/27/15 12:27	03/02/15 11:06	7440-43-9	
Potassium	**13.2**	mg/L	2.5	1.2	1	02/27/15 12:27	03/02/15 11:06	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.0046**	mg/L	0.00050	0.00025	1	02/26/15 10:41	02/27/15 12:20	7440-38-2	
Selenium	**0.0032**	mg/L	0.00050	0.00025	1	02/26/15 10:41	02/27/15 12:20	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**208**	mg/L	6.0	3.0	5		02/25/15 18:27	16887-00-6	
Fluoride	**0.98**	mg/L	0.050	0.0060	1		02/25/15 13:42	16984-48-8	
Nitrate as N	**2.8**	mg/L	0.10	0.050	1		02/25/15 13:42	14797-55-8	
Sulfate	**55.1**	mg/L	1.2	0.60	1		02/25/15 13:42	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		02/26/15 10:47	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.024**	mg/L	0.0050	0.0025	1		02/25/15 13:41		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10297680

Sample: 502178 **Lab ID: 10297680004** Collected: 02/24/15 10:55 Received: 02/25/15 11:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00025	1	02/27/15 12:27	03/02/15 11:19	7440-43-9	
Potassium	**20.5**	mg/L	2.5	1.2	1	02/27/15 12:27	03/02/15 11:19	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.0092**	mg/L	0.00050	0.00025	1	02/26/15 10:41	02/27/15 12:23	7440-38-2	
Selenium	**0.0057**	mg/L	0.00050	0.00025	1	02/26/15 10:41	02/27/15 12:23	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**612**	mg/L	12.0	6.0	10		02/25/15 18:44	16887-00-6	
Fluoride	**0.29**	mg/L	0.050	0.0060	1		02/25/15 13:57	16984-48-8	
Nitrate as N	**5.8**	mg/L	0.10	0.050	1		02/25/15 13:57	14797-55-8	
Sulfate	**394**	mg/L	12.0	6.0	10		02/25/15 18:44	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		02/26/15 10:48	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.035**	mg/L	0.0050	0.0025	1		02/25/15 13:41		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10297680

Sample: 502173 **Lab ID: 10297680005** Collected: 02/24/15 11:55 Received: 02/25/15 11:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00025	1	02/27/15 12:27	03/02/15 11:26	7440-43-9	
Potassium	**12.6**	mg/L	2.5	1.2	1	02/27/15 12:27	03/02/15 11:26	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.0033**	mg/L	0.00050	0.00025	1	02/26/15 10:41	02/27/15 12:26	7440-38-2	
Selenium	**0.0042**	mg/L	0.00050	0.00025	1	02/26/15 10:41	02/27/15 12:26	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**243**	mg/L	6.0	3.0	5		02/25/15 19:02	16887-00-6	
Fluoride	**0.81**	mg/L	0.050	0.0060	1		02/25/15 14:12	16984-48-8	
Nitrate as N	**3.3**	mg/L	0.10	0.050	1		02/25/15 14:12	14797-55-8	
Sulfate	**67.8**	mg/L	1.2	0.60	1		02/25/15 14:12	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		02/26/15 10:49	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.018**	mg/L	0.0050	0.0025	1		02/25/15 13:42		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10297680

Sample: 502600 **Lab ID: 10297680006** Collected: 02/24/15 12:30 Received: 02/25/15 11:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00025	1	02/27/15 12:27	03/02/15 11:30	7440-43-9	
Potassium	**12.4**	mg/L	2.5	1.2	1	02/27/15 12:27	03/02/15 11:30	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.0033**	mg/L	0.00050	0.00025	1	02/26/15 10:41	02/27/15 12:29	7440-38-2	
Selenium	**0.0043**	mg/L	0.00050	0.00025	1	02/26/15 10:41	02/27/15 12:29	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**246**	mg/L	6.0	3.0	5		02/25/15 19:50	16887-00-6	
Fluoride	**0.80**	mg/L	0.050	0.0060	1		02/25/15 14:27	16984-48-8	
Nitrate as N	**3.3**	mg/L	0.10	0.050	1		02/25/15 14:27	14797-55-8	
Sulfate	**67.8**	mg/L	1.2	0.60	1		02/25/15 14:27	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		02/26/15 10:50	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.021**	mg/L	0.0050	0.0025	1		02/25/15 13:43		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10297680

Sample: 502CDI **Lab ID: 10297680007** Collected: 02/24/15 12:40 Received: 02/25/15 11:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00025	1	02/27/15 12:27	03/02/15 11:35	7440-43-9	
Potassium	ND	mg/L	2.5	1.2	1	02/27/15 12:27	03/02/15 11:35	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	ND	mg/L	0.00050	0.00025	1	02/26/15 10:41	02/27/15 12:46	7440-38-2	
Selenium	ND	mg/L	0.00050	0.00025	1	02/26/15 10:41	02/27/15 12:46	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	ND	mg/L	1.2	0.60	1		02/25/15 14:42	16887-00-6	
Fluoride	ND	mg/L	0.050	0.0060	1		02/25/15 14:42	16984-48-8	
Nitrate as N	ND	mg/L	0.10	0.050	1		02/25/15 14:42	14797-55-8	
Sulfate	ND	mg/L	1.2	0.60	1		02/25/15 14:42	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		02/26/15 10:50	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.0074**	mg/L	0.0050	0.0025	1		02/25/15 13:44		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10297680

Sample: 502171 **Lab ID: 10297680008** Collected: 02/24/15 12:45 Received: 02/25/15 11:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00025	1	02/27/15 12:27	03/02/15 11:40	7440-43-9	
Potassium	**20.7**	mg/L	2.5	1.2	1	02/27/15 12:27	03/02/15 11:40	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.018**	mg/L	0.00050	0.00025	1	02/26/15 10:41	02/27/15 12:49	7440-38-2	
Selenium	**0.0029**	mg/L	0.00050	0.00025	1	02/26/15 10:41	02/27/15 12:49	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**220**	mg/L	6.0	3.0	5		02/25/15 20:08	16887-00-6	
Fluoride	**0.50**	mg/L	0.050	0.0060	1		02/25/15 14:57	16984-48-8	
Nitrate as N	**5.3**	mg/L	0.10	0.050	1		02/25/15 14:57	14797-55-8	
Sulfate	**89.1**	mg/L	1.2	0.60	1		02/25/15 14:57	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		02/26/15 10:52	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.10**	mg/L	0.0050	0.0025	1		02/25/15 13:47		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10297680

Sample: 502128 **Lab ID: 10297680009** Collected: 02/24/15 13:25 Received: 02/25/15 11:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00025	1	02/27/15 12:27	03/02/15 11:45	7440-43-9	
Potassium	**18.1**	mg/L	2.5	1.2	1	02/27/15 12:27	03/02/15 11:45	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.014**	mg/L	0.00050	0.00025	1	02/26/15 10:41	02/27/15 12:52	7440-38-2	
Selenium	**0.0046**	mg/L	0.00050	0.00025	1	02/26/15 10:41	02/27/15 12:52	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**395**	mg/L	12.0	6.0	10		02/25/15 20:25	16887-00-6	M6
Fluoride	**0.39**	mg/L	0.050	0.0060	1		02/25/15 15:13	16984-48-8	
Nitrate as N	**7.3**	mg/L	0.10	0.050	1		02/25/15 15:13	14797-55-8	M1
Sulfate	**142**	mg/L	12.0	6.0	10		02/25/15 20:25	14808-79-8	M6
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		02/26/15 10:56	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.15**	mg/L	0.0050	0.0025	1		02/25/15 13:48		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10297680

Sample: 502127 **Lab ID: 10297680010** Collected: 02/24/15 16:05 Received: 02/26/15 11:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00025	1	02/27/15 12:27	03/02/15 11:51	7440-43-9	
Potassium	**14.0**	mg/L	2.5	1.2	1	02/27/15 12:27	03/02/15 11:51	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.0072**	mg/L	0.00050	0.00025	1	02/27/15 10:45	03/02/15 11:57	7440-38-2	
Selenium	**0.0065**	mg/L	0.00050	0.00025	1	02/27/15 10:45	03/02/15 11:57	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**324**	mg/L	12.0	6.0	10		02/26/15 17:06	16887-00-6	
Fluoride	**0.53**	mg/L	0.050	0.0060	1		02/26/15 13:14	16984-48-8	
Nitrate as N	**5.5**	mg/L	0.10	0.050	1		02/26/15 13:14	14797-55-8	
Sulfate	**210**	mg/L	12.0	6.0	10		02/26/15 17:06	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		03/05/15 11:45	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.078**	mg/L	0.0050	0.0025	1		02/26/15 13:13		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10297680

Sample: 502700 **Lab ID: 10297680011** Collected: 02/24/15 17:05 Received: 02/26/15 11:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00025	1	02/27/15 12:27	03/02/15 11:58	7440-43-9	
Potassium	ND	mg/L	2.5	1.2	1	02/27/15 12:27	03/02/15 11:58	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	ND	mg/L	0.00050	0.00025	1	02/27/15 10:45	03/02/15 12:01	7440-38-2	
Selenium	ND	mg/L	0.00050	0.00025	1	02/27/15 10:45	03/02/15 12:01	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	ND	mg/L	1.2	0.60	1		02/26/15 13:29	16887-00-6	
Fluoride	**0.0070J**	mg/L	0.050	0.0060	1		02/26/15 13:29	16984-48-8	
Nitrate as N	**0.050J**	mg/L	0.10	0.050	1		02/26/15 13:29	14797-55-8	
Sulfate	ND	mg/L	1.2	0.60	1		02/26/15 13:29	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		03/05/15 11:46	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	ND	mg/L	0.0050	0.0025	1		02/26/15 13:16		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10297680

Sample: 502124 **Lab ID: 10297680012** Collected: 02/24/15 17:25 Received: 02/26/15 11:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00025	1	02/27/15 12:27	03/02/15 12:03	7440-43-9	
Potassium	**12.2**	mg/L	2.5	1.2	1	02/27/15 12:27	03/02/15 12:03	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.0092**	mg/L	0.00050	0.00025	1	02/27/15 10:45	03/02/15 12:06	7440-38-2	
Selenium	**0.0035**	mg/L	0.00050	0.00025	1	02/27/15 10:45	03/02/15 12:06	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**197**	mg/L	6.0	3.0	5		02/26/15 17:23	16887-00-6	
Fluoride	**0.74**	mg/L	0.050	0.0060	1		02/26/15 13:45	16984-48-8	
Nitrate as N	**3.0**	mg/L	0.10	0.050	1		02/26/15 13:45	14797-55-8	
Sulfate	**90.7**	mg/L	1.2	0.60	1		02/26/15 13:45	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		03/05/15 11:47	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.086**	mg/L	0.0050	0.0025	1		02/26/15 13:16		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10297680

Sample: 502126 **Lab ID: 10297680013** Collected: 02/24/15 16:40 Received: 02/26/15 11:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00025	1	02/27/15 12:27	03/02/15 12:15	7440-43-9	
Potassium	**9.6**	mg/L	2.5	1.2	1	02/27/15 12:27	03/02/15 12:15	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.0079**	mg/L	0.00050	0.00025	1	02/27/15 10:45	03/02/15 12:10	7440-38-2	
Selenium	**0.0024**	mg/L	0.00050	0.00025	1	02/27/15 10:45	03/02/15 12:10	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**94.9**	mg/L	1.2	0.60	1		02/26/15 14:00	16887-00-6	
Fluoride	**0.87**	mg/L	0.050	0.0060	1		02/26/15 14:00	16984-48-8	
Nitrate as N	**2.2**	mg/L	0.10	0.050	1		02/26/15 14:00	14797-55-8	
Sulfate	**86.4**	mg/L	1.2	0.60	1		02/26/15 14:00	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		03/05/15 11:49	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.063**	mg/L	0.0050	0.0025	1		02/26/15 13:17		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10297680

Sample: 502149 **Lab ID: 10297680014** Collected: 02/24/15 18:05 Received: 02/26/15 11:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00025	1	02/27/15 12:27	03/02/15 12:20	7440-43-9	
Potassium	**11.4**	mg/L	2.5	1.2	1	02/27/15 12:27	03/02/15 12:20	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.0076**	mg/L	0.00050	0.00025	1	02/27/15 10:45	03/02/15 12:15	7440-38-2	
Selenium	**0.0026**	mg/L	0.00050	0.00025	1	02/27/15 10:45	03/02/15 12:15	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**141**	mg/L	6.0	3.0	5		02/26/15 17:41	16887-00-6	
Fluoride	**0.95**	mg/L	0.050	0.0060	1		02/26/15 14:15	16984-48-8	
Nitrate as N	**2.1**	mg/L	0.10	0.050	1		02/26/15 14:15	14797-55-8	
Sulfate	**60.0**	mg/L	1.2	0.60	1		02/26/15 14:15	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		03/05/15 11:51	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.062**	mg/L	0.0050	0.0025	1		02/26/15 13:18		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10297680

Sample: 502148 **Lab ID: 10297680015** Collected: 02/24/15 18:40 Received: 02/26/15 11:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00025	1	02/27/15 12:27	03/02/15 12:25	7440-43-9	
Potassium	**13.0**	mg/L	2.5	1.2	1	02/27/15 12:27	03/02/15 12:25	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.0064**	mg/L	0.00050	0.00025	1	02/27/15 10:45	03/02/15 12:19	7440-38-2	
Selenium	**0.0056**	mg/L	0.00050	0.00025	1	02/27/15 10:45	03/02/15 12:19	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**198**	mg/L	6.0	3.0	5		02/26/15 17:59	16887-00-6	
Fluoride	**0.70**	mg/L	0.050	0.0060	1		02/26/15 14:30	16984-48-8	
Nitrate as N	**3.9**	mg/L	0.10	0.050	1		02/26/15 14:30	14797-55-8	
Sulfate	**107**	mg/L	6.0	3.0	5		02/26/15 17:59	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		03/05/15 11:53	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.060**	mg/L	0.0050	0.0025	1		02/26/15 13:19		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10297680

Sample: 502147 **Lab ID: 10297680016** Collected: 02/25/15 08:15 Received: 02/26/15 11:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00025	1	02/27/15 12:27	03/02/15 12:29	7440-43-9	
Potassium	**11.4**	mg/L	2.5	1.2	1	02/27/15 12:27	03/02/15 12:29	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.0047**	mg/L	0.00050	0.00025	1	02/27/15 10:45	03/02/15 12:24	7440-38-2	
Selenium	**0.0046**	mg/L	0.00050	0.00025	1	02/27/15 10:45	03/02/15 12:24	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**165**	mg/L	6.0	3.0	5		02/26/15 18:16	16887-00-6	
Fluoride	**0.65**	mg/L	0.050	0.0060	1		02/26/15 14:45	16984-48-8	
Nitrate as N	**4.3**	mg/L	0.10	0.050	1		02/26/15 14:45	14797-55-8	
Sulfate	**65.8**	mg/L	1.2	0.60	1		02/26/15 14:45	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		03/05/15 11:54	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.026**	mg/L	0.0050	0.0025	1		02/26/15 13:20		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10297680

Sample: 502180 **Lab ID: 10297680017** Collected: 02/25/15 09:05 Received: 02/26/15 11:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00025	1	02/27/15 12:27	03/02/15 12:34	7440-43-9	
Potassium	**35.3**	mg/L	2.5	1.2	1	02/27/15 12:27	03/02/15 12:34	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.041**	mg/L	0.00050	0.00025	1	02/27/15 10:45	03/02/15 12:29	7440-38-2	
Selenium	**0.0036**	mg/L	0.00050	0.00025	1	02/27/15 10:45	03/02/15 12:29	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**128**	mg/L	12.0	6.0	10		02/26/15 18:34	16887-00-6	
Fluoride	**0.59**	mg/L	0.050	0.0060	1		02/26/15 15:00	16984-48-8	
Nitrate as N	**37.7**	mg/L	1.0	0.50	10		02/26/15 18:34	14797-55-8	
Sulfate	**108**	mg/L	12.0	6.0	10		02/26/15 18:34	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		03/05/15 11:55	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.45**	mg/L	0.025	0.012	5		02/26/15 13:25		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10297680

Sample: 502172 **Lab ID: 10297680018** Collected: 02/25/15 10:10 Received: 02/26/15 11:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00025	1	02/27/15 12:27	03/02/15 12:41	7440-43-9	
Potassium	**24.0**	mg/L	2.5	1.2	1	02/27/15 12:27	03/02/15 12:41	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.022**	mg/L	0.00050	0.00025	1	02/27/15 10:45	03/02/15 12:33	7440-38-2	
Selenium	**0.0040**	mg/L	0.00050	0.00025	1	02/27/15 10:45	03/02/15 12:33	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**133**	mg/L	6.0	3.0	5		02/26/15 19:40	16887-00-6	
Fluoride	**0.54**	mg/L	0.050	0.0060	1		02/26/15 15:46	16984-48-8	
Nitrate as N	**9.7**	mg/L	0.50	0.25	5		02/26/15 19:40	14797-55-8	
Sulfate	**73.1**	mg/L	1.2	0.60	1		02/26/15 15:46	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		03/05/15 11:56	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.34**	mg/L	0.025	0.012	5		02/26/15 13:26		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10297680

Sample: 502131 **Lab ID: 10297680019** Collected: 02/25/15 11:15 Received: 02/26/15 11:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	**0.00031J**	mg/L	0.0030	0.00025	1	02/27/15 12:27	03/02/15 12:46	7440-43-9	
Potassium	**13.5**	mg/L	2.5	1.2	1	02/27/15 12:27	03/02/15 12:46	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.052**	mg/L	0.00050	0.00025	1	02/27/15 10:45	03/02/15 12:38	7440-38-2	
Selenium	**0.00078**	mg/L	0.00050	0.00025	1	02/27/15 10:45	03/02/15 12:38	7782-49-2	
SM4500F-C Fluoride	Analytical Method: SM 4500F/C								
Fluoride	ND	mg/L	1.0	0.50	1		03/07/15 12:32	16984-48-8	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**215**	mg/L	12.0	6.0	10		02/26/15 19:57	16887-00-6	M6
Fluoride	**80.1**	mg/L	5.0	0.60	100		02/27/15 13:44	16984-48-8	M6
Nitrate as N	ND	mg/L	0.10	0.050	1		02/26/15 16:01	14797-55-8	
Sulfate	**173**	mg/L	12.0	6.0	10		02/26/15 19:57	14808-79-8	M6
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	**0.034J**	mg/L	0.040	0.020	1		03/05/15 11:57	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**8.0**	mg/L	0.25	0.12	50		02/26/15 13:27		

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QUALITY CONTROL DATA

Project: FMC RCRA
Pace Project No.: 10297680

QC Batch: MPRP/52636 | Analysis Method: EPA 6010
QC Batch Method: EPA 3010 | Analysis Description: 6010 MET
Associated Lab Samples: 10297680001, 10297680002, 10297680003, 10297680004, 10297680005, 10297680006, 10297680007, 10297680008, 10297680009, 10297680010, 10297680011, 10297680012, 10297680013, 10297680014, 10297680015, 10297680016, 10297680017, 10297680018, 10297680019

METHOD BLANK: 1907066 | Matrix: Water
Associated Lab Samples: 10297680001, 10297680002, 10297680003, 10297680004, 10297680005, 10297680006, 10297680007, 10297680008, 10297680009, 10297680010, 10297680011, 10297680012, 10297680013, 10297680014, 10297680015, 10297680016, 10297680017, 10297680018, 10297680019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cadmium	mg/L	ND	0.0030	03/02/15 10:29	
Potassium	mg/L	ND	2.5	03/02/15 10:29	

LABORATORY CONTROL SAMPLE: 1907067

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	mg/L	1	0.93	93	86-108	
Potassium	mg/L	10	9.3	93	85-108	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1908447 1908448

Parameter	Units	10297680002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	mg/L	ND	1	1	0.96	0.95	96	95	83-112	1	20	
Potassium	mg/L	12.0	10	10	21.4	21.4	93	93	82-118	0	20	

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QUALITY CONTROL DATA

Project: FMC RCRA
Pace Project No.: 10297680

QC Batch: MPRP/52633 | Analysis Method: EPA 6020
QC Batch Method: EPA 3020 | Analysis Description: 6020 MET
Associated Lab Samples: 10297680001, 10297680002, 10297680003, 10297680004, 10297680005, 10297680006, 10297680007, 10297680008, 10297680009

METHOD BLANK: 1907053 | Matrix: Water
Associated Lab Samples: 10297680001, 10297680002, 10297680003, 10297680004, 10297680005, 10297680006, 10297680007, 10297680008, 10297680009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.00050	02/27/15 12:12	
Selenium	mg/L	ND	0.00050	02/27/15 12:12	

LABORATORY CONTROL SAMPLE: 1907054

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	.08	0.079	99	92-110	
Selenium	mg/L	.08	0.078	97	93-112	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1907055 1907056

Parameter	Units	10297680001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	0.0037	.08	.08	0.082	0.082	98	97	89-114	0	20	
Selenium	mg/L	0.0050	.08	.08	0.083	0.082	97	97	85-117	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: FMC RCRA
Pace Project No.: 10297680

QC Batch: MPRP/52661 | Analysis Method: EPA 6020
QC Batch Method: EPA 3020 | Analysis Description: 6020 MET
Associated Lab Samples: 10297680010, 10297680011, 10297680012, 10297680013, 10297680014, 10297680015, 10297680016, 10297680017, 10297680018, 10297680019

METHOD BLANK: 1908172 | Matrix: Water
Associated Lab Samples: 10297680010, 10297680011, 10297680012, 10297680013, 10297680014, 10297680015, 10297680016, 10297680017, 10297680018, 10297680019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.00050	03/02/15 11:00	
Selenium	mg/L	ND	0.00050	03/02/15 11:00	

LABORATORY CONTROL SAMPLE: 1908173

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	.08	0.088	110	92-110	
Selenium	mg/L	.08	0.085	106	93-112	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1908174 1908175

Parameter	Units	10297679001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	0.011	.08	.08	0.097	0.096	107	106	89-114	1	20	
Selenium	mg/L	0.00036J	.08	.08	0.053	0.049	66	61	85-117	7	20	M1

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QUALITY CONTROL DATA

Project: FMC RCRA
Pace Project No.: 10297680

QC Batch: WET/40750
QC Batch Method: SM 4500F/C
Analysis Method: SM 4500F/C
Analysis Description: SM4500F-C Fluoride
Associated Lab Samples: 10297680019

METHOD BLANK: 1913410
Matrix: Water
Associated Lab Samples: 10297680019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Fluoride	mg/L	ND	1.0	03/07/15 12:03	

LABORATORY CONTROL SAMPLE: 1913411

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	5	4.9	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1913412 1913413

Parameter	Units	10298055019 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	ND	5	5	4.3	4.8	81	89	80-120	9	20	

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QUALITY CONTROL DATA

Project: FMC RCRA
Pace Project No.: 10297680

QC Batch: WETA/22013 | Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 | Analysis Description: 300.0 IC Anions
Associated Lab Samples: 10297680001, 10297680002, 10297680003, 10297680004, 10297680005, 10297680006, 10297680007, 10297680008, 10297680009

METHOD BLANK: 1905916 | Matrix: Water
Associated Lab Samples: 10297680001, 10297680002, 10297680003, 10297680004, 10297680005, 10297680006, 10297680007, 10297680008, 10297680009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.2	02/25/15 10:40	
Fluoride	mg/L	ND	0.050	02/25/15 10:40	
Nitrate as N	mg/L	ND	0.10	02/25/15 10:40	
Sulfate	mg/L	ND	1.2	02/25/15 10:40	

LABORATORY CONTROL SAMPLE: 1905917

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	12.5	12.8	102	90-110	
Fluoride	mg/L	1	0.93	93	90-110	
Nitrate as N	mg/L	1	0.96	96	90-110	
Sulfate	mg/L	12.5	12.4	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1905918 1905919

Parameter	Units	10297245003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	ND	12.5	12.5	12.2	12.6	95	99	90-110	3	20	
Fluoride	mg/L	ND	1	1	0.87	0.92	87	92	90-110	5	20	M1
Nitrate as N	mg/L	ND	1	1	0.92	0.95	87	90	90-110	3	20	M1
Sulfate	mg/L	ND	12.5	12.5	11.9	12.3	92	95	90-110	3	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1906281 1906282

Parameter	Units	10297680009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	395	125	125	566	496	137	81	90-110	13	20	M6
Fluoride	mg/L	0.39	1	1	1.3	1.3	90	91	90-110	1	20	
Nitrate as N	mg/L	7.3	1	1	7.0	7.1	-29	-21	90-110	1	20	M1
Sulfate	mg/L	142	125	125	290	265	118	98	90-110	9	20	M6

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QUALITY CONTROL DATA

Project: FMC RCRA
Pace Project No.: 10297680

QC Batch: WETA/22035 | Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 | Analysis Description: 300.0 IC Anions
Associated Lab Samples: 10297680010, 10297680011, 10297680012, 10297680013, 10297680014, 10297680015, 10297680016, 10297680017, 10297680018, 10297680019

METHOD BLANK: 1907343 | Matrix: Water
Associated Lab Samples: 10297680010, 10297680011, 10297680012, 10297680013, 10297680014, 10297680015, 10297680016, 10297680017, 10297680018, 10297680019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.2	02/26/15 12:35	
Fluoride	mg/L	ND	0.050	02/26/15 12:35	
Nitrate as N	mg/L	ND	0.10	02/26/15 12:35	
Sulfate	mg/L	ND	1.2	02/26/15 12:35	

LABORATORY CONTROL SAMPLE: 1907344

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	12.5	12.8	103	90-110	
Fluoride	mg/L	1	0.98	98	90-110	
Nitrate as N	mg/L	1	0.95	95	90-110	
Sulfate	mg/L	12.5	12.4	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1907401 1907402

Parameter	Units	10297680019 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	215	125	125	360	328	116	91	90-110	9	20	M6
Fluoride	mg/L	80.1	100	100	ND	ND	-80	-80	90-110		20	1M,M6
Nitrate as N	mg/L	ND	1	1	0.96	0.96	92	92	90-110	0	20	
Sulfate	mg/L	173	125	125	318	291	116	95	90-110	9	20	M6

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QUALITY CONTROL DATA

Project: FMC RCRA
Pace Project No.: 10297680

QC Batch: WETA/22026 | Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 | Analysis Description: 350.1 Ammonia
Associated Lab Samples: 10297680001, 10297680002, 10297680003, 10297680004, 10297680005, 10297680006, 10297680007, 10297680008, 10297680009

METHOD BLANK: 1907204 | Matrix: Water
Associated Lab Samples: 10297680001, 10297680002, 10297680003, 10297680004, 10297680005, 10297680006, 10297680007, 10297680008, 10297680009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.040	02/26/15 10:32	

LABORATORY CONTROL SAMPLE: 1907205

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	1	1.0	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1907206 1907207

Parameter	Units	10297342001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Ammonia	mg/L	ND	1	1	1.0	0.98	100	98	90-110	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1907208 1907209

Parameter	Units	10297680008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Ammonia	mg/L	ND	1	1	1.1	1.0	106	103	90-110	3	20	

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QUALITY CONTROL DATA

Project: FMC RCRA
Pace Project No.: 10297680

QC Batch: WETA/22079 | Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 | Analysis Description: 350.1 Ammonia
Associated Lab Samples: 10297680010, 10297680011, 10297680012, 10297680013, 10297680014, 10297680015, 10297680016, 10297680017, 10297680018, 10297680019

METHOD BLANK: 1910790 | Matrix: Water
Associated Lab Samples: 10297680010, 10297680011, 10297680012, 10297680013, 10297680014, 10297680015, 10297680016, 10297680017, 10297680018, 10297680019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.040	03/05/15 11:42	

LABORATORY CONTROL SAMPLE: 1910791

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	1	0.98	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1910792 1910793

Parameter	Units	10297680012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Ammonia	mg/L	ND	1	1	0.97	0.98	97	98	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1910794 1910795

Parameter	Units	10298053001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Ammonia	mg/L	2.0	1	1	3.0	3.0	105	105	90-110	0	20	

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QUALITY CONTROL DATA

Project: FMC RCRA
Pace Project No.: 10297680

QC Batch: WETA/22018 | Analysis Method: SM 4500-P E
QC Batch Method: SM 4500-P E | Analysis Description: SM4500P-E, Phosphate, Ortho
Associated Lab Samples: 10297680001, 10297680002, 10297680003, 10297680004, 10297680005, 10297680006, 10297680007, 10297680008, 10297680009

METHOD BLANK: 1906276 | Matrix: Water
Associated Lab Samples: 10297680001, 10297680002, 10297680003, 10297680004, 10297680005, 10297680006, 10297680007, 10297680008, 10297680009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Orthophosphate as P	mg/L	ND	0.0050	02/25/15 13:48	

LABORATORY CONTROL SAMPLE: 1906277

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Orthophosphate as P	mg/L	.1	0.10	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1906278 1906279

Parameter	Units	10297615001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Orthophosphate as P	mg/L	ND	.1	.1	0.10	0.10	100	102	80-120	2	30	

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QUALITY CONTROL DATA

Project: FMC RCRA
Pace Project No.: 10297680

QC Batch: WETA/22029 | Analysis Method: SM 4500-P E
QC Batch Method: SM 4500-P E | Analysis Description: SM4500P-E, Phosphate, Ortho
Associated Lab Samples: 10297680010, 10297680011, 10297680012, 10297680013, 10297680014, 10297680015, 10297680016, 10297680017, 10297680018, 10297680019

METHOD BLANK: 1907230 | Matrix: Water
Associated Lab Samples: 10297680010, 10297680011, 10297680012, 10297680013, 10297680014, 10297680015, 10297680016, 10297680017, 10297680018, 10297680019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Orthophosphate as P	mg/L	ND	0.0050	02/26/15 09:34	

LABORATORY CONTROL SAMPLE: 1907231

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Orthophosphate as P	mg/L	.1	0.10	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1907232 1907233

Parameter	Units	10297715001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Orthophosphate as P	mg/L	0.35	.5	.5	0.87	0.87	104	104	80-120	0	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1907413 1907414

Parameter	Units	10297680010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Orthophosphate as P	mg/L	0.078	.1	.1	0.18	0.18	106	106	80-120	0	30	

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QUALIFIERS

Project: FMC RCRA
Pace Project No.: 10297680

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

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TNI - The NELAC Institute.

LABORATORIES

PASI-M	Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

1M	Fluoride spike did not recover due to peak not eluting correctly.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: FMC RCRA
Pace Project No.: 10297680

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10297680001	**502174**	EPA 3010	MPRP/52636	EPA 6010	ICP/22890
10297680002	**502177**	EPA 3010	MPRP/52636	EPA 6010	ICP/22890
10297680003	**502154**	EPA 3010	MPRP/52636	EPA 6010	ICP/22890
10297680004	**502178**	EPA 3010	MPRP/52636	EPA 6010	ICP/22890
10297680005	**502173**	EPA 3010	MPRP/52636	EPA 6010	ICP/22890
10297680006	**502600**	EPA 3010	MPRP/52636	EPA 6010	ICP/22890
10297680007	**502CDI**	EPA 3010	MPRP/52636	EPA 6010	ICP/22890
10297680008	**502171**	EPA 3010	MPRP/52636	EPA 6010	ICP/22890
10297680009	**502128**	EPA 3010	MPRP/52636	EPA 6010	ICP/22890
10297680010	**502127**	EPA 3010	MPRP/52636	EPA 6010	ICP/22890
10297680011	**502700**	EPA 3010	MPRP/52636	EPA 6010	ICP/22890
10297680012	**502124**	EPA 3010	MPRP/52636	EPA 6010	ICP/22890
10297680013	**502126**	EPA 3010	MPRP/52636	EPA 6010	ICP/22890
10297680014	**502149**	EPA 3010	MPRP/52636	EPA 6010	ICP/22890
10297680015	**502148**	EPA 3010	MPRP/52636	EPA 6010	ICP/22890
10297680016	**502147**	EPA 3010	MPRP/52636	EPA 6010	ICP/22890
10297680017	**502180**	EPA 3010	MPRP/52636	EPA 6010	ICP/22890
10297680018	**502172**	EPA 3010	MPRP/52636	EPA 6010	ICP/22890
10297680019	**502131**	EPA 3010	MPRP/52636	EPA 6010	ICP/22890
10297680001	**502174**	EPA 3020	MPRP/52633	EPA 6020	ICPM/23347
10297680002	**502177**	EPA 3020	MPRP/52633	EPA 6020	ICPM/23347
10297680003	**502154**	EPA 3020	MPRP/52633	EPA 6020	ICPM/23347
10297680004	**502178**	EPA 3020	MPRP/52633	EPA 6020	ICPM/23347
10297680005	**502173**	EPA 3020	MPRP/52633	EPA 6020	ICPM/23347
10297680006	**502600**	EPA 3020	MPRP/52633	EPA 6020	ICPM/23347
10297680007	**502CDI**	EPA 3020	MPRP/52633	EPA 6020	ICPM/23347
10297680008	**502171**	EPA 3020	MPRP/52633	EPA 6020	ICPM/23347
10297680009	**502128**	EPA 3020	MPRP/52633	EPA 6020	ICPM/23347
10297680010	**502127**	EPA 3020	MPRP/52661	EPA 6020	ICPM/23359
10297680011	**502700**	EPA 3020	MPRP/52661	EPA 6020	ICPM/23359
10297680012	**502124**	EPA 3020	MPRP/52661	EPA 6020	ICPM/23359
10297680013	**502126**	EPA 3020	MPRP/52661	EPA 6020	ICPM/23359
10297680014	**502149**	EPA 3020	MPRP/52661	EPA 6020	ICPM/23359
10297680015	**502148**	EPA 3020	MPRP/52661	EPA 6020	ICPM/23359
10297680016	**502147**	EPA 3020	MPRP/52661	EPA 6020	ICPM/23359
10297680017	**502180**	EPA 3020	MPRP/52661	EPA 6020	ICPM/23359
10297680018	**502172**	EPA 3020	MPRP/52661	EPA 6020	ICPM/23359
10297680019	**502131**	EPA 3020	MPRP/52661	EPA 6020	ICPM/23359
10297680019	**502131**	SM 4500F/C	WET/40750		
10297680001	**502174**	EPA 300.0	WETA/22013		
10297680002	**502177**	EPA 300.0	WETA/22013		
10297680003	**502154**	EPA 300.0	WETA/22013		
10297680004	**502178**	EPA 300.0	WETA/22013		
10297680005	**502173**	EPA 300.0	WETA/22013		
10297680006	**502600**	EPA 300.0	WETA/22013		
10297680007	**502CDI**	EPA 300.0	WETA/22013		
10297680008	**502171**	EPA 300.0	WETA/22013		

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Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: FMC RCRA
Pace Project No.: 10297680

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10297680009	**502128**	EPA 300.0	WETA/22013		
10297680010	**502127**	EPA 300.0	WETA/22035		
10297680011	**502700**	EPA 300.0	WETA/22035		
10297680012	**502124**	EPA 300.0	WETA/22035		
10297680013	**502126**	EPA 300.0	WETA/22035		
10297680014	**502149**	EPA 300.0	WETA/22035		
10297680015	**502148**	EPA 300.0	WETA/22035		
10297680016	**502147**	EPA 300.0	WETA/22035		
10297680017	**502180**	EPA 300.0	WETA/22035		
10297680018	**502172**	EPA 300.0	WETA/22035		
10297680019	**502131**	EPA 300.0	WETA/22035		
10297680001	**502174**	EPA 350.1	WETA/22026		
10297680002	**502177**	EPA 350.1	WETA/22026		
10297680003	**502154**	EPA 350.1	WETA/22026		
10297680004	**502178**	EPA 350.1	WETA/22026		
10297680005	**502173**	EPA 350.1	WETA/22026		
10297680006	**502600**	EPA 350.1	WETA/22026		
10297680007	**502CDI**	EPA 350.1	WETA/22026		
10297680008	**502171**	EPA 350.1	WETA/22026		
10297680009	**502128**	EPA 350.1	WETA/22026		
10297680010	**502127**	EPA 350.1	WETA/22079		
10297680011	**502700**	EPA 350.1	WETA/22079		
10297680012	**502124**	EPA 350.1	WETA/22079		
10297680013	**502126**	EPA 350.1	WETA/22079		
10297680014	**502149**	EPA 350.1	WETA/22079		
10297680015	**502148**	EPA 350.1	WETA/22079		
10297680016	**502147**	EPA 350.1	WETA/22079		
10297680017	**502180**	EPA 350.1	WETA/22079		
10297680018	**502172**	EPA 350.1	WETA/22079		
10297680019	**502131**	EPA 350.1	WETA/22079		
10297680001	**502174**	SM 4500-P E	WETA/22018		
10297680002	**502177**	SM 4500-P E	WETA/22018		
10297680003	**502154**	SM 4500-P E	WETA/22018		
10297680004	**502178**	SM 4500-P E	WETA/22018		
10297680005	**502173**	SM 4500-P E	WETA/22018		
10297680006	**502600**	SM 4500-P E	WETA/22018		
10297680007	**502CDI**	SM 4500-P E	WETA/22018		
10297680008	**502171**	SM 4500-P E	WETA/22018		
10297680009	**502128**	SM 4500-P E	WETA/22018		
10297680010	**502127**	SM 4500-P E	WETA/22029		
10297680011	**502700**	SM 4500-P E	WETA/22029		
10297680012	**502124**	SM 4500-P E	WETA/22029		
10297680013	**502126**	SM 4500-P E	WETA/22029		
10297680014	**502149**	SM 4500-P E	WETA/22029		
10297680015	**502148**	SM 4500-P E	WETA/22029		
10297680016	**502147**	SM 4500-P E	WETA/22029		

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Billings, MT 59101
(406)254-7226

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: FMC RCRA
Pace Project No.: 10297680

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10297680017	**502180**	SM 4500-P E	WETA/22029		
10297680018	**502172**	SM 4500-P E	WETA/22029		
10297680019	**502131**	SM 4500-P E	WETA/22029		

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

SHORT HOLD
2/25/15

10097650

Page: 1 of 1

Section A
Required Client Information:

Company:	FMC
Address:	PO BOX 4111
	POCATELLO, ID 83202
Email To:	brian.mcginnis@fmc.com
Phone:	Fax:
Requested Due Date/TAT:	

Section B
Required Project Information:

Report To:	Ericka Vallance, Hydrometrics
Copy To:	Rob Hartman, MWH
	Bruce Wallin, ECCI
Purchase Order No.:	
Project Name:	FMC
Project Number:	RCRA

Section C
Invoice Information:

Attention:	Brian McGinnis
Company Name:	FMC
Address:	PO BOX 4111 POCATELLO ID 83202
Pace Quote Reference:	
Pace Project Manager:	Kabor Xiong
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☑ RCRA ☐ OTHER

Site Location STATE: ID

Section D
Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): **WQP	TOTAL METALS 6020	TOTAL METALS 6010	FLUORIDE (ISE)	TOTAL PHOS by ICP	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	5402174	WT	G	--	--	2/24/15	0830		3	X	X	X						X	X	X				
2	5402177	WT	G	--	--		0935																	001
3	5402154	WT	G	--	--		1015																	002
4	5402178	WT	G	--	--		1055																	003
5	5402173	WT	G	--	--		1155																	004
6	5402600	WT	G	--	--		1230																	005
7	5402CDI	WT	G	--	--		1240																	006
8	5402171	WT	G	--	--		1245																	007
9	5402128	WT	G	--	--		1325																	008
10	~~5402127~~ we	WT	G	--	--																			009
11	5402	WT	G	--	--																			
12	5402	WT	G	--	--																			

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Fed Ex Air Bill # 805397293074	Walter Crane / Hydrometrics	2/24/15	14:15	[illegible]	2/25/15	11:00	1.7	Y	Y	Y
**WQP: 300.0- Cl, SO4, Nitrate, F; Ortho Phos, Ammonia										
6010: Cadmium, Potassium; 6020: Arsenic, Selenium										
Total Phos by ICP only on wells 108, 121, 122 & 123										

	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Walter Crane

SIGNATURE of SAMPLER: Walter Crane

DATE Signed (MM/DD/YY): 02/24/15

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.08, 12-Oct-2007

Pace Analytical®	Document Name: **Sample Condition Upon Receipt Form**	Document Revised: 28Feb2014 Page 1 of 1
	Document No.: **F-MN-L-213-rev.09**	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: IMC

Project #: WO#: 10297680 (10297680)

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ SpeeDee ☐ Other:

Tracking Number: 8053 9729 3074

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No **Seals Intact?** ☒ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other:

Temp Blank? ☐ Yes ☒ No

Thermom. Used: ☒ B88A9130516413 ☐ B88A912167504 ☐ B88A9132521491

Type of Ice: ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read (°C): 1-7 **Cooler Temp Corrected (°C):** 1-7

Temp should be above freezing to 6°C **Correction Factor:** —

Biological Tissue Frozen? ☐ Yes ☐ No ☒ N/A

Date and Initials of Person Examining Contents: 2/25/15 [illegible]

				Comments:
Chain of Custody Present?	☒ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☒ Yes	☐ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☒ No	☐ N/A	7.
Sufficient Volume?	☒ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☒ Yes	☐ No	☐ N/A	
Containers Intact?	☒ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☒ N/A	11.
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: WT	☒ Yes	☐ No	☐ N/A	12.
All containers needing acid/base preservation have been checked?	☒ Yes	☐ No	☐ N/A	13. ☒ HNO_3 ☒ H_2SO_4 ☐ NaOH ☐ HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide)	☒ Yes	☐ No	☐ N/A	Sample # 1-7 1/1 1/1
Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC	☐ Yes	☒ No		Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	☐ Yes	☐ No	☒ N/A	14.
Trip Blank Present?	☐ Yes	☐ No	☒ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☒ N/A	
Pace Trip Blank Lot # (if purchased):				

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: Karla Yang **Date:** 2/25/15

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10297680

Page: 1 of 1

Section A
Required Client Information:

Company:	FMC
Address:	PO BOX 4111
	POCATELLO, ID 83202
Email To:	brian.mcginnis@fmc.com
Phone:	Fax:
Requested Due Date/TAT:	

Section B
Required Project Information:

Report To:	Ericka Vallance, Hydrometrics
Copy To:	Rob Hartman, MWH
	Bruce Wallin, ECCI
Purchase Order No.:	
Project Name:	FMC
Project Number:	RCRA

Section C
Invoice Information:

Attention:	Brian McGinnis
Company Name:	FMC
Address:	PO BOX 4111 POCATELLO ID 83202
Pace Quote Reference:	
Pace Project Manager:	Kabor Xiong
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☑ RCRA ☐ OTHER

Site Location STATE: ID

Section D
Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start Date	COLLECTED Composite Start Time	COLLECTED Composite End/Grab Date	COLLECTED Composite End/Grab Time	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test: **WQP	TOTAL METALS 6020	TOTAL METALS 6010	FLUORIDE (ISE)	**TOTAL PHOS by ICP	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	5402 127	WT	G	--	--	2/24/15	1605		3	X	X	X						X	X	X				010
2	~~5402 126~~ 502700	WT	G	--	--		1705																	011
3	5402 124	WT	G	--	--		1725																	012
4	5402 126	WT	G	--	--		1640																	013
5	5402 149	WT	G	--	--		1805																	014
6	5402 148	WT	G	--	--		1840																	015
7	5402 147	WT	G	--	--	2/25/15	0815																	016
8	5402 180	WT	G	--	--		0905																	017
9	5402 172	WT	G	--	--		1010																	018
10	5402 131	WT	G	--	--		1115		4	2											X			019
11	5402	WT	G	--	--																			
12	5402	WT	G	--	--																			

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Fed Ex Air Bill # 805397293085	Walter Crave / Hydrometrics	2/25/15	16:30	[illegible]	2/26/15	11:45	0.9	Y	Y	Y
**WQP: 300.0- Cl, SO4, Nitrate, F; Ortho Phos, Ammonia										
6010: Cadmium, Potassium; 6020: Arsenic, Selenium										
Total Phos by ICP only on wells 108, 121, 122 & 123										

SAMPLER NAME AND SIGNATURE			
PRINT Name of SAMPLER:	Walter Crave		
SIGNATURE of SAMPLER:	Walter Crave	DATE Signed (MM/DD/YY):	02/25/15

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.08, 12-Oct-2007

Pace Analytical®	Document Name: **Sample Condition Upon Receipt Form**	Document Revised: 28Feb2014 Page 1 of 1
	Document No.: **F-MN-L-213-rev.09**	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: FMC

Project #: WO#: 10297680 (10297680)

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ SpeeDee ☐ Other: _____

Tracking Number: 8053 9729 3085

Custody Seal on Cooler/Box Present? ☐ Yes ☐ No **Seals Intact?** ☐ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other: _____ **Temp Blank?** ☐ Yes ☒ No

Thermom. Used: ☒ B88A9130516413 ☐ B88A912167504 ☐ B88A9132521491 **Type of Ice:** ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read (°C): 0.9 **Cooler Temp Corrected (°C):** 0.9 **Biological Tissue Frozen?** ☐ Yes ☐ No ☒ N/A

Temp should be above freezing to 6°C **Correction Factor:** — **Date and Initials of Person Examining Contents:** 2/26/15 [illegible]

				Comments:
Chain of Custody Present?	☒ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☒ Yes	☐ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☒ No	☐ N/A	7.
Sufficient Volume?	☒ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☒ Yes	☐ No	☐ N/A	
Containers Intact?	☒ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☒ N/A	11.
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: WY	☒ Yes	☐ No	☐ N/A	12.
All containers needing acid/base preservation have been checked?	☒ Yes	☐ No	☐ N/A	13. ☒ HNO_3 ☒ H_2SO_4 ☐ NaOH ☐ HCl Sample # 1-10 1/1 1/1
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide)	☒ Yes	☐ No	☐ N/A	
Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC	☐ Yes	☒ No		Initial when completed: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)?	☐ Yes	☐ No	☒ N/A	14.
Trip Blank Present?	☐ Yes	☐ No	☒ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☒ N/A	
Pace Trip Blank Lot # (if purchased): _____				

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: Karla Xiong **Date:** 2/26/15

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

March 11, 2015

Ericka Vallance
Hydrometrics
3020 Bozeman Ave
Helena, MT 59601

RE: Project: FMC RCRA
Pace Project No.: 10298055

Dear Ericka Vallance:
Enclosed are the analytical results for sample(s) received by the laboratory on February 27, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kabor Xiong

Kabor Xiong
kabor.xiong@pacelabs.com
Project Manager

Enclosures

cc: Rob Hartman, MWH Americas, Inc.
Bradly Maddock, FMC
Leslie Plazio, FMC
Carrie Ross, FMC
Bruce Wallin, ECCI

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150 N Ninth Street
Billings, MT 59101
(406)254-7226

CERTIFICATIONS

Project: FMC RCRA
Pace Project No.: 10298055

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792
Alaska Certification #: UST-078
Alaska Certification #MN01084
Arizona Department of Health Certification #AZ0785
Minnesota Dept of Health Certification #: 027-137-445
North Dakota Certification: # R-203
Wisconsin DNR Certification # : 998027470
WA Department of Ecology Lab ID# C1007

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Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

SAMPLE SUMMARY

Project: FMC RCRA
Pace Project No.: 10298055

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10298055001	**502115**	Water	02/25/15 13:05	02/27/15 09:55
10298055002	**502113**	Water	02/25/15 13:45	02/27/15 09:55
10298055003	**502166**	Water	02/25/15 14:45	02/27/15 09:55
10298055004	**502168**	Water	02/25/15 15:45	02/27/15 09:55
10298055005	**502165**	Water	02/25/15 17:25	02/27/15 09:55
10298055006	**502167**	Water	02/25/15 18:05	02/27/15 09:55
10298055007	**502183**	Water	02/25/15 19:15	02/27/15 09:55
10298055008	**502158**	Water	02/26/15 08:05	02/27/15 09:55
10298055009	**502121**	Water	02/26/15 08:50	02/27/15 09:55
10298055010	**502122**	Water	02/26/15 09:35	02/27/15 09:55
10298055011	**502108**	Water	02/26/15 10:15	02/27/15 09:55
10298055012	**502123 ABC**	Water	02/26/15 10:55	02/27/15 09:55
10298055015	**502104**	Water	02/26/15 12:25	02/27/15 09:55
10298055016	**502601**	Water	02/26/15 12:50	02/27/15 09:55
10298055017	**502155**	Water	02/26/15 13:05	02/27/15 09:55
10298055018	**502156**	Water	02/26/15 13:50	02/27/15 09:55
10298055019	**502157ABC**	Water	02/26/15 14:35	02/27/15 09:55
10298055022	**502BTS**	Water	02/26/15 15:10	02/27/15 09:55
10298055023	**502701**	Water	02/26/15 17:10	02/27/15 09:55
10298055024	**502114ABC**	Water	02/25/15 12:10	02/27/15 09:55

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SAMPLE ANALYTE COUNT

Project: FMC RCRA
Pace Project No.: 10298055

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10298055001	**502115**	EPA 6010	IP	2	PASI-M
		EPA 6020	TT3	2	PASI-M
		EPA 300.0	MWD	4	PASI-M
		EPA 350.1	PH1	1	PASI-M
		SM 4500-P E	KEO	1	PASI-M
10298055002	**502113**	EPA 6010	IP	2	PASI-M
		EPA 6020	TT3	2	PASI-M
		EPA 300.0	MWD	4	PASI-M
		EPA 350.1	PH1	1	PASI-M
		SM 4500-P E	KEO	1	PASI-M
10298055003	**502166**	EPA 6010	IP	2	PASI-M
		EPA 6020	TT3	2	PASI-M
		EPA 300.0	MWD	4	PASI-M
		EPA 350.1	PH1	1	PASI-M
		SM 4500-P E	KEO	1	PASI-M
10298055004	**502168**	EPA 6010	IP	2	PASI-M
		EPA 6020	TT3	2	PASI-M
		EPA 300.0	MWD	4	PASI-M
		EPA 350.1	PH1	1	PASI-M
		SM 4500-P E	KEO	1	PASI-M
10298055005	**502165**	EPA 6010	IP	2	PASI-M
		EPA 6020	TT3	2	PASI-M
		EPA 300.0	MWD	4	PASI-M
		EPA 350.1	PH1	1	PASI-M
		SM 4500-P E	KEO	1	PASI-M
10298055006	**502167**	EPA 6010	IP	2	PASI-M
		EPA 6020	TT3	2	PASI-M
		EPA 300.0	MWD	4	PASI-M
		EPA 350.1	PH1	1	PASI-M
		SM 4500-P E	KEO	1	PASI-M
10298055007	**502183**	EPA 6010	IP	2	PASI-M
		EPA 6020	TT3	2	PASI-M
		EPA 300.0	MWD	4	PASI-M
		EPA 350.1	PH1	1	PASI-M
		SM 4500-P E	KEO	1	PASI-M
10298055008	**502158**	EPA 6010	IP	2	PASI-M
		EPA 6020	TT3	2	PASI-M

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SAMPLE ANALYTE COUNT

Project: FMC RCRA
Pace Project No.: 10298055

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 300.0	MWD	4	PASI-M
		EPA 350.1	PH1	1	PASI-M
		SM 4500-P E	KEO	1	PASI-M
10298055009	**502121**	EPA 6010	IP	2	PASI-M
		EPA 6010	MAR	1	PASI-V
		EPA 6020	TT3	2	PASI-M
		EPA 300.0	MWD	4	PASI-M
		EPA 350.1	PH1	1	PASI-M
		SM 4500-P E	KEO	1	PASI-M
10298055010	**502122**	EPA 6010	IP	2	PASI-M
		EPA 6010	MAR	1	PASI-V
		EPA 6020	TT3	2	PASI-M
		EPA 300.0	MWD	4	PASI-M
		EPA 350.1	PH1	1	PASI-M
		SM 4500-P E	KEO	1	PASI-M
10298055011	**502108**	EPA 6010	IP	2	PASI-M
		EPA 6010	MAR	1	PASI-V
		EPA 6020	TT3	2	PASI-M
		EPA 300.0	MWD	4	PASI-M
		EPA 350.1	PH1	1	PASI-M
		SM 4500-P E	KEO	1	PASI-M
10298055012	**502123 ABC**	EPA 6010	IP	2	PASI-M
		EPA 6010	MAR	1	PASI-V
		EPA 6020	TT3	2	PASI-M
		EPA 300.0	MWD	4	PASI-M
		EPA 350.1	PH1	1	PASI-M
		SM 4500-P E	KEO	1	PASI-M
10298055015	**502104**	EPA 6010	IP	2	PASI-M
		EPA 6020	TT3	2	PASI-M
		EPA 300.0	MWD	4	PASI-M
		EPA 350.1	PH1	1	PASI-M
		SM 4500-P E	KEO	1	PASI-M
10298055016	**502601**	EPA 6010	IP	2	PASI-M
		EPA 6020	TT3	2	PASI-M
		EPA 300.0	MWD	4	PASI-M
		EPA 350.1	PH1	1	PASI-M
		SM 4500-P E	KEO	1	PASI-M

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SAMPLE ANALYTE COUNT

Project: FMC RCRA
Pace Project No.: 10298055

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10298055017	**502155**	EPA 6010	IP	2	PASI-M
		EPA 6020	TT3	2	PASI-M
		SM 4500F/C	DCL	1	PASI-M
		EPA 300.0	MWD	4	PASI-M
		EPA 350.1	PH1	1	PASI-M
		SM 4500-P E	KEO	1	PASI-M
10298055018	**502156**	EPA 6010	IP	2	PASI-M
		EPA 6020	TT3	2	PASI-M
		SM 4500F/C	DCL	1	PASI-M
		EPA 300.0	MWD	4	PASI-M
		EPA 350.1	PH1	1	PASI-M
		SM 4500-P E	KEO	1	PASI-M
10298055019	**502157ABC**	EPA 6010	IP	2	PASI-M
		EPA 6020	TT3	2	PASI-M
		SM 4500F/C	DCL	1	PASI-M
		EPA 300.0	MWD	4	PASI-M
		EPA 350.1	PH1	1	PASI-M
		SM 4500-P E	KEO	1	PASI-M
10298055022	**502BTS**	EPA 6010	IP	2	PASI-M
		EPA 6020	TT3	2	PASI-M
		EPA 300.0	MWD	4	PASI-M
		EPA 350.1	PH1	1	PASI-M
		SM 4500-P E	KEO	1	PASI-M
10298055023	**502701**	EPA 6010	IP	2	PASI-M
		EPA 6020	TT3	2	PASI-M
		EPA 300.0	MWD	4	PASI-M
		EPA 350.1	PH1	1	PASI-M
		SM 4500-P E	KEO	1	PASI-M
10298055024	**502114ABC**	EPA 6010	IP	2	PASI-M
		EPA 6020	TT3	2	PASI-M
		SM 4500F/C	MWD	1	PASI-M
		EPA 300.0	MWD	4	PASI-M
		EPA 350.1	MWD	1	PASI-M
		SM 4500-P E	MWD	1	PASI-M

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PROJECT NARRATIVE

Project: FMC RCRA
Pace Project No.: 10298055

Method: **EPA 6010**
Description: 6010 MET ICP
Client: FMC
Date: March 11, 2015

General Information:
20 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MPRP/52685

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10298055019

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1909474)
  - Potassium
- MSD (Lab ID: 1909475)
  - Potassium

Additional Comments:

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PROJECT NARRATIVE

Project: FMC RCRA
Pace Project No.: 10298055

Method: **EPA 6020**
Description: 6020 MET ICPMS
Client: FMC
Date: March 11, 2015

General Information:
20 samples were analyzed for EPA 6020. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3020 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MPRP/52702

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10298055024

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1909482)
  - Arsenic
- MSD (Lab ID: 1909483)
  - Arsenic

Additional Comments:

Analyte Comments:

QC Batch: MPRP/52694

D3: Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

- 502156 (Lab ID: 10298055018)
  - Selenium

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PROJECT NARRATIVE

Project: FMC RCRA
Pace Project No.: 10298055

Method: **EPA 6020**
Description: 6020 MET ICPMS
Client: FMC
Date: March 11, 2015

Analyte Comments:

QC Batch: MPRP/52694

D3: Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

- 502167 (Lab ID: 10298055006)
  - Selenium

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PROJECT NARRATIVE

Project: FMC RCRA
Pace Project No.: 10298055

Method: **SM 4500F/C**
Description: SM4500F-C Fluoride
Client: FMC
Date: March 11, 2015

General Information:
4 samples were analyzed for SM 4500F/C. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: FMC RCRA
Pace Project No.: 10298055

Method: **EPA 300.0**
Description: 300.0 IC Anions
Client: FMC
Date: March 11, 2015

General Information:
20 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

H1: Analysis conducted outside the recognized method holding time.
- 502113 (Lab ID: 10298055002)
- 502114ABC (Lab ID: 10298055024)
- 502115 (Lab ID: 10298055001)
- 502165 (Lab ID: 10298055005)
- 502166 (Lab ID: 10298055003)
- 502167 (Lab ID: 10298055006)
- 502168 (Lab ID: 10298055004)

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/22038

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10297905003,10298055024

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- MS (Lab ID: 1908223)
  - Chloride
  - Fluoride
  - Nitrate as N
  - Sulfate
- MSD (Lab ID: 1908224)
  - Chloride
  - Fluoride
  - Nitrate as N
  - Sulfate

M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.
- MS (Lab ID: 1908630)

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PROJECT NARRATIVE

Project: FMC RCRA
Pace Project No.: 10298055

Method: **EPA 300.0**
Description: 300.0 IC Anions
Client: FMC
Date: March 11, 2015

QC Batch: WETA/22038

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10297905003,10298055024

M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

- Fluoride
- MSD (Lab ID: 1908631)
  - Fluoride

QC Batch: WETA/22046

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10298055012,10298055019

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1908634)
  - Chloride
  - Fluoride
  - Nitrate as N
- MSD (Lab ID: 1908635)
  - Chloride
  - Fluoride
  - Nitrate as N

M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

- MS (Lab ID: 1908634)
  - Sulfate
- MS (Lab ID: 1908636)
  - Chloride
  - Sulfate
- MSD (Lab ID: 1908635)
  - Sulfate
- MSD (Lab ID: 1908637)
  - Chloride
  - Sulfate

Additional Comments:

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PROJECT NARRATIVE

Project: FMC RCRA
Pace Project No.: 10298055

Method: **EPA 350.1**
Description: 350.1 Ammonia
Client: FMC
Date: March 11, 2015

General Information:
20 samples were analyzed for EPA 350.1. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/22080

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10298055012,10298055019

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1910798)
  - Nitrogen, Ammonia
- MSD (Lab ID: 1910799)
  - Nitrogen, Ammonia

Additional Comments:

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PROJECT NARRATIVE

Project: FMC RCRA
Pace Project No.: 10298055

Method: **SM 4500-P E**
Description: Phosphate, Ortho Low Level
Client: FMC
Date: March 11, 2015

General Information:
20 samples were analyzed for SM 4500-P E. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

H1: Analysis conducted outside the recognized method holding time.
- 502113 (Lab ID: 10298055002)
- 502114ABC (Lab ID: 10298055024)
- 502115 (Lab ID: 10298055001)
- 502166 (Lab ID: 10298055003)

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10298055

Sample: 502115 **Lab ID: 10298055001** Collected: 02/25/15 13:05 Received: 02/27/15 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	**0.00035J**	mg/L	0.0030	0.00025	1	03/03/15 11:09	03/04/15 09:54	7440-43-9	
Potassium	**14.1**	mg/L	2.5	1.2	1	03/03/15 11:09	03/04/15 09:54	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.25**	mg/L	0.00050	0.00025	1	03/03/15 11:24	03/03/15 11:51	7440-38-2	
Selenium	**0.0038**	mg/L	0.00050	0.00025	1	03/03/15 11:24	03/03/15 11:51	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**149**	mg/L	12.0	6.0	10		02/27/15 16:24	16887-00-6	
Fluoride	**0.75**	mg/L	0.050	0.0060	1		02/27/15 15:51	16984-48-8	
Nitrate as N	**65.6**	mg/L	1.0	0.50	10		02/27/15 16:24	14797-55-8	H1
Sulfate	**341**	mg/L	12.0	6.0	10		02/27/15 16:24	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		03/05/15 12:12	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**2.7**	mg/L	0.25	0.12	50		02/27/15 16:07		H1

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10298055

Sample: 502113 **Lab ID: 10298055002** Collected: 02/25/15 13:45 Received: 02/27/15 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00025	1	03/03/15 11:09	03/04/15 10:01	7440-43-9	
Potassium	**17.4**	mg/L	2.5	1.2	1	03/03/15 11:09	03/04/15 10:01	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.028**	mg/L	0.00050	0.00025	1	03/03/15 11:24	03/03/15 11:54	7440-38-2	
Selenium	**0.0035**	mg/L	0.00050	0.00025	1	03/03/15 11:24	03/03/15 11:54	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**128**	mg/L	12.0	6.0	10		02/27/15 17:27	16887-00-6	
Fluoride	**0.43**	mg/L	0.050	0.0060	1		02/27/15 16:06	16984-48-8	
Nitrate as N	**8.4**	mg/L	1.0	0.50	10		02/27/15 17:27	14797-55-8	H1
Sulfate	**87.7**	mg/L	1.2	0.60	1		02/27/15 16:06	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		03/05/15 12:15	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.20**	mg/L	0.010	0.0050	2		02/27/15 16:08		H1

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10298055

Sample: 502166 **Lab ID: 10298055003** Collected: 02/25/15 14:45 Received: 02/27/15 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00025	1	03/03/15 11:09	03/04/15 10:05	7440-43-9	
Potassium	**30.7**	mg/L	2.5	1.2	1	03/03/15 11:09	03/04/15 10:05	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.019**	mg/L	0.00050	0.00025	1	03/03/15 11:24	03/03/15 11:57	7440-38-2	
Selenium	**0.0058**	mg/L	0.00050	0.00025	1	03/03/15 11:24	03/03/15 11:57	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**229**	mg/L	12.0	6.0	10		02/27/15 17:44	16887-00-6	
Fluoride	**0.68**	mg/L	0.050	0.0060	1		02/27/15 16:39	16984-48-8	
Nitrate as N	**38.9**	mg/L	1.0	0.50	10		02/27/15 17:44	14797-55-8	H1
Sulfate	**191**	mg/L	12.0	6.0	10		02/27/15 17:44	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		03/05/15 12:16	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.26**	mg/L	0.010	0.0050	2		02/27/15 16:08		H1

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10298055

Sample: 502168 **Lab ID: 10298055004** Collected: 02/25/15 15:45 Received: 02/27/15 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00025	1	03/03/15 11:09	03/04/15 10:12	7440-43-9	
Potassium	**18.1**	mg/L	2.5	1.2	1	03/03/15 11:09	03/04/15 10:12	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.024**	mg/L	0.0025	0.0012	5	03/03/15 11:24	03/03/15 12:02	7440-38-2	
Selenium	**0.073**	mg/L	0.0025	0.0012	5	03/03/15 11:24	03/03/15 12:02	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**57.9**	mg/L	1.2	0.60	1		02/27/15 17:59	16887-00-6	
Fluoride	**3.8**	mg/L	0.50	0.060	10		02/27/15 20:48	16984-48-8	
Nitrate as N	**24.9**	mg/L	1.0	0.50	10		02/27/15 20:48	14797-55-8	H1
Sulfate	**1450**	mg/L	60.0	30.0	50		03/02/15 13:01	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	**0.14**	mg/L	0.040	0.020	1		03/05/15 12:16	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.093**	mg/L	0.0050	0.0025	1		02/27/15 15:10		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10298055

Sample: 502165 **Lab ID: 10298055005** Collected: 02/25/15 17:25 Received: 02/27/15 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00025	1	03/03/15 11:09	03/04/15 10:19	7440-43-9	
Potassium	**12.1**	mg/L	2.5	1.2	1	03/03/15 11:09	03/04/15 10:19	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.026**	mg/L	0.0025	0.0012	5	03/03/15 11:24	03/03/15 12:05	7440-38-2	
Selenium	**0.0053**	mg/L	0.0025	0.0012	5	03/03/15 11:24	03/03/15 12:05	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**247**	mg/L	12.0	6.0	10		02/28/15 05:32	16887-00-6	
Fluoride	**0.18**	mg/L	0.050	0.0060	1		02/27/15 18:14	16984-48-8	
Nitrate as N	**4.0**	mg/L	0.10	0.050	1		02/27/15 18:14	14797-55-8	H1
Sulfate	**152**	mg/L	12.0	6.0	10		02/28/15 05:32	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		03/05/15 12:18	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.26**	mg/L	0.010	0.0050	2		02/27/15 16:09		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10298055

Sample: 502167 **Lab ID: 10298055006** Collected: 02/25/15 18:05 Received: 02/27/15 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	**0.00065J**	mg/L	0.0030	0.00025	1	03/03/15 11:09	03/04/15 10:26	7440-43-9	
Potassium	**13.3**	mg/L	2.5	1.2	1	03/03/15 11:09	03/04/15 10:26	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.051**	mg/L	0.0025	0.0012	5	03/03/15 11:24	03/03/15 12:08	7440-38-2	
Selenium	**0.0024J**	mg/L	0.0025	0.0012	5	03/03/15 11:24	03/03/15 12:08	7782-49-2	D3
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**151**	mg/L	12.0	6.0	10		02/28/15 05:49	16887-00-6	
Fluoride	**1.5**	mg/L	0.050	0.0060	1		02/27/15 18:30	16984-48-8	
Nitrate as N	**0.066J**	mg/L	0.10	0.050	1		02/27/15 18:30	14797-55-8	H1
Sulfate	**155**	mg/L	12.0	6.0	10		02/28/15 05:49	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		03/05/15 12:18	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**5.0**	mg/L	0.25	0.12	50		02/27/15 16:10		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10298055

Sample: 502183 **Lab ID: 10298055007** Collected: 02/25/15 19:15 Received: 02/27/15 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00025	1	03/03/15 11:09	03/04/15 10:32	7440-43-9	
Potassium	**12.9**	mg/L	2.5	1.2	1	03/03/15 11:09	03/04/15 10:32	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.017**	mg/L	0.0025	0.0012	5	03/03/15 11:24	03/03/15 12:11	7440-38-2	
Selenium	**0.0050**	mg/L	0.0025	0.0012	5	03/03/15 11:24	03/03/15 12:11	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**104**	mg/L	12.0	6.0	10		02/28/15 06:06	16887-00-6	
Fluoride	**0.32**	mg/L	0.050	0.0060	1		02/27/15 18:45	16984-48-8	
Nitrate as N	**1.8**	mg/L	0.10	0.050	1		02/27/15 18:45	14797-55-8	
Sulfate	**231**	mg/L	12.0	6.0	10		02/28/15 06:06	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		03/05/15 12:20	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.057**	mg/L	0.0050	0.0025	1		02/27/15 15:13		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10298055

Sample: 502158 **Lab ID: 10298055008** Collected: 02/26/15 08:05 Received: 02/27/15 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00025	1	03/03/15 11:09	03/04/15 10:46	7440-43-9	
Potassium	**20.7**	mg/L	2.5	1.2	1	03/03/15 11:09	03/04/15 10:46	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.013**	mg/L	0.0025	0.0012	5	03/03/15 11:24	03/03/15 12:14	7440-38-2	
Selenium	**0.0052**	mg/L	0.0025	0.0012	5	03/03/15 11:24	03/03/15 12:14	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**109**	mg/L	12.0	6.0	10		02/28/15 06:54	16887-00-6	
Fluoride	**0.16**	mg/L	0.050	0.0060	1		02/27/15 19:00	16984-48-8	
Nitrate as N	**2.8**	mg/L	0.10	0.050	1		02/27/15 19:00	14797-55-8	
Sulfate	**578**	mg/L	12.0	6.0	10		02/28/15 06:54	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	**0.030J**	mg/L	0.040	0.020	1		03/05/15 12:20	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.070**	mg/L	0.0050	0.0025	1		02/27/15 15:54		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10298055

Sample: 502121 **Lab ID: 10298055009** Collected: 02/26/15 08:50 Received: 02/27/15 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Phosphorus	**679**	ug/L	100	37.1	1	03/05/15 14:31	03/06/15 08:55	7723-14-0	
Cadmium	ND	mg/L	0.0030	0.00025	1	03/03/15 11:09	03/04/15 10:53	7440-43-9	
Potassium	**54.2**	mg/L	2.5	1.2	1	03/03/15 11:09	03/04/15 10:53	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.0097**	mg/L	0.0025	0.0012	5	03/03/15 11:24	03/03/15 12:23	7440-38-2	
Selenium	**0.015**	mg/L	0.0025	0.0012	5	03/03/15 11:24	03/03/15 12:23	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**499**	mg/L	12.0	6.0	10		02/27/15 21:06	16887-00-6	
Fluoride	**0.16**	mg/L	0.050	0.0060	1		02/27/15 19:15	16984-48-8	
Nitrate as N	**16.8**	mg/L	1.0	0.50	10		02/27/15 21:06	14797-55-8	
Sulfate	**389**	mg/L	12.0	6.0	10		02/27/15 21:06	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		03/05/15 12:21	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.62**	mg/L	0.050	0.025	10		02/27/15 16:11		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10298055

Sample: 502122 **Lab ID: 10298055010** Collected: 02/26/15 09:35 Received: 02/27/15 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Phosphorus	**9870**	ug/L	100	37.1	1	03/05/15 14:31	03/06/15 09:00	7723-14-0	
Cadmium	ND	mg/L	0.0030	0.00025	1	03/03/15 11:09	03/04/15 11:00	7440-43-9	
Potassium	**134**	mg/L	2.5	1.2	1	03/03/15 11:09	03/04/15 11:00	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.056**	mg/L	0.0025	0.0012	5	03/03/15 11:24	03/03/15 12:25	7440-38-2	
Selenium	**0.0095**	mg/L	0.0025	0.0012	5	03/03/15 11:24	03/03/15 12:25	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**340**	mg/L	12.0	6.0	10		02/27/15 21:23	16887-00-6	
Fluoride	**0.063**	mg/L	0.050	0.0060	1		02/27/15 19:30	16984-48-8	
Nitrate as N	**19.8**	mg/L	1.0	0.50	10		02/27/15 21:23	14797-55-8	
Sulfate	**370**	mg/L	12.0	6.0	10		02/27/15 21:23	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		03/05/15 12:22	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**9.4**	mg/L	0.25	0.12	50		02/27/15 16:12		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10298055

Sample: 502108 **Lab ID: 10298055011** Collected: 02/26/15 10:15 Received: 02/27/15 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Phosphorus	**1610**	ug/L	100	37.1	1	03/05/15 14:31	03/06/15 09:05	7723-14-0	
Cadmium	ND	mg/L	0.0030	0.00025	1	03/03/15 11:09	03/04/15 11:07	7440-43-9	
Potassium	**118**	mg/L	2.5	1.2	1	03/03/15 11:09	03/04/15 11:07	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.022**	mg/L	0.0025	0.0012	5	03/03/15 11:24	03/03/15 12:28	7440-38-2	
Selenium	**0.012**	mg/L	0.0025	0.0012	5	03/03/15 11:24	03/03/15 12:28	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**411**	mg/L	12.0	6.0	10		02/27/15 21:41	16887-00-6	
Fluoride	**0.35**	mg/L	0.050	0.0060	1		02/27/15 19:45	16984-48-8	
Nitrate as N	**15.1**	mg/L	1.0	0.50	10		02/27/15 21:41	14797-55-8	
Sulfate	**331**	mg/L	12.0	6.0	10		02/27/15 21:41	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		03/05/15 12:23	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**1.5**	mg/L	0.25	0.12	50		02/27/15 16:15		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10298055

Sample: 502123 ABC **Lab ID: 10298055012** Collected: 02/26/15 10:55 Received: 02/27/15 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Phosphorus	**542**	ug/L	100	37.1	1	03/05/15 14:31	03/06/15 09:10	7723-14-0	
Cadmium	ND	mg/L	0.0030	0.00025	1	03/03/15 11:09	03/04/15 11:13	7440-43-9	
Potassium	**28.0**	mg/L	2.5	1.2	1	03/03/15 11:09	03/04/15 11:13	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.19**	mg/L	0.0025	0.0012	5	03/03/15 11:24	03/03/15 12:37	7440-38-2	
Selenium	**0.15**	mg/L	0.0025	0.0012	5	03/03/15 11:24	03/03/15 12:37	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**90.2**	mg/L	1.2	0.60	1		02/27/15 22:56	16887-00-6	M1
Fluoride	**0.94**	mg/L	0.050	0.0060	1		02/27/15 22:56	16984-48-8	M1
Nitrate as N	**2.4**	mg/L	0.10	0.050	1		02/27/15 22:56	14797-55-8	M1
Sulfate	**518**	mg/L	12.0	6.0	10		02/28/15 08:39	14808-79-8	M6
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	**3.5**	mg/L	0.080	0.040	2		03/05/15 12:59	7664-41-7	M1
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.52**	mg/L	0.025	0.012	5		02/27/15 15:55		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10298055

Sample: 502104 **Lab ID: 10298055015** Collected: 02/26/15 12:25 Received: 02/27/15 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	**0.00036J**	mg/L	0.0030	0.00025	1	03/03/15 11:09	03/04/15 11:47	7440-43-9	
Potassium	**244**	mg/L	2.5	1.2	1	03/03/15 11:09	03/04/15 11:47	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.040**	mg/L	0.0025	0.0012	5	03/03/15 11:24	03/03/15 12:31	7440-38-2	
Selenium	**0.0035**	mg/L	0.0025	0.0012	5	03/03/15 11:24	03/03/15 12:31	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**121**	mg/L	12.0	6.0	10		02/28/15 07:12	16887-00-6	
Fluoride	**3.1**	mg/L	0.050	0.0060	1		02/27/15 20:31	16984-48-8	
Nitrate as N	**20.1**	mg/L	1.0	0.50	10		02/28/15 07:12	14797-55-8	
Sulfate	**136**	mg/L	12.0	6.0	10		02/28/15 07:12	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	**3.2**	mg/L	0.080	0.040	2		03/05/15 13:04	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**1.1**	mg/L	0.12	0.062	25		02/27/15 15:57		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10298055

Sample: 502601 **Lab ID: 10298055016** Collected: 02/26/15 12:50 Received: 02/27/15 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	**0.00036J**	mg/L	0.0030	0.00025	1	03/03/15 11:09	03/04/15 11:54	7440-43-9	
Potassium	**233**	mg/L	2.5	1.2	1	03/03/15 11:09	03/04/15 11:54	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.039**	mg/L	0.0025	0.0012	5	03/03/15 11:24	03/03/15 12:34	7440-38-2	
Selenium	**0.0035**	mg/L	0.0025	0.0012	5	03/03/15 11:24	03/03/15 12:34	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**123**	mg/L	12.0	6.0	10		02/28/15 07:29	16887-00-6	
Fluoride	**3.1**	mg/L	0.050	0.0060	1		02/27/15 21:56	16984-48-8	
Nitrate as N	**20.6**	mg/L	1.0	0.50	10		02/28/15 07:29	14797-55-8	
Sulfate	**138**	mg/L	12.0	6.0	10		02/28/15 07:29	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	**3.2**	mg/L	0.080	0.040	2		03/05/15 13:06	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**1.1**	mg/L	0.12	0.062	25		02/27/15 15:58		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10298055

Sample: 502155 **Lab ID: 10298055017** Collected: 02/26/15 13:05 Received: 02/27/15 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00025	1	03/03/15 11:09	03/04/15 12:00	7440-43-9	
Potassium	**477**	mg/L	12.5	6.2	5	03/03/15 11:09	03/04/15 12:48	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.11**	mg/L	0.0025	0.0012	5	03/03/15 11:24	03/03/15 13:02	7440-38-2	
Selenium	**0.0072**	mg/L	0.0025	0.0012	5	03/03/15 11:24	03/03/15 13:02	7782-49-2	
SM4500F-C Fluoride	Analytical Method: SM 4500F/C								
Fluoride	ND	mg/L	1.0	0.50	1		03/08/15 14:46	16984-48-8	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**183**	mg/L	12.0	6.0	10		02/28/15 07:47	16887-00-6	
Fluoride	**0.077**	mg/L	0.050	0.0060	1		02/27/15 22:11	16984-48-8	
Nitrate as N	**7.5**	mg/L	1.0	0.50	10		02/28/15 07:47	14797-55-8	
Sulfate	**258**	mg/L	12.0	6.0	10		02/28/15 07:47	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	**0.50**	mg/L	0.040	0.020	1		03/05/15 12:30	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**16.9**	mg/L	0.50	0.25	100		02/27/15 15:59		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10298055

Sample: 502156 **Lab ID: 10298055018** Collected: 02/26/15 13:50 Received: 02/27/15 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00025	1	03/03/15 11:09	03/04/15 12:07	7440-43-9	
Potassium	**1280**	mg/L	12.5	6.2	5	03/03/15 11:09	03/04/15 12:53	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.15**	mg/L	0.0025	0.0012	5	03/03/15 11:24	03/03/15 13:05	7440-38-2	
Selenium	ND	mg/L	0.0025	0.0012	5	03/03/15 11:24	03/03/15 13:05	7782-49-2	D3
SM4500F-C Fluoride	Analytical Method: SM 4500F/C								
Fluoride	ND	mg/L	1.0	0.50	1		03/08/15 14:50	16984-48-8	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**363**	mg/L	12.0	6.0	10		02/28/15 08:04	16887-00-6	
Fluoride	**44.5**	mg/L	5.0	0.60	100		03/02/15 13:18	16984-48-8	
Nitrate as N	**1.8**	mg/L	0.10	0.050	1		02/27/15 22:26	14797-55-8	
Sulfate	**254**	mg/L	12.0	6.0	10		02/28/15 08:04	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	**11.8**	mg/L	0.28	0.14	7		03/05/15 14:26	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**170**	mg/L	12.5	6.2	2500		02/27/15 16:15		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10298055

Sample: 502157ABC **Lab ID: 10298055019** Collected: 02/26/15 14:35 Received: 02/27/15 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00025	1	03/02/15 10:08	03/02/15 16:39	7440-43-9	
Potassium	**255**	mg/L	2.5	1.2	1	03/02/15 10:08	03/02/15 16:39	7440-09-7	M1
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.096**	mg/L	0.0025	0.0012	5	03/03/15 11:24	03/03/15 13:08	7440-38-2	
Selenium	ND	mg/L	0.0025	0.0012	5	03/03/15 11:24	03/03/15 13:08	7782-49-2	
SM4500F-C Fluoride	Analytical Method: SM 4500F/C								
Fluoride	ND	mg/L	1.0	0.50	1		03/07/15 12:42	16984-48-8	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**243**	mg/L	12.0	6.0	10		03/02/15 10:58	16887-00-6	M6
Fluoride	**27.7**	mg/L	2.5	0.30	50		03/02/15 11:59	16984-48-8	
Nitrate as N	**0.054J**	mg/L	0.10	0.050	1		02/28/15 00:29	14797-55-8	
Sulfate	**284**	mg/L	12.0	6.0	10		03/02/15 10:58	14808-79-8	M6
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	**2.2**	mg/L	0.080	0.040	2		03/05/15 13:38	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**44.4**	mg/L	2.5	1.2	500		02/27/15 16:01		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10298055

Sample: 502BTS **Lab ID: 10298055022** Collected: 02/26/15 15:10 Received: 02/27/15 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00025	1	03/02/15 10:08	03/02/15 17:08	7440-43-9	
Potassium	**9.2**	mg/L	2.5	1.2	1	03/02/15 10:08	03/02/15 17:08	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.011**	mg/L	0.0025	0.0012	5	03/03/15 11:24	03/03/15 12:57	7440-38-2	
Selenium	**0.0029**	mg/L	0.0025	0.0012	5	03/03/15 11:24	03/03/15 12:57	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**42.9**	mg/L	1.2	0.60	1		02/27/15 22:41	16887-00-6	
Fluoride	**0.40**	mg/L	0.050	0.0060	1		02/27/15 22:41	16984-48-8	
Nitrate as N	**4.5**	mg/L	0.10	0.050	1		02/27/15 22:41	14797-55-8	
Sulfate	**93.3**	mg/L	1.2	0.60	1		02/27/15 22:41	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	**0.063**	mg/L	0.040	0.020	1		03/05/15 12:36	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**2.5**	mg/L	0.50	0.25	100		02/27/15 16:16		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10298055

Sample: 502701 **Lab ID: 10298055023** Collected: 02/26/15 17:10 Received: 02/27/15 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00025	1	03/02/15 10:08	03/02/15 17:12	7440-43-9	
Potassium	ND	mg/L	2.5	1.2	1	03/02/15 10:08	03/02/15 17:12	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.00026J**	mg/L	0.00050	0.00025	1	03/03/15 11:24	03/03/15 13:22	7440-38-2	
Selenium	ND	mg/L	0.00050	0.00025	1	03/03/15 11:24	03/03/15 13:22	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	ND	mg/L	1.2	0.60	1		02/28/15 01:32	16887-00-6	
Fluoride	**0.0090J**	mg/L	0.050	0.0060	1		02/28/15 01:32	16984-48-8	
Nitrate as N	ND	mg/L	0.10	0.050	1		02/28/15 01:32	14797-55-8	
Sulfate	ND	mg/L	1.2	0.60	1		02/28/15 01:32	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		03/05/15 12:38	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.0087**	mg/L	0.0050	0.0025	1		02/27/15 16:06		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10298055

Sample: 502114ABC **Lab ID: 10298055024** Collected: 02/25/15 12:10 Received: 02/27/15 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	**0.00028J**	mg/L	0.0030	0.00025	1	03/03/15 11:09	03/04/15 12:14	7440-43-9	
Potassium	**31.3**	mg/L	2.5	1.2	1	03/03/15 11:09	03/04/15 12:14	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.13**	mg/L	0.00050	0.00025	1	03/02/15 12:19	03/03/15 09:58	7440-38-2	M1
Selenium	**0.0024**	mg/L	0.00050	0.00025	1	03/02/15 12:19	03/03/15 09:58	7782-49-2	
SM4500F-C Fluoride	Analytical Method: SM 4500F/C								
Fluoride	**0.89J**	mg/L	1.0	0.50	1		03/08/15 14:53	16984-48-8	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**140**	mg/L	12.0	6.0	10		02/28/15 04:30	16887-00-6	
Fluoride	**1.2**	mg/L	0.50	0.060	10		02/28/15 04:30	16984-48-8	M6
Nitrate as N	**0.050J**	mg/L	0.10	0.050	1		02/27/15 14:48	14797-55-8	H1
Sulfate	**102**	mg/L	12.0	6.0	10		02/28/15 04:30	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	**2.0**	mg/L	0.040	0.020	1		03/05/15 12:05	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**1.6**	mg/L	0.25	0.12	50		02/27/15 15:01		H1

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QUALITY CONTROL DATA

Project: FMC RCRA
Pace Project No.: 10298055

QC Batch: MPRP/5092 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 10298055009, 10298055010, 10298055011, 10298055012

METHOD BLANK: 190479 Matrix: Water
Associated Lab Samples: 10298055009, 10298055010, 10298055011, 10298055012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphorus	ug/L	ND	100	03/06/15 08:47	

LABORATORY CONTROL SAMPLE: 190480

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phosphorus	ug/L	500	538	108	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 190481 190482

Parameter	Units	10298055012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Phosphorus	ug/L	542	500	500	1100	1050	112	103	75-125	4	20	

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QUALITY CONTROL DATA

Project: FMC RCRA
Pace Project No.: 10298055

QC Batch: MPRP/52685 | Analysis Method: EPA 6010
QC Batch Method: EPA 3010 | Analysis Description: 6010 MET
Associated Lab Samples: 10298055019, 10298055022, 10298055023

METHOD BLANK: 1908779 | Matrix: Water
Associated Lab Samples: 10298055019, 10298055022, 10298055023

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cadmium	mg/L	ND	0.0030	03/02/15 16:30	
Potassium	mg/L	ND	2.5	03/02/15 16:30	

LABORATORY CONTROL SAMPLE: 1908780

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	mg/L	1	0.94	94	86-108	
Potassium	mg/L	10	9.7	97	85-108	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1909474 1909475

Parameter	Units	10298055019 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	mg/L	ND	1	1	0.94	0.95	94	95	83-112	0	20	
Potassium	mg/L	255	10	10	262	268	66	125	82-118	2	20	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: FMC RCRA
Pace Project No.: 10298055

QC Batch: MPRP/52689 — Analysis Method: EPA 6010
QC Batch Method: EPA 3010 — Analysis Description: 6010 MET
Associated Lab Samples: 10298055001, 10298055002, 10298055003, 10298055004, 10298055005, 10298055006, 10298055007, 10298055008, 10298055009, 10298055010, 10298055011, 10298055012, 10298055015, 10298055016, 10298055017, 10298055018, 10298055024

METHOD BLANK: 1909203 — Matrix: Water
Associated Lab Samples: 10298055001, 10298055002, 10298055003, 10298055004, 10298055005, 10298055006, 10298055007, 10298055008, 10298055009, 10298055010, 10298055011, 10298055012, 10298055015, 10298055016, 10298055017, 10298055018, 10298055024

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cadmium	mg/L	ND	0.0030	03/04/15 09:45	
Potassium	mg/L	ND	2.5	03/04/15 09:45	

LABORATORY CONTROL SAMPLE: 1909204

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	mg/L	1	0.99	99	86-108	
Potassium	mg/L	10	9.4	94	85-108	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1909453 — 1909454

Parameter	Units	10298055012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	mg/L	ND	1	1	1.1	1.1	106	105	83-112	1	20	
Potassium	mg/L	28.0	10	10	39.1	38.3	111	104	82-118	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1909860 — 1909861

Parameter	Units	10298055024 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	mg/L	0.00028J	1	1	1.0	1.1	105	106	83-112	1	20	
Potassium	mg/L	31.3	10	10	41.9	40.4	106	90	82-118	4	20	

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QUALITY CONTROL DATA

Project: FMC RCRA
Pace Project No.: 10298055

QC Batch: MPRP/52694 | Analysis Method: EPA 6020
QC Batch Method: EPA 3020 | Analysis Description: 6020 MET
Associated Lab Samples: 10298055001, 10298055002, 10298055003, 10298055004, 10298055005, 10298055006, 10298055007, 10298055008, 10298055009, 10298055010, 10298055011, 10298055012, 10298055015, 10298055016, 10298055017, 10298055018, 10298055019, 10298055022, 10298055023

METHOD BLANK: 1909223 | Matrix: Water
Associated Lab Samples: 10298055001, 10298055002, 10298055003, 10298055004, 10298055005, 10298055006, 10298055007, 10298055008, 10298055009, 10298055010, 10298055011, 10298055012, 10298055015, 10298055016, 10298055017, 10298055018, 10298055019, 10298055022, 10298055023

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.00050	03/03/15 11:46	
Selenium	mg/L	ND	0.00050	03/03/15 11:46	

LABORATORY CONTROL SAMPLE: 1909224

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	.08	0.084	104	92-110	
Selenium	mg/L	.08	0.083	104	93-112	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1909461 1909462

Parameter	Units	10298055012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	0.19	.08	.08	0.27	0.27	103	104	89-114	0	20	
Selenium	mg/L	0.15	.08	.08	0.23	0.24	98	109	85-117	4	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1909463 1909464

Parameter	Units	10298055019 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	0.096	.08	.08	0.17	0.18	99	103	89-114	2	20	
Selenium	mg/L	ND	.08	.08	0.081	0.083	100	103	85-117	3	20	

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QUALITY CONTROL DATA

Project: FMC RCRA
Pace Project No.: 10298055

QC Batch: MPRP/52702 | Analysis Method: EPA 6020
QC Batch Method: EPA 3020 | Analysis Description: 6020 MET
Associated Lab Samples: 10298055024

METHOD BLANK: 1909465 | Matrix: Water
Associated Lab Samples: 10298055024

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.00050	03/03/15 09:38	
Selenium	mg/L	ND	0.00050	03/03/15 09:38	

LABORATORY CONTROL SAMPLE: 1909466

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	.08	0.086	108	92-110	
Selenium	mg/L	.08	0.087	109	93-112	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1909482 1909483

Parameter	Units	10298055024 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	0.13	.08	.08	0.23	0.23	132	125	89-114	2	20	M1
Selenium	mg/L	0.0024	.08	.08	0.084	0.083	102	101	85-117	1	20	

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QUALITY CONTROL DATA

Project: FMC RCRA
Pace Project No.: 10298055

QC Batch: WET/40750
QC Batch Method: SM 4500F/C
Analysis Method: SM 4500F/C
Analysis Description: SM4500F-C Fluoride
Associated Lab Samples: 10298055019

METHOD BLANK: 1913410
Matrix: Water
Associated Lab Samples: 10298055019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Fluoride	mg/L	ND	1.0	03/07/15 12:03	

LABORATORY CONTROL SAMPLE: 1913411

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	5	4.9	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1913412 1913413

Parameter	Units	10298055019 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	ND	5	5	4.3	4.8	81	89	80-120	9	20	

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QUALITY CONTROL DATA

Project: FMC RCRA
Pace Project No.: 10298055

QC Batch: WET/40754 | Analysis Method: SM 4500F/C
QC Batch Method: SM 4500F/C | Analysis Description: SM4500F-C Fluoride
Associated Lab Samples: 10298055017, 10298055018, 10298055024

METHOD BLANK: 1913498 | Matrix: Water
Associated Lab Samples: 10298055017, 10298055018, 10298055024

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Fluoride	mg/L	ND	1.0	03/08/15 14:39	

LABORATORY CONTROL SAMPLE: 1913499

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	5	4.9	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1913500 1913501

Parameter	Units	10298055024 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	0.89J	5	5	5.2	5.8	86	98	80-120	11	20	

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QUALITY CONTROL DATA

Project: FMC RCRA
Pace Project No.: 10298055

QC Batch: WETA/22038 — Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 — Analysis Description: 300.0 IC Anions
Associated Lab Samples: 10298055001, 10298055002, 10298055003, 10298055004, 10298055005, 10298055006, 10298055007, 10298055008, 10298055009, 10298055010, 10298055011, 10298055015, 10298055016, 10298055017, 10298055018, 10298055022, 10298055024

METHOD BLANK: 1908221 — Matrix: Water
Associated Lab Samples: 10298055001, 10298055002, 10298055003, 10298055004, 10298055005, 10298055006, 10298055007, 10298055008, 10298055009, 10298055010, 10298055011, 10298055015, 10298055016, 10298055017, 10298055018, 10298055022, 10298055024

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.2	02/27/15 10:43	
Fluoride	mg/L	ND	0.050	02/27/15 10:43	
Nitrate as N	mg/L	ND	0.10	02/27/15 10:43	
Sulfate	mg/L	ND	1.2	02/27/15 10:43	

LABORATORY CONTROL SAMPLE: 1908222

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	12.5	12.8	102	90-110	
Fluoride	mg/L	1	0.99	99	90-110	
Nitrate as N	mg/L	1	0.96	96	90-110	
Sulfate	mg/L	12.5	12.6	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1908223 1908224

Parameter	Units	10297905003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	5.2	12.5	12.5	15.5	15.8	82	85	90-110	2	20	M1
Fluoride	mg/L	ND	1	1	0.89	0.91	86	87	90-110	1	20	M1
Nitrate as N	mg/L	ND	1	1	0.88	0.90	83	86	90-110	3	20	H1,M1
Sulfate	mg/L	ND	12.5	12.5	11.8	12.1	87	89	90-110	3	20	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1908630 1908631

Parameter	Units	10298055024 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	140	125	125	276	255	109	92	90-110	8	20	
Fluoride	mg/L	1.2	10	10	13.1	12.5	119	113	90-110	5	20	M6
Nitrate as N	mg/L	0.050J	1	1	0.98	0.98	93	93	90-110	0	20	H1
Sulfate	mg/L	102	125	125	239	223	110	97	90-110	7	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: FMC RCRA
Pace Project No.: 10298055

QC Batch: WETA/22046 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 10298055012, 10298055019, 10298055023

METHOD BLANK: 1908632 Matrix: Water
Associated Lab Samples: 10298055012, 10298055019, 10298055023

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.2	02/28/15 02:11	
Fluoride	mg/L	ND	0.050	02/28/15 02:11	
Nitrate as N	mg/L	ND	0.10	02/28/15 02:11	
Sulfate	mg/L	ND	1.2	02/28/15 02:11	

LABORATORY CONTROL SAMPLE: 1908633

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	12.5	12.9	103	90-110	
Fluoride	mg/L	1	0.94	94	90-110	
Nitrate as N	mg/L	1	0.98	98	90-110	
Sulfate	mg/L	12.5	12.7	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1908634 1908635

Parameter	Units	10298055012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	90.2	12.5	12.5	89.8	86.7	-3	-28	90-110	4	20	M1
Fluoride	mg/L	0.94	1	1	1.7	1.8	78	86	90-110	4	20	M1
Nitrate as N	mg/L	2.4	1	1	3.2	3.1	79	68	90-110	3	20	M1
Sulfate	mg/L	518	125	125	772	619	203	81	90-110	22	20	M6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1908636 1908637

Parameter	Units	10298055019 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	243	125	125	346	349	82	85	90-110	1	20	M6
Fluoride	mg/L	27.7	50	50	75.0	73.8	95	92	90-110	2	20	
Nitrate as N	mg/L	0.054J	1	1	0.99	0.98	94	92	90-110	2	20	
Sulfate	mg/L	284	125	125	387	390	82	84	90-110	1	20	M6

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QUALITY CONTROL DATA

Project: FMC RCRA
Pace Project No.: 10298055

QC Batch: WETA/22079 | Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 | Analysis Description: 350.1 Ammonia
Associated Lab Samples: 10298055024

METHOD BLANK: 1910790 | Matrix: Water
Associated Lab Samples: 10298055024

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.040	03/05/15 11:42	

LABORATORY CONTROL SAMPLE: 1910791

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	1	0.98	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1910792 1910793

Parameter	Units	10297680012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Ammonia	mg/L	ND	1	1	0.97	0.98	97	98	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1910794 1910795

Parameter	Units	10298055024 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Ammonia	mg/L	2.0	1	1	3.0	3.0	105	105	90-110	0	20	

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QUALITY CONTROL DATA

Project: FMC RCRA
Pace Project No.: 10298055

QC Batch: WETA/22080 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 10298055001, 10298055002, 10298055003, 10298055004, 10298055005, 10298055006, 10298055007, 10298055008, 10298055009, 10298055010, 10298055011, 10298055012, 10298055015, 10298055016, 10298055017, 10298055018, 10298055019, 10298055022, 10298055023

METHOD BLANK: 1910796 Matrix: Water
Associated Lab Samples: 10298055001, 10298055002, 10298055003, 10298055004, 10298055005, 10298055006, 10298055007, 10298055008, 10298055009, 10298055010, 10298055011, 10298055012, 10298055015, 10298055016, 10298055017, 10298055018, 10298055019, 10298055022, 10298055023

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.040	03/05/15 12:09	

LABORATORY CONTROL SAMPLE: 1910797

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	1	0.97	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1910798 1910799

Parameter	Units	10298055012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Ammonia	mg/L	3.5	1	1	4.7	4.7	120	120	90-110	0	20	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1910800 1910801

Parameter	Units	10298055019 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Ammonia	mg/L	2.2	1	1	3.2	3.3	99	108	90-110	3	20	

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QUALITY CONTROL DATA

Project: FMC RCRA
Pace Project No.: 10298055

QC Batch: WETA/22047 | Analysis Method: SM 4500-P E
QC Batch Method: SM 4500-P E | Analysis Description: SM4500P-E, Phosphate, Ortho
Associated Lab Samples: 10298055004, 10298055007, 10298055024

METHOD BLANK: 1908638 | Matrix: Water
Associated Lab Samples: 10298055004, 10298055007, 10298055024

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Orthophosphate as P	mg/L	ND	0.0050	02/27/15 14:59	

LABORATORY CONTROL SAMPLE: 1908639

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Orthophosphate as P	mg/L	.1	0.10	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1908640 1908641

Parameter	Units	1243933001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Orthophosphate as P	mg/L	ND	.1	.1	0.10	0.11	101	102	80-120	1	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1908645 1908646

Parameter	Units	10298055024 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Orthophosphate as P	mg/L	1.6	5	5	6.7	6.8	101	102	80-120	1	30	H1

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QUALITY CONTROL DATA

Project: FMC RCRA
Pace Project No.: 10298055

QC Batch: WETA/22048 | Analysis Method: SM 4500-P E
QC Batch Method: SM 4500-P E | Analysis Description: SM4500P-E, Phosphate, Ortho
Associated Lab Samples: 10298055001, 10298055002, 10298055003, 10298055005, 10298055006, 10298055008, 10298055009, 10298055010, 10298055011, 10298055012, 10298055015, 10298055016, 10298055017, 10298055018, 10298055019, 10298055022, 10298055023

METHOD BLANK: 1908643 | Matrix: Water
Associated Lab Samples: 10298055001, 10298055002, 10298055003, 10298055005, 10298055006, 10298055008, 10298055009, 10298055010, 10298055011, 10298055012, 10298055015, 10298055016, 10298055017, 10298055018, 10298055019, 10298055022, 10298055023

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Orthophosphate as P	mg/L	ND	0.0050	02/27/15 16:17	

LABORATORY CONTROL SAMPLE: 1908644

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Orthophosphate as P	mg/L	.1	0.10	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1908647 1908648

Parameter	Units	10298055012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Orthophosphate as P	mg/L	0.52	.5	.5	1.0	1.0	100	98	80-120	1	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1908649 1908650

Parameter	Units	10298055019 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Orthophosphate as P	mg/L	44.4	50	50	90.0	90.5	91	92	80-120	1	30	

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QUALIFIERS

Project: FMC RCRA
Pace Project No.: 10298055

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

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TNI - The NELAC Institute.

LABORATORIES

PASI-M	Pace Analytical Services - Minneapolis
PASI-V	Pace Analytical Services - Virginia

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H1	Analysis conducted outside the recognized method holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: FMC RCRA
Pace Project No.: 10298055

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10298055001	**502115**	EPA 3010	MPRP/52689	EPA 6010	ICP/22910
10298055002	**502113**	EPA 3010	MPRP/52689	EPA 6010	ICP/22910
10298055003	**502166**	EPA 3010	MPRP/52689	EPA 6010	ICP/22910
10298055004	**502168**	EPA 3010	MPRP/52689	EPA 6010	ICP/22910
10298055005	**502165**	EPA 3010	MPRP/52689	EPA 6010	ICP/22910
10298055006	**502167**	EPA 3010	MPRP/52689	EPA 6010	ICP/22910
10298055007	**502183**	EPA 3010	MPRP/52689	EPA 6010	ICP/22910
10298055008	**502158**	EPA 3010	MPRP/52689	EPA 6010	ICP/22910
10298055009	**502121**	EPA 3010	MPRP/5092	EPA 6010	ICP/4081
10298055009	**502121**	EPA 3010	MPRP/52689	EPA 6010	ICP/22910
10298055010	**502122**	EPA 3010	MPRP/5092	EPA 6010	ICP/4081
10298055010	**502122**	EPA 3010	MPRP/52689	EPA 6010	ICP/22910
10298055011	**502108**	EPA 3010	MPRP/5092	EPA 6010	ICP/4081
10298055011	**502108**	EPA 3010	MPRP/52689	EPA 6010	ICP/22910
10298055012	**502123 ABC**	EPA 3010	MPRP/5092	EPA 6010	ICP/4081
10298055012	**502123 ABC**	EPA 3010	MPRP/52689	EPA 6010	ICP/22910
10298055015	**502104**	EPA 3010	MPRP/52689	EPA 6010	ICP/22910
10298055016	**502601**	EPA 3010	MPRP/52689	EPA 6010	ICP/22910
10298055017	**502155**	EPA 3010	MPRP/52689	EPA 6010	ICP/22910
10298055018	**502156**	EPA 3010	MPRP/52689	EPA 6010	ICP/22910
10298055019	**502157ABC**	EPA 3010	MPRP/52685	EPA 6010	ICP/22901
10298055022	**502BTS**	EPA 3010	MPRP/52685	EPA 6010	ICP/22901
10298055023	**502701**	EPA 3010	MPRP/52685	EPA 6010	ICP/22901
10298055024	**502114ABC**	EPA 3010	MPRP/52689	EPA 6010	ICP/22910
10298055001	**502115**	EPA 3020	MPRP/52694	EPA 6020	ICPM/23373
10298055002	**502113**	EPA 3020	MPRP/52694	EPA 6020	ICPM/23373
10298055003	**502166**	EPA 3020	MPRP/52694	EPA 6020	ICPM/23373
10298055004	**502168**	EPA 3020	MPRP/52694	EPA 6020	ICPM/23373
10298055005	**502165**	EPA 3020	MPRP/52694	EPA 6020	ICPM/23373
10298055006	**502167**	EPA 3020	MPRP/52694	EPA 6020	ICPM/23373
10298055007	**502183**	EPA 3020	MPRP/52694	EPA 6020	ICPM/23373
10298055008	**502158**	EPA 3020	MPRP/52694	EPA 6020	ICPM/23373
10298055009	**502121**	EPA 3020	MPRP/52694	EPA 6020	ICPM/23373
10298055010	**502122**	EPA 3020	MPRP/52694	EPA 6020	ICPM/23373
10298055011	**502108**	EPA 3020	MPRP/52694	EPA 6020	ICPM/23373
10298055012	**502123 ABC**	EPA 3020	MPRP/52694	EPA 6020	ICPM/23373
10298055015	**502104**	EPA 3020	MPRP/52694	EPA 6020	ICPM/23373
10298055016	**502601**	EPA 3020	MPRP/52694	EPA 6020	ICPM/23373
10298055017	**502155**	EPA 3020	MPRP/52694	EPA 6020	ICPM/23373
10298055018	**502156**	EPA 3020	MPRP/52694	EPA 6020	ICPM/23373
10298055019	**502157ABC**	EPA 3020	MPRP/52694	EPA 6020	ICPM/23373
10298055022	**502BTS**	EPA 3020	MPRP/52694	EPA 6020	ICPM/23373
10298055023	**502701**	EPA 3020	MPRP/52694	EPA 6020	ICPM/23373

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: FMC RCRA
Pace Project No.: 10298055

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10298055024	**502114ABC**	EPA 3020	MPRP/52702	EPA 6020	ICPM/23372
10298055017	**502155**	SM 4500F/C	WET/40754		
10298055018	**502156**	SM 4500F/C	WET/40754		
10298055019	**502157ABC**	SM 4500F/C	WET/40750		
10298055024	**502114ABC**	SM 4500F/C	WET/40754		
10298055001	**502115**	EPA 300.0	WETA/22038		
10298055002	**502113**	EPA 300.0	WETA/22038		
10298055003	**502166**	EPA 300.0	WETA/22038		
10298055004	**502168**	EPA 300.0	WETA/22038		
10298055005	**502165**	EPA 300.0	WETA/22038		
10298055006	**502167**	EPA 300.0	WETA/22038		
10298055007	**502183**	EPA 300.0	WETA/22038		
10298055008	**502158**	EPA 300.0	WETA/22038		
10298055009	**502121**	EPA 300.0	WETA/22038		
10298055010	**502122**	EPA 300.0	WETA/22038		
10298055011	**502108**	EPA 300.0	WETA/22038		
10298055012	**502123 ABC**	EPA 300.0	WETA/22046		
10298055015	**502104**	EPA 300.0	WETA/22038		
10298055016	**502601**	EPA 300.0	WETA/22038		
10298055017	**502155**	EPA 300.0	WETA/22038		
10298055018	**502156**	EPA 300.0	WETA/22038		
10298055019	**502157ABC**	EPA 300.0	WETA/22046		
10298055022	**502BTS**	EPA 300.0	WETA/22038		
10298055023	**502701**	EPA 300.0	WETA/22046		
10298055024	**502114ABC**	EPA 300.0	WETA/22038		
10298055001	**502115**	EPA 350.1	WETA/22080		
10298055002	**502113**	EPA 350.1	WETA/22080		
10298055003	**502166**	EPA 350.1	WETA/22080		
10298055004	**502168**	EPA 350.1	WETA/22080		
10298055005	**502165**	EPA 350.1	WETA/22080		
10298055006	**502167**	EPA 350.1	WETA/22080		
10298055007	**502183**	EPA 350.1	WETA/22080		
10298055008	**502158**	EPA 350.1	WETA/22080		
10298055009	**502121**	EPA 350.1	WETA/22080		
10298055010	**502122**	EPA 350.1	WETA/22080		
10298055011	**502108**	EPA 350.1	WETA/22080		
10298055012	**502123 ABC**	EPA 350.1	WETA/22080		
10298055015	**502104**	EPA 350.1	WETA/22080		
10298055016	**502601**	EPA 350.1	WETA/22080		
10298055017	**502155**	EPA 350.1	WETA/22080		
10298055018	**502156**	EPA 350.1	WETA/22080		
10298055019	**502157ABC**	EPA 350.1	WETA/22080		
10298055022	**502BTS**	EPA 350.1	WETA/22080		

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Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: FMC RCRA
Pace Project No.: 10298055

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10298055023	**502701**	EPA 350.1	WETA/22080		
10298055024	**502114ABC**	EPA 350.1	WETA/22079		
10298055001	**502115**	SM 4500-P E	WETA/22048		
10298055002	**502113**	SM 4500-P E	WETA/22048		
10298055003	**502166**	SM 4500-P E	WETA/22048		
10298055004	**502168**	SM 4500-P E	WETA/22047		
10298055005	**502165**	SM 4500-P E	WETA/22048		
10298055006	**502167**	SM 4500-P E	WETA/22048		
10298055007	**502183**	SM 4500-P E	WETA/22047		
10298055008	**502158**	SM 4500-P E	WETA/22048		
10298055009	**502121**	SM 4500-P E	WETA/22048		
10298055010	**502122**	SM 4500-P E	WETA/22048		
10298055011	**502108**	SM 4500-P E	WETA/22048		
10298055012	**502123 ABC**	SM 4500-P E	WETA/22048		
10298055015	**502104**	SM 4500-P E	WETA/22048		
10298055016	**502601**	SM 4500-P E	WETA/22048		
10298055017	**502155**	SM 4500-P E	WETA/22048		
10298055018	**502156**	SM 4500-P E	WETA/22048		
10298055019	**502157ABC**	SM 4500-P E	WETA/22048		
10298055022	**502BTS**	SM 4500-P E	WETA/22048		
10298055023	**502701**	SM 4500-P E	WETA/22048		
10298055024	**502114ABC**	SM 4500-P E	WETA/22047		

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A 2-27-15
SHORT HOLD

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10298055

Page: 1 of 3

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	FMC	Report To:	Ericka Vallance, Hydrometrics	Attention:	Brian McGinnis
Address:	PO BOX 4111	Copy To:	Rob Hartman, MWH	Company Name:	FMC
	POCATELLO, ID 83202		Bruce Wallin, ECCI	Address:	PO BOX 4111 POCATELLO ID 83202
Email To:	brian.mcginnis@fmc.com	Purchase Order No.:		Pace Quote Reference:	
Phone: / Fax:		Project Name:	FMC	Pace Project Manager:	Kabor Xiong
Requested Due Date/TAT:		Project Number:	RCRA	Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☑ RCRA ☐ OTHER _____

Site Location STATE: ID

Section D Required Client Information

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

SAMPLE ID (A-Z, 0-9 / .-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	COLLECTED Composite Start TIME	COLLECTED Composite End/Grab DATE	COLLECTED Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): **WQP	TOTAL METALS 6020	TOTAL METALS 6010	FLUORIDE (ISE)	TOTAL PHOS by ICP	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	5402 114A	WT	G	--	--	2/25/15	1210		5	3	1	1						X	X	X	X	(extra for lab QA)	SC	SEPERATE W/O
2	5402 114B	WT	G	--	--		1210		4	2														
3	5402 114C	WT	G	--	--		1210		4	2														
4	5402 115	WT	G	--	--		1305		3	1														001
5	5402 113	WT	G	--	--		1345																	002
6	5402 166	WT	G	--	--		1445																	003
7	5402 168	WT	G	--	--		1545																	004
8	5402 165	WT	G	--	--		1725																	005
9	5402 167	WT	G	--	--		1805																	006
10	5402 183	WT	G	--	--		1915																	007
11	402	WT	G	--	--																			
12	402	WT	G	--	--																			

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Fed Ex Air Bill # 8057 6073 5756	Walter Crane / Hydrometrics	2/26/15	16:00	[signature] PACE	2-27-15	955	2.4	Y	Y	Y
**WQP: 300.0- Cl, SO4, Nitrate, F; Ortho Phos, Ammonia							4.3			
6010: Cadmium, Potassium; 6020: Arsenic, Selenium							4.2			
Total Phos by ICP only on wells 108, 121, 122 & 123										

SAMPLER NAME AND SIGNATURE				Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Walter Crane						
SIGNATURE of SAMPLER:	Walter Crane	DATE Signed (MM/DD/YY):	02/ /15				

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.08, 12-Oct-2007

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A 2-27-15
SHORT HOLD

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10298055

Section A Required Client Information:

Company:	FMC
Address:	PO BOX 4111
	POCATELLO, ID 83202
Email To:	brian.mcginnis@fmc.com
Phone:	Fax:
Requested Due Date/TAT:	

Section B Required Project Information:

Report To:	Ericka Vallance, Hydrometrics
Copy To:	Rob Hartman, MWH
	Bruce Wallin, ECCI
Purchase Order No.:	
Project Name:	FMC
Project Number:	RCRA

Section C Invoice Information:

Attention:	Brian McGinnis
Company Name:	FMC
Address:	PO BOX 4111 POCATELLO ID 83202
Pace Quote Reference:	
Pace Project Manager:	Kabor Xiong
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☑ RCRA ☐ OTHER

Site Location STATE: ID

Section D Required Client Information

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	COLLECTED Composite Start TIME	COLLECTED Composite End/Grab DATE	COLLECTED Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): **WQP	TOTAL METALS 6020	TOTAL METALS 6010	FLUORIDE (ISE)	TOTAL PHOS by ICP	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	5402 158	WT	G	--	--	2/26/15	0805		3	1		1						X	X	X				008
2	5402 121	WT	G	--	--		0850		4			2										X		009
3	5402 122	WT	G	--	--		0935		4			2										X		010
4	5402 108	WT	G	--	--		1015		4			2										X		011
5	5402 123A	WT	G	--	--		1055		4			2										X		012
6	5402 123B	WT	G	--	--		1055		4			2										X		~~013~~ 012
7	5402 123C	WT	G	--	--		1055		4			2										X		~~014~~ 012
8	5402 104	WT	G	--	--		1225		3			1												015
9	5402 601	WT	G	--	--		1250		3			1												016
10	5402 155 Ave	WT	G	--	--		1305		5 3			1									2			017
11	402	WT	G	--	--																			
12	402	WT	G	--	--																			

kx 3/2

the extra for lab split

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Fed Ex Air Bill # 8057 6073 5756	Walter Crane / Hydrometrics	2/26/15	16:00	PACE	2-27-15	955
**WQP: 300.0- Cl SO4, Nitrate, F; Ortho Phos, Ammonia						
6010: Cadmium, Potassium; 6020: Arsenic, Selenium						
Total Phos by ICP only on wells 108, 121, 122 & 123						

SAMPLE CONDITIONS			
Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
2.4	Y	Y	Y
4.3			
4.2			

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Walter Crane

SIGNATURE of SAMPLER: Walter Crane DATE Signed (MM/DD/YY): 02/26/15

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.08, 12-Oct-2007

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A 2-27-15

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10299055

Section A Required Client Information:

Company:	FMC
Address:	PO BOX 4111
	POCATELLO, ID 83202
Email To:	brian.mcginnis@fmc.com
Phone:	Fax:
Requested Due Date/TAT:	

Section B Required Project Information:

Report To:	Ericka Vallance, Hydrometrics
Copy To:	Rob Hartman, MWH
	Bruce Wallin, ECCI
Purchase Order No.:	
Project Name:	FMC
Project Number:	RCRA

Section C Invoice Information:

Attention:	Brian McGinnis
Company Name:	FMC
Address:	PO BOX 4111 POCATELLO ID 83202
Pace Quote Reference:	
Pace Project Manager:	Kabor Xiong
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☑ RCRA ☐ OTHER

Site Location STATE: ID

Section D Required Client Information

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	COLLECTED Composite Start TIME	COLLECTED Composite End/Grab DATE	COLLECTED Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): **WQP	TOTAL METALS 6020	TOTAL METALS 6010	FLUORIDE (ISE)	TOTAL PHOS by ICP	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	5 402 156	WT	G	–	–	2/26/15	1350		5	3	1	1									X			018
2	5 402 157A	WT	G	–	–		1435		5												X			019
3	5 402 157B	WT	G	–	–		1435		5												X			~~020~~ 019
4	5 402 157C	WT	G	–	–		1435		5												X			~~021~~ 019
5	5 402 BTS	WT	G	–	–		1510		3	1														022
6	DMW 02/24/15 5 402 701	WT	G	–	–	2/26/15	1710		3									X	X	X				023
7	402	WT	G	–	–																			
8	402	WT	G	–	–																			
9	402	WT	G	–	–																			
10	402	WT	G	–	–																			
11	402	WT	G	–	–																			
12	402	WT	G	–	–																			

1 extra for lab split

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Fed Ex Air Bill # 805397294758	Walter Crane / Hydrometrics	2/26/15	16:00	PACE	2-27-15	955	2.4			
**WQP: 300.0- Cl SO4, Nitrate, F; Ortho Phos, Ammonia							4.3			
6010: Cadmium, Potassium; 6020: Arsenic, Selenium							4.2			
Total Phos by ICP only on wells 108, 121, 122 & 123										
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Walter Crane

SIGNATURE of SAMPLER: Walter Crane DATE Signed (MM/DD/YY): 02/26/15

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.08, 12-Oct-2007

Pace Analytical®	Document Name: **Sample Condition Upon Receipt Form**	Document Revised: 28Feb2014 Page 1 of 1
	Document No.: **F-MN-L-213-rev.09**	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: FMC

Project #: WO#: 10298055 (10298055)

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ SpeeDee ☐ Other:

Tracking Number: See exceptions sheet

Custody Seal on Cooler/Box Present? ☑ Yes ☐ No **Seals Intact?** ☑ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other: **Temp Blank?** ☑ Yes ☐ No

Thermom. Used: ☐ B88A9130516413 ☑ B88A912167504 ☐ B88A9132521491 **Type of Ice:** ☑ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read (°C): see exceptions **Cooler Temp Corrected (°C):** see exceptions **Biological Tissue Frozen?** ☐ Yes ☐ No ☑ N/A

Temp should be above freezing to 6°C **Correction Factor:** +0.1 **Date and Initials of Person Examining Contents:** 2-27-15 AA

				Comments:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☑ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☑ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☑ Yes	☐ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	7.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☑ N/A	11.
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: WT	☑ Yes	☐ No	☐ N/A	12. The first 3 samples on COC page 1 will be logged in on a seperate WO and have a separate SCUR
All containers needing acid/base preservation have been checked?	☑ Yes	☐ No	☐ N/A	13. ☑ HNO_3 ☑ H_2SO_4 ☐ NaOH ☐ HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide)	☑ Yes	☐ No	☐ N/A	Sample # 1-8, 15-23 1/1 1/1; 9-14 2/2 1/1
Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC	☐ Yes	☑ No		Initial when completed: AA Lot # of added preservative: 1114080
Headspace in VOA Vials (>6mm)?	☐ Yes	☐ No	☑ N/A	14.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	
Pace Trip Blank Lot # (if purchased):				

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: WALTER Date/Time: 02/27/15 @ 11:40

Comments/Resolution: DNM spoke w/ WALTER, ADD 502701 TO COC AND RUN FOR WQP, TOTAL METAL 6020 + 6010, WILL SEND FOLLOW-UP E-MAIL

Project Manager Review: Kelly Xiong **Date:** 3/2/15

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical	Document Name: **SCUR Exceptions Form**	Document Revised: 16Apr2012 Page 1 of 1
	Document No.: **F-MN-L-220-Rev.00**	Issuing Authority: Pace Minnesota Quality Office

Workorder #: _____

Issue	Sample ID	Container Type/#
tracking number	read temp °C (correction factor)	corrected temp °C
8057 6073 5756	2.3 (+0.1)	2.4
7802 7126 4550	4.2 (+0.1)	4.3
8053 9729 4758	4.1 (+0.1)	4.2

WO#: 1243991

PM: HRZ Due Date: 03/12/15
CLIENT: PACE MPLS

www.pacelabs.com

Chain of Custody

Workorder: 10298055 **Workorder Name:** FMC RCRA **Owner Received Date:** 2/27/2015 **Results Requested By:** 3/12/2015

Report To

Kabor Xiong
Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone (612)607-1700
Fax (612)607-6444

Subcontract To

Pace Analytical Virginia MN
315 Chestnut Street
Virginia, MN 55792
Phone (218)742-1042

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: HNO3						Requested Analysis: T-phos by 6010												LAB USE ONLY
1	502121	PS	2/26/2015 08:50	10298055009	Water	1						X												009
2	502122	PS	2/26/2015 09:35	10298055010	Water	1						X												010
3	502108	PS	2/26/2015 10:15	10298055011	Water	1						X												011
4	502123 ABC	RQS	2/26/2015 10:55	10298055012	Water	3						X												012
5																								

Transfers	Released By	Date/Time	Received By	Date/Time
1	Kabor Xiong		[illegible]	3/3/15 0950
2				
3				

Comments: *L4 Data pkg due 3/19

Cooler Temperature on Receipt 0.3 °C **Custody Seal** Y or N **Received on Ice** Y or N **Samples Intact** Y or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
This chain of custody is considered complete as is since this information is available in the owner laboratory.

Pace Analytical	Document Name: **Sample Condition Upon Receipt Form**	Document Revised: 23Feb2015 Page 1 of 1
	Document No.: F-VM-C-001-Rev.09	Issuing Authority: Pace Virginia, Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: Pace MN

Project #: WO# : 1243991

1243991

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☒ Other: SD

Tracking Number:

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No **Seals Intact?** ☒ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☒ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other: **Temp Blank?** ☒ Yes ☐ No

Thermometer Used: ☒ 140792808 **Type of Ice:** ☒ Wet ☐ Blue ☐ None ☒ Samples on ice, cooling process has begun

Cooler Temp Read °C: 0.0 **Cooler Temp Corrected °C:** 0.3 **Biological Tissue Frozen?** ☐ Yes ☐ No ☒ NA

Temp should be above freezing to 6°C Correction Factor: +0.3 **Date and Initials of Person Examining Contents:** 3/3/15 DC

Comments:

Chain of Custody Present?	☒ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes	☐ No	☐ N/A	3.
Sampler Name and Signature on COC?	☐ Yes	☐ No	☒ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☒ No	☐ N/A	7.
Sufficient Volume?	☒ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☒ Yes	☐ No	☐ N/A	
Containers Intact?	☒ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☒ N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	☒ Yes	☐ No	☐ N/A	12.
-Includes Date/Time/ID/Analysis Matrix: WT				
All containers needing acid/base preservation will be checked and documented in the pH logbook.	☒ Yes	☐ No	☐ N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	☐ Yes	☐ No	☒ N/A	13.
Headspace in VOA Vials (>6mm)?	☐ Yes	☐ No	☒ N/A	14.
Trip Blank Present?	☐ Yes	☐ No	☒ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☒ N/A	
Pace Trip Blank Lot # (if purchased):				

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

FECAL WAIVER ON FILE Y N TEMPERATURE WAIVER ON FILE Y N

Project Manager Review: **Date:**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

DATA VALIDATION/USABILITY SUMMARY

May 2015
RCRA Groundwater Sampling
Metals and Wet Chemistry Parameters

Prepared for:

FMC Corporation
Pocatello, Idaho Plant
P.O. Box 4111
Pocatello, ID 83202

Prepared by:

Hydrometrics, Inc.
3020 Bozeman Avenue
Helena, MT 59601

and

Environmental Chemistry Consultants, Inc.
10146 Banner Rd., S.E.
Olalla, WA 98359

18 July 2015

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SDG 10305190

SDG 10305724

SDG 10305759

SDG 10312267

ENVIRONMENTAL CHEMISTRY CONSULTANTS, INC.

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Data Validation/Usability Report

Groundwater Samples

FMC Corporation, Pocatello, Idaho

RCRA Groundwater Monitoring Program

Second Quarter 2015

SDGs 10305190, 10305724, 10305759, and 10312267

18 July 2015

Prepared by: Bruce K. Wallin, PhD

1. INTRODUCTION

This memo summarizes the Site Chemist's usability evaluation of the technically reviewed groundwater results generated by Pace Analytical Services, Inc., Minneapolis, MN (PASI-M), and Virginia, MN (PASI-V) for FMC's second quarter 2015 Resource Conservation and Recovery Act (RCRA) sampling event for the laboratory sample SDGs listed above. For SDGs 10305190, 10305724, and 10305759 the samples were collected 5-7 May 2015. For SDG 10312267 the samples were collected on 26 June 2015. All samples were analyzed for elements and wet chemistries.

For elements, laboratory analyses were performed on all samples in accordance with the U.S. Environmental Protection Agency (USEPA) SW-846 Methods 6010B (cadmium and potassium) and 6020 (arsenic and selenium); method 9056A for chloride, fluoride, nitrate, and sulfate; orthophosphate by SM4500P-E from Standard Methods for the Examination of Water and Wastewater, ammonia by Method 350.1. Selected samples were also analyzed for fluoride by the Ion-Selective Electrode SM Method 4500F/C (equivalent to Method 340.2) to begin a comparison of results with samples showing interference in Method 9056A. All of the above methods are hereafter referred to as "Methods". A list of the parameters and associated methods utilized is provided in Table 1-1.

All analyses, with the exception of phosphorus by Method 6010B were conducted by PASI-M. The phosphorus analyses by Method 6010B were conducted by PASI-V.

TABLE 1-1. SECOND QUARTER 2015
RCRA MONITORING EVENT PARAMETERS AND ANALYTICAL METHODS

PARAMETER	SM (1) METHOD	MCAWW(2) METHOD	SW-846(3) METHOD
Cd, P, and K			6010B
As, Se			6020
ammonia - N		350.1	
chloride			9056A
fluoride	4500-F-C	340.1-340.2	9056A
nitrate			9056A
ortho-phosphate	4500-P E		
sulfate			9056A

NOTES:

(1) "Standard Methods for the Examination of Water and Wastewater",

(2) "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

(3) "Test Methods for Evaluating Solid Waste, Physical/ Chemical Methods", Third Edition, November 1996 and subsequent revisions.

The data were technically reviewed based on method specifications, and laboratory-developed performance criteria by adapting the procedures set forth in the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, USEPA Office of Solid Waste and Emergency Response, EPA-540-R-04-004, October 2004 (Guidelines).

For all parameters, a Level III technical review was performed for these SDGs, which included a review/evaluation of all quality control summary forms. Raw data, preparation logs, instrument printouts, notebook records and forensic deliverables provided by the laboratory were not evaluated.

A detailed description and summary of these efforts is provided in the Technical Review Reports in Appendix A.

The following validation/usability report is the result of a collective assessment of all information associated with the analytical results available. The information includes the project-specific data quality objectives (DQOs) specified in the RCRA Interim Status Groundwater Monitoring Plan, as updated in the RCRA Post Closure Plans (FMC, 1999), as well as historical data, site knowledge, and the technical review results.

2. SUMMARY OF USABILITY ISSUES

The data technical review reports indicate which laboratory results are considered non-compliant when compared to the requirements set forth in the relevant documents. However, most of these exceptions are minor quality control problems and do not affect data usability. The cases where the exceptions may impact data usability are discussed in the following sections. In most cases these problems are typical analytical difficulties or are the result of sample matrix problems. A summary of data quality goals and observations is provided in Table 2-1.

DATA USABILITY SUMMARY

For samples 505178, 505114, 505115, 505156, 505157, and 505601 only the fluoride results from the ISE Method should be used since the IC results were significantly higher indicating the presence of interference.

For this event no additional data were considered unusable.

TABLE 2-1 DATA QUALITY SUMMARY: FMC GROUNDWATER MONITORING PROGRAM
FIRST QUARTER 2015 RCRA SAMPLING EVENT

DATA QUALITY INDICATOR	PURPOSE	METHOD OF MEASUREMENT & EVALUATION	GOAL	SUMMARY OF RESULTS
Precision	Reproducibility of results	1. Collocated samples	S & D >5RL, RPD <30, S &/or D <5RL, S-D <2RL	*All criteria were met - no flagging was required or deemed necessary.*
		2. Laboratory replicates	S & D >5RL, RPD <20, S &/or D <5RL, S-D <RL	*All criteria were met - no flagging was required or deemed necessary.*
Accuracy	Proximity of result to true value	1. Calibration	Meet method/guidance criteria	*Low level (CRI) low for Cd - several samples results <2PQL estimated low (J-).* *Low level (CRI) high for Cd - 505131 positive dissolved (J+).* *Low level (CRI) selenium high - several samples positive (J+).*
		2. Laboratory control samples	Meet lab-developed or method criteria	*All criteria were met - no flagging was required or deemed necessary.*
		3. Matrix spikes/Serial Dilutions	Meet lab-developed or method criteria	*SDG 10305190 serial dilution K high - positive rsults all samples except 505114 (J+).* SDG 10305190 MS/MSD recoveries of chloride high - all environmental samples (J+). *SDG 10305759 MS/MSD recoveries of ammonia-N high. Positive sample results (J+).*
Representativeness	Sample integrity and sampling precision	1. Collocated samples	S & D >5RL, RPD <30, S &/or D <5RL, S-D <2RL	*See Item 1 above.*
		2. Blanks	Sample results ND or >5X blank	*Positive results for some wet chemistries in several samples flagged as not-detected (U) due to blank contamination. Should be considered maximum potential concentrations.*
		3. Holding times	Per method	*No deviations requiring actions.*
		4. Preservation	Per method	*All criteria were met - no flagging was required or deemed necessary.*
Comparability	Consistent practices	Use of and adherence to appropriate analytical methods	Compliance with required USEPA methods	*Method compliance achieved, goal met for all samples.*
Completeness	Obtain intended information from the event	Comparison of planned vs usable data obtained	>90% of planned	*Completeness 100%*
Consistency	Expansion of historical database	Comparison with historical statistics	Meet completeness objective	*Modest outliers, no significant trends apparent. Continue evaluation.*

tab2214r.xls

3. DATA VALIDATION RESULTS

To determine the ultimate utility of data, the following indicators were evaluated:

3.1 PRECISION, ACCURACY, REPRESENTATIVENESS, COMPARABILIITY, COMPLETENESS AND CONSISTENCY

3.1.1 PRECISION

Precision is a quantitative determination of the reproducibility of an analytical value. For this program, collocated samples are collected to assess overall precision of the sampling, preparation and analytical process, and matrix spike/matrix spike duplicates are required to address aliquoting reproducibility in order to provide information on matrix reproducibility otherwise unobtainable from samples reported below the reporting limits. Matrix spikes also provide an indication of the accuracy of native results: this will be discussed in the accuracy section.

The collocated samples further address the ability to obtain a representative sample of the medium studied, this will be discussed further in the representativeness section. For elemental parameters, the methods require the preparation of laboratory replicates at a specified frequency to address aliquoting precision.

For laboratory replicates the Guidelines specify the utilization of difference criteria for samples providing values below a limiting value and relative percent difference (RPD) criteria for samples providing values above a limiting value. The Guidelines utilize 5X the contract required detection limit (CRDL). These specifications are as follows:

When either one or both of the analyses provide results below the limiting value, the following criteria apply:

$$|S - R| \leq CRDL$$

Where: S = sample value
R = replicate sample value

When both of the analyses provide results above or equal to the limiting value, the following criteria apply:

$$RPD = (|S - R|/S + R)200 \leq 20$$

Where: RPD = Relative Percent Difference

The QAPjP provides an RPD specification of 20 percent for laboratory replicates for elements, but does not provide specific criteria for low level results or collocated samples. The Guidelines do not provide precision criteria for collocated samples. The technical reviewer utilized the 20 percent RPD criteria specified in the QAPjP and Guidelines and the low-level criteria above specified in the Guidelines with the substitution of the laboratory reporting limit (RL) for the CRDL where they differed. For collocated samples, the technical reviewer utilized the 2 RL and RPD <30 criteria specified in the USEPA Region I Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analyses, June 13, 1988.

For this event all replicate sample precision was within specification.

For this event the following are collocated samples:

SDG	SAMPLE	COLLOCATED SAMPLE
10305190	505178	505600
10305759	505156	505601

Note: All parameters were reported to standard laboratory reporting limits (PQL) which approximate estimated quantitation limits (EQL) specified in the methods. The technical reviewer utilized the PQL values to conduct the precision analysis.

For this event the collocated sample precision was not within specification.

For all parameters, the laboratories reported to their practical quantitation limits (PQL) and for levels below the PQL to the method detection limit (MDL) flagged with a "J" qualifier. The MDL described in 40 CFR Part 136, Appendix B and incorporated by reference in SW-846, provides a precision of ± 100 percent. With some exceptions the PQL values used by the laboratory, approximate the estimated quantitation limit (EQL) which is established at approximately 5-10X the MDL in SW-846. At 5X the MDL the EQL precision is approximately ± 30 percent. As a result reported positive but below the PQL, but above the MDL should be considered estimates. ***The project manager is cautioned that the imprecision associated with the project-required reporting conventions must be taken into consideration when utilizing the data below the PQL.***

3.1.2 ACCURACY

Accuracy is the proximity of the reported analytical value to the true concentration in the sample. To estimate the proximity factor, laboratory control, laboratory blank and environmental samples are fortified with the parameter of interest, and for organics analysis, each sample is also fortified with surrogate indicators, and the level recovered, expressed as a percentage of the spiking level, is utilized. For laboratory control samples (LCS), the analytical values must be within either a published range or within laboratory or method established windows about the true concentration.

If these conditions are not met, the method is to be considered out of control, corrective action taken, and the entire process repeated with compliant LCS before the associated data can be reported. For elements, laboratory blanks are spiked with low-level reference materials for ICP (CRI). According to the Guidelines associated analytical values must fall within ± 20 percent of the true value or all the potential impact on all environmental sample results associated with the non-compliant CRI must be evaluated during technical review using professional judgment. The technical reviewer has considered that all

associated sample results reported at values <2PQL are evaluated for CRI recoveries <80 percent, both positive results and non-detects are flagged as estimated with the potential for low bias (J-), and for CRI recoveries >120 percent, positive results only are flagged as estimated with the potential for high bias (J+).

For the recovery of spiked parameter from environmental samples, the quantity of parameter matrix spiked (MS) must be large enough to be uniquely distinguishable from the level of native analyte present in the sample. When this condition exists, if the recovery value is outside established values, all associated environmental samples are flagged as estimated (J) with an indication of bias direction during technical review. The Guidelines establish that the native level of analyte must be less than four times the spiking level for valid accuracy estimation.

The formula utilized is as follows:

Percent Recovery = ((SSC - USC)/CS))100

Where: SSC = Spiked Sample Concentration
USC = Unspiked Sample Concentration
CS = Concentration Spiked

For elements, the QAPjP establishes acceptance criteria at 70-130 percent that are less stringent than the 75-125 percent specified in the Guidelines. The QAPjP does not specify accuracy criteria for water quality parameters. The technical reviewer has utilized the laboratory-derived limits, as required by SW-846 methods, and the more stringent 75-125 percent criteria specified in the Guidelines where laboratory-established limits were not provided for the water quality parameters.

For elements analyzed by ICP, the method requires assessment of matrix interference by performing serial dilution analyses in addition to the matrix spike indicated above. The Guidelines suggest that, for samples containing sufficient signal in the undiluted sample

(>50IDL) that the diluted result should be within 10 percent of the undiluted value to verify absence of interference.

Initial and continuing calibrations are performed to verify instrument performance and stability prior to and during the analysis of environmental samples. The Methods require that the initial calibration linearity coefficients are $\geq$ 0.995, the continuing calibration stabilities are within 90-110 percent and, for elements, the Guidelines require consideration of blanks indicating a negative instrument drift >|IDL|. The technical reviewer has utilized the flagging criteria suggested in the Guidelines for lack of linearity and continuing calibration stability, and has utilized professional judgment for actions for non-compliant instrument drift associated with samples with levels reported at <5 IDL.

For SDG 10305190 the positive results reported <2PQL for cadmium in sample 505131 and selenium in samples 505180, 505147, 505124, and 505131 (total + dissolved) are flagged as estimated with the potential for high bias (J+) due to non-compliant CRI recovery. ***These result s are considere d usable when the bias factor is taken into account. Doing so will have no impact on the decision since the un-adjusted values are below the Standard.***

For SDGs 10305759 and 10312267 the results reported <2PQL for cadmium in all samples are flagged as estimated with the potential for low bias (J-) due to non-compliant CRI recovery. ***These results are considered usable when the bias factor is taken into account. Doing so will have no impact on the decision since the adjusted values are below the Standard.***

For SDG 10305190 sample 505174 provided an ICP serial dilution result for potassium approximately 16.9% larger than the undiluted value. The results reported for this element in all environmental samples associated with the SDG are flagged as estimated (J) to signify the indication of low bias. ***These results are considered usable when the***

bias factor is taken into account. Doing so will have no impact on the decision since no Standard is established for this parameter.

For SDG 10305190 sample 505114 provided MS/MSD recoveries of chloride below the lower limit. The results reported for this parameter in all environmental samples associated with the SDG are flagged as estimated with the potential for low bias (J-). ***These results are considered usable when the bias factors are taken into account. Doing so will have no impact on the decision since no Standard is established for this parameter.***

For SDG 10305759 sample 505157 provided MS/MSD recoveries of ammonia-N above the upper limit. The positive results reported for this parameter in all environmental samples associated with the SDG are flagged as estimated with the potential for high bias (J+). ***These results are considered usable when the bias factors are taken into account. Doing so will have no impact on the decision since no Standard is established for this parameter.***

For this event all additional accuracy criteria were met.

3.1.3 REPRESENTATIVENESS

To perform a valid environmental assessment, the samples, when analyzed, must be representative of the media under study. Factors influencing representativeness include preparation of wells prior to sampling to obtain aliquots of the groundwater strata of interest. This is accomplished through purging of standing water to constant temperature, conductivity and pH prior to collecting the sample. Collocated samples are also collected to provide information regarding the ability to reproducibly collect a sample. If reproducibility is not obtained, representativeness is not verified. The sample must be collected with uncontaminated equipment, placed in uncontaminated containers, and not contaminated throughout the transport, receipt, storage, preparation and analytical

processes. Evaluation of the potential for contamination is conducted through collection of field blanks, and utilization of laboratory process blanks. Once the sample has been collected, it is maintained in such a state that changes are not expected to occur in its concentration of target parameters. This is accomplished by chemical and physical preservation, and minimization of time from collection to analysis.

A review of the sample receipt logs indicate that preservation requirements were met, therefore, no action was taken.

Blanks w ere reported with some parameters present at concentrations that generated action levels resulting in the flagging of the positive results reported for several samples as not-detected (U) at the reported values. ***These results are considered usable as maximum potential concentrations.***

3.1.4 COMPARABILITY

The characteristic of comparability reflects both the internal consistency of measurements and the expression of results in units that are consistent with other organizations reporting similar data. Each value reported for a given measurement should be similar to other values within the same data set and with other related data sets. Comparability was assured through the use of standardized sampling procedures and USEPA analytical methods.

3.1.5 COMPLETENESS

Completeness is a measure of the extent of attainment of usable data points from an investigation. For this program a completeness goal of 85 percent is established in the QAPjP. The ability to obtain a sample, (human) error and sample characteristics are major contributors to reduced completeness. For this investigation, all intended samples

were collected and received by the laboratory. The laboratory analyzed all of the samples for all of the intended parameters. Completeness for this event is, therefore, 100 percent.

3.1.6 CONSISTENCY

Consistency is a measure of the reasonableness of data to those that have been previously generated. For this program, an extensive data base has been developed that allows the evaluation of analytical results that may represent historical outliers. Based on a comparison to the historical results, a few sporadic differences were noted for this monitoring event; however, the overall results are within the existing variance.

4. REFERENCES

FMC, 1999. "RCRA Interim Status Groundwater Monitoring Plan", Bechtel Environmental, August 1999; as updated in the RCRA Post-Closure Plans as follows:

- Pond 9E post-closure plan, January 2000;
- Slag Pit Sump post-closure plan, September 2001;
- Pond 8E, Phase IV Ponds and Pond 15S post-closure plans, May 2002;
- Pond 16S post-closure plan, July 2003; and,
- Pond 17 and Pond 18 Cell A post-closure plans, August 2004.

USEPA, 2004. Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, Final, USEPA, OSWER, EPA 540-R-04-004, October 2004.

USEPA, Contract Laboratory Program Statement of Work for Inorganics Analysis, Document Number ILM02.0 and latest revisions.

USEPA, 1989. Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analyses, USEPA Region I, June 13, 1988, Modified by Deborah Szaro, et. al. February 1989.

USEPA, 1983. Methods for Chemical Analysis of Water and Wastes, EMSL, EPA-600/4-79-020, Revised March 1983.

USEPA, 1986. Test Methods for Evaluating Solid Waste, OSWER, SW-846, Third Edition, November 1986.

APPENDIX A

TECHNICAL REVIEW REPORTS

ENVIRONMENTAL CHEMISTRY CONSULTANTS, INC

10146 Banner Rd., S.E.
Olalla, WA 98359

Tel: (253) 509-4568

Data Technical Review Report

Groundwater Samples

FMC Corporation, Pocatello, Idaho

East Michaud Flats RFI

Second Quarter 2015

SDGs 10305190, 10305724, and 10305759

June 2015

Prepared by: Bruce K. Wallin, PhD

This memo summarizes the technical review of groundwater results generated by PASI-M and PASI-V for FMC's second quarter 2015 Resource Conservation and Recovery Act (RCRA) sampling event for the laboratory SDGs listed above. The samples associated with all SDGs were analyzed for elements and wet chemistries.

For elements laboratory analyses were performed in accordance with the U.S. Environmental Protection Agency (USEPA) SW-846 Methods, and for wet chemistries, methods from Standard Methods for Examining Water and Wastewater and Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised March 1983. All of the above methods are hereafter referred to as "Methods". A list of the parameters and associated methods utilized is provided in Table 1-1.

TECHNICAL REVIEW REPORT

SDG 10305190

ELEMENTAL PARAMETERS

TECHINCAL REVIEW REPORT

SDG 10305190

ELEMENTAL PARAMETERS

The data evaluation was based on USEPA SW-846 Method 6010B for cadmium and potassium, and 6020 for arsenic and selenium (Methods) and included the following parameters:

- calibration
- blanks
- * ICP interference check sample
- * matrix spike analysis
- duplicate sample analysis
- * laboratory control sample analysis
- ICP serial dilution analysis
- * ICPMS internal standard analysis
- detection limits
- overall assessment

* All criteria were met for this parameter.

Table A-1 summarizes the technical review actions that are detailed below.

Data validation, described in SW-846 and the Guidelines, which includes an evaluation of the usability of technically reviewed results with respect to project Data Quality Objectives and site chemistry knowledge, is included in the Data Validation/Usability Report.

CALIBRATION:

Low-level calibration verifications (CRI) providing recoveries not within 90-110% are tabulated below:

CRI DATE/TIME	ELEMENT	RECOVERY (%)
5-7/13:46	potassium	111.4
5-19/08:49	selenium	110.6
5-20/09:17	cadmium (dissolved)	139.2

Associated samples requiring actions:

CRI ID.	ELEMENT	ASSOCIATED SAMPLES
5-19/08:49	selenium	505180 505147 505124 505131 (total + dissolved)
5-20/09:17	cadmium	505131

Action:

- For recoveries above the upper limit positive results <2PQL are flagged as estimated with the potential for high bias (J+).

Comment:

Only calibrations bracketing samples associated with this SDG are evaluated.

BLANKS:

Blanks providing positive results and their associated 5X action levels (AL) are tabulated below:

BLANK ID.	ELEMENT	CONC. (mg/L)	AL (mg/L)
505700	arsenic	0.00021	0.0011

Associated samples with positive results reported below the action level: NONE

Comments:

Only calibration blanks bracketing the samples associated with the SDG were evaluated.

DUPLICATE SAMPLE ANALYSIS:

Comments:

For this SDG sample 505600 is collocated with sample 505178. For this collocated sample pair all precision limits specified in the QAPP were met.

ICP SERIAL DILUTION ANALYSIS:

Samples with element reported at a concentration >50 MDL providing 5X serial dilution % difference (%D) >10 are tabulated below:

SAMPLE ID.	ELEMENT	%D
505174	potassium	16.9

Action:

- Sample results reported for the element are flagged as estimated (J).

Comments:

The above actions are applied to all environmental samples associated with the SDG that were prepared on 5-7-15. Sample 505114, prepared on 5-12-15 provided a compliant serial dilution result for potassium and the samples associated with this preparation batch are not flagged.

The diluted value was larger than the undiluted value, therefore, low bias is indicated.

DETECTION LIMITS:

For this SDG, the laboratory was required to report results positive to their method detection limit (MDL). The MDL (described in 40CFR Part 136, Appendix B and incorporated by reference in SW-846), provides an error band, by definition, of ± 100 percent. The Estimated Quantitation Limit (EQL), is established at 5-10X the MDL in SW-846.

Action:

- Positive results reported between the MDL and PQL are flagged as estimated (J).

Comments:

The data user is cautioned that these results may not be analytically reproducible or statistically valid.

OVERALL ASSESSMENT:

The positive results reported <2PQL for dissolved cadmium in sample 505131 and selenium in samples 505180, 505147, 505124, and 505131 (total + dissolved) are flagged as estimated with the potential for high bias (J+) due to non-compliant CRI recovery.

The results reported for potassium in samples 505174, 505177, 505154, 505178, 505600, 505173, 505171, and 505172 are flagged as estimated (J) due to non-compliant serial dilution reproducibility.

Positive results reported between the MDL and PQL are flagged as estimated (J) due to uncertainty at the low level.

All additional QC results reviewed were within specification and no further actions or qualifiers were necessary.

TABLE A-1.

TECHNICAL REVIEW ACTION SUMMARY

SDG 10305190

Arsenic	J1
Cadmium	J1, J+1
Potassium	J2
Selenium	J+1

If the field is left blank no actions or qualifications were necessary.

J1	-	Positive result is flagged as estimated (J) due to uncertainty at the low level.
J2	-	Result is flagged as estimated (J) due to non-compliant serial dilution reproducibility.
J+1	-	Positive result reported <2PQL is flagged as estimated with the potential for high bias (J+) due to non-compliant CRI recovery.

TECHNICAL REVIEW REPORT

SDG 10305724

ELEMENTAL PARAMETERS

TECHINCAL REVIEW REPORT

SDG 10305724

ELEMENTAL PARAMETERS

The data evaluation was based on USEPA SW-846 Method 6010B for cadmium, potassium, and phosphorus, and 6020 for arsenic and selenium (Methods) and included the following parameters:

- calibration
- blanks
* - ICP interference check sample
- matrix spike analysis
- duplicate sample analysis
* - laboratory control sample analysis
- ICP serial dilution analysis
* - ICPMS internal standard analysis
* - detection limits
- overall assessment

* All criteria were met for this parameter.

Table A-2 summarizes the technical review actions that are detailed below.

Data validation, described in SW-846 and the Guidelines, which includes an evaluation of the usability of technically reviewed results with respect to project Data Quality Objectives and site chemistry knowledge, is included in the Data Validation/Usability Report.

CALIBRATION:

Low-level calibration verifications (CRI) providing recoveries not within 90-110% are tabulated below:

CRI DATE/TIME	ELEMENT	RECOVERY (%)
5-14/11:33	cadmium	123.4
5-19/08:49	selenium	110.6

Associated samples requiring qualification: NONE

Comment:

Only calibrations bracketing samples associated with this SDG are evaluated.

BLANKS:

Blanks providing positive results and their associated action levels are tabulated below:

BLANK ID.	ELEMENT	CONC. (mg/L)	ACTION LEVEL (mg/L)
CCB 5-14/12:58	potassium	0.171	0.855
505701	arsenic	0.00029	0.0015

Associated samples with positive results reported below the action level: NONE

Comments:

The field blank 505701 is reviewed with SDG 10305759.

Only calibration blanks bracketing the samples associated with the SDG were evaluated.

MATRIX SPIKE ANALYSIS:

Comments:

For this SDG the laboratory included Batch QC matrix spike results. No action is taken since the Batch QC sample may not represent the matrix under study.

DUPLICATE SAMPLE ANALYSIS:

Comments:

For this SDG collocated samples are not identified.

ICP SERIAL DILUTION ANALYSIS:

Comments:

For this SDG the laboratory included Batch QC serial dilution results. No action is taken since the Batch QC sample may not represent the matrix under study.

OVERALL ASSESSMENT:

All QC results reviewed were within specification and no actions or qualifiers were necessary.

TABLE A-2.

TECHNICAL REVIEW ACTION SUMMARY

SDG 10305724

Arsenic

Cadmium

Potassium

Selenium

Phosphorus

If the field is left blank no actions or qualifications were necessary.

TECHNICAL REVIEW REPORT

SDG 10305759

ELEMENTAL PARAMETERS

TECHINCAL REVIEW REPORT

SDG 10305759

ELEMENTAL PARAMETERS

The data evaluation was based on USEPA SW-846 Method 6010B for cadmium, potassium, and phosphorus and 6020 for arsenic and selenium (Methods) and included the following parameters:

- calibration
- blanks
- * ICP interference check sample
- matrix spike analysis
- duplicate sample analysis
- * laboratory control sample analysis
- ICP serial dilution analysis
- * ICPMS internal standard analysis
- detection limits
- overall assessment

* All criteria were met for this parameter.

Table A-3 summarizes the technical review actions that are detailed below.

Data validation, described in SW-846 and the Guidelines, which includes an evaluation of the usability of technically reviewed results with respect to project Data Quality Objectives and site chemistry knowledge, is included in the Data Validation/Usability Report.

CALIBRATION:

Low-level calibration verifications (CRI) providing recoveries not within 90-110% are tabulated below:

CRI DATE/TIME	ELEMENT	RECOVERY (%)
5-21/02:27	cadmium	60.0

Associated samples requiring actions:

CRI ID.	ELEMENT	ASSOCIATED SAMPLES
5-21/02:27	cadmium	ALL SAMPLES

Action:

- For recoveries below the lower limit results <2PQL are flagged as estimated with the potential for low bias (J-).

Comment:

Only calibrations bracketing samples associated with this SDG are evaluated.

BLANKS:

Blanks providing positive results and their associated 5X action levels (AL) are tabulated below:

BLANK ID.	ELEMENT	CONC. (mg/L)	AL (mg/L)
CCB 5-21/04:32	potassium	0.126	0.630
CCB 5-21/05:31	potassium	0.354	1.77
505701	arsenic	0.00029	0.0015

Associated samples with positive results reported below the action level: NONE

Comments:

Only calibration blanks bracketing the samples associated with the SDG were evaluated.

MATRIX SPIKE ANALYSIS:

Comments:

For sample 505157 the native level of potassium exceeded four times the spiking level, therefore, this parameter could not be evaluated.

DUPLICATE SAMPLE ANALYSIS:

Comments:

For this SDG sample 505601 is collocated with sample 505156. For this collocated sample pair all precision limits specified in the QAPP were met.

DETECTION LIMITS:

For this SDG, the laboratory was required to report results positive to their method detection limit (MDL). The MDL (described in 40CFR Part 136, Appendix B and incorporated by reference in SW-846), provides an error band, by definition, of $\pm$ 100 percent. The Estimated Quantitation Limit (EQL), is established at 5-10X the MDL in SW-846.

Action:

- Positive results reported between the MDL and PQL are flagged as estimated (J).

Comments:

The data user is cautioned that these results may not be analytically reproducible or statistically valid.

OVERALL ASSESSMENT:

Results reported <2 PQL for cadmium in all samples are flagged as estimated with the potential for low bias (J-) due to non-compliant CRI recovery.

Positive results reported between the MDL and PQL are flagged as estimated (J) due to uncertainty at the low level.

All additional QC results reviewed were within specification and no further actions or qualifiers were necessary.

TABLE A-3.

TECHNICAL REVIEW ACTION SUMMARY

SDG 10305759

Arsenic	J1
Cadmium	J-1
Potassium	
Selenium	J1

If the field is left blank no actions or qualifications were necessary.

J1	-	Result is flagged as estimated (J) due to uncertainty at the low levels.
J-1	-	Result reported <2PQL is flagged as estimated with the potential for low bias (J-) due to non-compliant CRI recovery.

TECHINCAL REVIEW REPORT

SDG 10312267

ELEMENTAL PARAMETERS

The data evaluation was based on USEPA SW-846 Method 6010B for cadmium, potassium, and phosphorus and 6020 for arsenic and selenium (Methods) and included the following parameters:

- calibration
- blanks
* - ICP interference check sample
- matrix spike analysis
- duplicate sample analysis
* - laboratory control sample analysis
- ICP serial dilution analysis
* - ICPMS internal standard analysis
* - detection limits
- overall assessment

* All criteria were met for this parameter.

Table A-4 summarizes the technical review actions that are detailed below.

Data validation, described in SW-846 and the Guidelines, which includes an evaluation of the usability of technically reviewed results with respect to project Data Quality Objectives and site chemistry knowledge, is included in the Data Validation/Usability Report.

CALIBRATION:

Low-level calibration verifications (CRI) providing recoveries not within 90-110% are tabulated below:

CRI DATE/TIME	ELEMENT	RECOVERY (%)
6-30/15:37	cadmium	89.3
	potassium	87.2

Associated samples requiring actions:

CRI ID.	ELEMENT	ASSOCIATED SAMPLES
6-30/15:37	cadmium	ALL SAMPLES
	potassium	505704

Action:

- For recoveries below the lower limit results <2PQL are flagged as estimated with the potential for low bias (J-).

Comment:

Only calibrations bracketing samples associated with this SDG are evaluated.

BLANKS:

Comments:

Only calibration blanks bracketing the samples associated with the SDG were evaluated.

MATRIX SPIKE ANALYSIS:

Comments:

For sample 505108 the native level of potassium exceeded four times the spiking level, therefore, this parameter could not be evaluated.

DUPLICATE SAMPLE ANALYSIS:

Comments:

For this SDG sample 505604 is collocated with sample 505121. For this collocated sample pair all precision limits specified in the QAPP were met.

OVERALL ASSESSMENT:

Results reported <2 PQL for cadmium in all samples and potassium in sample 505704 are flagged as estimated with the potential for low bias (J-) due to non-compliant CRI recovery.

All additional QC results reviewed were within specification and no further actions or qualifiers were necessary.

TABLE A-4.

TECHNICAL REVIEW ACTION SUMMARY

SDG 10312267

Arsenic	
Cadmium	J-1
Potassium	J-1
Selenium	

If the field is left blank no actions or qualifications were necessary.

J-1	-	Result reported <2PQL is flagged as estimated with the potential for low bias (J-) due to non-compliant CRI recovery.

TECHNICAL REVIEW REPORT

SDG 10305190

WET CHEMISTRIES

TECHNICAL REVIEW REPORT

SDG 10305190

WET CHEMISTRIES

The data evaluation was based on the procedures set forth in the Methods and included the following parameters:

* - holding times
* - calibration
- blanks
- matrix spike sample analysis
* - standard reference material analysis
- duplicate sample analysis
- detection limits
- overall assessment

* All criteria were met for this parameter.

Data validation, described in SW-846 and the Guidelines, which includes an evaluation of the usability of technically reviewed results with respect to project Data Quality Objectives and site chemistry knowledge, is included in the Data Validation/Usability Report.

A glossary of data qualifier definitions is presented in Appendix B.

BLANKS:

Blanks reported with positive values and their associated 5X action levels are tabulated below:

BLANK ID.	PARAMETER	CONC. (mg/L)	ACTION LEVEL
MB 1960611	fluoride (ISE)	0.13	0.65
505700	ammonia-N	0.021	0.11
	o-phosphate-P	0.0025	0.013

Associated samples with values reported positive but below the action level:

BLANK ID.	PARAMETER	ASSOCIATED SAMPLES	
MB 1960611	fluoride (ISE)	505178	505600
		505131	
505700	ammonia-N	505128	505127
		505131	

Action:

- Associated positive sample results are flagged as not-detected at the reported value (U).

Comments:

The data user is cautioned that for the field blanks the actions may not apply directly to the indicated samples (e.g. the contamination is in the blank water per-se).

MATRIX SPIKE SAMPLE ANALYSIS:

Samples providing matrix spike (MS)/MS duplicate (MSD) recoveries or precision not within the laboratory default limits when the native level is reported at less than four times the spiking level are tabulated below:

SAMPLE ID.	ANALYTE	MS/MSD RECOVERY (%)
505114	chloride	85/85
	fluoride (IC)	214/213*

Action:

- For both MS and MSD recoveries below the lower limit sample results reported for the analyte are flagged as estimated with the potential for low bias (J-).

Comments:

* - Likely a spiking error. On the basis of professional judgment no action is applied.

The above action is applied to all environmental samples associated with the SDG.

For sample 505172 the native level of sulfate exceeded four times the spiking level, therefore, this parameter could not be evaluated.

DUPLICATE SAMPLE ANALYSIS

1. Samples 505178, 505600, 505131, and 505114 were analyzed for fluoride by IC and ISE Methods and the results for samples 505178 and 505114 were within the precision limits expected for laboratory replicates. For samples 505131 and 505114 the IC result was larger. For these samples only the results from the ISE Method should be used.
2. Field Duplicates.

Comments:

For this SDG sample 505600 is collocated with sample 505178. For this collocated sample pair all precision limits specified in the QAPP were met.

DETECTION LIMITS:

For this SDG, the laboratory was required to report results to their method detection limit (MDL). The MDL (described in 40CFR Part 136, Appendix B and incorporated by reference in SW-846), provides an error band, by definition, of $\pm$ 100 percent. The Estimated Quantitation Limit (EQL) is established at 5-10X the MDL in SW-846.

Action:

- Positive values reported between the MDL and PQL are flagged as estimated (J).

Comments:

Any values below the PQL contain inherently increasing error bands as the numbers become smaller. It is essential that the data user considers these statistical impacts on data quality at the low levels.

OVERALL ASSESSMENT:

The Method blank was reported with fluoride (ISE) at a concentration that generated an action level resulting in the flagging of the positive results reported in samples 505178, 505600, and 505131 as not-detected at the reported value (U).

The field blank was reported with ammonia-N present at a concentration that generated an action level resulting in the flagging of the positive results reported for samples 505128, 505127, and 505131 as not-detected at the reported value (U).

Sample 505114 provided MS/MSD recoveries of chloride below the laboratory default limits. Results reported for this parameter in all environmental samples associated with the SDG are flagged as estimated with the potential for low bias (J-).

Samples 505131 and 505114 were analyzed for fluoride by both IC and ISE Methods. Only the results from the ISE Method should be used since the IC result was significantly larger.

Any values reported positive between the MDL and PQL are flagged as estimated (J) due to uncertainty at the low levels.

All additional QC criteria evaluated were within specification and no further actions or flagging were required or deemed necessary.

TECHNICAL REVIEW REPORT

SDG 10305724

WET CHEMISTRIES

TECHNICAL REVIEW REPORT

SDG 10305724

WET CHEMISTRIES

The data evaluation was based on the procedures set forth in the Methods and included the following parameters:

* - holding times
* - calibration
  - blanks
  - matrix spike sample analysis
* - standard reference material analysis
  - duplicate sample analysis
* - detection limits
  - overall assessment

* All criteria were met for this parameter.

Data validation, described in SW-846 and the Guidelines, which includes an evaluation of the usability of technically reviewed results with respect to project Data Quality Objectives and site chemistry knowledge, is included in the Data Validation/Usability Report.

A glossary of data qualifier definitions is presented in Appendix B.

MATRIX SPIKE SAMPLE ANALYSIS:

Comments:

For this SDG the laboratory included Batch QC matrix spike results. No action is taken since the Batch QC sample may not represent the matrix under study.

DUPLICATE SAMPLE ANALYSIS:

For this SDG collocated samples are not identified.

OVERALL ASSESSMENT:

All additional QC criteria evaluated were within specification and no further actions or flagging were required or deemed necessary.

TECHNICAL REVIEW REPORT

SDG 10305759

WET CHEMISTRIES

TECHNICAL REVIEW REPORT

SDG 10305759

WET CHEMISTRIES

The data evaluation was based on the procedures set forth in the Methods and included the following parameters:

- holding times
* - calibration
- blanks
- matrix spike sample analysis
* - standard reference material analysis
- duplicate sample analysis
- detection limits
- overall assessment

* All criteria were met for this parameter.

Data validation, described in SW-846 and the Guidelines, which includes an evaluation of the usability of technically reviewed results with respect to project Data Quality Objectives and site chemistry knowledge, is included in the Data Validation/Usability Report.

A glossary of data qualifier definitions is presented in Appendix B.

HOLDING TIMES:

The following samples were analyzed outside the indicated method-specified holding time from sample collection to analysis:

SAMPLE ID.	PARAMETER	HOLDING TIME (DAYS)
ALL SAMPLES	nitrate-N	5-6
	o-phosphate-P	5-6

Action:

- None, see comments.

Comments:

No action is taken since a FMC keeping quality study indicated that these parameters are stable beyond the above-indicated holding times.

BLANKS:

Blanks reported with positive values and their associated 5X action levels are tabulated below:

BLANK ID.	PARAMETER	CONC. (mg/L)	ACTION LEVEL
MB 1968130	fluoride (ISE)	0.14	0.70
505701	o-phosphate-P	0.017	0.085

Associated samples with values reported positive but below the action level:

BLANK ID.	PARAMETER	ASSOCIATED SAMPLES	
MB 1968130	fluoride (ISE)	505115	505155
		505156	505157
		505601	
505701	o-phosphate-P	505183	505158

Action:

- Associated positive sample results are flagged as not-detected at the reported value (U).

Comments:

The data user is cautioned that for the field blanks the actions may not apply directly to the indicated samples (e.g. the contamination is in the blank water per-se).

MATRIX SPIKE SAMPLE ANALYSIS:

Samples providing matrix spike (MS)/MS duplicate (MSD) recoveries or precision not within the laboratory default limits when the native level is reported at less than four times the spiking level are tabulated below:

SAMPLE ID.	ANALYTE	MS/MSD RECOVERY (%)
505157	fluoride (IC)	0/0*
	nitrate-N	/88
	ammonia-N	113/117

Action:

- For both MS and MSD recoveries above the upper limit positive sample results reported for the analyte are flagged as estimated with the potential for high bias (J+).

Comments:

* - Likely due to the substantial interference (*vide infra*). On the basis of professional judgment no action is applied.

The above action is applied to all environmental samples associated with the SDG.

DUPLICATE SAMPLE ANALYSIS

1. Samples 505115, 505123, 505155, 505156, 505157, and 505601 were analyzed for fluoride by IC and ISE Methods and the results for samples 505123 and

505155 were within the precision limits expected for laboratory replicates. For samples 505115, 505156, 505157, and 505601 the IC result was larger. For these samples only the results from the ISE Method should be used.

2. Field Duplicates.

Comments:

For this SDG sample 505601 is collocated with sample 505156. For this collocated sample pair all precision limits specified in the QAPP were met.

DETECTION LIMITS:

For this SDG, the laboratory was required to report results to their method detection limit (MDL). The MDL (described in 40CFR Part 136, Appendix B and incorporated by reference in SW-846), provides an error band, by definition, of $\pm$ 100 percent. The Estimated Quantitation Limit (EQL) is established at 5-10X the MDL in SW-846.

Action:

- Positive values reported between the MDL and PQL are flagged as estimated (J).

Comments:

Any values below the PQL contain inherently increasing error bands as the numbers become smaller. It is essential that the data user considers these statistical impacts on data quality at the low levels.

OVERALL ASSESSMENT:

The Method blank was reported with fluoride (ISE) at a concentration that generated an action level resulting in the flagging of the positive results reported in samples 505115, 505155, 505156, 505157, and 505601 as not-detected at the reported value (U).

The field blank was reported with o-phosphate-P present at a concentration that generated an action level resulting in the flagging of the positive results reported for samples 505183 and 505158 as not-detected at the reported value (U).

Sample 505157 provided MS/MSD recoveries of ammonia-N above the laboratory default limit. Results reported positive for this parameter in all environmental samples associated with the SDG are flagged as estimated with the potential for high bias (J+).

Samples 505115, 505156, 505157, and 505601 were analyzed for fluoride by both IC and ISE Methods. Only the results from the ISE Method should be used since the IC result was significantly larger.

Any values reported positive between the MDL and PQL are flagged as estimated (J) due to uncertainty at the low levels.

All additional QC criteria evaluated were within specification and no further actions or flagging were required or deemed necessary.

TECHNICAL REVIEW REPORT

SDG 10312267

WET CHEMISTRIES

The data evaluation was based on the procedures set forth in the Methods and included the following parameters:

* - holding times
* - calibration
- blanks
- matrix spike sample analysis
* - standard reference material analysis
- duplicate sample analysis
- detection limits
- overall assessment

* All criteria were met for this parameter.

Data validation, described in SW-846 and the Guidelines, which includes an evaluation of the usability of technically reviewed results with respect to project Data Quality Objectives and site chemistry knowledge, is included in the Data Validation/Usability Report.

A glossary of data qualifier definitions is presented in Appendix B.

BLANKS:

Blanks reported with positive values and their associated 5X action levels are tabulated below:

BLANK ID.	PARAMETER	CONC. (mg/L)	ACTION LEVEL

505704	fluoride	0.0070	0.035

Associated samples with values reported positive but below the action level: NONE

MATRIX SPIKE SAMPLE ANALYSIS:

Comments:

For chloride, nitrate-N, and sulfate the native level exceeded four times the spiking level, therefore, this parameter could not be evaluated.

DUPLICATE SAMPLE ANALYSIS

Field Duplicates:

For this SDG sample 505604 is collocated with sample 505121. For this collocated sample pair all precision limits specified in the QAPP were met.

DETECTION LIMITS:

For this SDG, the laboratory was required to report results to their method detection limit (MDL). The MDL (described in 40CFR Part 136, Appendix B and incorporated by reference in SW-846), provides an error band, by definition, of $\pm$ 100 percent. The Estimated Quantitation Limit (EQL) is established at 5-10X the MDL in SW-846.

Action:

- Positive values reported between the MDL and PQL are flagged as estimated (J).

Comments:

Any values below the PQL contain inherently increasing error bands as the numbers become smaller. It is essential that the data user considers these statistical impacts on data quality at the low levels.

OVERALL ASSESSMENT:

Any values reported positive between the MDL and PQL are flagged as estimated (J) due to uncertainty at the low levels.

All additional QC criteria evaluated were within specification and no further actions or flagging were required or deemed necessary.

APPENDIX B

DEFINITION OF DATA QUALIFIERS

GLOSSARY OF DATA QUALIFIERS

J	-	The associated value is an estimated quantity.
R	-	The data are unusable.
U	-	The parameter is not detected at the reported value.
B	-	The value is above the MDL or IDL but below the RL, or CRDL

APPENDIX C

GLOSSARY OF ACRONYMS

GLOSSARY OF ACRONYMS

SDG	-	Sample Delivery Group
USEPA	-	Unites States Environmental Protection Agency
DQO	-	Data Quality Objectives
QAPjP	-	Quality Assurance Project Plan
RPD	-	Relative Percent Difference
CRDL	-	Contract Required Detection Limit
RL	-	Reporting Limit
IDL	-	Instrument Detection Limit
MDL	-	Method Detection Limit
CLP	-	Contract Laboratory Program
ICP	-	Ion Coupled Plasma
MS	-	Matrix Spike
MSD	-	Matrix Spike Duplicate

DATA PACKAGE REPORT
SAMPLE DELIVERY GROUP
RCRA SDG
10305190

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10305190

Sample: 505114ABC **Lab ID: 10305190020** Collected: 05/06/15 13:30 Received: 05/07/15 10:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00065	1	05/12/15 08:48	05/12/15 18:53	7440-43-9	
Potassium	**26.6**	mg/L	2.5	0.13	1	05/12/15 08:48	05/12/15 18:53	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.12**	mg/L	0.00050	0.00011	1	05/13/15 21:04	05/19/15 11:23	7440-38-2	
Selenium	**0.0022**	mg/L	0.00050	0.00020	1	05/13/15 21:04	05/19/15 11:23	7782-49-2	
SM4500F-C Fluoride	Analytical Method: SM 4500F/C								
Fluoride	**1.0**	mg/L	1.0	0.051	1		05/09/15 11:42	16984-48-8	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**132**	mg/L	6.0	3.0	5		05/08/15 00:46	16887-00-6	M1
Fluoride	**~~1.5~~**	mg/L	0.050	0.0036	1		05/07/15 17:12	16984-48-8	M1
Nitrate as N	ND	mg/L	0.10	0.050	1		05/07/15 17:12	14797-55-8	
Sulfate	**99.5**	mg/L	6.0	3.0	5		05/08/15 00:46	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	**1.9**	mg/L	0.040	0.020	1		05/19/15 12:50	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**1.5**	mg/L	0.10	0.035	20		05/07/15 15:06		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10305190

Sample: 505124 **Lab ID: 10305190018** Collected: 05/06/15 09:50 Received: 05/07/15 10:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	**0.00066** J	mg/L	0.0030	0.00065	1	05/12/15 08:48	05/12/15 18:43	7440-43-9	
Potassium	**12.5**	mg/L	2.5	0.13	1	05/12/15 08:48	05/12/15 18:43	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.012**	mg/L	0.0025	0.00056	5	05/13/15 21:04	05/19/15 10:56	7440-38-2	
Selenium	**0.0047** J+	mg/L	0.0025	0.0010	5	05/13/15 21:04	05/19/15 10:56	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**174**	mg/L J-	6.0	3.0	5		05/08/15 01:34	16887-00-6	
Fluoride	**0.78**	mg/L	0.050	0.0036	1		05/07/15 18:13	16984-48-8	
Nitrate as N	**3.1**	mg/L	0.10	0.050	1		05/07/15 18:13	14797-55-8	
Sulfate	**89.9**	mg/L	1.2	0.60	1		05/07/15 18:13	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		05/19/15 12:48	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.088**	mg/L	0.0050	0.0017	1		05/07/15 14:58		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10305190

Sample: 505126 **Lab ID: 10305190017** Collected: 05/06/15 09:05 Received: 05/07/15 10:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00065	1	05/12/15 08:48	05/12/15 18:38	7440-43-9	
Potassium	**9.3**	mg/L	2.5	0.13	1	05/12/15 08:48	05/12/15 18:38	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.0077**	mg/L	0.0010	0.00023	2	05/13/15 21:04	05/19/15 10:51	7440-38-2	
Selenium	**0.0024**	mg/L	0.0010	0.00040	2	05/13/15 21:04	05/19/15 10:51	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**95.3**	mg/L J-	1.2	0.60	1		05/07/15 17:57	16887-00-6	
Fluoride	**0.94**	mg/L	0.050	0.0036	1		05/07/15 17:57	16984-48-8	
Nitrate as N	**2.2**	mg/L	0.10	0.050	1		05/07/15 17:57	14797-55-8	
Sulfate	**86.5**	mg/L	1.2	0.60	1		05/07/15 17:57	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		05/19/15 12:47	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.067**	mg/L	0.0050	0.0017	1		05/07/15 14:57		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10305190

Sample: 505127 **Lab ID: 10305190016** Collected: 05/06/15 08:30 Received: 05/07/15 10:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00065	1	05/12/15 08:48	05/12/15 18:24	7440-43-9	
Potassium	**14.1**	mg/L	2.5	0.13	1	05/12/15 08:48	05/12/15 18:24	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.0077**	mg/L	0.0025	0.00056	5	05/13/15 21:04	05/19/15 10:47	7440-38-2	
Selenium	**0.0069**	mg/L	0.0025	0.0010	5	05/13/15 21:04	05/19/15 10:47	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**298**	mg/L J-	6.0	3.0	5		05/08/15 00:28	16887-00-6	
Fluoride	**0.56**	mg/L	0.050	0.0036	1		05/07/15 16:57	16984-48-8	
Nitrate as N	**5.6**	mg/L	0.10	0.050	1		05/07/15 16:57	14797-55-8	
Sulfate	**194**	mg/L	6.0	3.0	5		05/08/15 00:28	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	**0.051** U	mg/L	0.040	0.020	1		05/19/15 12:47	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.080**	mg/L	0.0050	0.0017	1		05/07/15 14:56		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10305190

Sample: 505128 **Lab ID: 10305190015** Collected: 05/06/15 07:55 Received: 05/07/15 10:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00065	1	05/12/15 08:48	05/12/15 18:17	7440-43-9	
Potassium	**16.7**	mg/L	2.5	0.13	1	05/12/15 08:48	05/12/15 18:17	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.019**	mg/L	0.0025	0.00056	5	05/13/15 21:04	05/19/15 10:42	7440-38-2	
Selenium	**0.0051**	mg/L	0.0025	0.0010	5	05/13/15 21:04	05/19/15 10:42	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**281**	mg/L J	6.0	3.0	5		05/08/15 00:10	16887-00-6	
Fluoride	**0.45**	mg/L	0.050	0.0036	1		05/07/15 16:42	16984-48-8	
Nitrate as N	**6.9**	mg/L	0.10	0.050	1		05/07/15 16:42	14797-55-8	
Sulfate	**120**	mg/L	6.0	3.0	5		05/08/15 00:10	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	**0.026** J U	mg/L	0.040	0.020	1		05/19/15 12:45	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.16**	mg/L	0.0050	0.0017	1		05/07/15 14:55		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10305190

Sample: 505131 **Lab ID: 10305190019** Collected: 05/06/15 10:40 Received: 05/07/15 10:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	**0.00090J** +	mg/L	0.0030	0.00065	1	05/12/15 08:48	05/12/15 18:48	7440-43-9	
Potassium	**13.6**	mg/L	2.5	0.13	1	05/12/15 08:48	05/12/15 18:48	7440-09-7	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium, Dissolved	**0.0025J**	mg/L	0.0030	0.00065	1	05/20/15 10:32	05/20/15 11:29	7440-43-9	
Potassium, Dissolved	**13.7**	mg/L	2.5	0.13	1	05/20/15 10:32	05/20/15 11:29	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.049**	mg/L	0.00050	0.00011	1	05/13/15 21:04	05/19/15 11:19	7440-38-2	
Selenium	**0.00086** U+	mg/L	0.00050	0.00020	1	05/13/15 21:04	05/19/15 11:19	7782-49-2	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic, Dissolved	**0.050**	mg/L	0.00050	0.00011	1	05/17/15 21:50	05/20/15 12:14	7440-38-2	
Selenium, Dissolved	**0.00083** U+	mg/L	0.00050	0.00020	1	05/17/15 21:50	05/20/15 12:14	7782-49-2	
SM4500F-C Fluoride	Analytical Method: SM 4500F/C								
Fluoride	**0.13J** U	mg/L	1.0	0.051	1		05/09/15 11:36	16984-48-8	B
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**196**	mg/L J-	6.0	3.0	5		05/08/15 01:52	16887-00-6	
Fluoride	~~**74.8**~~	mg/L	2.5	0.18	50		05/08/15 10:24	16984-48-8	
Nitrate as N	**0.056J**	mg/L	0.10	0.050	1		05/07/15 18:28	14797-55-8	
Sulfate	**167**	mg/L	6.0	3.0	5		05/08/15 01:52	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	**0.037J** U	mg/L	0.040	0.020	1		05/19/15 12:49	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**6.1**	mg/L	0.25	0.087	50		05/07/15 15:05		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10305190

Sample: 505147 **Lab ID: 10305190012** Collected: 05/05/15 18:05 Received: 05/07/15 10:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00065	1	05/12/15 08:48	05/12/15 18:03	7440-43-9	
Potassium	**12.1**	mg/L	2.5	0.13	1	05/12/15 08:48	05/12/15 18:03	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.0046**	mg/L	0.0025	0.00056	5	05/13/15 21:04	05/19/15 10:28	7440-38-2	
Selenium	**0.0041** J+	mg/L	0.0025	0.0010	5	05/13/15 21:04	05/19/15 10:28	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**153**	mg/L J-	6.0	3.0	5		05/07/15 22:47	16887-00-6	
Fluoride	**0.70**	mg/L	0.050	0.0036	1		05/07/15 15:09	16984-48-8	
Nitrate as N	**4.4**	mg/L	0.10	0.050	1		05/07/15 15:09	14797-55-8	
Sulfate	**66.5**	mg/L	1.2	0.60	1		05/07/15 15:09	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		05/19/15 12:41	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.033**	mg/L	0.0050	0.0017	1		05/07/15 14:53		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10305190

Sample: 505148 **Lab ID: 10305190013** Collected: 05/05/15 18:45 Received: 05/07/15 10:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00065	1	05/12/15 08:48	05/12/15 18:08	7440-43-9	
Potassium	**13.4**	mg/L	2.5	0.13	1	05/12/15 08:48	05/12/15 18:08	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.0072**	mg/L	0.0025	0.00056	5	05/13/15 21:04	05/19/15 10:33	7440-38-2	
Selenium	**0.0057**	mg/L	0.0025	0.0010	5	05/13/15 21:04	05/19/15 10:33	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**163**	mg/L	6.0	3.0	5		05/07/15 23:05	16887-00-6	
Fluoride	**0.76**	mg/L	0.050	0.0036	1		05/07/15 15:24	16984-48-8	
Nitrate as N	**3.6**	mg/L	0.10	0.050	1		05/07/15 15:24	14797-55-8	
Sulfate	**89.8**	mg/L	1.2	0.60	1		05/07/15 15:24	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		05/19/15 12:42	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.062**	mg/L	0.0050	0.0017	1		05/07/15 14:53		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10305190

Sample: 505149 **Lab ID: 10305190014** Collected: 05/05/15 19:25 Received: 05/07/15 10:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	**0.000750**	mg/L	0.0030	0.00065	1	05/12/15 08:48	05/12/15 18:12	7440-43-9	
Potassium	**11.7**	mg/L	2.5	0.13	1	05/12/15 08:48	05/12/15 18:12	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.0068**	mg/L	0.0010	0.00023	2	05/13/15 21:04	05/19/15 10:37	7440-38-2	
Selenium	**0.0020**	mg/L	0.0010	0.00040	2	05/13/15 21:04	05/19/15 10:37	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**114**	mg/L J-	6.0	3.0	5		05/07/15 23:22	16887-00-6	
Fluoride	**1.0**	mg/L	0.050	0.0036	1		05/07/15 15:39	16984-48-8	
Nitrate as N	**2.0**	mg/L	0.10	0.050	1		05/07/15 15:39	14797-55-8	
Sulfate	**59.4**	mg/L	1.2	0.60	1		05/07/15 15:39	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		05/19/15 12:43	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.064**	mg/L	0.0050	0.0017	1		05/07/15 14:54		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10305190

Sample: 505154 **Lab ID: 10305190003** Collected: 05/05/15 10:55 Received: 05/06/15 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00065	1	05/07/15 09:41	05/07/15 14:57	7440-43-9	
Potassium	**14.4** J	mg/L	2.5	0.13	1	05/07/15 09:41	05/07/15 14:57	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.0043**	mg/L	0.00050	0.00011	1	05/08/15 08:08	05/13/15 18:36	7440-38-2	
Selenium	**0.0032**	mg/L	0.00050	0.00020	1	05/08/15 08:08	05/13/15 18:36	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**190**	mg/L J	6.0	3.0	5		05/06/15 19:26	16887-00-6	
Fluoride	**1.0**	mg/L	0.050	0.0036	1		05/06/15 15:46	16984-48-8	
Nitrate as N	**2.8**	mg/L	0.10	0.050	1		05/06/15 15:46	14797-55-8	
Sulfate	**55.7**	mg/L	1.2	0.60	1		05/06/15 15:46	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		05/19/15 12:09	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.025**	mg/L	0.0050	0.0017	1		05/06/15 13:45		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10305190

Sample: 505171 **Lab ID: 10305190007** Collected: 05/05/15 13:25 Received: 05/06/15 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00065	1	05/07/15 09:41	05/07/15 15:28	7440-43-9	
Potassium	**22.6** J	mg/L	2.5	0.13	1	05/07/15 09:41	05/07/15 15:28	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.018**	mg/L	0.00050	0.00011	1	05/08/15 08:08	05/13/15 19:08	7440-38-2	
Selenium	**0.0027**	mg/L	0.00050	0.00020	1	05/08/15 08:08	05/13/15 19:08	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**193**	mg/L J-	6.0	3.0	5		05/06/15 21:40	16887-00-6	
Fluoride	**0.54**	mg/L	0.050	0.0036	1		05/06/15 16:47	16984-48-8	
Nitrate as N	**5.4**	mg/L	0.10	0.050	1		05/06/15 16:47	14797-55-8	
Sulfate	**88.9**	mg/L	1.2	0.60	1		05/06/15 16:47	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		05/19/15 12:15	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.10**	mg/L	0.0050	0.0017	1		05/06/15 13:50		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10305190

Sample: 505172 **Lab ID: 10305190010** Collected: 05/05/15 15:50 Received: 05/06/15 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00065	1	05/07/15 09:41	05/07/15 15:41	7440-43-9	
Potassium	**25.7** J	mg/L	2.5	0.13	1	05/07/15 09:41	05/07/15 15:41	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.021**	mg/L	0.00050	0.00011	1	05/08/15 08:08	05/13/15 19:21	7440-38-2	
Selenium	**0.0037**	mg/L	0.00050	0.00020	1	05/08/15 08:08	05/13/15 19:21	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**119**	mg/L J-	12.0	6.0	10		05/06/15 21:58	16887-00-6	
Fluoride	**0.59**	mg/L	0.050	0.0036	1		05/06/15 18:02	16984-48-8	
Nitrate as N	**8.4**	mg/L	1.0	0.50	10		05/06/15 21:58	14797-55-8	
Sulfate	**73.9**	mg/L	1.2	0.60	1		05/06/15 18:02	14808-79-8	M1
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		05/19/15 12:18	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.30**	mg/L	0.025	0.0087	5		05/06/15 14:01		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10305190

Sample: 505173 **Lab ID: 10305190006** Collected: 05/05/15 12:35 Received: 05/06/15 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00065	1	05/07/15 09:41	05/07/15 15:23	7440-43-9	
Potassium	**14.0** J	mg/L	2.5	0.13	1	05/07/15 09:41	05/07/15 15:23	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.0032**	mg/L	0.00050	0.00011	1	05/08/15 08:08	05/13/15 19:03	7440-38-2	
Selenium	**0.0046**	mg/L	0.00050	0.00020	1	05/08/15 08:08	05/13/15 19:03	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**218**	mg/L J-	6.0	3.0	5		05/06/15 21:23	16887-00-6	
Fluoride	**0.84**	mg/L	0.050	0.0036	1		05/06/15 16:32	16984-48-8	
Nitrate as N	**3.5**	mg/L	0.10	0.050	1		05/06/15 16:32	14797-55-8	
Sulfate	**66.7**	mg/L	1.2	0.60	1		05/06/15 16:32	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		05/19/15 12:14	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.022**	mg/L	0.0050	0.0017	1		05/06/15 13:47		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10305190

Sample: 505174 **Lab ID: 10305190001** Collected: 05/05/15 09:30 Received: 05/06/15 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00065	1	05/07/15 09:41	05/07/15 14:26	7440-43-9	
Potassium	**12.8** J	mg/L	2.5	0.13	1	05/07/15 09:41	05/07/15 14:26	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.0035**	mg/L	0.00050	0.00011	1	05/08/15 08:08	05/13/15 18:08	7440-38-2	
Selenium	**0.0049**	mg/L	0.00050	0.00020	1	05/08/15 08:08	05/13/15 18:08	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**190**	mg/L	6.0	3.0	5		05/06/15 18:50	16887-00-6	
Fluoride	**0.77**	mg/L	0.050	0.0036	1		05/06/15 15:16	16984-48-8	
Nitrate as N	**4.7**	mg/L	0.10	0.050	1		05/06/15 15:16	14797-55-8	
Sulfate	**93.8**	mg/L	1.2	0.60	1		05/06/15 15:16	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		05/19/15 12:07	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.028**	mg/L	0.0050	0.0017	1		05/06/15 13:41		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10305190

Sample: 505177 **Lab ID: 10305190002** Collected: 05/05/15 10:15 Received: 05/06/15 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00065	1	05/07/15 09:41	05/07/15 14:52	7440-43-9	
Potassium	**13.3** J	mg/L	2.5	0.13	1	05/07/15 09:41	05/07/15 14:52	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.0042**	mg/L	0.00050	0.00011	1	05/08/15 08:08	05/13/15 18:13	7440-38-2	
Selenium	**0.0042**	mg/L	0.00050	0.00020	1	05/08/15 08:08	05/13/15 18:13	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**169**	mg/L J-	6.0	3.0	5		05/06/15 19:08	16887-00-6	
Fluoride	**0.72**	mg/L	0.050	0.0036	1		05/06/15 15:31	16984-48-8	
Nitrate as N	**4.2**	mg/L	0.10	0.050	1		05/06/15 15:31	14797-55-8	
Sulfate	**71.6**	mg/L	1.2	0.60	1		05/06/15 15:31	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		05/19/15 12:09	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.028**	mg/L	0.0050	0.0017	1		05/06/15 13:44		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10305190

Sample: 505178 **Lab ID: 10305190004** Collected: 05/05/15 11:35 Received: 05/06/15 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00065	1	05/07/15 09:41	05/07/15 15:10	7440-43-9	
Potassium	**24.3** J	mg/L	2.5	0.13	1	05/07/15 09:41	05/07/15 15:10	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.0088**	mg/L	0.00050	0.00011	1	05/08/15 08:08	05/13/15 18:54	7440-38-2	
Selenium	**0.0060**	mg/L	0.00050	0.00020	1	05/08/15 08:08	05/13/15 18:54	7782-49-2	
SM4500F-C Fluoride	Analytical Method: SM 4500F/C								
Fluoride	**0.290** U	mg/L	1.0	0.051	1		05/09/15 11:27	16984-48-8	B
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**565**	mg/L J	12.0	6.0	10		05/06/15 19:43	16887-00-6	
Fluoride	**0.30**	mg/L	0.050	0.0036	1		05/06/15 16:01	16984-48-8	
Nitrate as N	**5.7**	mg/L	0.10	0.050	1		05/06/15 16:01	14797-55-8	
Sulfate	**374**	mg/L	12.0	6.0	10		05/06/15 19:43	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		05/19/15 12:11	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.039**	mg/L	0.0050	0.0017	1		05/06/15 13:46		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10305190

Sample: 505180 **Lab ID: 10305190011** Collected: 05/05/15 17:15 Received: 05/07/15 10:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00065	1	05/12/15 08:48	05/12/15 17:56	7440-43-9	
Potassium	**32.8**	mg/L	2.5	0.13	1	05/12/15 08:48	05/12/15 17:56	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.044**	mg/L	0.0025	0.00056	5	05/13/15 21:04	05/19/15 10:24	7440-38-2	
Selenium	**0.0044**	mg/L J+	0.0025	0.0010	5	05/13/15 21:04	05/19/15 10:24	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**130**	mg/L J-	12.0	6.0	10		05/07/15 15:56	16887-00-6	
Fluoride	**0.48**	mg/L	0.050	0.0036	1		05/07/15 14:54	16984-48-8	
Nitrate as N	**42.6**	mg/L	1.0	0.50	10		05/07/15 15:56	14797-55-8	
Sulfate	**129**	mg/L	12.0	6.0	10		05/07/15 15:56	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		05/19/15 12:38	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.44**	mg/L	0.025	0.0087	5		05/07/15 15:04		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10305190

Sample: 505600 **Lab ID: 10305190005** Collected: 05/05/15 11:55 Received: 05/06/15 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00065	1	05/07/15 09:41	05/07/15 15:16	7440-43-9	
Potassium	**22.9** J	mg/L	2.5	0.13	1	05/07/15 09:41	05/07/15 15:16	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.0088**	mg/L	0.00050	0.00011	1	05/08/15 08:08	05/13/15 18:59	7440-38-2	
Selenium	**0.0058**	mg/L	0.00050	0.00020	1	05/08/15 08:08	05/13/15 18:59	7782-49-2	
SM4500F-C Fluoride	Analytical Method: SM 4500F/C								
Fluoride	**0.280** U	mg/L	1.0	0.051	1		05/09/15 11:32	16984-48-8	B
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**581**	mg/L J	12.0	6.0	10		05/06/15 20:18	16887-00-6	
Fluoride	**0.30**	mg/L	0.050	0.0036	1		05/06/15 16:16	16984-48-8	
Nitrate as N	**5.7**	mg/L	0.10	0.050	1		05/06/15 16:16	14797-55-8	
Sulfate	**388**	mg/L	12.0	6.0	10		05/06/15 20:18	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		05/19/15 12:13	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.039**	mg/L	0.0050	0.0017	1		05/06/15 13:47		

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10305190

Sample: 505700 **Lab ID: 10305190009** Collected: 05/05/15 15:20 Received: 05/06/15 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00065	1	05/07/15 09:41	05/07/15 15:37	7440-43-9	
Potassium	ND	mg/L	2.5	0.13	1	05/07/15 09:41	05/07/15 15:37	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.00021**	mg/L	0.00050	0.00011	1	05/08/15 08:08	05/13/15 19:17	7440-38-2	J
Selenium	ND	mg/L	0.00050	0.00020	1	05/08/15 08:08	05/13/15 19:17	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	ND	mg/L	1.2	0.60	1		05/06/15 17:47	16887-00-6	
Fluoride	ND	mg/L	0.050	0.0036	1		05/06/15 17:47	16984-48-8	
Nitrate as N	ND	mg/L	0.10	0.050	1		05/06/15 17:47	14797-55-8	
Sulfate	ND	mg/L	1.2	0.60	1		05/06/15 17:47	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	**0.021**	mg/L	0.040	0.020	1		05/19/15 12:16	7664-41-7	J
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.0025**	mg/L	0.0050	0.0017	1		05/06/15 13:52		J

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ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10305190

Sample: 505CDI **Lab ID: 10305190008** Collected: 05/05/15 13:50 Received: 05/06/15 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00065	1	05/07/15 09:41	05/07/15 15:32	7440-43-9	
Potassium	ND	mg/L	2.5	0.13	1	05/07/15 09:41	05/07/15 15:32	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	ND	mg/L	0.00050	0.00011	1	05/08/15 08:08	05/13/15 19:12	7440-38-2	
Selenium	ND	mg/L	0.00050	0.00020	1	05/08/15 08:08	05/13/15 19:12	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	ND	mg/L	1.2	0.60	1		05/06/15 17:02	16887-00-6	
Fluoride	ND	mg/L	0.050	0.0036	1		05/06/15 17:02	16984-48-8	
Nitrate as N	ND	mg/L	0.10	0.050	1		05/06/15 17:02	14797-55-8	
Sulfate	ND	mg/L	1.2	0.60	1		05/06/15 17:02	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		05/19/15 12:16	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	ND	mg/L	0.0050	0.0017	1		05/06/15 13:51		

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TECHNICAL REVIEW ACTION SUMMARY

TECHNICAL REVIEW ACTION SUMMARY
SDG 10305190

Arsenic	J1
Cadmium	J1, J+1
Potassium	J2
Selenium	J+1

If the field is left blank no actions or qualifications were necessary.

J1	-	Positive result is flagged as estimated (J) due to uncertainty at the low level.
J2	-	Result is flagged as estimated (J) due to non-compliant serial dilution reproducibility.
J+1	-	Positive result reported <2PQL is flagged as estimated with the potential for high bias (J+) due to non-compliant CRI recovery.

SAMPLE ID CODES

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SAMPLE SUMMARY

Project: FMC RCRA
Pace Project No.: 10305190

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10305190001	505174	Water	05/05/15 09:30	05/06/15 10:00
10305190002	505177	Water	05/05/15 10:15	05/06/15 10:00
10305190003	505154	Water	05/05/15 10:55	05/06/15 10:00
10305190004	505178	Water	05/05/15 11:35	05/06/15 10:00
10305190005	505600	Water	05/05/15 11:55	05/06/15 10:00
10305190006	505173	Water	05/05/15 12:35	05/06/15 10:00
10305190007	505171	Water	05/05/15 13:25	05/06/15 10:00
10305190008	505CDI	Water	05/05/15 13:50	05/06/15 10:00
10305190009	505700	Water	05/05/15 15:20	05/06/15 10:00
10305190010	505172	Water	05/05/15 15:50	05/06/15 10:00
10305190011	505180	Water	05/05/15 17:15	05/07/15 10:15
10305190012	505147	Water	05/05/15 18:05	05/07/15 10:15
10305190013	505148	Water	05/05/15 18:45	05/07/15 10:15
10305190014	505149	Water	05/05/15 19:25	05/07/15 10:15
10305190015	505128	Water	05/06/15 07:55	05/07/15 10:15
10305190016	505127	Water	05/06/15 08:30	05/07/15 10:15
10305190017	505126	Water	05/06/15 09:05	05/07/15 10:15
10305190018	505124	Water	05/06/15 09:50	05/07/15 10:15
10305190019	505131	Water	05/06/15 10:40	05/07/15 10:15
10305190020	505114ABC	Water	05/06/15 13:30	05/07/15 10:15

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LABORATORY CASE NARRATIVE

Pace Analytical Services, Inc.
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PROJECT NARRATIVE

Project: FMC RCRA
Pace Project No.: 10305190

Method: **EPA 6010**
Description: 6010 MET ICP
Client: FMC
Date: May 20, 2015

General Information:
20 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: FMC RCRA
Pace Project No.: 10305190

Method: EPA 6010
Description: 6010 MET ICP, Dissolved
Client: FMC
Date: May 20, 2015

General Information:
1 sample was analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: FMC RCRA
Pace Project No.: 10305190

Method: **EPA 6020**
Description: 6020 MET ICPMS
Client: FMC
Date: May 20, 2015

General Information:
20 samples were analyzed for EPA 6020. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3020 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: FMC RCRA
Pace Project No.: 10305190

Method: **EPA 6020**
Description: 6020 MET ICPMS, Dissolved
Client: FMC
Date: May 20, 2015

General Information:
1 sample was analyzed for EPA 6020. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3020 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: FMC RCRA
Pace Project No.: 10305190

Method: SM 4500F/C
Description: SM4500F-C Fluoride
Client: FMC
Date: May 20, 2015

General Information:
4 samples were analyzed for SM 4500F/C. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

QC Batch: WET/41683

B: Analyte was detected in the associated method blank.
- BLANK for HBN 353704 [WET/4168 (Lab ID: 1960611)
  - Fluoride

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: FMC RCRA
Pace Project No.: 10305190

Method: **EPA 300.0**
Description: 300.0 IC Anions
Client: FMC
Date: May 20, 2015

General Information:
20 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/22728

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10305190010

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1957263)
  - Sulfate
- MSD (Lab ID: 1957264)
  - Sulfate

QC Batch: WETA/22749

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10304479002,10305190020

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1958344)
  - Chloride
  - Fluoride
- MSD (Lab ID: 1958345)
  - Chloride
  - Fluoride
- MSD (Lab ID: 1958347)
  - Nitrate as N

Additional Comments:

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PROJECT NARRATIVE

Project: FMC RCRA
Pace Project No.: 10305190

Method: **EPA 350.1**
Description: 350.1 Ammonia
Client: FMC
Date: May 20, 2015

General Information:
20 samples were analyzed for EPA 350.1. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: FMC RCRA
Pace Project No.: 10305190

Method: SM 4500-P E
Description: Phosphate, Ortho Low Level
Client: FMC
Date: May 20, 2015

General Information:
20 samples were analyzed for SM 4500-P E. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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CHAIN-OF-CUSTODY

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SHORT HOLD
5/6/15 BP

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The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10305190

Page: | of |

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	FMC	Report To:	Ericka Vallance, Hydrometrics	Attention:	Brian McGinnis
Address:	PO BOX 4111	Copy To:	Rob Hartman, MWH	Company Name:	FMC
	POCATELLO, ID 83202		Bruce Wallin, ECCI	Address:	PO BOX 4111 POCATELLO ID 83202
Email To:	brian.mcginnis@fmc.com	Purchase Order No.:		Pace Quote Reference:	
Phone:	Fax:	Project Name:	FMC	Pace Project Manager:	Kabor Xiong
Requested Due Date/TAT:		Project Number:	RCRA-CERCLA-CALCINER	Pace Profile #:	

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☑ RCRA ☐ OTHER _____

Site Location STATE: ID

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	COLLECTED Composite Start TIME	COLLECTED Composite End/Grab DATE	COLLECTED Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): 300.0IC **	TOTAL METALS 6020	TOTAL METALS 6010	FLUORIDE (ISE)	TOTAL PHOSPHORUS	Ammonia	Ortho Phosphorus	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	505174	WT	G	--	--	5/5/15	0930		3	1	1	1						X	X	X			X	X		Fed Ex Air Bill # 001
2	505177	WT	G	--	--		1015		3																	80581698 8475 00
3	505154	WT	G	--	--		1055		3																	003
4	505178	WT	G	--	--		1135		4	2											X					004
5	505600	WT	G	--	--		1155		4	2											X					005
6	505173	WT	G	--	--		1235		3	1																006
7	505171	WT	G	--	--		1325		3																	007
8	505CDI	WT	G	--	--		1350		3																	008
9	505700	WT	G	--	--		1520		3																	009
10	505172	WT	G	--	--		1550		3																	010
11	505	WT	G	--	--																					
12	505	WT	G	--	--																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
**300.0- Cl, SO4, Nitrate, F.	Walter Crane / Hydrometrics	5/5/15	16:30	[illegible]	5/6/15	1000	4.9	Y	Y	Y
6010: Cadmium, Potassium; 6020: Arsenic, Selenium										
Total Phos sub to Pace-VM by 6010 only on wells 108, 121, 122 & 123										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Walter Crane

SIGNATURE of SAMPLER: Walter Crane — DATE Signed (MM/DD/YY): 5/5/15

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.08, 12-Oct-2007

Pace Analytical	Document Name: Sample Condition Upon Receipt Form	Document Revised: 23Feb2015 Page 1 of 1
	Document No.: F-MN-L-213-rev.13	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: FMC

Project #: WO#: 10305190

10305190

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ SpeeDee ☐ Other:

Tracking Number: 8081698475

Custody Seal on Cooler/Box Present? ☑ Yes ☐ No **Seals Intact?** ☑ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other: **Temp Blank?** ☑ Yes ☐ No

Thermometer Used: ☑ B88A9130516413 ☐ B88A912167504 ☐ B88A0143310098 **Type of Ice:** ☑ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read (°C): 4.6 **Cooler Temp Corrected (°C):** 4.9 **Biological Tissue Frozen?** ☐ Yes ☐ No ☑ N/A

Temp should be above freezing to 6°C **Correction Factor:** +0.3 **Date and Initials of Person Examining Contents:** 5/8/15 BD

USDA Regulated Soil (☑ N/A, water sample)

Did samples originate in a quarantine zone within the United States: AL, AR, AZ, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or WA (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☑ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☑ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☑ Yes	☐ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	7.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☑ N/A	11. Note if sediment is visible in the dissolved container
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: WT	☑ Yes	☐ No	☐ N/A	12.
All containers needing acid/base preservation have been checked?	☑ Yes	☐ No	☐ N/A	13. ½ ☑ HNO_3 ½ ☑ H_2SO_4 ☐ NaOH ☐ HCl Sample # 01-10
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide)	☑ Yes	☐ No	☐ N/A	
Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC	☐ Yes	☐ No	☑ N/A	Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	☐ Yes	☐ No	☑ N/A	14.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	
Pace Trip Blank Lot # (if purchased):				

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: Karla Yung **Date:** May-1a, 2015

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers).

Pace Analytical™ www.pacelabs.com

SHORT HOLD

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10305190

5/7/15 BD

Page: / of /

Section A Required Client Information:

Company:	FMC
Address:	PO BOX 4111
	POCATELLO, ID 83202
Email To:	brian.mcginnis@fmc.com
Phone:	Fax:
Requested Due Date/TAT:	

Section B Required Project Information:

Report To:	Ericka Vallance, Hydrometrics
Copy To:	Rob Hartman, MWH
	Bruce Wallin, ECCI
Purchase Order No.:	
Project Name:	FMC
Project Number:	RCRA-CERCLA-CALCINER

Section C Invoice Information:

Attention:	Brian McGinnis
Company Name:	FMC
Address:	PO BOX 4111 POCATELLO ID 83202
Pace Quote Reference:	
Pace Project Manager:	Kabor Xiong
Pace Profile #:	

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☑ RCRA ☐ OTHER

Site Location STATE: ID

Section D Required Client Information

Valid Matrix Codes: MATRIX / CODE — DRINKING WATER DW, WATER WT, WASTE WATER WW, PRODUCT P, SOIL/SOLID SL, OIL OL, WIPE WP, AIR AR, OTHER OT, TISSUE TS

ITEM #	SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	Composite Start TIME	Composite End/Grab DATE	Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	300.0IC **	TOTAL METALS 6020	TOTAL METALS 6010	FLUORIDE (ISE)	TOTAL PHOSPHORUS	Ammonia	Ortho Phosphorus	Dissolved Metals*	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	505180	WT	G	–	–	5/5/15	1715		3	1	1	1							X	X	X			X	X			Fed Ex Air Bill # 011
2	505147	WT	G	–	–		1805																					8058169884861 2
3	505148	WT	G	–	–		1845																					013
4	505149	WT	G	–	–		1925																					014
5	505128	WT	G	–	–	5/6/15	0755																					015
6	505127	WT	G	–	–		0830																					016
7	505126	WT	G	–	–		0905																					017
8	505124	WT	G	–	–		0950																					018
9	505131	WT	G	–	–		1040		5	2	1	2										X			X			019 End of 1st RCRA SDG
10	505114A	WT	G	–	–		1330		5	3		1									X	X						020
11	505114B	WT	G	–	–		1330		4	2												X						2-1 extra for lab split
12	505114C	WT	G	–	–		1330		4	2												X						022

End of 1st RCRA SDG

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
**300.0- Cl, SO4, Nitrate, F	Walter Crane / Hydrometrics	5/6/15	16:20	[illegible] / pace	5/7/15	0:15	5.1	X	Y	Y
6010: Cadmium, Potassium; 6020: Arsenic, Selenium										
Total Phos sub to Pace-VM by 6010 only on wells 108, 121, 122 & 123										

* Dissolved metals were field filtered

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Walter Crane

SIGNATURE of SAMPLER: Walter Crane — DATE Signed (MM/DD/YY): 05/06/15

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.08, 12-Oct-2007

Pace Analytical	Document Name: Sample Condition Upon Receipt Form	Document Revised: 23Feb2015 Page 1 of 1
	Document No.: F-MN-L-213-rev.13	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: FMC

Project #: WO#: 10305190

10305190

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ SpeeDee ☐ Other:

Tracking Number: 8058 1698 8186

Custody Seal on Cooler/Box Present? ☑ Yes ☐ No **Seals Intact?** ☑ Yes

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other: **Temp Blank?** ☑ Yes ☐ No

Thermometer Used: ☐ B88A9130516413 ☑ B88A912167504 ☐ B88A0143310098 **Type of Ice:** ☑ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read (°C): 4.8 **Cooler Temp Corrected (°C):** 5.1 **Biological Tissue Frozen?** ☐ Yes ☐ No ☑ N/A

Temp should be above freezing to 6°C **Correction Factor:** +0.3 **Date and Initials of Person Examining Contents:** 5/7/15 BO

USDA Regulated Soil (☑ N/A, water sample)

Did samples originate in a quarantine zone within the United States: AL, AR, AZ, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or WA (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☑ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☑ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☐ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	7.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☑ Yes	☐ No	☐ N/A	11. Note if sediment is visible in the dissolved container
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: WT	☑ Yes	☐ No	☐ N/A	12.
All containers needing acid/base preservation have been checked?	☑ Yes	☐ No	☐ N/A	13. ½ ☑ HNO_3 ½ ☑ H_2SO_4 ☐ NaOH ☐ HCl Sample # 01-12
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide)	☑ Yes	☐ No	☐ N/A	
Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC	☐ Yes	☐ No	☑ N/A	Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	☐ Yes	☐ No	☑ N/A	14.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	
Pace Trip Blank Lot # (if purchased):				

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: Karla Yang **Date:** May 7 2015

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers).

DATA PACKAGE REPORT

SAMPLE DELIVERY GROUP

RCRA SDG

10305724

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: FMC RCRA
Pace Project No.: 10305724

Sample: 505BTS **Lab ID: 10305724001** Collected: 05/07/15 17:05 Received: 05/09/15 09:05 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	ND	mg/L	0.0030	0.00065	1	05/14/15 09:16	05/14/15 12:36	7440-43-9	
Potassium	**5.9**	mg/L	2.5	0.13	1	05/14/15 09:16	05/14/15 12:36	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.0044**	mg/L	0.00050	0.00011	1	05/13/15 21:04	05/19/15 12:23	7440-38-2	
Selenium	**0.0010**	mg/L	0.00050	0.00020	1	05/13/15 21:04	05/19/15 12:23	7782-49-2	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**30.2**	mg/L	1.2	0.60	1		05/09/15 16:16	16887-00-6	
Fluoride	**0.53**	mg/L	0.050	0.0036	1		05/09/15 16:16	16984-48-8	
Nitrate as N	**2.8**	mg/L	0.10	0.050	1		05/09/15 16:16	14797-55-8	
Sulfate	**59.9**	mg/L	1.2	0.60	1		05/14/15 16:14	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1								
Nitrogen, Ammonia	ND	mg/L	0.040	0.020	1		05/21/15 11:25	7664-41-7	
Phosphate, Ortho Low Level	Analytical Method: SM 4500-P E								
Orthophosphate as P	**0.73**	mg/L	0.050	0.017	10		05/09/15 13:29		M6

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TECHNICAL REVIEW ACTION SUMMARY

TECHNICAL REVIEW ACTION SUMMARY
SDG 10305724

Arsenic

Cadmium

Potassium

Selenium

Phosphorus

If the field is left blank no actions or qualifications were necessary.

SAMPLE ID CODES

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

SAMPLE SUMMARY

Project: FMC RCRA
Pace Project No.: 10305724

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10305724001	**505BTS**	Water	05/07/15 17:05	05/09/15 09:05

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LABORATORY CASE NARRATIVE

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

PROJECT NARRATIVE

Project: FMC RCRA
Pace Project No.: 10305724

Method: **EPA 6010**
Description: 6010 MET ICP
Client: FMC
Date: May 26, 2015

General Information:
1 sample was analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

PROJECT NARRATIVE

Project: FMC RCRA
Pace Project No.: 10305724

Method: **EPA 6020**
Description: 6020 MET ICPMS
Client: FMC
Date: May 26, 2015

General Information:
1 sample was analyzed for EPA 6020. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3020 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

PROJECT NARRATIVE

Project: FMC RCRA
Pace Project No.: 10305724

Method: **EPA 300.0**
Description: 300.0 IC Anions
Client: FMC
Date: May 26, 2015

General Information:
1 sample was analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/22770

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10305723001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- MS (Lab ID: 1960678)
  - Fluoride
- MSD (Lab ID: 1960679)
  - Fluoride

M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.
- MS (Lab ID: 1960678)
  - Chloride
  - Nitrate as N
  - Sulfate
- MSD (Lab ID: 1960679)
  - Chloride
  - Nitrate as N
  - Sulfate

Additional Comments:

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without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

PROJECT NARRATIVE

Project: FMC RCRA
Pace Project No.: 10305724

Method: **EPA 350.1**
Description: 350.1 Ammonia
Client: FMC
Date: May 26, 2015

General Information:
1 sample was analyzed for EPA 350.1. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/22961

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10306104001,10306165002

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1971723)
  - Nitrogen, Ammonia

Additional Comments:

Analyte Comments:

QC Batch: WETA/22961

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 1971723)
  - Nitrogen, Ammonia
- MSD (Lab ID: 1971724)
  - Nitrogen, Ammonia

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Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

PROJECT NARRATIVE

Project: FMC RCRA
Pace Project No.: 10305724

Method: SM 4500-P E
Description: Phosphate, Ortho Low Level
Client: FMC
Date: May 26, 2015

General Information:
1 sample was analyzed for SM 4500-P E. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/22771

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10305629001,10305724001

M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

- MS (Lab ID: 1960682)
  - Orthophosphate as P
- MSD (Lab ID: 1960683)
  - Orthophosphate as P

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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