Appendix F

Groundwater Analytical Data

Table __
Summary of Field Data - Groundwater Sampling
(Page 1 of 1)
Ottawa County Farms Landfill
15550 68th Avenue
Coopersville, Michigan

Well	Date	Static Water Level (feet)	pH (std units)	Temp (C°)	Specific Conductance (µS/cm)	Conductivity (µS/cm)
DB-23	12/4/2015	23.50	7.50	10.00	1,239	867
	1/26/2016	22.71	7.40	9.54	920	636
	3/17/2016	22.02	7.64	9.64	1,225	849
	5/5/2016	21.37	7.14	10.70	1,007	732
DB-24	12/7/2015	43.55	7.40	9.60	1,184	819
	1/26/2016	41.29	7.61	9.96	1,048	733
	3/17/2016	40.82	7.79	11.07	1,520	1,097
	5/5/2016	40.30	7.33	12.13	1,214	935
DB-25	12/4/2015	36.65	7.41	10.51	1,521	1,080
	1/26/2016	35.45	7.51	10.18	1,095	770
	3/17/2016	34.97	7.56	9.99	1,543	1,080
	5/5/2016	34.46	7.35	12.59	1,273	975
DB-26	12/4/2015	38.31	7.42	10.23	1,308	922
	1/26/2016	36.90	7.41	9.85	1,117	779
	3/17/2016	36.47	7.59	10.03	1,480	1,037
	5/5/2016	35.94	7.14	10.80	1,247	909
DB-27	12/3/2015	40.33	7.41	10.27	1,224	863
	1/27/2016	39.20	7.61	9.84	830	578
	3/18/2016	38.73	7.75	10.09	1,190	835
	5/6/2016	38.17	7.44	11.07	978	717
DB-28	12/7/2015	45.31	7.25	9.10	1,396	952
	1/27/2016	43.18	7.65	9.87	1,105	771
	3/18/2015	42.66	7.41	11.08	1,508	1,088
	5/6/2016	42.13	7.38	11.49	1,241	921

December 22, 2015

Republic Services, Inc.
Attn: John Bomba - Keck
110 Knapp Drive; Suite 144
Battle Creek, MI 49015

Project: Ottawa County Farms Landfill

Dear John Bomba - Keck,

Enclosed is a copy of the laboratory report for the following work order(s) received by TriMatrix Laboratories:

Work Order	Received	Description
1512120	12/03/2015	Laboratory Services
1512153	12/04/2015	Laboratory Services
1512172	12/07/2015	Laboratory Services

This report relates only to the sample(s) as received. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Program (NELAP) and/or one of the following certification programs:

ANAB DoD-ELAP/ISO17025 (#ADE-1542); Arkansas DEP (#88-0730/13-049-0); Florida DEP (#E87622-24); Georgia EPD (#E87622-24); Illinois DEP (#200026/003329); Kentucky DEP (AL123065/#0021); Michigan DPH (#0034); Minnesota DPH (#491715); New York ELAP (#11776/53116); North Carolina DNRE (#659); Virginia DCLS (#460153/7952); Wisconsin DNR (#999472650); USDA Soil Import Permit (#P330-14-00305).

Any qualification or narration of results, including sample acceptance requirements and test exceptions to the above referenced programs, is presented in the Statement of Data Qualifications and Project Technical Narrative sections of this report. Estimates of analytical uncertainties and certification documents for the test results contained within this report are available upon request.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Jennifer L. Rice
Project Chemist

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PROJECT TECHNICAL NARRATIVE(s)

Volatile Organic Compounds by EPA Method 8260B

Narrative: The corresponding CCV for this analytical batch had a recovery exceeding the upper control limit of the method. Non-detectable results are not qualified.

Analysis: USEPA-8260B

Sample/Analyte:			
	1512120-01	DB-27	Bromomethane
	1512120-01	DB-27	Vinyl Acetate
	1512153-01	DB-23	Bromomethane
	1512153-01	DB-23	Vinyl Acetate
	1512153-02	DB-26	Bromomethane
	1512153-02	DB-26	Vinyl Acetate
	1512153-03	DB-25	Bromomethane
	1512153-03	DB-25	Vinyl Acetate
	1512172-01	DB-28	Bromomethane
	1512172-01	DB-28	Vinyl Acetate
	1512172-02	DB-24	Bromomethane
	1512172-02	DB-24	Vinyl Acetate

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PROJECT TECHNICAL NARRATIVE(s)

Dissolved Metals by EPA 6000/7000 Series Methods

Narrative: The analyte concentration in the associated MB was greater than or equal to the RL. The positive sample result, which was greater than 5 times the MB value, is not qualified.

Analysis: USEPA-6010C

Sample/Analyte:			
	1512153-01	DB-23	Iron
	1512153-01	DB-23	Potassium
	1512153-02	DB-26	Iron
	1512153-02	DB-26	Potassium
	1512153-03	DB-25	Iron
	1512153-03	DB-25	Potassium
	1512172-01	DB-28	Iron
	1512172-01	DB-28	Potassium
	1512172-02	DB-24	Iron
	1512172-02	DB-24	Potassium

Narrative: The CRL recovery for this analyte was outside of the laboratory control limits.

Analysis: USEPA-6010C

5L10001-CRL1	Potassium

Analysis: USEPA-6020A

5L14011-CRL2	Manganese
5L14036-CRL1	Selenium
5L15002-CRL1	Boron

Narrative: The MS and/or MSD recovery was outside the control limit. The non-spiked sample concentration for the same analyte was greater than or equal to 4 times the spiked amount; matrix QC results are not available.

Analysis: USEPA-6020A

Sample/Analyte:			
	1512153-01	DB-23	Boron

Narrative: This analyte was not present in this sample at a concentration greater than 100 times the MDL, therefore serial dilution is not required.

Analysis: USEPA-6020A

Sample/Analyte:			
	1512153-01	DB-23	Antimony
	1512153-01	DB-23	Boron
	1512153-01	DB-23	Cobalt

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STATEMENT OF DATA QUALIFICATIONS

All analyses have been validated and comply with our Quality Control Program.
No Qualification is required.

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1512120**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-27**	Sampled:	12/03/15 13:05
Lab Sample ID:	**1512120-01**	Sampled By:	Eric Ruckert
Matrix:	Water	Received:	12/03/15 16:27
Unit:	ug/L	Prepared:	12/08/15 07:00 By: DLV
Dilution Factor:	1	Analyzed:	12/08/15 16:08 By: DLV
QC Batch:	1513468	Analytical Batch:	5L09005

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
67-64-1	Acetone	<20	20
107-13-1	Acrylonitrile	<5.0	5.0
71-43-2	Benzene	<1.0	1.0
74-97-5	Bromochloromethane	<1.0	1.0
75-27-4	Bromodichloromethane	<1.0	1.0
75-25-2	Bromoform	<1.0	1.0
74-83-9	Bromomethane	<5.0	5.0
75-15-0	Carbon Disulfide	<1.0	1.0
56-23-5	Carbon Tetrachloride	<1.0	1.0
108-90-7	Chlorobenzene	<1.0	1.0
75-00-3	Chloroethane	<5.0	5.0
67-66-3	Chloroform	<1.0	1.0
74-87-3	Chloromethane	<5.0	5.0
96-12-8	1,2-Dibromo-3-chloropropane	<5.0	5.0
124-48-1	Dibromochloromethane	<1.0	1.0
106-93-4	1,2-Dibromoethane	<1.0	1.0
74-95-3	Dibromomethane	<1.0	1.0
110-57-6	trans-1,4-Dichloro-2-butene	<5.0	5.0
95-50-1	1,2-Dichlorobenzene	<1.0	1.0
106-46-7	1,4-Dichlorobenzene	<1.0	1.0
75-34-3	1,1-Dichloroethane	<1.0	1.0
107-06-2	1,2-Dichloroethane	<1.0	1.0
75-35-4	1,1-Dichloroethene	<1.0	1.0
156-59-2	cis-1,2-Dichloroethene	<1.0	1.0
156-60-5	trans-1,2-Dichloroethene	<1.0	1.0
78-87-5	1,2-Dichloropropane	<1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0	1.0
100-41-4	Ethylbenzene	<1.0	1.0
591-78-6	2-Hexanone	<5.0	5.0
74-88-4	Iodomethane	<1.0	1.0

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Project:	Ottawa County Farms Landfill	Description:	Laboratory Services		
Client Sample ID:	**DB-27**	Sampled:	12/03/15 13:05		
Lab Sample ID:	**1512120-01**	Sampled By:	Eric Ruckert		
Matrix:	Water	Received:	12/03/15 16:27		
Unit:	ug/L	Prepared:	12/08/15 07:00	By:	DLV
Dilution Factor:	1	Analyzed:	12/08/15 16:08	By:	DLV
QC Batch:	1513468	Analytical Batch:	5L09005		

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL
75-09-2	Methylene Chloride	<5.0	5.0
78-93-3	2-Butanone (MEK)	<5.0	5.0
108-10-1	4-Methyl-2-pentanone (MIBK)	<5.0	5.0
100-42-5	Styrene	<1.0	1.0
630-20-6	1,1,1,2-Tetrachloroethane	<1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0	1.0
127-18-4	Tetrachloroethene	<1.0	1.0
108-88-3	Toluene	<1.0	1.0
71-55-6	1,1,1-Trichloroethane	<1.0	1.0
79-00-5	1,1,2-Trichloroethane	<1.0	1.0
79-01-6	Trichloroethene	<1.0	1.0
75-69-4	Trichlorofluoromethane	<1.0	1.0
96-18-4	1,2,3-Trichloropropane	<1.0	1.0
108-05-4	Vinyl Acetate	<1.0	1.0
75-01-4	Vinyl Chloride	<1.0	1.0
1330-20-7	Xylene (Total)	<2.0	2.0

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*102*	*85-118*
1,2-Dichloroethane-d4	*102*	*87-122*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*94*	*82-110*

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Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-27**	Sampled:	12/03/15 13:05
Lab Sample ID:	**1512120-01**	Sampled By:	Eric Ruckert
Matrix:	Water	Received:	12/03/15 16:27

Dissolved Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	<2.0	2.0	ug/L	1	USEPA-6020A	12/14/15 17:04	MSM	1513318
Arsenic	**5.7**	1.0	ug/L	1	USEPA-6020A	12/14/15 13:56	MSM	1513318
Barium	**20**	5.0	ug/L	1	USEPA-6020A	12/14/15 13:56	MSM	1513318
Beryllium	<1.0	1.0	ug/L	1	USEPA-6020A	12/14/15 13:56	MSM	1513318
Boron	**240**	100	ug/L	5	USEPA-6020A	12/15/15 08:49	DSC	1513318
Cadmium	<0.20	0.20	ug/L	1	USEPA-6020A	12/14/15 13:56	MSM	1513318
Chromium	<2.0	2.0	ug/L	1	USEPA-6020A	12/14/15 13:56	MSM	1513318
Cobalt	<15	15	ug/L	1	USEPA-6020A	12/14/15 13:56	MSM	1513318
Copper	<2.0	2.0	ug/L	1	USEPA-6020A	12/14/15 13:56	MSM	1513318
Iron	**1900**	20	ug/L	1	USEPA-6010C	12/09/15 17:40	CKD	1513319
Lead	<1.0	1.0	ug/L	1	USEPA-6020A	12/14/15 13:56	MSM	1513318
Magnesium	**30000**	1000	ug/L	1	USEPA-6010C	12/09/15 17:40	CKD	1513319
Manganese	**34**	5.0	ug/L	1	USEPA-6020A	12/14/15 13:56	MSM	1513318
Nickel	<25	25	ug/L	1	USEPA-6020A	12/14/15 13:56	MSM	1513318
Potassium	**3400**	200	ug/L	1	USEPA-6010C	12/09/15 17:40	CKD	1513319
Selenium	<2.0	2.0	ug/L	1	USEPA-6020A	12/14/15 17:04	MSM	1513318
Silver	<0.50	0.50	ug/L	1	USEPA-6020A	12/14/15 13:56	MSM	1513318
Sodium	**38000**	1000	ug/L	1	USEPA-6010C	12/09/15 17:40	CKD	1513319
Thallium	<2.0	2.0	ug/L	1	USEPA-6020A	12/14/15 13:56	MSM	1513318
Vanadium	<10	10	ug/L	1	USEPA-6020A	12/14/15 13:56	MSM	1513318
Zinc	<10	10	ug/L	1	USEPA-6020A	12/14/15 13:56	MSM	1513318

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1512120**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-27**	Sampled:	12/03/15 13:05
Lab Sample ID:	**1512120-01**	Sampled By:	Eric Ruckert
Matrix:	Water	Received:	12/03/15 16:27

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Nitrogen, Inorganic	**570**	20	ug/L	1	[CALC]	12/10/15 17:31	CAC	[CALC]
Alkalinity, Bicarbonate	**240000**	10000	ug/L	1	SM 2320 B-2011	12/08/15 09:50	JLB	1513418
Alkalinity, Carbonate	<10000	10000	ug/L	1	SM 2320 B-2011	12/08/15 09:50	JLB	1513419
Cyanide, Total	<5.00	5.00	ug/L	1	USEPA-9014	12/10/15 12:48	LMA	1513466
Phenolics, Total	<10.0	10.0	ug/L	1	USEPA-420.4	12/11/15 08:47	LMA	1513509
Sulfate	**340**	50	mg/L	10	ASTM D516-90 (07)	12/07/15 10:36	LMA	1513390
Nitrogen, Nitrate+Nitrite	<0.020	0.020	mg/L	1	SM 4500-NO3 F-2011	12/10/15 15:19	CAC	1513548
Chloride	**3300**	1000	ug/L	1	SM 4500-Cl E-2011	12/14/15 10:02	LMA	1513593
Chemical Oxygen Demand	<5000	5000	ug/L	1	SM 5220 D-2011	12/22/15 08:35	JLB	1513876
Nitrogen, Ammonia	**570**	10	ug/L	1	SM 4500-NH3 G-2011	12/10/15 17:31	CAC	1513563
Residue, Dissolved @ 180° C	**742000**	50000	ug/L	1	SM 2540 C-2011	12/08/15 15:30	MET	1513440
Carbon, Total Organic	**1400**	1000	ug/L	1	SM 5310 C-2011	12/07/15 20:48	LEW	1513425

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1512153**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-23**	Sampled:	12/04/15 07:30
Lab Sample ID:	**1512153-01**	Sampled By:	E. Ruckert
Matrix:	Water	Received:	12/04/15 16:13
Unit:	ug/L	Prepared:	12/08/15 07:00 By: DLV
Dilution Factor:	1	Analyzed:	12/08/15 17:08 By: DLV
QC Batch:	1513468	Analytical Batch:	5L09005

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
67-64-1	Acetone	<20	20
107-13-1	Acrylonitrile	<5.0	5.0
71-43-2	Benzene	<1.0	1.0
74-97-5	Bromochloromethane	<1.0	1.0
75-27-4	Bromodichloromethane	<1.0	1.0
75-25-2	Bromoform	<1.0	1.0
74-83-9	Bromomethane	<5.0	5.0
75-15-0	Carbon Disulfide	<1.0	1.0
56-23-5	Carbon Tetrachloride	<1.0	1.0
108-90-7	Chlorobenzene	<1.0	1.0
75-00-3	Chloroethane	<5.0	5.0
67-66-3	Chloroform	<1.0	1.0
74-87-3	Chloromethane	<5.0	5.0
96-12-8	1,2-Dibromo-3-chloropropane	<5.0	5.0
124-48-1	Dibromochloromethane	<1.0	1.0
106-93-4	1,2-Dibromoethane	<1.0	1.0
74-95-3	Dibromomethane	<1.0	1.0
110-57-6	trans-1,4-Dichloro-2-butene	<5.0	5.0
95-50-1	1,2-Dichlorobenzene	<1.0	1.0
106-46-7	1,4-Dichlorobenzene	<1.0	1.0
75-34-3	1,1-Dichloroethane	<1.0	1.0
107-06-2	1,2-Dichloroethane	<1.0	1.0
75-35-4	1,1-Dichloroethene	<1.0	1.0
156-59-2	cis-1,2-Dichloroethene	<1.0	1.0
156-60-5	trans-1,2-Dichloroethene	<1.0	1.0
78-87-5	1,2-Dichloropropane	<1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0	1.0
100-41-4	Ethylbenzene	<1.0	1.0
591-78-6	2-Hexanone	<5.0	5.0
74-88-4	Iodomethane	<1.0	1.0

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1512153**		
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services		
Client Sample ID:	**DB-23**	Sampled:	12/04/15 07:30		
Lab Sample ID:	**1512153-01**	Sampled By:	E. Ruckert		
Matrix:	Water	Received:	12/04/15 16:13		
Unit:	ug/L	Prepared:	12/08/15 07:00	By:	DLV
Dilution Factor:	1	Analyzed:	12/08/15 17:08	By:	DLV
QC Batch:	1513468	Analytical Batch:	5L09005		

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL
75-09-2	Methylene Chloride	<5.0	5.0
78-93-3	2-Butanone (MEK)	<5.0	5.0
108-10-1	4-Methyl-2-pentanone (MIBK)	<5.0	5.0
100-42-5	Styrene	<1.0	1.0
630-20-6	1,1,1,2-Tetrachloroethane	<1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0	1.0
127-18-4	Tetrachloroethene	<1.0	1.0
108-88-3	Toluene	<1.0	1.0
71-55-6	1,1,1-Trichloroethane	<1.0	1.0
79-00-5	1,1,2-Trichloroethane	<1.0	1.0
79-01-6	Trichloroethene	<1.0	1.0
75-69-4	Trichlorofluoromethane	<1.0	1.0
96-18-4	1,2,3-Trichloropropane	<1.0	1.0
108-05-4	Vinyl Acetate	<1.0	1.0
75-01-4	Vinyl Chloride	<1.0	1.0
1330-20-7	Xylene (Total)	<2.0	2.0

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*102*	*85-118*
1,2-Dichloroethane-d4	*104*	*87-122*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*95*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1512153**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-23**	Sampled:	12/04/15 07:30
Lab Sample ID:	**1512153-01**	Sampled By:	E. Ruckert
Matrix:	Water	Received:	12/04/15 16:13

Dissolved Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	<2.0	2.0	ug/L	1	USEPA-6020A	12/16/15 14:34	DSC	1513463
Arsenic	**7.7**	1.0	ug/L	1	USEPA-6020A	12/16/15 14:34	DSC	1513463
Barium	**13**	5.0	ug/L	1	USEPA-6020A	12/16/15 14:34	DSC	1513463
Beryllium	<1.0	1.0	ug/L	1	USEPA-6020A	12/17/15 11:20	DSC	1513463
Boron	**240**	100	ug/L	5	USEPA-6020A	12/17/15 11:56	DSC	1513463
Cadmium	<0.20	0.20	ug/L	1	USEPA-6020A	12/16/15 14:34	DSC	1513463
Chromium	<2.0	2.0	ug/L	1	USEPA-6020A	12/16/15 14:34	DSC	1513463
Cobalt	<15	15	ug/L	1	USEPA-6020A	12/16/15 14:34	DSC	1513463
Copper	<2.0	2.0	ug/L	1	USEPA-6020A	12/16/15 14:34	DSC	1513463
***Iron**	**1600**	20	ug/L	1	USEPA-6010C	12/10/15 09:28	KLV	1513462
Lead	<1.0	1.0	ug/L	1	USEPA-6020A	12/16/15 14:34	DSC	1513463
Magnesium	**23000**	1000	ug/L	1	USEPA-6010C	12/10/15 09:28	KLV	1513462
Manganese	**19**	5.0	ug/L	1	USEPA-6020A	12/16/15 14:34	DSC	1513463
Nickel	<25	25	ug/L	1	USEPA-6020A	12/16/15 14:34	DSC	1513463
Selenium	<2.0	2.0	ug/L	1	USEPA-6020A	12/17/15 11:20	DSC	1513463
***Potassium**	**2700**	100	ug/L	1	USEPA-6010C	12/10/15 09:28	KLV	1513462
Silver	<0.50	0.50	ug/L	1	USEPA-6020A	12/16/15 14:34	DSC	1513463
Sodium	**37000**	1000	ug/L	1	USEPA-6010C	12/10/15 09:28	KLV	1513462
Thallium	<2.0	2.0	ug/L	1	USEPA-6020A	12/16/15 14:34	DSC	1513463
Vanadium	<10	10	ug/L	1	USEPA-6020A	12/16/15 14:34	DSC	1513463
Zinc	<10	10	ug/L	1	USEPA-6020A	12/16/15 14:34	DSC	1513463

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1512153**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-23**	Sampled:	12/04/15 07:30
Lab Sample ID:	**1512153-01**	Sampled By:	E. Ruckert
Matrix:	Water	Received:	12/04/15 16:13

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Nitrogen, Inorganic	**570**	20	ug/L	1	[CALC]	12/10/15 17:31	CAC	[CALC]
Alkalinity, Bicarbonate	**230000**	10000	ug/L	1	SM 2320 B-2011	12/08/15 09:50	JLB	1513418
Alkalinity, Carbonate	<10000	10000	ug/L	1	SM 2320 B-2011	12/08/15 09:50	JLB	1513419
Cyanide, Total	<5.00	5.00	ug/L	1	USEPA-9014	12/10/15 12:48	LMA	1513466
Nitrogen, Nitrate+Nitrite	<0.020	0.020	mg/L	1	SM 4500-NO3 F-2011	12/10/15 15:21	CAC	1513548
Phenolics, Total	<10.0	10.0	ug/L	1	USEPA-420.4	12/11/15 08:47	LMA	1513509
Sulfate	**360**	120	mg/L	25	ASTM D516-90 (07)	12/14/15 10:07	LMA	1513658
Chloride	**2700**	1000	ug/L	1	SM 4500-Cl E-2011	12/14/15 10:10	LMA	1513594
Chemical Oxygen Demand	<5000	5000	ug/L	1	SM 5220 D-2011	12/22/15 08:44	JLB	1513876
Nitrogen, Ammonia	**570**	10	ug/L	1	SM 4500-NH3 G-2011	12/10/15 17:31	CAC	1513563
Residue, Dissolved @ 180° C	**782000**	50000	ug/L	1	SM 2540 C-2011	12/08/15 15:30	MET	1513440
Carbon, Total Organic	**1100**	500	ug/L	1	SM 5310 C-2011	12/16/15 19:45	LEW	1513749

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1512153**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-26**	Sampled:	12/04/15 11:40
Lab Sample ID:	**1512153-02**	Sampled By:	E. Ruckert
Matrix:	Water	Received:	12/04/15 16:13
Unit:	ug/L	Prepared:	12/08/15 07:00 By: DLV
Dilution Factor:	1	Analyzed:	12/08/15 17:37 By: DLV
QC Batch:	1513468	Analytical Batch:	5L09005

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
67-64-1	Acetone	<20	20
107-13-1	Acrylonitrile	<5.0	5.0
71-43-2	Benzene	<1.0	1.0
74-97-5	Bromochloromethane	<1.0	1.0
75-27-4	Bromodichloromethane	<1.0	1.0
75-25-2	Bromoform	<1.0	1.0
74-83-9	Bromomethane	<5.0	5.0
75-15-0	Carbon Disulfide	<1.0	1.0
56-23-5	Carbon Tetrachloride	<1.0	1.0
108-90-7	Chlorobenzene	<1.0	1.0
75-00-3	Chloroethane	<5.0	5.0
67-66-3	Chloroform	**3.3**	1.0
74-87-3	Chloromethane	<5.0	5.0
96-12-8	1,2-Dibromo-3-chloropropane	<5.0	5.0
124-48-1	Dibromochloromethane	<1.0	1.0
106-93-4	1,2-Dibromoethane	<1.0	1.0
74-95-3	Dibromomethane	<1.0	1.0
110-57-6	trans-1,4-Dichloro-2-butene	<5.0	5.0
95-50-1	1,2-Dichlorobenzene	<1.0	1.0
106-46-7	1,4-Dichlorobenzene	<1.0	1.0
75-34-3	1,1-Dichloroethane	<1.0	1.0
107-06-2	1,2-Dichloroethane	<1.0	1.0
75-35-4	1,1-Dichloroethene	<1.0	1.0
156-59-2	cis-1,2-Dichloroethene	<1.0	1.0
156-60-5	trans-1,2-Dichloroethene	<1.0	1.0
78-87-5	1,2-Dichloropropane	<1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0	1.0
100-41-4	Ethylbenzene	<1.0	1.0
591-78-6	2-Hexanone	<5.0	5.0
74-88-4	Iodomethane	<1.0	1.0

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1512153**		
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services		
Client Sample ID:	**DB-26**	Sampled:	12/04/15 11:40		
Lab Sample ID:	**1512153-02**	Sampled By:	E. Ruckert		
Matrix:	Water	Received:	12/04/15 16:13		
Unit:	ug/L	Prepared:	12/08/15 07:00	By:	DLV
Dilution Factor:	1	Analyzed:	12/08/15 17:37	By:	DLV
QC Batch:	1513468	Analytical Batch:	5L09005		

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL
75-09-2	Methylene Chloride	<5.0	5.0
78-93-3	2-Butanone (MEK)	<5.0	5.0
108-10-1	4-Methyl-2-pentanone (MIBK)	<5.0	5.0
100-42-5	Styrene	<1.0	1.0
630-20-6	1,1,1,2-Tetrachloroethane	<1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0	1.0
127-18-4	Tetrachloroethene	<1.0	1.0
108-88-3	Toluene	<1.0	1.0
71-55-6	1,1,1-Trichloroethane	<1.0	1.0
79-00-5	1,1,2-Trichloroethane	<1.0	1.0
79-01-6	Trichloroethene	<1.0	1.0
75-69-4	Trichlorofluoromethane	<1.0	1.0
96-18-4	1,2,3-Trichloropropane	<1.0	1.0
108-05-4	Vinyl Acetate	<1.0	1.0
75-01-4	Vinyl Chloride	<1.0	1.0
1330-20-7	Xylene (Total)	<2.0	2.0

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*102*	*85-118*
1,2-Dichloroethane-d4	*105*	*87-122*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*93*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1512153**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-26**	Sampled:	12/04/15 11:40
Lab Sample ID:	**1512153-02**	Sampled By:	E. Ruckert
Matrix:	Water	Received:	12/04/15 16:13

Dissolved Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	<2.0	2.0	ug/L	1	USEPA-6020A	12/16/15 15:09	DSC	1513463
Arsenic	**3.2**	1.0	ug/L	1	USEPA-6020A	12/16/15 15:09	DSC	1513463
Barium	**120**	25	ug/L	5	USEPA-6020A	12/18/15 08:28	DSC	1513463
Beryllium	<1.0	1.0	ug/L	1	USEPA-6020A	12/17/15 11:39	DSC	1513463
Boron	**200**	100	ug/L	5	USEPA-6020A	12/17/15 12:09	DSC	1513463
Cadmium	<0.20	0.20	ug/L	1	USEPA-6020A	12/16/15 15:09	DSC	1513463
Chromium	<2.0	2.0	ug/L	1	USEPA-6020A	12/16/15 15:09	DSC	1513463
Cobalt	<15	15	ug/L	1	USEPA-6020A	12/16/15 15:09	DSC	1513463
Copper	<2.0	2.0	ug/L	1	USEPA-6020A	12/16/15 15:09	DSC	1513463
***Iron**	**370**	20	ug/L	1	USEPA-6010C	12/10/15 09:30	KLV	1513462
Lead	<1.0	1.0	ug/L	1	USEPA-6020A	12/16/15 15:09	DSC	1513463
Magnesium	**29000**	1000	ug/L	1	USEPA-6010C	12/10/15 09:30	KLV	1513462
Manganese	**90**	5.0	ug/L	1	USEPA-6020A	12/16/15 15:09	DSC	1513463
Nickel	<25	25	ug/L	1	USEPA-6020A	12/16/15 15:09	DSC	1513463
***Potassium**	**4000**	100	ug/L	1	USEPA-6010C	12/10/15 09:30	KLV	1513462
Selenium	<2.0	2.0	ug/L	1	USEPA-6020A	12/17/15 11:39	DSC	1513463
Silver	<0.50	0.50	ug/L	1	USEPA-6020A	12/16/15 15:09	DSC	1513463
Sodium	**33000**	1000	ug/L	1	USEPA-6010C	12/10/15 09:30	KLV	1513462
Thallium	<2.0	2.0	ug/L	1	USEPA-6020A	12/16/15 15:09	DSC	1513463
Vanadium	<10	10	ug/L	1	USEPA-6020A	12/16/15 15:09	DSC	1513463
Zinc	<10	10	ug/L	1	USEPA-6020A	12/16/15 15:09	DSC	1513463

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1512153**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-26**	Sampled:	12/04/15 11:40
Lab Sample ID:	**1512153-02**	Sampled By:	E. Ruckert
Matrix:	Water	Received:	12/04/15 16:13

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Nitrogen, Inorganic	**530**	20	ug/L	1	[CALC]	12/10/15 17:31	CAC	[CALC]
Alkalinity, Bicarbonate	**200000**	10000	ug/L	1	SM 2320 B-2011	12/08/15 09:50	JLB	1513418
Alkalinity, Carbonate	<10000	10000	ug/L	1	SM 2320 B-2011	12/08/15 09:50	JLB	1513419
Phenolics, Total	<10.0	10.0	ug/L	1	USEPA-420.4	12/11/15 08:47	LMA	1513509
Sulfate	**420**	120	mg/L	25	ASTM D516-90 (07)	12/14/15 10:07	LMA	1513658
Cyanide, Total	<5.00	5.00	ug/L	1	USEPA-9014	12/10/15 12:48	LMA	1513466
Nitrogen, Nitrate+Nitrite	<0.020	0.020	mg/L	1	SM 4500-NO3 F-2011	12/10/15 15:22	CAC	1513548
Chloride	**5800**	1000	ug/L	1	SM 4500-Cl E-2011	12/14/15 10:10	LMA	1513594
Chemical Oxygen Demand	**32000**	5000	ug/L	1	SM 5220 D-2011	12/22/15 08:44	JLB	1513876
Nitrogen, Ammonia	**530**	10	ug/L	1	SM 4500-NH3 G-2011	12/10/15 17:31	CAC	1513563
Residue, Dissolved @ 180° C	**854000**	50000	ug/L	1	SM 2540 C-2011	12/08/15 15:30	MET	1513440
Carbon, Total Organic	**7800**	500	ug/L	1	SM 5310 C-2011	12/16/15 19:56	LEW	1513749

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1512153**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-25**	Sampled:	12/04/15 15:15
Lab Sample ID:	**1512153-03**	Sampled By:	E. Ruckert
Matrix:	Water	Received:	12/04/15 16:13
Unit:	ug/L	Prepared:	12/08/15 07:00 By: DLV
Dilution Factor:	1	Analyzed:	12/08/15 18:07 By: DLV
QC Batch:	1513468	Analytical Batch:	5L09005

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
67-64-1	Acetone	<20	20
107-13-1	Acrylonitrile	<5.0	5.0
71-43-2	Benzene	<1.0	1.0
74-97-5	Bromochloromethane	<1.0	1.0
75-27-4	Bromodichloromethane	<1.0	1.0
75-25-2	Bromoform	<1.0	1.0
74-83-9	Bromomethane	<5.0	5.0
75-15-0	Carbon Disulfide	<1.0	1.0
56-23-5	Carbon Tetrachloride	<1.0	1.0
108-90-7	Chlorobenzene	<1.0	1.0
75-00-3	Chloroethane	<5.0	5.0
67-66-3	Chloroform	<1.0	1.0
74-87-3	Chloromethane	<5.0	5.0
96-12-8	1,2-Dibromo-3-chloropropane	<5.0	5.0
124-48-1	Dibromochloromethane	<1.0	1.0
106-93-4	1,2-Dibromoethane	<1.0	1.0
74-95-3	Dibromomethane	<1.0	1.0
110-57-6	trans-1,4-Dichloro-2-butene	<5.0	5.0
95-50-1	1,2-Dichlorobenzene	<1.0	1.0
106-46-7	1,4-Dichlorobenzene	<1.0	1.0
75-34-3	1,1-Dichloroethane	<1.0	1.0
107-06-2	1,2-Dichloroethane	<1.0	1.0
75-35-4	1,1-Dichloroethene	<1.0	1.0
156-59-2	cis-1,2-Dichloroethene	<1.0	1.0
156-60-5	trans-1,2-Dichloroethene	<1.0	1.0
78-87-5	1,2-Dichloropropane	<1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0	1.0
100-41-4	Ethylbenzene	<1.0	1.0
591-78-6	2-Hexanone	<5.0	5.0
74-88-4	Iodomethane	<1.0	1.0

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1512153**		
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services		
Client Sample ID:	**DB-25**	Sampled:	12/04/15 15:15		
Lab Sample ID:	**1512153-03**	Sampled By:	E. Ruckert		
Matrix:	Water	Received:	12/04/15 16:13		
Unit:	ug/L	Prepared:	12/08/15 07:00	By:	DLV
Dilution Factor:	1	Analyzed:	12/08/15 18:07	By:	DLV
QC Batch:	1513468	Analytical Batch:	5L09005		

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL
75-09-2	Methylene Chloride	<5.0	5.0
78-93-3	2-Butanone (MEK)	<5.0	5.0
108-10-1	4-Methyl-2-pentanone (MIBK)	<5.0	5.0
100-42-5	Styrene	<1.0	1.0
630-20-6	1,1,1,2-Tetrachloroethane	<1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0	1.0
127-18-4	Tetrachloroethene	<1.0	1.0
108-88-3	Toluene	<1.0	1.0
71-55-6	1,1,1-Trichloroethane	<1.0	1.0
79-00-5	1,1,2-Trichloroethane	<1.0	1.0
79-01-6	Trichloroethene	<1.0	1.0
75-69-4	Trichlorofluoromethane	<1.0	1.0
96-18-4	1,2,3-Trichloropropane	<1.0	1.0
108-05-4	Vinyl Acetate	<1.0	1.0
75-01-4	Vinyl Chloride	<1.0	1.0
1330-20-7	Xylene (Total)	<2.0	2.0

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*101*	*85-118*
1,2-Dichloroethane-d4	*105*	*87-122*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*92*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1512153**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-25**	Sampled:	12/04/15 15:15
Lab Sample ID:	**1512153-03**	Sampled By:	E. Ruckert
Matrix:	Water	Received:	12/04/15 16:13

Dissolved Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	<2.0	2.0	ug/L	1	USEPA-6020A	12/16/15 15:14	DSC	1513463
Arsenic	**4.6**	1.0	ug/L	1	USEPA-6020A	12/16/15 15:14	DSC	1513463
Barium	**26**	5.0	ug/L	1	USEPA-6020A	12/16/15 15:14	DSC	1513463
Beryllium	<1.0	1.0	ug/L	1	USEPA-6020A	12/17/15 11:42	DSC	1513463
Boron	**240**	100	ug/L	5	USEPA-6020A	12/17/15 12:12	DSC	1513463
Cadmium	<0.20	0.20	ug/L	1	USEPA-6020A	12/16/15 15:14	DSC	1513463
Chromium	<2.0	2.0	ug/L	1	USEPA-6020A	12/16/15 15:14	DSC	1513463
Cobalt	<15	15	ug/L	1	USEPA-6020A	12/16/15 15:14	DSC	1513463
Copper	**2.1**	2.0	ug/L	1	USEPA-6020A	12/16/15 15:14	DSC	1513463
***Iron**	**1900**	20	ug/L	1	USEPA-6010C	12/10/15 09:32	KLV	1513462
Lead	<1.0	1.0	ug/L	1	USEPA-6020A	12/16/15 15:14	DSC	1513463
Magnesium	**32000**	1000	ug/L	1	USEPA-6010C	12/10/15 09:32	KLV	1513462
Manganese	**49**	5.0	ug/L	1	USEPA-6020A	12/16/15 15:14	DSC	1513463
Nickel	<25	25	ug/L	1	USEPA-6020A	12/16/15 15:14	DSC	1513463
Selenium	<2.0	2.0	ug/L	1	USEPA-6020A	12/17/15 11:42	DSC	1513463
***Potassium**	**4800**	100	ug/L	1	USEPA-6010C	12/10/15 09:32	KLV	1513462
Silver	<0.50	0.50	ug/L	1	USEPA-6020A	12/16/15 15:14	DSC	1513463
Sodium	**43000**	1000	ug/L	1	USEPA-6010C	12/10/15 09:32	KLV	1513462
Thallium	<2.0	2.0	ug/L	1	USEPA-6020A	12/16/15 15:14	DSC	1513463
Vanadium	<10	10	ug/L	1	USEPA-6020A	12/16/15 15:14	DSC	1513463
Zinc	<10	10	ug/L	1	USEPA-6020A	12/16/15 15:14	DSC	1513463

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1512153**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-25**	Sampled:	12/04/15 15:15
Lab Sample ID:	**1512153-03**	Sampled By:	E. Ruckert
Matrix:	Water	Received:	12/04/15 16:13

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Nitrogen, Inorganic	**680**	20	ug/L	1	[CALC]	12/10/15 17:31	CAC	[CALC]
Alkalinity, Bicarbonate	**200000**	10000	ug/L	1	SM 2320 B-2011	12/08/15 09:50	JLB	1513418
Alkalinity, Carbonate	<10000	10000	ug/L	1	SM 2320 B-2011	12/08/15 09:50	JLB	1513419
Cyanide, Total	<5.00	5.00	ug/L	1	USEPA-9014	12/10/15 12:48	LMA	1513466
Nitrogen, Nitrate+Nitrite	<0.020	0.020	mg/L	1	SM 4500-NO3 F-2011	12/10/15 15:23	CAC	1513548
Phenolics, Total	<10.0	10.0	ug/L	1	USEPA-420.4	12/11/15 08:47	LMA	1513509
Sulfate	**540**	120	mg/L	25	ASTM D516-90 (07)	12/14/15 10:07	LMA	1513658
Chloride	**7300**	1000	ug/L	1	SM 4500-Cl E-2011	12/14/15 10:10	LMA	1513594
Chemical Oxygen Demand	**6600**	5000	ug/L	1	SM 5220 D-2011	12/22/15 08:44	JLB	1513876
Nitrogen, Ammonia	**680**	10	ug/L	1	SM 4500-NH3 G-2011	12/10/15 17:31	CAC	1513563
Residue, Dissolved @ 180° C	**982000**	50000	ug/L	1	SM 2540 C-2011	12/08/15 15:30	MET	1513440
Carbon, Total Organic	**2600**	500	ug/L	1	SM 5310 C-2011	12/16/15 20:08	LEW	1513749

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1512172**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-28**	Sampled:	12/07/15 12:15
Lab Sample ID:	**1512172-01**	Sampled By:	Eric Ruckert
Matrix:	Water	Received:	12/07/15 17:10
Unit:	ug/L	Prepared:	12/08/15 07:00 By: DLV
Dilution Factor:	1	Analyzed:	12/08/15 18:36 By: DLV
QC Batch:	1513468	Analytical Batch:	5L09005

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
67-64-1	Acetone	<20	20
107-13-1	Acrylonitrile	<5.0	5.0
71-43-2	Benzene	<1.0	1.0
74-97-5	Bromochloromethane	<1.0	1.0
75-27-4	Bromodichloromethane	<1.0	1.0
75-25-2	Bromoform	<1.0	1.0
74-83-9	Bromomethane	<5.0	5.0
75-15-0	Carbon Disulfide	<1.0	1.0
56-23-5	Carbon Tetrachloride	<1.0	1.0
108-90-7	Chlorobenzene	<1.0	1.0
75-00-3	Chloroethane	<5.0	5.0
67-66-3	Chloroform	**1.9**	1.0
74-87-3	Chloromethane	<5.0	5.0
96-12-8	1,2-Dibromo-3-chloropropane	<5.0	5.0
124-48-1	Dibromochloromethane	<1.0	1.0
106-93-4	1,2-Dibromoethane	<1.0	1.0
74-95-3	Dibromomethane	<1.0	1.0
110-57-6	trans-1,4-Dichloro-2-butene	<5.0	5.0
95-50-1	1,2-Dichlorobenzene	<1.0	1.0
106-46-7	1,4-Dichlorobenzene	<1.0	1.0
75-34-3	1,1-Dichloroethane	<1.0	1.0
107-06-2	1,2-Dichloroethane	<1.0	1.0
75-35-4	1,1-Dichloroethene	<1.0	1.0
156-59-2	cis-1,2-Dichloroethene	<1.0	1.0
156-60-5	trans-1,2-Dichloroethene	<1.0	1.0
78-87-5	1,2-Dichloropropane	<1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0	1.0
100-41-4	Ethylbenzene	<1.0	1.0
591-78-6	2-Hexanone	<5.0	5.0
74-88-4	Iodomethane	<1.0	1.0

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1512172**		
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services		
Client Sample ID:	**DB-28**	Sampled:	12/07/15 12:15		
Lab Sample ID:	**1512172-01**	Sampled By:	Eric Ruckert		
Matrix:	Water	Received:	12/07/15 17:10		
Unit:	ug/L	Prepared:	12/08/15 07:00	By:	DLV
Dilution Factor:	1	Analyzed:	12/08/15 18:36	By:	DLV
QC Batch:	1513468	Analytical Batch:	5L09005		

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL
75-09-2	Methylene Chloride	<5.0	5.0
78-93-3	2-Butanone (MEK)	<5.0	5.0
108-10-1	4-Methyl-2-pentanone (MIBK)	<5.0	5.0
100-42-5	Styrene	<1.0	1.0
630-20-6	1,1,1,2-Tetrachloroethane	<1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0	1.0
127-18-4	Tetrachloroethene	<1.0	1.0
108-88-3	Toluene	<1.0	1.0
71-55-6	1,1,1-Trichloroethane	<1.0	1.0
79-00-5	1,1,2-Trichloroethane	<1.0	1.0
79-01-6	Trichloroethene	<1.0	1.0
75-69-4	Trichlorofluoromethane	<1.0	1.0
96-18-4	1,2,3-Trichloropropane	<1.0	1.0
108-05-4	Vinyl Acetate	<1.0	1.0
75-01-4	Vinyl Chloride	<1.0	1.0
1330-20-7	Xylene (Total)	<2.0	2.0

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*102*	*85-118*
1,2-Dichloroethane-d4	*102*	*87-122*
Toluene-d8	*99*	*85-113*
4-Bromofluorobenzene	*94*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1512172**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-28**	Sampled:	12/07/15 12:15
Lab Sample ID:	**1512172-01**	Sampled By:	Eric Ruckert
Matrix:	Water	Received:	12/07/15 17:10

Dissolved Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	<2.0	2.0	ug/L	1	USEPA-6020A	12/16/15 15:18	DSC	1513463
Arsenic	**3.5**	1.0	ug/L	1	USEPA-6020A	12/16/15 15:18	DSC	1513463
Barium	**17**	5.0	ug/L	1	USEPA-6020A	12/16/15 15:18	DSC	1513463
Beryllium	<1.0	1.0	ug/L	1	USEPA-6020A	12/17/15 11:45	DSC	1513463
Boron	**160**	100	ug/L	5	USEPA-6020A	12/17/15 12:15	DSC	1513463
Cadmium	<0.20	0.20	ug/L	1	USEPA-6020A	12/16/15 15:18	DSC	1513463
Chromium	<2.0	2.0	ug/L	1	USEPA-6020A	12/16/15 15:18	DSC	1513463
Cobalt	<15	15	ug/L	1	USEPA-6020A	12/16/15 15:18	DSC	1513463
Copper	<2.0	2.0	ug/L	1	USEPA-6020A	12/16/15 15:18	DSC	1513463
***Iron**	**190**	20	ug/L	1	USEPA-6010C	12/10/15 09:34	KLV	1513462
Lead	<1.0	1.0	ug/L	1	USEPA-6020A	12/16/15 15:18	DSC	1513463
Magnesium	**29000**	1000	ug/L	1	USEPA-6010C	12/10/15 09:34	KLV	1513462
Manganese	**34**	5.0	ug/L	1	USEPA-6020A	12/16/15 15:18	DSC	1513463
Nickel	<25	25	ug/L	1	USEPA-6020A	12/16/15 15:18	DSC	1513463
***Potassium**	**4400**	100	ug/L	1	USEPA-6010C	12/10/15 09:34	KLV	1513462
Selenium	<2.0	2.0	ug/L	1	USEPA-6020A	12/17/15 11:45	DSC	1513463
Silver	<0.50	0.50	ug/L	1	USEPA-6020A	12/16/15 15:18	DSC	1513463
Sodium	**28000**	1000	ug/L	1	USEPA-6010C	12/10/15 09:34	KLV	1513462
Thallium	<2.0	2.0	ug/L	1	USEPA-6020A	12/16/15 15:18	DSC	1513463
Vanadium	<10	10	ug/L	1	USEPA-6020A	12/16/15 15:18	DSC	1513463
Zinc	<10	10	ug/L	1	USEPA-6020A	12/16/15 15:18	DSC	1513463

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1512172**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-28**	Sampled:	12/07/15 12:15
Lab Sample ID:	**1512172-01**	Sampled By:	Eric Ruckert
Matrix:	Water	Received:	12/07/15 17:10

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Nitrogen, Inorganic	**450**	20	ug/L	1	[CALC]	12/10/15 17:31	CAC	[CALC]
Alkalinity, Bicarbonate	**230000**	10000	ug/L	1	SM 2320 B-2011	12/18/15 11:50	JLB	1513787
Alkalinity, Carbonate	<10000	10000	ug/L	1	SM 2320 B-2011	12/18/15 11:50	JLB	1513788
Phenolics, Total	<10.0	10.0	ug/L	1	USEPA-420.4	12/11/15 08:47	LMA	1513509
Sulfate	**490**	120	mg/L	25	ASTM D516-90 (07)	12/14/15 10:07	LMA	1513658
Cyanide, Total	<5.00	5.00	ug/L	1	USEPA-9014	12/10/15 12:48	LMA	1513466
Nitrogen, Nitrate+Nitrite	<0.020	0.020	mg/L	1	SM 4500-NO3 F-2011	12/10/15 15:24	CAC	1513548
Chloride	**7200**	1000	ug/L	1	SM 4500-Cl E-2011	12/14/15 10:10	LMA	1513594
Chemical Oxygen Demand	<5000	5000	ug/L	1	SM 5220 D-2011	12/22/15 08:45	JLB	1513876
Nitrogen, Ammonia	**450**	10	ug/L	1	SM 4500-NH3 G-2011	12/10/15 17:31	CAC	1513563
Residue, Dissolved @ 180° C	**980000**	50000	ug/L	1	SM 2540 C-2011	12/08/15 15:30	MET	1513440
Carbon, Total Organic	**1100**	500	ug/L	1	SM 5310 C-2011	12/16/15 20:19	LEW	1513749

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1512172**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-24**	Sampled:	12/07/15 16:15
Lab Sample ID:	**1512172-02**	Sampled By:	Eric Ruckert
Matrix:	Water	Received:	12/07/15 17:10
Unit:	ug/L	Prepared:	12/08/15 07:00 By: DLV
Dilution Factor:	1	Analyzed:	12/08/15 19:05 By: DLV
QC Batch:	1513468	Analytical Batch:	5L09005

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
67-64-1	Acetone	<20	20
107-13-1	Acrylonitrile	<5.0	5.0
71-43-2	Benzene	<1.0	1.0
74-97-5	Bromochloromethane	<1.0	1.0
75-27-4	Bromodichloromethane	<1.0	1.0
75-25-2	Bromoform	<1.0	1.0
74-83-9	Bromomethane	<5.0	5.0
75-15-0	Carbon Disulfide	<1.0	1.0
56-23-5	Carbon Tetrachloride	<1.0	1.0
108-90-7	Chlorobenzene	<1.0	1.0
75-00-3	Chloroethane	<5.0	5.0
67-66-3	Chloroform	<1.0	1.0
74-87-3	Chloromethane	<5.0	5.0
96-12-8	1,2-Dibromo-3-chloropropane	<5.0	5.0
124-48-1	Dibromochloromethane	<1.0	1.0
106-93-4	1,2-Dibromoethane	<1.0	1.0
74-95-3	Dibromomethane	<1.0	1.0
110-57-6	trans-1,4-Dichloro-2-butene	<5.0	5.0
95-50-1	1,2-Dichlorobenzene	<1.0	1.0
106-46-7	1,4-Dichlorobenzene	<1.0	1.0
75-34-3	1,1-Dichloroethane	<1.0	1.0
107-06-2	1,2-Dichloroethane	<1.0	1.0
75-35-4	1,1-Dichloroethene	<1.0	1.0
156-59-2	cis-1,2-Dichloroethene	<1.0	1.0
156-60-5	trans-1,2-Dichloroethene	<1.0	1.0
78-87-5	1,2-Dichloropropane	<1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0	1.0
100-41-4	Ethylbenzene	<1.0	1.0
591-78-6	2-Hexanone	<5.0	5.0
74-88-4	Iodomethane	<1.0	1.0

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1512172**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-24**	Sampled:	12/07/15 16:15
Lab Sample ID:	**1512172-02**	Sampled By:	Eric Ruckert
Matrix:	Water	Received:	12/07/15 17:10
Unit:	ug/L	Prepared:	12/08/15 07:00 By: DLV
Dilution Factor:	1	Analyzed:	12/08/15 19:05 By: DLV
QC Batch:	1513468	Analytical Batch:	5L09005

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL
75-09-2	Methylene Chloride	<5.0	5.0
78-93-3	2-Butanone (MEK)	<5.0	5.0
108-10-1	4-Methyl-2-pentanone (MIBK)	<5.0	5.0
100-42-5	Styrene	<1.0	1.0
630-20-6	1,1,1,2-Tetrachloroethane	<1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0	1.0
127-18-4	Tetrachloroethene	<1.0	1.0
108-88-3	Toluene	<1.0	1.0
71-55-6	1,1,1-Trichloroethane	<1.0	1.0
79-00-5	1,1,2-Trichloroethane	<1.0	1.0
79-01-6	Trichloroethene	<1.0	1.0
75-69-4	Trichlorofluoromethane	<1.0	1.0
96-18-4	1,2,3-Trichloropropane	<1.0	1.0
108-05-4	Vinyl Acetate	<1.0	1.0
75-01-4	Vinyl Chloride	<1.0	1.0
1330-20-7	Xylene (Total)	<2.0	2.0

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*102*	*85-118*
1,2-Dichloroethane-d4	*103*	*87-122*
Toluene-d8	*97*	*85-113*
4-Bromofluorobenzene	*95*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1512172**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-24**	Sampled:	12/07/15 16:15
Lab Sample ID:	**1512172-02**	Sampled By:	Eric Ruckert
Matrix:	Water	Received:	12/07/15 17:10

Dissolved Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	<2.0	2.0	ug/L	1	USEPA-6020A	12/16/15 15:22	DSC	1513463
Arsenic	**2.8**	1.0	ug/L	1	USEPA-6020A	12/16/15 15:22	DSC	1513463
Barium	**33**	5.0	ug/L	1	USEPA-6020A	12/16/15 15:22	DSC	1513463
Beryllium	<1.0	1.0	ug/L	1	USEPA-6020A	12/17/15 11:47	DSC	1513463
Boron	**210**	100	ug/L	5	USEPA-6020A	12/17/15 12:17	DSC	1513463
Cadmium	<0.20	0.20	ug/L	1	USEPA-6020A	12/16/15 15:22	DSC	1513463
Chromium	<2.0	2.0	ug/L	1	USEPA-6020A	12/16/15 15:22	DSC	1513463
Cobalt	<15	15	ug/L	1	USEPA-6020A	12/16/15 15:22	DSC	1513463
Copper	<2.0	2.0	ug/L	1	USEPA-6020A	12/16/15 15:22	DSC	1513463
***Iron**	**2200**	20	ug/L	1	USEPA-6010C	12/10/15 09:36	KLV	1513462
Lead	<1.0	1.0	ug/L	1	USEPA-6020A	12/16/15 15:22	DSC	1513463
Magnesium	**34000**	1000	ug/L	1	USEPA-6010C	12/10/15 09:36	KLV	1513462
Manganese	**34**	5.0	ug/L	1	USEPA-6020A	12/16/15 15:22	DSC	1513463
Nickel	<25	25	ug/L	1	USEPA-6020A	12/16/15 15:22	DSC	1513463
Selenium	<2.0	2.0	ug/L	1	USEPA-6020A	12/17/15 11:47	DSC	1513463
***Potassium**	**4400**	100	ug/L	1	USEPA-6010C	12/10/15 09:36	KLV	1513462
Silver	<0.50	0.50	ug/L	1	USEPA-6020A	12/16/15 15:22	DSC	1513463
Sodium	**41000**	1000	ug/L	1	USEPA-6010C	12/10/15 09:36	KLV	1513462
Thallium	<2.0	2.0	ug/L	1	USEPA-6020A	12/16/15 15:22	DSC	1513463
Vanadium	<10	10	ug/L	1	USEPA-6020A	12/16/15 15:22	DSC	1513463
Zinc	<10	10	ug/L	1	USEPA-6020A	12/16/15 15:22	DSC	1513463

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1512172**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-24**	Sampled:	12/07/15 16:15
Lab Sample ID:	**1512172-02**	Sampled By:	Eric Ruckert
Matrix:	Water	Received:	12/07/15 17:10

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Nitrogen, Inorganic	**610**	20	ug/L	1	[CALC]	12/10/15 17:31	CAC	[CALC]
Alkalinity, Bicarbonate	**220000**	10000	ug/L	1	SM 2320 B-2011	12/18/15 11:50	JLB	1513787
Alkalinity, Carbonate	<10000	10000	ug/L	1	SM 2320 B-2011	12/18/15 11:50	JLB	1513788
Cyanide, Total	<5.00	5.00	ug/L	1	USEPA-9014	12/10/15 12:55	LMA	1513466
Nitrogen, Nitrate+Nitrite	<0.020	0.020	mg/L	1	SM 4500-NO3 F-2011	12/10/15 15:25	CAC	1513548
Phenolics, Total	<10.0	10.0	ug/L	1	USEPA-420.4	12/11/15 08:52	LMA	1513509
Sulfate	**500**	120	mg/L	25	ASTM D516-90 (07)	12/14/15 10:11	LMA	1513658
Chloride	**4100**	1000	ug/L	1	SM 4500-Cl E-2011	12/14/15 10:10	LMA	1513594
Chemical Oxygen Demand	<5000	5000	ug/L	1	SM 5220 D-2011	12/22/15 08:45	JLB	1513876
Nitrogen, Ammonia	**610**	10	ug/L	1	SM 4500-NH3 G-2011	12/10/15 17:31	CAC	1513563
Residue, Dissolved @ 180° C	**926000**	50000	ug/L	1	SM 2540 C-2011	12/08/15 15:30	MET	1513440
Carbon, Total Organic	**1300**	500	ug/L	1	SM 5310 C-2011	12/16/15 20:30	LEW	1513749

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QUALITY CONTROL REPORT

Volatile Organic Compounds by EPA Method 8260B

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL

QC Batch: 1513468 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank Analyzed: 12/08/2015 By: DLV
Unit: ug/L Analytical Batch: 5L09005

Acetone	<20	--	20
Acrylonitrile	<5.0		5.0
Benzene	<1.0		1.0
Bromochloromethane	<1.0		1.0
Bromodichloromethane	<1.0		1.0
Bromoform	<1.0		1.0
Bromomethane	<5.0		5.0
Carbon Disulfide	<1.0		1.0
Carbon Tetrachloride	<1.0		1.0
Chlorobenzene	<1.0		1.0
Chloroethane	<5.0		5.0
Chloroform	<1.0		1.0
Chloromethane	<5.0		5.0
1,2-Dibromo-3-chloropropane	<5.0		5.0
Dibromochloromethane	<1.0		1.0
1,2-Dibromoethane	<1.0		1.0
Dibromomethane	<1.0		1.0
trans-1,4-Dichloro-2-butene	<5.0		5.0
1,2-Dichlorobenzene	<1.0		1.0
1,4-Dichlorobenzene	<1.0	--	1.0
1,1-Dichloroethane	<1.0		1.0
1,2-Dichloroethane	<1.0		1.0
1,1-Dichloroethene	<1.0		1.0
cis-1,2-Dichloroethene	<1.0		1.0
trans-1,2-Dichloroethene	<1.0		1.0
1,2-Dichloropropane	<1.0		1.0
cis-1,3-Dichloropropene	<1.0		1.0
trans-1,3-Dichloropropene	<1.0		1.0
Ethylbenzene	<1.0		1.0
2-Hexanone	<5.0		5.0
Iodomethane	<1.0		1.0
Methylene Chloride	<5.0		5.0
2-Butanone (MEK)	<5.0		5.0
4-Methyl-2-pentanone (MIBK)	<5.0	--	5.0
Styrene	<1.0		1.0
1,1,1,2-Tetrachloroethane	<1.0		1.0

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QUALITY CONTROL REPORT

Volatile Organic Compounds by EPA Method 8260B (Continued)

QC Batch: 1513468 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank (Continued) Analyzed: 12/08/2015 By: DLV
Unit: ug/L Analytical Batch: 5L09005

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
1,1,2,2-Tetrachloroethane			<1.0					1.0
Tetrachloroethene			<1.0					1.0
Toluene			<1.0					1.0
1,1,1-Trichloroethane			<1.0					1.0
1,1,2-Trichloroethane			<1.0					1.0
Trichloroethene			<1.0					1.0
Trichlorofluoromethane			<1.0					1.0
1,2,3-Trichloropropane			<1.0					1.0
Vinyl Acetate			<1.0					1.0
Vinyl Chloride			<1.0					1.0
Xylene (Total)			<2.0					2.0
Surrogates:								
Dibromofluoromethane				*99*	*85-118*			
1,2-Dichloroethane-d4				*96*	*87-122*			
Toluene-d8				*97*	*85-113*			
4-Bromofluorobenzene				*94*	*82-110*			

Laboratory Control Sample Analyzed: 12/08/2015 By: DLV
Unit: ug/L Analytical Batch: 5L09005

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Benzene		40.0	**40.2**	101	84-119	--		1.0
Chlorobenzene		40.0	**39.7**	99	84-118	--		1.0
1,1-Dichloroethene		40.0	**42.3**	106	77-123	--		1.0
Toluene		40.0	**40.2**	100	85-118	--		1.0
Trichloroethene		40.0	**38.8**	97	82-119	--		1.0

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TRIMATRIX LABORATORIES

QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Analyte: Antimony/USEPA-6020A									
QC Batch: 1513318 (3020A Digestion)							Analyzed: 12/14/2015		By: MSM
Method Blank			<2.0	ug/L					2.0
Laboratory Control Sample		50.0	**51.5**	ug/L	103	80-120			2.0
QC Batch: 1513463 (3020A Digestion)							Analyzed: 12/16/2015		By: DSC
Method Blank			<2.0	ug/L					2.0
Laboratory Control Sample		50.0	**52.8**	ug/L	106	80-120			2.0
1512153-01 [DB-23]									
Matrix Spike	0.415	50.0	**52.2**	ug/L	104	75-125			2.0
Matrix Spike Duplicate	0.415	50.0	**52.1**	ug/L	103	75-125	0.3	20	2.0
Analyte: Arsenic/USEPA-6020A									
QC Batch: 1513318 (3020A Digestion)							Analyzed: 12/14/2015		By: MSM
Method Blank			<1.0	ug/L					1.0
Laboratory Control Sample		50.0	**53.1**	ug/L	106	80-120			1.0
QC Batch: 1513463 (3020A Digestion)							Analyzed: 12/16/2015		By: DSC
Method Blank			<1.0	ug/L					1.0
Laboratory Control Sample		50.0	**51.3**	ug/L	103	80-120			1.0
1512153-01 [DB-23]									
Matrix Spike	7.72	50.0	**60.2**	ug/L	105	75-125			1.0
Matrix Spike Duplicate	7.72	50.0	**60.5**	ug/L	106	75-125	0.5	20	1.0
Analyte: Barium/USEPA-6020A									
QC Batch: 1513318 (3020A Digestion)							Analyzed: 12/14/2015		By: MSM
Method Blank			<5.0	ug/L					5.0
Laboratory Control Sample		50.0	**56.0**	ug/L	112	80-120			5.0
QC Batch: 1513463 (3020A Digestion)							Analyzed: 12/16/2015		By: DSC
Method Blank			<5.0	ug/L					5.0
Laboratory Control Sample		50.0	**57.7**	ug/L	115	80-120			5.0

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QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Analyte: Barium/USEPA-6020A (Continued)									
QC Batch: 1513463 (Continued) (3020A Digestion)							Analyzed: 12/16/2015		By: DSC
1512153-01 [DB-23]									
Matrix Spike	13.4	50.0	**66.1**	ug/L	105	75-125			5.0
Matrix Spike Duplicate	13.4	50.0	**64.5**	ug/L	102	75-125	2	20	5.0
Analyte: Beryllium/USEPA-6020A									
QC Batch: 1513318 (3020A Digestion)							Analyzed: 12/14/2015		By: MSM
Method Blank			<1.0	ug/L					1.0
Laboratory Control Sample		50.0	**55.7**	ug/L	111	80-120			1.0
QC Batch: 1513463 (3020A Digestion)							Analyzed: 12/17/2015		By: DSC
Method Blank			<1.0	ug/L					1.0
Laboratory Control Sample		50.0	**52.9**	ug/L	106	80-120			1.0
1512153-01 [DB-23]									
Matrix Spike	0.125	50.0	**53.3**	ug/L	106	75-125			1.0
Matrix Spike Duplicate	0.125	50.0	**53.4**	ug/L	106	75-125	0.2	20	1.0
Analyte: Boron/USEPA-6020A									
QC Batch: 1513318 (3020A Digestion)							Analyzed: 12/15/2015		By: DSC
Method Blank			<20	ug/L					20
Laboratory Control Sample		50.0	**50.8**	ug/L	102	80-120			20
QC Batch: 1513463 (3020A Digestion)							Analyzed: 12/17/2015		By: DSC
Method Blank			<20	ug/L					20
Laboratory Control Sample		50.0	**48.9**	ug/L	98	80-120			20
Analyte: Cadmium/USEPA-6020A									
QC Batch: 1513318 (3020A Digestion)							Analyzed: 12/14/2015		By: MSM
Method Blank			<0.20	ug/L					0.20
Laboratory Control Sample		50.0	**55.7**	ug/L	111	80-120			0.20
QC Batch: 1513463 (3020A Digestion)							Analyzed: 12/16/2015		By: DSC
Method Blank			<0.20	ug/L					0.20

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QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Analyte: Cadmium/USEPA-6020A (Continued)									
QC Batch: 1513463 (Continued) (3020A Digestion)							Analyzed: 12/16/2015		By: DSC
Laboratory Control Sample		50.0	**51.9**	ug/L	104	80-120			0.20
1512153-01 [DB-23]									
Matrix Spike	<0.20	50.0	**53.1**	ug/L	106	75-125			0.20
Matrix Spike Duplicate	<0.20	50.0	**53.8**	ug/L	108	75-125	1	20	0.20
Analyte: Chromium/USEPA-6020A									
QC Batch: 1513318 (3020A Digestion)							Analyzed: 12/14/2015		By: MSM
Method Blank			<2.0	ug/L					2.0
Laboratory Control Sample		50.0	**54.5**	ug/L	109	80-120			2.0
QC Batch: 1513463 (3020A Digestion)							Analyzed: 12/16/2015		By: DSC
Method Blank			<2.0	ug/L					2.0
Laboratory Control Sample		50.0	**52.8**	ug/L	106	80-120			2.0
1512153-01 [DB-23]									
Matrix Spike	<2.0	50.0	**52.1**	ug/L	104	75-125			2.0
Matrix Spike Duplicate	<2.0	50.0	**52.1**	ug/L	104	75-125	0.009	20	2.0
Analyte: Cobalt/USEPA-6020A									
QC Batch: 1513318 (3020A Digestion)							Analyzed: 12/14/2015		By: MSM
Method Blank			<15	ug/L					15
Laboratory Control Sample		50.0	**53.5**	ug/L	107	80-120			15
QC Batch: 1513463 (3020A Digestion)							Analyzed: 12/16/2015		By: DSC
Method Blank			<15	ug/L					15
Laboratory Control Sample		50.0	**51.7**	ug/L	103	80-120			15
1512153-01 [DB-23]									
Matrix Spike	0.260	50.0	**51.1**	ug/L	102	75-125			15
Matrix Spike Duplicate	0.260	50.0	**51.4**	ug/L	102	75-125	0.5	20	15
Analyte: Copper/USEPA-6020A									
QC Batch: 1513318 (3020A Digestion)							Analyzed: 12/14/2015		By: MSM
Method Blank			<2.0	ug/L					2.0

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QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Analyte: Copper/USEPA-6020A (Continued)									
QC Batch: 1513318 (Continued) (3020A Digestion)							Analyzed: 12/14/2015		By: MSM
Laboratory Control Sample		50.0	**53.1**	ug/L	106	80-120			2.0
QC Batch: 1513463 (3020A Digestion)							Analyzed: 12/16/2015		By: DSC
Method Blank			<2.0	ug/L					2.0
Laboratory Control Sample		50.0	**54.2**	ug/L	108	80-120			2.0
1512153-01 [DB-23]									
Matrix Spike	0.570	50.0	**50.4**	ug/L	100	75-125			2.0
Matrix Spike Duplicate	0.570	50.0	**50.6**	ug/L	100	75-125	0.5	20	2.0
Analyte: Iron/USEPA-6010C									
QC Batch: 1513319 (3010A Digestion)							Analyzed: 12/09/2015		By: CKD
Method Blank			<20	ug/L					20
QC Batch: 1513319 (3010A Digestion)							Analyzed: 12/09/2015		By: KLV
Laboratory Control Sample		400	**440**	ug/L	110	80-120			20
QC Batch: 1513462 (3010A Digestion)							Analyzed: 12/10/2015		By: KLV
Method Blank			**30**	ug/L					20
*Laboratory Control Sample		400	**432**	ug/L	108	80-120			20
Analyte: Lead/USEPA-6020A									
QC Batch: 1513318 (3020A Digestion)							Analyzed: 12/14/2015		By: MSM
Method Blank			<1.0	ug/L					1.0
Laboratory Control Sample		50.0	**55.2**	ug/L	110	80-120			1.0
QC Batch: 1513463 (3020A Digestion)							Analyzed: 12/16/2015		By: DSC
Method Blank			<1.0	ug/L					1.0
Laboratory Control Sample		50.0	**53.9**	ug/L	108	80-120			1.0
1512153-01 [DB-23]									
Matrix Spike	<1.0	50.0	**54.3**	ug/L	109	75-125			1.0

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QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Analyte: Lead/USEPA-6020A (Continued)									
QC Batch: 1513463 (Continued) (3020A Digestion)							Analyzed: 12/16/2015		By: DSC
1512153-01 [DB-23]									
Matrix Spike Duplicate	<1.0	50.0	**54.1**	ug/L	108	75-125	0.4	20	1.0
Analyte: Magnesium/USEPA-6010C									
QC Batch: 1513319 (3010A Digestion)							Analyzed: 12/09/2015		By: CKD
Method Blank			<1000	ug/L					1000
QC Batch: 1513319 (3010A Digestion)							Analyzed: 12/09/2015		By: KLV
Laboratory Control Sample		20000	**21600**	ug/L	108	80-120			1000
QC Batch: 1513462 (3010A Digestion)							Analyzed: 12/10/2015		By: KLV
Method Blank			<1000	ug/L					1000
Laboratory Control Sample		20000	**21300**	ug/L	107	80-120			1000
Analyte: Manganese/USEPA-6020A									
QC Batch: 1513318 (3020A Digestion)							Analyzed: 12/14/2015		By: MSM
Method Blank			<5.0	ug/L					5.0
Laboratory Control Sample		50.0	**56.9**	ug/L	114	80-120			5.0
QC Batch: 1513463 (3020A Digestion)							Analyzed: 12/16/2015		By: DSC
Method Blank			<5.0	ug/L					5.0
Laboratory Control Sample		50.0	**51.0**	ug/L	102	80-120			5.0
1512153-01 [DB-23]									
Matrix Spike	19.5	50.0	**71.1**	ug/L	103	75-125			5.0
Matrix Spike Duplicate	19.5	50.0	**71.3**	ug/L	104	75-125	0.4	20	5.0
Analyte: Nickel/USEPA-6020A									
QC Batch: 1513318 (3020A Digestion)							Analyzed: 12/14/2015		By: MSM
Method Blank			<25	ug/L					25
Laboratory Control Sample		50.0	**54.3**	ug/L	109	80-120			25

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QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Analyte: Nickel/USEPA-6020A (Continued)									
QC Batch: 1513463 (3020A Digestion)							Analyzed: 12/16/2015		By: DSC
Method Blank			<25	ug/L					25
Laboratory Control Sample		50.0	**51.4**	ug/L	103	80-120			25
1512153-01 [DB-23]									
Matrix Spike	6.45	50.0	**55.7**	ug/L	98	75-125			25
Matrix Spike Duplicate	6.45	50.0	**56.2**	ug/L	99	75-125	0.9	20	25
Analyte: Potassium/USEPA-6010C									
QC Batch: 1513319 (3010A Digestion)							Analyzed: 12/09/2015		By: CKD
Method Blank			<100	ug/L					100
QC Batch: 1513319 (3010A Digestion)							Analyzed: 12/09/2015		By: KLV
Laboratory Control Sample		20000	**21100**	ug/L	105	80-120			100
QC Batch: 1513462 (3010A Digestion)							Analyzed: 12/10/2015		By: KLV
Method Blank			**110**	ug/L					100
*Laboratory Control Sample		20000	**20800**	ug/L	104	80-120			100
Analyte: Selenium/USEPA-6020A									
QC Batch: 1513318 (3020A Digestion)							Analyzed: 12/14/2015		By: MSM
Method Blank			<2.0	ug/L					2.0
Laboratory Control Sample		50.0	**52.3**	ug/L	105	80-120			2.0
QC Batch: 1513463 (3020A Digestion)							Analyzed: 12/17/2015		By: DSC
Method Blank			<2.0	ug/L					2.0
Laboratory Control Sample		50.0	**51.6**	ug/L	103	80-120			2.0
1512153-01 [DB-23]									
Matrix Spike	0.596	50.0	**54.6**	ug/L	108	75-125			2.0
Matrix Spike Duplicate	0.596	50.0	**55.3**	ug/L	109	75-125	1	20	2.0
Analyte: Silver/USEPA-6020A									
QC Batch: 1513318 (3020A Digestion)							Analyzed: 12/14/2015		By: MSM
Method Blank			<0.50	ug/L					0.50

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QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Analyte: Silver/USEPA-6020A (Continued)									
QC Batch: 1513318 (Continued) (3020A Digestion)							Analyzed: 12/14/2015		By: MSM
Laboratory Control Sample		50.0	**54.1**	ug/L	108	80-120			0.50
QC Batch: 1513463 (3020A Digestion)							Analyzed: 12/16/2015		By: DSC
Method Blank			<0.50	ug/L					0.50
Laboratory Control Sample		50.0	**54.0**	ug/L	108	80-120			0.50
1512153-01 [DB-23]									
Matrix Spike	<0.50	50.0	**51.9**	ug/L	104	75-125			0.50
Matrix Spike Duplicate	<0.50	50.0	**51.6**	ug/L	103	75-125	0.6	20	0.50
Analyte: Sodium/USEPA-6010C									
QC Batch: 1513319 (3010A Digestion)							Analyzed: 12/09/2015		By: CKD
Method Blank			<1000	ug/L					1000
QC Batch: 1513319 (3010A Digestion)							Analyzed: 12/09/2015		By: KLV
Laboratory Control Sample		20000	**22100**	ug/L	110	80-120			1000
QC Batch: 1513462 (3010A Digestion)							Analyzed: 12/10/2015		By: KLV
Method Blank			<1000	ug/L					1000
Laboratory Control Sample		20000	**22000**	ug/L	110	80-120			1000
Analyte: Thallium/USEPA-6020A									
QC Batch: 1513318 (3020A Digestion)							Analyzed: 12/14/2015		By: MSM
Method Blank			<2.0	ug/L					2.0
Laboratory Control Sample		50.0	**56.4**	ug/L	113	80-120			2.0
QC Batch: 1513463 (3020A Digestion)							Analyzed: 12/16/2015		By: DSC
Method Blank			<2.0	ug/L					2.0
Laboratory Control Sample		50.0	**54.4**	ug/L	109	80-120			2.0
1512153-01 [DB-23]									
Matrix Spike	<2.0	50.0	**55.1**	ug/L	110	75-125			2.0

Continued on next page

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QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Analyte: Thallium/USEPA-6020A (Continued)									
QC Batch: 1513463 (Continued) (3020A Digestion)							Analyzed: 12/16/2015		By: DSC
1512153-01 [DB-23]									
Matrix Spike Duplicate	<2.0	50.0	**54.7**	ug/L	109	75-125	0.8	20	2.0
Analyte: Vanadium/USEPA-6020A									
QC Batch: 1513318 (3020A Digestion)							Analyzed: 12/14/2015		By: MSM
Method Blank			<10	ug/L					10
Laboratory Control Sample		50.0	**56.1**	ug/L	112	80-120			10
QC Batch: 1513463 (3020A Digestion)							Analyzed: 12/16/2015		By: DSC
Method Blank			<10	ug/L					10
Laboratory Control Sample		50.0	**52.9**	ug/L	106	80-120			10
1512153-01 [DB-23]									
Matrix Spike	0.0732	50.0	**53.4**	ug/L	107	75-125			10
Matrix Spike Duplicate	0.0732	50.0	**53.1**	ug/L	106	75-125	0.5	20	10
Analyte: Zinc/USEPA-6020A									
QC Batch: 1513318 (3020A Digestion)							Analyzed: 12/14/2015		By: MSM
Method Blank			<10	ug/L					10
Laboratory Control Sample		50.0	**52.1**	ug/L	104	80-120			10
QC Batch: 1513463 (3020A Digestion)							Analyzed: 12/16/2015		By: DSC
Method Blank			<10	ug/L					10
Laboratory Control Sample		50.0	**49.5**	ug/L	99	80-120			10
1512153-01 [DB-23]									
Matrix Spike	<10	50.0	**50.7**	ug/L	101	75-125			10
Matrix Spike Duplicate	<10	50.0	**50.7**	ug/L	101	75-125	0.06	20	10

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TRIMATRIX LABORATORIES

QUALITY CONTROL REPORT

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Analyte: Alkalinity, Bicarbonate/SM 2320 B-2011									
QC Batch: 1513418 (Method Specific Preparation)							Analyzed: 12/08/2015	By: JLB	
Method Blank			<10000	ug/L					10000
Laboratory Control Sample		238000	**236000**	ug/L	99	74-123			10000
QC Batch: 1513787 (Method Specific Preparation)							Analyzed: 12/18/2015	By: JLB	
Method Blank			<10000	ug/L					10000
Laboratory Control Sample		238000	**238000**	ug/L	100	74-123			10000
Analyte: Alkalinity, Carbonate/SM 2320 B-2011									
QC Batch: 1513419 (Method Specific Preparation)							Analyzed: 12/08/2015	By: JLB	
Method Blank			<10000	ug/L					10000
Laboratory Control Sample		378000	**366000**	ug/L	97	72-114			10000
QC Batch: 1513788 (Method Specific Preparation)							Analyzed: 12/18/2015	By: JLB	
Method Blank			<10000	ug/L					10000
Laboratory Control Sample		378000	**365000**	ug/L	96	72-114			10000
Analyte: Carbon, Total Organic/SM 5310 C-2011									
QC Batch: 1513425 (General Inorganic Prep)							Analyzed: 12/07/2015	By: LEW	
Method Blank			<500	ug/L					500
Laboratory Control Sample		40000	**40000**	ug/L	100	84-118			500
QC Batch: 1513749 (General Inorganic Prep)							Analyzed: 12/16/2015	By: LEW	
Method Blank			<500	ug/L					500
Laboratory Control Sample		2000	**2220**	ug/L	111	84-118			500
Analyte: Chemical Oxygen Demand/SM 5220 D-2011									
QC Batch: 1513876 (5220 D COD Digestion)							Analyzed: 12/22/2015	By: JLB	
Method Blank			<5000	ug/L					5000
Laboratory Control Sample		20000	**19900**	ug/L	99	95-105			5000
Analyte: Chloride/SM 4500-Cl E-2011									
QC Batch: 1513593 (General Inorganic Prep)							Analyzed: 12/14/2015	By: LMA	
Method Blank			<1000	ug/L					1000

Continued on next page

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QUALITY CONTROL REPORT

Physical/Chemical Parameters by EPA/APHA/ASTM Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Analyte: Chloride/SM 4500-Cl E-2011 (Continued)									
QC Batch: 1513593 (Continued) (General Inorganic Prep)							Analyzed: 12/14/2015		By: LMA
Laboratory Control Sample		50000	**49200**	ug/L	98	90-106			1000
QC Batch: 1513594 (General Inorganic Prep)							Analyzed: 12/14/2015		By: LMA
Method Blank			<1000	ug/L					1000
Laboratory Control Sample		50000	**48800**	ug/L	98	90-106			1000
Analyte: Cyanide, Total/USEPA-9014									
QC Batch: 1513466 (9010C Cyanide Distillation)							Analyzed: 12/10/2015		By: LMA
Method Blank			<5.00	ug/L					5.00
Laboratory Control Sample		40.0	**36.4**	ug/L	91	83-109			5.00
Laboratory Control Sample		100	**94.0**	ug/L	94	83-109			5.00
Analyte: Nitrogen, Ammonia/SM 4500-NH3 G-2011									
QC Batch: 1513563 (General Inorganic Prep)							Analyzed: 12/10/2015		By: CAC
Method Blank			<10	ug/L					10
Laboratory Control Sample		500	**523**	ug/L	105	90-110			10
Analyte: Nitrogen, Nitrate+Nitrite/SM 4500-NO3 F-2011									
QC Batch: 1513548 (General Inorganic Prep)							Analyzed: 12/10/2015		By: CAC
Method Blank			<0.020	mg/L					0.020
Laboratory Control Sample		0.500	**0.483**	mg/L	97	90-110			0.020
Analyte: Phenolics, Total/USEPA-420.4									
QC Batch: 1513509 (420.1 Phenolics)							Analyzed: 12/11/2015		By: LMA
Method Blank			<10.0	ug/L					10.0
Laboratory Control Sample		250	**244**	ug/L	98	90-110			10.0
Analyte: Residue, Dissolved @ 180° C/SM 2540 C-2011									
QC Batch: 1513440 (General Inorganic Prep)							Analyzed: 12/08/2015		By: MET
Method Blank			<50000	ug/L					50000

Continued on next page

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QUALITY CONTROL REPORT

Physical/Chemical Parameters by EPA/APHA/ASTM Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Analyte: Residue, Dissolved @ 180° C/SM 2540 C-2011 (Continued)									
QC Batch: 1513440 (Continued) (General Inorganic Prep)							Analyzed: 12/08/2015		By: MET
Laboratory Control Sample		200000	**190000**	ug/L	95	85-115			50000
Analyte: Sulfate/ASTM D516-90 (07)									
QC Batch: 1513390 (General Inorganic Prep)							Analyzed: 12/07/2015		By: LMA
Method Blank			<1.0	mg/L					1.0
Laboratory Control Sample		20.0	**19.1**	mg/L	95	88-116			1.0
QC Batch: 1513658 (General Inorganic Prep)							Analyzed: 12/14/2015		By: LMA
Method Blank			<1.0	mg/L					1.0
Method Blank			<2.0	mg/L					2.0
Laboratory Control Sample		10.0	**9.22**	mg/L	92	88-116			1.0
Laboratory Control Sample		20.0	**18.6**	mg/L	93	88-116			2.0

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Chain of Custody Record

COC No. 153056

Pg. 1 of ___

For Lab Use Only

Cart: 2
VOA Rack/Tray: 469-W
Receipt Log No.: 12-29
Project Chemist:
Work Order No.: 1512120

Client Name: Republic Services
Address:
City, State Zip:
Phone/Fax:
Email: jbomba@comcast.net

Project Name: Ottawa County Farms LF
Client Project No. / P.O. No.:
Invoice To: ☑ Client ☐ Other (comments)
Contact/Report To: John Bomba
KECK

Analyses Requested

Container Type (corresponds to Container Packing List): Rule 450, Rule 451, Rule 452, Rule 453, Rule 454

PRESERVATIVES
A NONE pH~7
B HNO_3 pH<2
C H_2SO_4 pH<2
D 1+1 HCl pH<2
E NaOH pH>12
F ZnAc/NaOH pH>9
G MeOH
H Other (note below)

Schedule	Matrix Code	Sample Number		Field Sample ID	Cooler ID	Sample Date	Sample Time	COMP	GRAB	Matrix	Rule 450	Rule 451	Rule 452	Rule 453	Rule 454	Total	Sample Comments
A		01	1	DB-27		12/3/15	1205		G	W	x	x	x	x	x		
			2														
			3														
			4														
			5														
			6														
			7														
			8														
			9														
			10														

Sampled By (print): Eric Ruckert
Sampler's Signature:
Company: KECK Consulting

How Shipped? Hand ✓ Carrier ___
Tracking No.

Comments

	Date	Time
1. Relinquished By	12/3/15	1627
1. Received By		
2. Relinquished By		
2. Received By		
3. Relinquished By		
3. Received For Lab By	12/3/15	16[illegible]

WHITE COPY - REPORT YELLOW COPY - LABORATORY PINK COPY - FIELD

SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: REPUBLIC - OCF
Receipt Record Page/Line #: 12-29
Work Order #: 1512120
New / Add To
Project Chemist
Sample #s: 01

Recorded by (initials/date): DN 12/3/15

☑ Cooler ☐ Box ☐ Other
Qty Received: 1

Thermometer Used: ☑ IR Gun (#202) ☐ Digital Thermometer (#54) ☐ Other (#_____)

☐ See Additional Cooler Information Form

Cooler #	CLIENT	Time	1737
Custody Seals:	☑ None ☐ Present / Intact ☐ Present / Not Intact		
Coolant Type:	☐ Loose Ice ☑ Bagged Ice ☐ Blue Ice ☐ None		
Coolant Location:	Dispersed / Top / Middle / Bottom		
Temp Blank Present:	☑ Yes ☐ No		
If Present, Temperature Blank Location is:	☑ Representative ☐ Not Representative		

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:	9.9	0	9.9
Sample 1:	11.9	0	11.9
Sample 2:	11.8	0	11.8
Sample 3:	11.2	0	11.2
3 Sample Average °C:	11.6		

☐ Cooler ID on COC?
☐ VOC Trip Blank received?

Cooler #		Time	
Custody Seals:	☐ None ☐ Present / Intact ☐ Present / Not Intact		
Coolant Type:	☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None		
Coolant Location:	Dispersed / Top / Middle / Bottom		
Temp Blank Present:	☐ Yes ☐ No		
If Present, Temperature Blank Location is:	☐ Representative ☐ Not Representative		

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			
3 Sample Average °C:			

☐ Cooler ID on COC?
☐ VOC Trip Blank received?

Cooler #		Time	
Custody Seals:	☐ None ☐ Present / Intact ☐ Present / Not Intact		
Coolant Type:	☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None		
Coolant Location:	Dispersed / Top / Middle / Bottom		
Temp Blank Present:	☐ Yes ☐ No		
If Present, Temperature Blank Location is:	☐ Representative ☐ Not Representative		

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			
3 Sample Average °C:			

☐ Cooler ID on COC?
☐ VOC Trip Blank received?

Cooler #		Time	
Custody Seals:	☐ None ☐ Present / Intact ☐ Present / Not Intact		
Coolant Type:	☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None		
Coolant Location:	Dispersed / Top / Middle / Bottom		
Temp Blank Present:	☐ Yes ☐ No		
If Present, Temperature Blank Location is:	☐ Representative ☐ Not Representative		

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			
3 Sample Average °C:			

☐ Cooler ID on COC?
☐ VOC Trip Blank received?

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☑	☐	Chain of Custody record(s)? If No, Initiated By _____
☑		Received for Lab Signed/Date/Time?
☐	☑	Shipping document?
☐	☑	Other _____

COC Information

☑ TriMatrix COC ☐ Other _____

COC ID Numbers: 153056

Check Sample Preservation

N/A	Yes	No	
	☑	☐	Temperature Blank OR average sample temperature, ≥6° C?
☑	☐	☐	If either is ≥6° C, was thermal preservation required?
☑		☐	If "Yes", Project Chemist Approval Initials: _____
☑		☐	If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☐		☑	Completed Sample Preservation Verification Form?
☐		☑	Samples chemically preserved correctly?
☑		☐	If "No", added orange tag?
☐		☑	Received pre-preserved VOC soils? ☐ MeOH ☐ Na_2SO_4

Check COC for Accuracy

Yes	No	
☑	☐	Analysis Requested?
☑	☐	Sample ID matches COC?
☑	☐	Sample Date and Time matches COC?
☑		Container type completed on COC?
☑	☐	All container types indicated are received?

Check for Short Hold-Time Prep/Analyses

☐ Bacteriological
☐ Air Bags
☐ EnCores / Methanol Pre-Preserved
☐ Formaldehyde/Aldehyde
☑ Green-tagged containers
☐ Yellow/White-tagged 1 L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)
☐ NONE RECEIVED
☑ RECEIVED, COCs TO LAB(S)

Sample Condition Summary

N/A	Yes	No	
	☐	☑	Broken containers/lids?
	☐	☑	Missing or incomplete labels?
	☐	☑	Illegible information on labels?
	☐	☑	Low volume received?
	☐	☑	Inappropriate or non-TriMatrix containers received?
☐	☐	☑	VOC vials / TOX containers have headspace?
☑	☐	☐	Extra sample locations / containers not listed on COC?

Notes

☐ Trip Blank received ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
DN 12/3/15	12/3/15	Yes / No

TRIMATRIX LABORATORIES

SAMPLE PRESERVATION VERIFICATION FORM

Client: REPUBLIC - OCF	Work Order #: 1512120
Receipt Log #: 12-29	Completed By (initials/date): JN 12/3/15
	Project Chemist:

COC ID # 153056	Adjusted by: Date:			DO NOT ADJUST pH FOR THESE CONTAINER TYPES			
Container Type	(5) 23	4	13	6	15		
Tag Color	Lt. Blue	Blue	Brown	Red	Red Stripe		
Preservative	NaOH	H_2SO_4	H_2SO_4	HNO_3	HNO_3		
Expected pH	>12	<2	<2	<2	<2		
COC Line #1	✓	✓	✓		✓		
COC Line #2							
COC Line #3							
COC Line #4							
COC Line #5							
COC Line #6							
COC Line #7							
COC Line #8							
COC Line #9							
COC Line #10							

Comments

COC ID #	Adjusted by: Date:			DO NOT ADJUST pH FOR THESE CONTAINER TYPES			
Container Type	5 / 23	4	13	6	15		
Tag Color	Lt. Blue	Blue	Brown	Red	Red Stripe		
Preservative	NaOH	H_2SO_4	H_2SO_4	HNO_3	HNO_3		
Expected pH	>12	<2	<2	<2	<2		
COC Line #1							
COC Line #2							
COC Line #3							
COC Line #4							
COC Line #5							
COC Line #6							
COC Line #7							
COC Line #8							
COC Line #9							
COC Line #10							

Comments

pH Strip Reagent #	
☑	5100128
☐	

Aqueous Samples: For each sample and container type, check the box if pH is acceptable. If pH is not acceptable for any sample container, record pH in box, and note on Sample Receiving Checklist and on Sample Receiving Non-Conformance Form. If approved by Project Chemist, add acid or base to the sample to achieve the correct pH. Add up to, but do not exceed 2x the volume initially added at container prep (see table below for initial volumes used). Add orange pH tag to sample container and record information requested. Record adjusted pH on this form. Do not adjust pH for container types 6 and 15.

Container Size (mL)	Original Vol. of Preservative (mL)
Container Type 5	NaOH
500	2.5
1000	5.0
Container Type 4	H_2SO_4
125	0.5
250	1.0
500	2.0
1000	4.0
Container Type 13	H_2SO_4
500	2.5

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Chain of Custody Record

COC No. 151533

Pg. 2 of 1

For Lab Use Only	
Cart	Le
VOA Rack/Tray	4 Le Le Blue
Receipt Log No.	14-25
Project Chemist	
Work Order No.	1512153

Client Name	Republic Services
Address	
City, State Zip	
Phone/Fax	
Email	j.bomba@comcast.net
Project Name	Ottawa County Farms - LF
Client Project No. / P.O. No.	
Invoice To	☒ Client ☐ Other (comments)
Contact/Report To	John Bomba KBCK Consulting

Analyses Requested

Container Type (corresponds to Container Packing List)

Schedule	Matrix Code	Sample Number	Field Sample ID	Cooler ID	Sample Date	Sample Time	COMP	GRAB	Matrix	Rule 450	Rule 451	Rule 452	Rule 453	Rule 454	Total	Sample Comments
A		01	DB-23		12/4/15	0730		X	GW	x	x	x	x	x		
↓		02	DB-26		12/4/15	1140		X	GW	x	x	x	x	x		
		03	DB-25		12/4/15	1515		X	GW	x	x	x	x	x		

Number of Containers Submitted

⇦ PRESERVATIVES
A NONE pH~7
B HNO_3 pH<2
C H_2SO_4 pH<2
D 1+1 HCl pH<2
E NaOH pH>12
F ZnAc/NaOH pH>9
G MeOH
H Other (note below)

Sampled By (print): Eric M. Ruckert
Sampler's Signature:
Company: KBCK Consulting

How Shipped? Hand X Carrier
Tracking No.

	Date	Time
1. Relinquished By	12/4/15	1613
1. Received By		
2. Relinquished By		
2. Received By		
3. Relinquished By		
3. Received For Lab By	12/4/15	1613

Comments

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SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: Republic
Receipt Record Page/Line #: 14-25
New / Add To
Work Order #: 1512153
Project Chemist
Sample #s: 01-03

Recorded by (initials/date): SR 12/4/15

☑ Cooler ☐ Box ☐ Other_____
Qty Received: 1
Thermometer Used: ☑ IR Gun (#202) ☐ Digital Thermometer (#54) ☐ Other (#_____)
☐ See Additional Cooler Information Form

Cooler #	Time	Custody Seals	Coolant Type	Coolant Location	Temp Blank Present	If Present, Temperature Blank Location is
TM2138	1651	☑ None ☐ Present / Intact ☐ Present / Not Intact	☑ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None	Dispersed / Top / Middle / Bottom	☑ Yes ☐ No	☑ Representative ☐ Not Representative
		☐ None ☐ Present / Intact ☐ Present / Not Intact	☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None	Dispersed / Top / Middle / Bottom	☐ Yes ☐ No	☐ Representative ☐ Not Representative
		☐ None ☐ Present / Intact ☐ Present / Not Intact	☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None	Dispersed / Top / Middle / Bottom	☐ Yes ☐ No	☐ Representative ☐ Not Representative
		☐ None ☐ Present / Intact ☐ Present / Not Intact	☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None	Dispersed / Top / Middle / Bottom	☐ Yes ☐ No	☐ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:	1.1	-	1.1
Sample 1:	1.7	-	1.7
Sample 2:	3.9	-	3.9
Sample 3:	3.1	-	3.1
3 Sample Average °C:	2.9		

☐ Cooler ID on COC?
☐ VOC Trip Blank received?

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☑	☐	Chain of Custody record(s)? If No, Initiated By _____
☑		Received for Lab Signed/Date/Time?
☐	☑	Shipping document?
☐	☑	Other _____

COC Information

☑ TriMatrix COC ☐ Other 151533

COC ID Numbers:

Check COC for Accuracy

Yes	No	
☑	☐	Analysis Requested?
☑	☐	Sample ID matches COC?
☑	☐	Sample Date and Time matches COC?
☑		Container type completed on COC?
☑	☐	All container types indicated are received?

Check Sample Preservation

N/A	Yes	No	
	☐	☑	Temperature Blank **OR** average sample temperature, ≥6° C?
☑	☐	☐	If either is ≥6° C, was thermal preservation required?
☑	☐		If "Yes", Project Chemist Approval Initials: _____
☑	☐		If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☐	☑		Completed Sample Preservation Verification Form?
☐	☑	☐	Samples chemically preserved correctly?
☑	☐		If "No", added orange tag?
	☐	☑	Received pre-preserved VOC soils?

☐ MeOH ☐ Na_2SO_4

Check for Short Hold-Time Prep/Analyses

☐ Bacteriological
☐ Air Bags
☐ EnCores / Methanol Pre-Preserved
☐ Formaldehyde/Aldehyde
☑ Green-tagged containers
☐ Yellow/White-tagged 1 L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)
☐ NONE RECEIVED
☑ RECEIVED, COCs TO LAB(S)

Sample Condition Summary

N/A	Yes	No	
	☐	☑	Broken containers/lids?
	☐	☑	Missing or incomplete labels?
	☐	☑	Illegible information on labels?
	☐	☑	Low volume received?
	☐	☑	Inappropriate or non-TriMatrix containers received?
☐	☐	☑	VOC vials / TOX containers have headspace?
☐	☐	☑	Extra sample locations / containers not listed on COC?

Notes

☐ Trip Blank received ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
12/4/15 1613	12/4/15 1706	(Yes) / No

TRIMATRIX LABORATORIES

SAMPLE PRESERVATION VERIFICATION FORM

page ____ of ____

Client: Republic		Work Order #: 1512153
Receipt Log #: 14-25	Completed By (initials/date): 12/4/15	Project Chemist:

COC ID #			Adjusted by: ____ Date: ____		DO NOT ADJUST pH FOR THESE CONTAINER TYPES			
151533								
Container Type	5 / 23	4	13		6	15		
Tag Color	Lt. Blue	Blue	Brown		Red	Red Stripe		
Preservative	NaOH	H_2SO_4	H_2SO_4		HNO_3	HNO_3		
Expected pH	>12	<2	<2		<2	<2		
COC Line #1	✓	✓	✓			✓		
COC Line #2	✓	✓	✓			✓		
COC Line #3	✓	✓	✓			✓		
COC Line #4								
COC Line #5								
COC Line #6								
COC Line #7								
COC Line #8								
COC Line #9								
COC Line #10								

Comments

pH Strip Reagent #
☑ 5100128
☐

Aqueous Samples: For each sample and container type, check the box if pH is acceptable. If pH is not acceptable for any sample container, record pH in box, and note on Sample Receiving Checklist and on Sample Receiving Non-Conformance Form. If approved by Project Chemist, add acid or base to the sample to achieve the correct pH. Add up to, but do not exceed 2x the volume initially added at container prep (see table below for initial volumes used). Add orange pH tag to sample container and record information requested. Record adjusted pH on this form. Do not adjust pH for container types 6 and 15.

COC ID #			Adjusted by: ____ Date: ____		DO NOT ADJUST pH FOR THESE CONTAINER TYPES			
Container Type	5 / 23	4	13		6	15		
Tag Color	Lt. Blue	Blue	Brown		Red	Red Stripe		
Preservative	NaOH	H_2SO_4	H_2SO_4		HNO_3	HNO_3		
Expected pH	>12	<2	<2		<2	<2		
COC Line #1								
COC Line #2								
COC Line #3								
COC Line #4								
COC Line #5								
COC Line #6								
COC Line #7								
COC Line #8								
COC Line #9								
COC Line #10								

Comments

Container Size (mL)	Original Vol. of Preservative (mL)
Container Type 5	NaOH
500	2.5
1000	5.0
Container Type 4	H_2SO_4
125	0.5
250	1.0
500	2.0
1000	4.0
Container Type 13	H_2SO_4
500	2.5

TRIMATRIX LABORATORIES

5560 Corporate Exchange Court SE
Grand Rapids, MI 49512
Phone (616) 975-4500 Fax (616) 942-7463
www.trimatrixlabs.com

Chain of Custody Record

COC No. 153033

Pg. 1 of 1

For Lab Use Only

Cart: 8
VOA Rack/Tray: 528 - RED
Receipt Log No.: 17-12
Project Chemist: JLR
Work Order No.: 1512172

Client Name: Republic Services
Address:
City, State Zip:
Phone/Fax:
Email: jbondoc@comcast.net

Project Name: Ottawa County Farms LF
Client Project No. / P.O. No.: 464253
Invoice To: ☒ Client ☐ Other (comments)
Contact/Report To: Jim Bondoc, KECK

Analyses Requested

Container Type (corresponds to Container Packing List): Rule 450, Rule 451, Rule 452, Rule 453, Rule 454

Number of Containers Submitted: 1, 3, 4, 5, 11, 13, 15

PRESERVATIVES
A NONE pH~7
B HNO_3 pH<2
C H_2SO_4 pH<2
D 1+1 HCl pH<2
E NaOH pH>12
F ZnAc/NaOH pH>9
G MeOH
H Other (note below)

Schedule	Matrix Code	Sample Number	Field Sample ID	Cooler ID	Sample Date	Sample Time	COMP	GRAB	Matrix	1	3	4	5	11	13	15	Total	Sample Comments
A		01	DB-28		12/7/15	1615				x	x	x	x	x			10	
		02	DB-24		12/7/15	1615				x	x	x	x	x			10	

Sampled By (print): Eric Ruckert
Sampler's Signature:
Company: KECK Consulting

How Shipped? Hand ____ Carrier ____
Tracking No.

Comments:

1. Relinquished By: Date 12/7/15 Time 1710
1. Received By: Date Time
2. Relinquished By: Date Time
2. Received By: Date Time
3. Relinquished By: Date Time
3. Received For Lab By: D. Nordin Date 12-7-15 Time 11:0

WHITE COPY - REPORT YELLOW COPY - LABORATORY PINK COPY - FIELD

SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: REPUBLIC-OCF
Receipt Record Page/Line #: 17-12
Work Order #: 1512172
New / Add To
Project Chemist:
Sample #s:

Recorded by (initials/date): DN 12/7/15

☑ Cooler ☐ Box ☐ Other
Qty Received: 1
Thermometer Used: ☑ IR Gun (#202) ☐ Digital Thermometer (#54) ☐ Other (#_____)
☐ See Additional Cooler Information Form

Cooler #	Time	Custody Seals	Coolant Type	Coolant Location	Temp Blank Present	If Present, Temperature Blank Location is
112968	1727	☑ None ☐ Present / Intact ☐ Present / Not Intact	☐ Loose Ice ☑ Bagged Ice ☐ Blue Ice ☐ None	Dispersed / Top / Middle / Bottom	☑ Yes ☐ No	☑ Representative ☐ Not Representative
		☐ None ☐ Present / Intact ☐ Present / Not Intact	☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None	Dispersed / Top / Middle / Bottom	☐ Yes ☐ No	☐ Representative ☐ Not Representative
		☐ None ☐ Present / Intact ☐ Present / Not Intact	☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None	Dispersed / Top / Middle / Bottom	☐ Yes ☐ No	☐ Representative ☐ Not Representative
		☐ None ☐ Present / Intact ☐ Present / Not Intact	☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None	Dispersed / Top / Middle / Bottom	☐ Yes ☐ No	☐ Representative ☐ Not Representative

	Cooler 1 Observed °C	Correction Factor °C	Actual °C	Cooler 2 Observed °C	Correction Factor °C	Actual °C	Cooler 3 Observed °C	Correction Factor °C	Actual °C	Cooler 4 Observed °C	Correction Factor °C	Actual °C
Temp Blank	3.5	0	3.5									
Sample 1	7.3	0	7.3									
Sample 2	8.3	0	8.3									
Sample 3	7.7	0	7.7									
3 Sample Average °C	7.8											

	Cooler 1	Cooler 2	Cooler 3	Cooler 4
☐ Cooler ID on COC?				
☑ VOC Trip Blank received?				

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☑	☐	Chain of Custody record(s)? If No, Initiated By _____
☑		Received for Lab Signed/Date/Time?
☐	☑	Shipping document?
☐	☑	Other _____

COC Information

☑ TriMatrix COC ☐ Other _____

COC ID Numbers: 153033

Check COC for Accuracy

Yes	No	
☑	☐	Analysis Requested?
☑	☐	Sample ID matches COC?
☑	☐	Sample Date and Time matches COC?
☑		Container type completed on COC?
☑	☐	All container types indicated are received?

Check Sample Preservation

N/A	Yes	No	
	☑	☐	Temperature Blank OR average sample temperature, ≥6° C?
☑	☐	☐	If either is ≥6° C, was thermal preservation required?
☑	☐		If "Yes", Project Chemist Approval Initials: _____
☑	☐		If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☐	☑		Completed Sample Preservation Verification Form?
☐	☑	☐	Samples chemically preserved correctly?
☑	☐		If "No", added orange tag?
	☑	☐	Received pre-preserved VOC soils? ☐ MeOH ☐ Na_2SO_4

Check for Short Hold-Time Prep/Analyses

- ☐ Bacteriological
- ☐ Air Bags
- ☐ EnCores / Methanol Pre-Preserved
- ☐ Formaldehyde/Aldehyde
- ☑ Green-tagged containers
- ☐ Yellow/White-tagged 1 L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)
☐ NONE RECEIVED
☑ RECEIVED, COCs TO LAB(S)

Sample Condition Summary

N/A	Yes	No	
	☐	☑	Broken containers/lids?
	☐	☑	Missing or incomplete labels?
	☐	☑	Illegible information on labels?
	☐	☑	Low volume received?
	☐	☑	Inappropriate or non-TriMatrix containers received?
☐	☐	☑	VOC vials / TOX containers have headspace?
☑	☐	☐	Extra sample locations / containers not listed on COC?

Notes

☐ Trip Blank received ☑ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
DN 12/7/15	12/7/15	Yes / No

TRIMATRIX LABORATORIES

SAMPLE PRESERVATION VERIFICATION FORM

Client: Republic - OCF	Work Order #: 1512172
Receipt Log #: 17-12	Completed By (initials/date): DL 12/7/15
	Project Chemist:

COC ID # 153033

Adjusted by: _____
Date: _____

DO NOT ADJUST pH FOR THESE CONTAINER TYPES

Container Type	5 / 23	4	13		6	15		
Tag Color	Lt. Blue	Blue	Brown		Red	Red Stripe		
Preservative	NaOH	H_2SO_4	H_2SO_4		HNO_3	HNO_3		
Expected pH	>12	<2	<2		<2	<2		
COC Line #1	✓	✓	✓			✓		
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COC Line #3								
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COC Line #8								
COC Line #9								
COC Line #10								

Comments

pH Strip Reagent #
☑ 5100128
☐ _____

Aqueous Samples: For each sample and container type, check the box if pH is acceptable. If pH is not acceptable for any sample container, record pH in box, and note on Sample Receiving Checklist and on Sample Receiving Non-Conformance Form. If approved by Project Chemist, add acid or base to the sample to achieve the correct pH. Add up to, but do not exceed 2x the volume initially added at container prep (see table below for initial volumes used). Add orange pH tag to sample container and record information requested. Record adjusted pH on this form. Do not adjust pH for container types 6 and 15.

COC ID #

Adjusted by: _____
Date: _____

DO NOT ADJUST pH FOR THESE CONTAINER TYPES

Container Type	5 / 23	4	13		6	15		
Tag Color	Lt. Blue	Blue	Brown		Red	Red Stripe		
Preservative	NaOH	H_2SO_4	H_2SO_4		HNO_3	HNO_3		
Expected pH	>12	<2	<2		<2	<2		
COC Line #1								
COC Line #2								
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COC Line #9								
COC Line #10								

Comments

Container Size (mL)	Original Vol. of Preservative (mL)
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1000	5.0
Container Type 4	H_2SO_4
125	0.5
250	1.0
500	2.0
1000	4.0
Container Type 13	H_2SO_4
500	2.5

February 11, 2016

Republic Services, Inc.
Attn: John Bomba - Keck
110 Knapp Drive; Suite 144
Battle Creek, MI 49015

Project: Ottawa County Farms Landfill

Dear John Bomba - Keck,

Enclosed is a copy of the laboratory report for the following work order(s) received by TriMatrix Laboratories:

Work Order	Received	Description
1601330	01/26/2016	Laboratory Services
1601353	01/27/2016	Laboratory Services

This report relates only to the sample(s) as received. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Program (NELAP) and/or one of the following certification programs:

ANAB DoD-ELAP/ISO17025 (#ADE-1542); Arkansas DEP (#88-0730/13-049-0); Florida DEP (#E87622-24); Georgia EPD (#E87622-24); Illinois DEP (#200026/003329); Kentucky DEP (AL123065/#0021); Michigan DPH (#0034); Minnesota DPH (#491715); New York ELAP (#11776/53116); North Carolina DNRE (#659); Virginia DCLS (#460153/7952); Wisconsin DNR (#999472650); USDA Soil Import Permit (#P330-14-00305).

Any qualification or narration of results, including sample acceptance requirements and test exceptions to the above referenced programs, is presented in the Statement of Data Qualifications and Project Technical Narrative sections of this report. Estimates of analytical uncertainties and certification documents for the test results contained within this report are available upon request.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Jennifer L. Rice
Project Chemist

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Individual sample results relate only to the sample tested.
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PROJECT TECHNICAL NARRATIVE(s)

Volatile Organic Compounds by EPA Method 8260B

Narrative: The corresponding CCV for this analytical batch had a recovery exceeding the upper control limit of the method. Non-detectable results are not qualified.

Analysis: USEPA-8260B

Sample/Analyte:			
	1601330-01	DB-23	Bromomethane
	1601330-01	DB-23	Carbon Disulfide
	1601330-01	DB-23	Vinyl Acetate
	1601330-02	DB-26	Bromomethane
	1601330-02	DB-26	Carbon Disulfide
	1601330-02	DB-26	Vinyl Acetate
	1601330-03	DB-25	Bromomethane
	1601330-03	DB-25	Carbon Disulfide
	1601330-03	DB-25	Vinyl Acetate
	1601330-04	DB-24	Bromomethane
	1601330-04	DB-24	Carbon Disulfide
	1601330-04	DB-24	Vinyl Acetate

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PROJECT TECHNICAL NARRATIVE(s)

Dissolved Metals by EPA 6000/7000 Series Methods

Narrative: The CRL recovery for this analyte was outside of the laboratory control limits.

Analysis: USEPA-6020A

6B05029-CRL1 Boron

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PROJECT TECHNICAL NARRATIVE(s)

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Narrative: The CRL recovery for this analyte was outside of the laboratory control limits.

Analysis: SM 4500-NH3 G-2011

6A29030-CRL1 Nitrogen, Ammonia

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STATEMENT OF DATA QUALIFICATIONS

All analyses have been validated and comply with our Quality Control Program.
No Qualification is required.

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1601330**		
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services		
Client Sample ID:	**DB-23**	Sampled:	01/26/16 10:20		
Lab Sample ID:	**1601330-01**	Sampled By:	E. Ruckert		
Matrix:	Water	Received:	01/26/16 17:37		
Unit:	ug/L	Prepared:	01/27/16 20:00	By:	BAG
Dilution Factor:	1	Analyzed:	01/28/16 04:44	By:	BAG
QC Batch:	1600714	Analytical Batch:	6A28012		

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
67-64-1	Acetone	<20	20
107-13-1	Acrylonitrile	<5.0	5.0
71-43-2	Benzene	<1.0	1.0
74-97-5	Bromochloromethane	<1.0	1.0
75-27-4	Bromodichloromethane	<1.0	1.0
75-25-2	Bromoform	<1.0	1.0
74-83-9	Bromomethane	<5.0	5.0
75-15-0	Carbon Disulfide	<1.0	1.0
56-23-5	Carbon Tetrachloride	<1.0	1.0
108-90-7	Chlorobenzene	<1.0	1.0
75-00-3	Chloroethane	<5.0	5.0
67-66-3	Chloroform	<1.0	1.0
74-87-3	Chloromethane	<5.0	5.0
96-12-8	1,2-Dibromo-3-chloropropane	<5.0	5.0
124-48-1	Dibromochloromethane	<1.0	1.0
106-93-4	1,2-Dibromoethane	<1.0	1.0
74-95-3	Dibromomethane	<1.0	1.0
110-57-6	trans-1,4-Dichloro-2-butene	<5.0	5.0
95-50-1	1,2-Dichlorobenzene	<1.0	1.0
106-46-7	1,4-Dichlorobenzene	<1.0	1.0
75-34-3	1,1-Dichloroethane	<1.0	1.0
107-06-2	1,2-Dichloroethane	<1.0	1.0
75-35-4	1,1-Dichloroethene	<1.0	1.0
156-59-2	cis-1,2-Dichloroethene	<1.0	1.0
156-60-5	trans-1,2-Dichloroethene	<1.0	1.0
78-87-5	1,2-Dichloropropane	<1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0	1.0
100-41-4	Ethylbenzene	<1.0	1.0
591-78-6	2-Hexanone	<5.0	5.0
74-88-4	Iodomethane	<1.0	1.0

Continued on next page

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1601330**		
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services		
Client Sample ID:	**DB-23**	Sampled:	01/26/16 10:20		
Lab Sample ID:	**1601330-01**	Sampled By:	E. Ruckert		
Matrix:	Water	Received:	01/26/16 17:37		
Unit:	ug/L	Prepared:	01/27/16 20:00	By:	BAG
Dilution Factor:	1	Analyzed:	01/28/16 04:44	By:	BAG
QC Batch:	1600714	Analytical Batch:	6A28012		

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL
75-09-2	Methylene Chloride	<5.0	5.0
78-93-3	2-Butanone (MEK)	<5.0	5.0
108-10-1	4-Methyl-2-pentanone (MIBK)	<5.0	5.0
100-42-5	Styrene	<1.0	1.0
630-20-6	1,1,1,2-Tetrachloroethane	<1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0	1.0
127-18-4	Tetrachloroethene	<1.0	1.0
108-88-3	Toluene	<1.0	1.0
71-55-6	1,1,1-Trichloroethane	<1.0	1.0
79-00-5	1,1,2-Trichloroethane	<1.0	1.0
79-01-6	Trichloroethene	<1.0	1.0
75-69-4	Trichlorofluoromethane	<1.0	1.0
96-18-4	1,2,3-Trichloropropane	<1.0	1.0
108-05-4	Vinyl Acetate	<1.0	1.0
75-01-4	Vinyl Chloride	<1.0	1.0
1330-20-7	Xylene (Total)	<2.0	2.0

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*98*	*85-118*
1,2-Dichloroethane-d4	*107*	*87-122*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*101*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1601330**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-23**	Sampled:	01/26/16 10:20
Lab Sample ID:	**1601330-01**	Sampled By:	E. Ruckert
Matrix:	Water	Received:	01/26/16 17:37

Dissolved Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	<2.0	2.0	ug/L	1	USEPA-6020A	02/04/16 13:21	MSB	1600687
Arsenic	**7.2**	1.0	ug/L	1	USEPA-6020A	02/04/16 13:21	MSB	1600687
Barium	**13**	5.0	ug/L	1	USEPA-6020A	02/04/16 13:21	MSB	1600687
Beryllium	<1.0	1.0	ug/L	1	USEPA-6020A	02/04/16 13:21	MSB	1600687
Boron	**250**	100	ug/L	5	USEPA-6020A	02/08/16 13:25	DSC	1600687
Cadmium	<0.20	0.20	ug/L	1	USEPA-6020A	02/04/16 13:21	MSB	1600687
Chromium	<2.0	2.0	ug/L	1	USEPA-6020A	02/04/16 13:21	MSB	1600687
Cobalt	<15	15	ug/L	1	USEPA-6020A	02/04/16 13:21	MSB	1600687
Copper	<2.0	2.0	ug/L	1	USEPA-6020A	02/04/16 13:21	MSB	1600687
Iron	**1600**	20	ug/L	1	USEPA-6010C	01/29/16 14:09	CKD	1600686
Lead	<1.0	1.0	ug/L	1	USEPA-6020A	02/04/16 13:21	MSB	1600687
Magnesium	**23000**	1000	ug/L	1	USEPA-6010C	01/29/16 14:09	CKD	1600686
Manganese	**20**	5.0	ug/L	1	USEPA-6020A	02/04/16 13:21	MSB	1600687
Nickel	<25	25	ug/L	1	USEPA-6020A	02/04/16 13:21	MSB	1600687
Potassium	**2500**	100	ug/L	1	USEPA-6010C	01/29/16 14:09	CKD	1600686
Selenium	<2.0	2.0	ug/L	1	USEPA-6020A	02/08/16 12:05	DSC	1600687
Silver	<0.50	0.50	ug/L	1	USEPA-6020A	02/04/16 13:21	MSB	1600687
Sodium	**36000**	1000	ug/L	1	USEPA-6010C	01/29/16 14:09	CKD	1600686
Thallium	<2.0	2.0	ug/L	1	USEPA-6020A	02/04/16 13:21	MSB	1600687
Vanadium	<10	10	ug/L	1	USEPA-6020A	02/04/16 13:21	MSB	1600687
Zinc	<10	10	ug/L	1	USEPA-6020A	02/04/16 13:21	MSB	1600687

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1601330**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-23**	Sampled:	01/26/16 10:20
Lab Sample ID:	**1601330-01**	Sampled By:	E. Ruckert
Matrix:	Water	Received:	01/26/16 17:37

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Nitrogen, Inorganic	**550**	20	ug/L	1	[CALC]	01/28/16 12:20	HLB	[CALC]
Alkalinity, Bicarbonate	**230000**	10000	ug/L	1	SM 2320 B-2011	01/28/16 13:16	JLB	1600701
Alkalinity, Carbonate	<10000	10000	ug/L	1	SM 2320 B-2011	01/28/16 13:16	JLB	1600702
Cyanide, Total	<5.00	5.00	ug/L	1	USEPA-9014	02/03/16 12:02	LMA	1600836
Phenolics, Total	<10.0	10.0	ug/L	1	USEPA-420.4	02/05/16 08:48	LMA	1600708
Sulfate	**370**	120	mg/L	25	ASTM D516-90 (07)	02/01/16 09:40	LMA	1600822
Nitrogen, Nitrate+Nitrite	<0.020	0.020	mg/L	1	SM 4500-NO3 F-2011	01/27/16 18:25	HLB	1600740
Chloride	**3200**	1000	ug/L	1	SM 4500-Cl E-2011	02/02/16 11:01	LMA	1600837
Chemical Oxygen Demand	<5000	5000	ug/L	1	SM 5220 D-2011	02/08/16 15:16	JTW	1601066
Nitrogen, Ammonia	**550**	10	ug/L	1	SM 4500-NH3 G-2011	01/28/16 12:20	LEW	1600767
Residue, Dissolved @ 180° C	**788000**	50000	ug/L	1	SM 2540 C-2011	01/28/16 15:15	MET	1600711
Carbon, Total Organic	**1100**	500	ug/L	1	SM 5310 C-2011	02/01/16 21:53	LEW	1600845

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1601330**		
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services		
Client Sample ID:	**DB-26**	Sampled:	01/26/16 11:00		
Lab Sample ID:	**1601330-02**	Sampled By:	E. Ruckert		
Matrix:	Water	Received:	01/26/16 17:37		
Unit:	ug/L	Prepared:	01/27/16 20:00	By:	BAG
Dilution Factor:	1	Analyzed:	01/28/16 05:12	By:	BAG
QC Batch:	1600714	Analytical Batch:	6A28012		

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
67-64-1	Acetone	<20	20
107-13-1	Acrylonitrile	<5.0	5.0
71-43-2	Benzene	<1.0	1.0
74-97-5	Bromochloromethane	<1.0	1.0
75-27-4	Bromodichloromethane	<1.0	1.0
75-25-2	Bromoform	<1.0	1.0
74-83-9	Bromomethane	<5.0	5.0
75-15-0	Carbon Disulfide	<1.0	1.0
56-23-5	Carbon Tetrachloride	<1.0	1.0
108-90-7	Chlorobenzene	<1.0	1.0
75-00-3	Chloroethane	<5.0	5.0
67-66-3	Chloroform	<1.0	1.0
74-87-3	Chloromethane	<5.0	5.0
96-12-8	1,2-Dibromo-3-chloropropane	<5.0	5.0
124-48-1	Dibromochloromethane	<1.0	1.0
106-93-4	1,2-Dibromoethane	<1.0	1.0
74-95-3	Dibromomethane	<1.0	1.0
110-57-6	trans-1,4-Dichloro-2-butene	<5.0	5.0
95-50-1	1,2-Dichlorobenzene	<1.0	1.0
106-46-7	1,4-Dichlorobenzene	<1.0	1.0
75-34-3	1,1-Dichloroethane	<1.0	1.0
107-06-2	1,2-Dichloroethane	<1.0	1.0
75-35-4	1,1-Dichloroethene	<1.0	1.0
156-59-2	cis-1,2-Dichloroethene	<1.0	1.0
156-60-5	trans-1,2-Dichloroethene	<1.0	1.0
78-87-5	1,2-Dichloropropane	<1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0	1.0
100-41-4	Ethylbenzene	<1.0	1.0
591-78-6	2-Hexanone	<5.0	5.0
74-88-4	Iodomethane	<1.0	1.0

Continued on next page

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1601330**		
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services		
Client Sample ID:	**DB-26**	Sampled:	01/26/16 11:00		
Lab Sample ID:	**1601330-02**	Sampled By:	E. Ruckert		
Matrix:	Water	Received:	01/26/16 17:37		
Unit:	ug/L	Prepared:	01/27/16 20:00	By:	BAG
Dilution Factor:	1	Analyzed:	01/28/16 05:12	By:	BAG
QC Batch:	1600714	Analytical Batch:	6A28012		

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL
75-09-2	Methylene Chloride	<5.0	5.0
78-93-3	2-Butanone (MEK)	<5.0	5.0
108-10-1	4-Methyl-2-pentanone (MIBK)	<5.0	5.0
100-42-5	Styrene	<1.0	1.0
630-20-6	1,1,1,2-Tetrachloroethane	<1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0	1.0
127-18-4	Tetrachloroethene	<1.0	1.0
108-88-3	Toluene	<1.0	1.0
71-55-6	1,1,1-Trichloroethane	<1.0	1.0
79-00-5	1,1,2-Trichloroethane	<1.0	1.0
79-01-6	Trichloroethene	<1.0	1.0
75-69-4	Trichlorofluoromethane	<1.0	1.0
96-18-4	1,2,3-Trichloropropane	<1.0	1.0
108-05-4	Vinyl Acetate	<1.0	1.0
75-01-4	Vinyl Chloride	<1.0	1.0
1330-20-7	Xylene (Total)	<2.0	2.0

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*98*	*85-118*
1,2-Dichloroethane-d4	*108*	*87-122*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*101*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1601330**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-26**	Sampled:	01/26/16 11:00
Lab Sample ID:	**1601330-02**	Sampled By:	E. Ruckert
Matrix:	Water	Received:	01/26/16 17:37

Dissolved Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	<2.0	2.0	ug/L	1	USEPA-6020A	02/04/16 13:23	MSB	1600687
Arsenic	**5.9**	1.0	ug/L	1	USEPA-6020A	02/04/16 13:23	MSB	1600687
Barium	**72**	5.0	ug/L	1	USEPA-6020A	02/04/16 13:23	MSB	1600687
Beryllium	<1.0	1.0	ug/L	1	USEPA-6020A	02/04/16 13:23	MSB	1600687
Boron	**250**	100	ug/L	5	USEPA-6020A	02/08/16 13:28	DSC	1600687
Cadmium	<0.20	0.20	ug/L	1	USEPA-6020A	02/04/16 13:23	MSB	1600687
Chromium	<2.0	2.0	ug/L	1	USEPA-6020A	02/04/16 13:23	MSB	1600687
Cobalt	<15	15	ug/L	1	USEPA-6020A	02/04/16 13:23	MSB	1600687
Copper	<2.0	2.0	ug/L	1	USEPA-6020A	02/04/16 13:23	MSB	1600687
Iron	**1600**	20	ug/L	1	USEPA-6010C	01/29/16 14:10	CKD	1600686
Lead	<1.0	1.0	ug/L	1	USEPA-6020A	02/04/16 13:23	MSB	1600687
Magnesium	**30000**	1000	ug/L	1	USEPA-6010C	01/29/16 14:10	CKD	1600686
Manganese	**100**	25	ug/L	5	USEPA-6020A	02/04/16 15:18	MSB	1600687
Nickel	<25	25	ug/L	1	USEPA-6020A	02/04/16 13:23	MSB	1600687
Selenium	<2.0	2.0	ug/L	1	USEPA-6020A	02/08/16 12:08	DSC	1600687
Potassium	**3200**	100	ug/L	1	USEPA-6010C	01/29/16 14:10	CKD	1600686
Silver	<0.50	0.50	ug/L	1	USEPA-6020A	02/04/16 13:23	MSB	1600687
Sodium	**36000**	1000	ug/L	1	USEPA-6010C	01/29/16 14:10	CKD	1600686
Thallium	<2.0	2.0	ug/L	1	USEPA-6020A	02/04/16 13:23	MSB	1600687
Vanadium	<10	10	ug/L	1	USEPA-6020A	02/04/16 13:23	MSB	1600687
Zinc	<10	10	ug/L	1	USEPA-6020A	02/04/16 13:23	MSB	1600687

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1601330**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-26**	Sampled:	01/26/16 11:00
Lab Sample ID:	**1601330-02**	Sampled By:	E. Ruckert
Matrix:	Water	Received:	01/26/16 17:37

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Nitrogen, Inorganic	**550**	20	ug/L	1	[CALC]	01/28/16 12:40	HLB	[CALC]
Alkalinity, Bicarbonate	**220000**	10000	ug/L	1	SM 2320 B-2011	01/28/16 13:16	JLB	1600701
Alkalinity, Carbonate	<10000	10000	ug/L	1	SM 2320 B-2011	01/28/16 13:16	JLB	1600702
Cyanide, Total	<5.00	5.00	ug/L	1	USEPA-9014	02/03/16 12:02	LMA	1600836
Nitrogen, Nitrate+Nitrite	<0.020	0.020	mg/L	1	SM 4500-NO3 F-2011	01/27/16 18:28	HLB	1600740
Phenolics, Total	<10.0	10.0	ug/L	1	USEPA-420.4	02/05/16 08:48	LMA	1600708
Sulfate	**560**	120	mg/L	25	ASTM D516-90 (07)	02/01/16 09:46	LMA	1600822
Chloride	**3000**	1000	ug/L	1	SM 4500-Cl E-2011	02/02/16 11:01	LMA	1600837
Chemical Oxygen Demand	<5000	5000	ug/L	1	SM 5220 D-2011	02/08/16 15:20	JTW	1601066
Nitrogen, Ammonia	**550**	10	ug/L	1	SM 4500-NH3 G-2011	01/28/16 12:40	LEW	1600767
Residue, Dissolved @ 180° C	**1040000**	50000	ug/L	1	SM 2540 C-2011	01/28/16 15:15	MET	1600711
Carbon, Total Organic	**1200**	500	ug/L	1	SM 5310 C-2011	02/01/16 22:04	LEW	1600845

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1601330**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-25**	Sampled:	01/26/16 14:15
Lab Sample ID:	**1601330-03**	Sampled By:	E. Ruckert
Matrix:	Water	Received:	01/26/16 17:37
Unit:	ug/L	Prepared:	01/27/16 20:00 By: BAG
Dilution Factor:	1	Analyzed:	01/28/16 05:41 By: BAG
QC Batch:	1600714	Analytical Batch:	6A28012

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
67-64-1	Acetone	<20	20
107-13-1	Acrylonitrile	<5.0	5.0
71-43-2	Benzene	<1.0	1.0
74-97-5	Bromochloromethane	<1.0	1.0
75-27-4	Bromodichloromethane	<1.0	1.0
75-25-2	Bromoform	<1.0	1.0
74-83-9	Bromomethane	<5.0	5.0
75-15-0	Carbon Disulfide	<1.0	1.0
56-23-5	Carbon Tetrachloride	<1.0	1.0
108-90-7	Chlorobenzene	<1.0	1.0
75-00-3	Chloroethane	<5.0	5.0
67-66-3	Chloroform	<1.0	1.0
74-87-3	Chloromethane	<5.0	5.0
96-12-8	1,2-Dibromo-3-chloropropane	<5.0	5.0
124-48-1	Dibromochloromethane	<1.0	1.0
106-93-4	1,2-Dibromoethane	<1.0	1.0
74-95-3	Dibromomethane	<1.0	1.0
110-57-6	trans-1,4-Dichloro-2-butene	<5.0	5.0
95-50-1	1,2-Dichlorobenzene	<1.0	1.0
106-46-7	1,4-Dichlorobenzene	<1.0	1.0
75-34-3	1,1-Dichloroethane	<1.0	1.0
107-06-2	1,2-Dichloroethane	<1.0	1.0
75-35-4	1,1-Dichloroethene	<1.0	1.0
156-59-2	cis-1,2-Dichloroethene	<1.0	1.0
156-60-5	trans-1,2-Dichloroethene	<1.0	1.0
78-87-5	1,2-Dichloropropane	<1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0	1.0
100-41-4	Ethylbenzene	<1.0	1.0
591-78-6	2-Hexanone	<5.0	5.0
74-88-4	Iodomethane	<1.0	1.0

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1601330**		
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services		
Client Sample ID:	**DB-25**	Sampled:	01/26/16 14:15		
Lab Sample ID:	**1601330-03**	Sampled By:	E. Ruckert		
Matrix:	Water	Received:	01/26/16 17:37		
Unit:	ug/L	Prepared:	01/27/16 20:00	By:	BAG
Dilution Factor:	1	Analyzed:	01/28/16 05:41	By:	BAG
QC Batch:	1600714	Analytical Batch:	6A28012		

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL
75-09-2	Methylene Chloride	<5.0	5.0
78-93-3	2-Butanone (MEK)	<5.0	5.0
108-10-1	4-Methyl-2-pentanone (MIBK)	<5.0	5.0
100-42-5	Styrene	<1.0	1.0
630-20-6	1,1,1,2-Tetrachloroethane	<1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0	1.0
127-18-4	Tetrachloroethene	<1.0	1.0
108-88-3	Toluene	<1.0	1.0
71-55-6	1,1,1-Trichloroethane	<1.0	1.0
79-00-5	1,1,2-Trichloroethane	<1.0	1.0
79-01-6	Trichloroethene	<1.0	1.0
75-69-4	Trichlorofluoromethane	<1.0	1.0
96-18-4	1,2,3-Trichloropropane	<1.0	1.0
108-05-4	Vinyl Acetate	<1.0	1.0
75-01-4	Vinyl Chloride	<1.0	1.0
1330-20-7	Xylene (Total)	<2.0	2.0

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*99*	*85-118*
1,2-Dichloroethane-d4	*107*	*87-122*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*100*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1601330**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-25**	Sampled:	01/26/16 14:15
Lab Sample ID:	**1601330-03**	Sampled By:	E. Ruckert
Matrix:	Water	Received:	01/26/16 17:37

Dissolved Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	<2.0	2.0	ug/L	1	USEPA-6020A	02/04/16 13:25	MSB	1600687
Arsenic	**4.2**	1.0	ug/L	1	USEPA-6020A	02/04/16 13:25	MSB	1600687
Barium	**21**	5.0	ug/L	1	USEPA-6020A	02/04/16 13:25	MSB	1600687
Beryllium	<1.0	1.0	ug/L	1	USEPA-6020A	02/04/16 13:25	MSB	1600687
Boron	**260**	100	ug/L	5	USEPA-6020A	02/08/16 13:31	DSC	1600687
Cadmium	<0.20	0.20	ug/L	1	USEPA-6020A	02/04/16 13:25	MSB	1600687
Chromium	<2.0	2.0	ug/L	1	USEPA-6020A	02/04/16 13:25	MSB	1600687
Cobalt	<15	15	ug/L	1	USEPA-6020A	02/04/16 13:25	MSB	1600687
Copper	<2.0	2.0	ug/L	1	USEPA-6020A	02/04/16 13:25	MSB	1600687
Iron	**2300**	20	ug/L	1	USEPA-6010C	01/29/16 14:12	CKD	1600686
Lead	<1.0	1.0	ug/L	1	USEPA-6020A	02/04/16 13:25	MSB	1600687
Magnesium	**32000**	1000	ug/L	1	USEPA-6010C	01/29/16 14:12	CKD	1600686
Manganese	**41**	5.0	ug/L	1	USEPA-6020A	02/04/16 13:25	MSB	1600687
Nickel	<25	25	ug/L	1	USEPA-6020A	02/04/16 13:25	MSB	1600687
Potassium	**4500**	100	ug/L	1	USEPA-6010C	01/29/16 14:12	CKD	1600686
Selenium	<2.0	2.0	ug/L	1	USEPA-6020A	02/08/16 12:11	DSC	1600687
Silver	<0.50	0.50	ug/L	1	USEPA-6020A	02/04/16 13:25	MSB	1600687
Sodium	**42000**	1000	ug/L	1	USEPA-6010C	01/29/16 14:12	CKD	1600686
Thallium	<2.0	2.0	ug/L	1	USEPA-6020A	02/04/16 13:25	MSB	1600687
Vanadium	<10	10	ug/L	1	USEPA-6020A	02/04/16 13:25	MSB	1600687
Zinc	<10	10	ug/L	1	USEPA-6020A	02/04/16 13:25	MSB	1600687

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1601330**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-25**	Sampled:	01/26/16 14:15
Lab Sample ID:	**1601330-03**	Sampled By:	E. Ruckert
Matrix:	Water	Received:	01/26/16 17:37

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Nitrogen, Inorganic	**630**	20	ug/L	1	[CALC]	01/28/16 12:40	HLB	[CALC]
Alkalinity, Bicarbonate	**200000**	10000	ug/L	1	SM 2320 B-2011	01/28/16 13:16	JLB	1600701
Alkalinity, Carbonate	<10000	10000	ug/L	1	SM 2320 B-2011	01/28/16 13:16	JLB	1600702
Phenolics, Total	<10.0	10.0	ug/L	1	USEPA-420.4	02/05/16 08:48	LMA	1600708
Sulfate	**570**	120	mg/L	25	ASTM D516-90 (07)	02/01/16 09:46	LMA	1600822
Cyanide, Total	<5.00	5.00	ug/L	1	USEPA-9014	02/03/16 12:02	LMA	1600836
Nitrogen, Nitrate+Nitrite	<0.020	0.020	mg/L	1	SM 4500-NO3 F-2011	01/27/16 18:29	HLB	1600740
Chloride	**5300**	1000	ug/L	1	SM 4500-Cl E-2011	02/02/16 11:04	LMA	1600837
Chemical Oxygen Demand	<5000	5000	ug/L	1	SM 5220 D-2011	02/08/16 15:21	JTW	1601066
Nitrogen, Ammonia	**630**	10	ug/L	1	SM 4500-NH3 G-2011	01/28/16 12:40	LEW	1600767
Residue, Dissolved @ 180° C	**1050000**	50000	ug/L	1	SM 2540 C-2011	01/28/16 15:15	MET	1600711
Carbon, Total Organic	**1200**	500	ug/L	1	SM 5310 C-2011	02/01/16 22:15	LEW	1600845

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1601330**		
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services		
Client Sample ID:	**DB-24**	Sampled:	01/26/16 15:05		
Lab Sample ID:	**1601330-04**	Sampled By:	E. Ruckert		
Matrix:	Water	Received:	01/26/16 17:37		
Unit:	ug/L	Prepared:	01/27/16 20:00	By:	BAG
Dilution Factor:	1	Analyzed:	01/28/16 04:15	By:	BAG
QC Batch:	1600714	Analytical Batch:	6A28012		

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
67-64-1	Acetone	<20	20
107-13-1	Acrylonitrile	<5.0	5.0
71-43-2	Benzene	<1.0	1.0
74-97-5	Bromochloromethane	<1.0	1.0
75-27-4	Bromodichloromethane	<1.0	1.0
75-25-2	Bromoform	<1.0	1.0
74-83-9	Bromomethane	<5.0	5.0
75-15-0	Carbon Disulfide	<1.0	1.0
56-23-5	Carbon Tetrachloride	<1.0	1.0
108-90-7	Chlorobenzene	<1.0	1.0
75-00-3	Chloroethane	<5.0	5.0
67-66-3	Chloroform	<1.0	1.0
74-87-3	Chloromethane	<5.0	5.0
96-12-8	1,2-Dibromo-3-chloropropane	<5.0	5.0
124-48-1	Dibromochloromethane	<1.0	1.0
106-93-4	1,2-Dibromoethane	<1.0	1.0
74-95-3	Dibromomethane	<1.0	1.0
110-57-6	trans-1,4-Dichloro-2-butene	<5.0	5.0
95-50-1	1,2-Dichlorobenzene	<1.0	1.0
106-46-7	1,4-Dichlorobenzene	<1.0	1.0
75-34-3	1,1-Dichloroethane	<1.0	1.0
107-06-2	1,2-Dichloroethane	<1.0	1.0
75-35-4	1,1-Dichloroethene	<1.0	1.0
156-59-2	cis-1,2-Dichloroethene	<1.0	1.0
156-60-5	trans-1,2-Dichloroethene	<1.0	1.0
78-87-5	1,2-Dichloropropane	<1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0	1.0
100-41-4	Ethylbenzene	<1.0	1.0
591-78-6	2-Hexanone	<5.0	5.0
74-88-4	Iodomethane	<1.0	1.0

Continued on next page

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1601330**		
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services		
Client Sample ID:	**DB-24**	Sampled:	01/26/16 15:05		
Lab Sample ID:	**1601330-04**	Sampled By:	E. Ruckert		
Matrix:	Water	Received:	01/26/16 17:37		
Unit:	ug/L	Prepared:	01/27/16 20:00	By:	BAG
Dilution Factor:	1	Analyzed:	01/28/16 04:15	By:	BAG
QC Batch:	1600714	Analytical Batch:	6A28012		

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL
75-09-2	Methylene Chloride	<5.0	5.0
78-93-3	2-Butanone (MEK)	<5.0	5.0
108-10-1	4-Methyl-2-pentanone (MIBK)	<5.0	5.0
100-42-5	Styrene	<1.0	1.0
630-20-6	1,1,1,2-Tetrachloroethane	<1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0	1.0
127-18-4	Tetrachloroethene	<1.0	1.0
108-88-3	Toluene	<1.0	1.0
71-55-6	1,1,1-Trichloroethane	<1.0	1.0
79-00-5	1,1,2-Trichloroethane	<1.0	1.0
79-01-6	Trichloroethene	<1.0	1.0
75-69-4	Trichlorofluoromethane	<1.0	1.0
96-18-4	1,2,3-Trichloropropane	<1.0	1.0
108-05-4	Vinyl Acetate	<1.0	1.0
75-01-4	Vinyl Chloride	<1.0	1.0
1330-20-7	Xylene (Total)	<2.0	2.0

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*98*	*85-118*
1,2-Dichloroethane-d4	*107*	*87-122*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*101*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1601330**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-24**	Sampled:	01/26/16 15:05
Lab Sample ID:	**1601330-04**	Sampled By:	E. Ruckert
Matrix:	Water	Received:	01/26/16 17:37

Dissolved Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	<2.0	2.0	ug/L	1	USEPA-6020A	02/04/16 13:27	MSB	1600687
Arsenic	**3.1**	1.0	ug/L	1	USEPA-6020A	02/04/16 13:27	MSB	1600687
Barium	**26**	5.0	ug/L	1	USEPA-6020A	02/04/16 13:27	MSB	1600687
Beryllium	<1.0	1.0	ug/L	1	USEPA-6020A	02/04/16 13:27	MSB	1600687
Boron	**240**	100	ug/L	5	USEPA-6020A	02/08/16 13:39	DSC	1600687
Cadmium	<0.20	0.20	ug/L	1	USEPA-6020A	02/04/16 13:27	MSB	1600687
Chromium	<2.0	2.0	ug/L	1	USEPA-6020A	02/04/16 13:27	MSB	1600687
Cobalt	<15	15	ug/L	1	USEPA-6020A	02/04/16 13:27	MSB	1600687
Copper	<2.0	2.0	ug/L	1	USEPA-6020A	02/04/16 13:27	MSB	1600687
Iron	**2100**	20	ug/L	1	USEPA-6010C	01/29/16 14:14	CKD	1600686
Lead	<1.0	1.0	ug/L	1	USEPA-6020A	02/04/16 13:27	MSB	1600687
Magnesium	**31000**	1000	ug/L	1	USEPA-6010C	01/29/16 14:14	CKD	1600686
Manganese	**32**	5.0	ug/L	1	USEPA-6020A	02/04/16 13:27	MSB	1600687
Nickel	<25	25	ug/L	1	USEPA-6020A	02/04/16 13:27	MSB	1600687
Selenium	<2.0	2.0	ug/L	1	USEPA-6020A	02/08/16 12:13	DSC	1600687
Potassium	**3500**	100	ug/L	1	USEPA-6010C	01/29/16 14:14	CKD	1600686
Silver	<0.50	0.50	ug/L	1	USEPA-6020A	02/04/16 13:27	MSB	1600687
Sodium	**36000**	1000	ug/L	1	USEPA-6010C	01/29/16 14:14	CKD	1600686
Thallium	<2.0	2.0	ug/L	1	USEPA-6020A	02/04/16 13:27	MSB	1600687
Vanadium	<10	10	ug/L	1	USEPA-6020A	02/04/16 13:27	MSB	1600687
Zinc	<10	10	ug/L	1	USEPA-6020A	02/04/16 13:27	MSB	1600687

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1601330**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-24**	Sampled:	01/26/16 15:05
Lab Sample ID:	**1601330-04**	Sampled By:	E. Ruckert
Matrix:	Water	Received:	01/26/16 17:37

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Nitrogen, Inorganic	**580**	20	ug/L	1	[CALC]	01/28/16 12:40	HLB	[CALC]
Alkalinity, Bicarbonate	**220000**	10000	ug/L	1	SM 2320 B-2011	01/28/16 13:16	JLB	1600701
Alkalinity, Carbonate	<10000	10000	ug/L	1	SM 2320 B-2011	01/28/16 13:16	JLB	1600702
Cyanide, Total	<5.00	5.00	ug/L	1	USEPA-9014	02/03/16 12:02	LMA	1600836
Nitrogen, Nitrate+Nitrite	<0.020	0.020	mg/L	1	SM 4500-NO3 F-2011	01/27/16 18:30	HLB	1600740
Phenolics, Total	<10.0	10.0	ug/L	1	USEPA-420.4	02/05/16 08:55	LMA	1600708
Sulfate	**510**	120	mg/L	25	ASTM D516-90 (07)	02/01/16 09:46	LMA	1600822
Chloride	**3200**	1000	ug/L	1	SM 4500-Cl E-2011	02/02/16 11:04	LMA	1600837
Chemical Oxygen Demand	<5000	5000	ug/L	1	SM 5220 D-2011	02/08/16 15:22	JTW	1601066
Nitrogen, Ammonia	**580**	10	ug/L	1	SM 4500-NH3 G-2011	01/28/16 12:40	LEW	1600767
Residue, Dissolved @ 180° C	**968000**	50000	ug/L	1	SM 2540 C-2011	01/28/16 15:15	MET	1600711
Carbon, Total Organic	**1200**	500	ug/L	1	SM 5310 C-2011	02/01/16 22:26	LEW	1600845

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1601353**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-27**	Sampled:	01/27/16 08:20
Lab Sample ID:	**1601353-01**	Sampled By:	Eric Ruckert
Matrix:	Water	Received:	01/27/16 13:17
Unit:	ug/L	Prepared:	02/04/16 19:00 By: DLV
Dilution Factor:	1	Analyzed:	02/04/16 21:12 By: DLV
QC Batch:	1600978	Analytical Batch:	6B05010

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
67-64-1	Acetone	<20	20
107-13-1	Acrylonitrile	<5.0	5.0
71-43-2	Benzene	<1.0	1.0
74-97-5	Bromochloromethane	<1.0	1.0
75-27-4	Bromodichloromethane	<1.0	1.0
75-25-2	Bromoform	<1.0	1.0
74-83-9	Bromomethane	<5.0	5.0
75-15-0	Carbon Disulfide	<1.0	1.0
56-23-5	Carbon Tetrachloride	<1.0	1.0
108-90-7	Chlorobenzene	<1.0	1.0
75-00-3	Chloroethane	<5.0	5.0
67-66-3	Chloroform	<1.0	1.0
74-87-3	Chloromethane	<5.0	5.0
96-12-8	1,2-Dibromo-3-chloropropane	<5.0	5.0
124-48-1	Dibromochloromethane	<1.0	1.0
106-93-4	1,2-Dibromoethane	<1.0	1.0
74-95-3	Dibromomethane	<1.0	1.0
110-57-6	trans-1,4-Dichloro-2-butene	<5.0	5.0
95-50-1	1,2-Dichlorobenzene	<1.0	1.0
106-46-7	1,4-Dichlorobenzene	<1.0	1.0
75-34-3	1,1-Dichloroethane	<1.0	1.0
107-06-2	1,2-Dichloroethane	<1.0	1.0
75-35-4	1,1-Dichloroethene	<1.0	1.0
156-59-2	cis-1,2-Dichloroethene	<1.0	1.0
156-60-5	trans-1,2-Dichloroethene	<1.0	1.0
78-87-5	1,2-Dichloropropane	<1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0	1.0
100-41-4	Ethylbenzene	<1.0	1.0
591-78-6	2-Hexanone	<5.0	5.0
74-88-4	Iodomethane	<1.0	1.0

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1601353**		
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services		
Client Sample ID:	**DB-27**	Sampled:	01/27/16 08:20		
Lab Sample ID:	**1601353-01**	Sampled By:	Eric Ruckert		
Matrix:	Water	Received:	01/27/16 13:17		
Unit:	ug/L	Prepared:	02/04/16 19:00	By:	DLV
Dilution Factor:	1	Analyzed:	02/04/16 21:12	By:	DLV
QC Batch:	1600978	Analytical Batch:	6B05010		

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL
75-09-2	Methylene Chloride	<5.0	5.0
78-93-3	2-Butanone (MEK)	<5.0	5.0
108-10-1	4-Methyl-2-pentanone (MIBK)	<5.0	5.0
100-42-5	Styrene	<1.0	1.0
630-20-6	1,1,1,2-Tetrachloroethane	<1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0	1.0
127-18-4	Tetrachloroethene	<1.0	1.0
108-88-3	Toluene	<1.0	1.0
71-55-6	1,1,1-Trichloroethane	<1.0	1.0
79-00-5	1,1,2-Trichloroethane	<1.0	1.0
79-01-6	Trichloroethene	<1.0	1.0
75-69-4	Trichlorofluoromethane	<1.0	1.0
96-18-4	1,2,3-Trichloropropane	<1.0	1.0
108-05-4	Vinyl Acetate	<1.0	1.0
75-01-4	Vinyl Chloride	<1.0	1.0
1330-20-7	Xylene (Total)	<2.0	2.0

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*97*	*85-118*
1,2-Dichloroethane-d4	*103*	*87-122*
Toluene-d8	*101*	*85-113*
4-Bromofluorobenzene	*96*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1601353**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-27**	Sampled:	01/27/16 08:20
Lab Sample ID:	**1601353-01**	Sampled By:	Eric Ruckert
Matrix:	Water	Received:	01/27/16 13:17

Dissolved Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	<2.0	2.0	ug/L	1	USEPA-6020A	02/04/16 13:57	MSB	1600762
Arsenic	**5.3**	1.0	ug/L	1	USEPA-6020A	02/04/16 13:57	MSB	1600762
Barium	**18**	5.0	ug/L	1	USEPA-6020A	02/04/16 13:57	MSB	1600762
Beryllium	<1.0	1.0	ug/L	1	USEPA-6020A	02/04/16 13:57	MSB	1600762
Boron	**230**	100	ug/L	5	USEPA-6020A	02/08/16 13:41	DSC	1600762
Cadmium	<0.20	0.20	ug/L	1	USEPA-6020A	02/04/16 13:57	MSB	1600762
Chromium	<2.0	2.0	ug/L	1	USEPA-6020A	02/04/16 13:57	MSB	1600762
Cobalt	<15	15	ug/L	1	USEPA-6020A	02/04/16 13:57	MSB	1600762
Copper	<2.0	2.0	ug/L	1	USEPA-6020A	02/04/16 13:57	MSB	1600762
Iron	**1900**	20	ug/L	1	USEPA-6010C	02/03/16 11:04	CKD	1600761
Lead	<1.0	1.0	ug/L	1	USEPA-6020A	02/04/16 13:57	MSB	1600762
Magnesium	**29000**	1000	ug/L	1	USEPA-6010C	02/03/16 11:04	CKD	1600761
Manganese	**33**	5.0	ug/L	1	USEPA-6020A	02/04/16 13:57	MSB	1600762
Nickel	<25	25	ug/L	1	USEPA-6020A	02/04/16 13:57	MSB	1600762
Potassium	**3100**	100	ug/L	1	USEPA-6010C	02/03/16 11:04	CKD	1600761
Selenium	<2.0	2.0	ug/L	1	USEPA-6020A	02/08/16 12:22	DSC	1600762
Silver	<0.50	0.50	ug/L	1	USEPA-6020A	02/04/16 13:57	MSB	1600762
Sodium	**35000**	1000	ug/L	1	USEPA-6010C	02/03/16 11:04	CKD	1600761
Thallium	<2.0	2.0	ug/L	1	USEPA-6020A	02/04/16 13:57	MSB	1600762
Vanadium	<10	10	ug/L	1	USEPA-6020A	02/04/16 13:57	MSB	1600762
Zinc	<10	10	ug/L	1	USEPA-6020A	02/04/16 13:57	MSB	1600762

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1601353**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-27**	Sampled:	01/27/16 08:20
Lab Sample ID:	**1601353-01**	Sampled By:	Eric Ruckert
Matrix:	Water	Received:	01/27/16 13:17

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Nitrogen, Inorganic	**550**	20	ug/L	1	[CALC]	01/28/16 12:40	HLB	[CALC]
Alkalinity, Bicarbonate	**240000**	10000	ug/L	1	SM 2320 B-2011	01/28/16 13:16	JLB	1600701
Alkalinity, Carbonate	<10000	10000	ug/L	1	SM 2320 B-2011	01/28/16 13:16	JLB	1600702
Phenolics, Total	<10.0	10.0	ug/L	1	USEPA-420.4	02/05/16 08:55	LMA	1600708
Sulfate	**340**	50	mg/L	10	ASTM D516-90 (07)	02/01/16 08:55	LMA	1600822
Cyanide, Total	<5.00	5.00	ug/L	1	USEPA-9014	02/03/16 12:02	LMA	1600836
Nitrogen, Nitrate+Nitrite	<0.020	0.020	mg/L	1	SM 4500-NO3 F-2011	01/27/16 18:31	HLB	1600740
Chloride	**3300**	1000	ug/L	1	SM 4500-Cl E-2011	02/02/16 11:04	LMA	1600837
Chemical Oxygen Demand	<5000	5000	ug/L	1	SM 5220 D-2011	02/08/16 15:28	JTW	1601066
Nitrogen, Ammonia	**550**	10	ug/L	1	SM 4500-NH3 G-2011	01/28/16 12:40	LEW	1600767
Residue, Dissolved @ 180° C	**712000**	50000	ug/L	1	SM 2540 C-2011	01/28/16 15:15	MET	1600711
Carbon, Total Organic	**1100**	500	ug/L	1	SM 5310 C-2011	02/05/16 06:10	LEW	1601040

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1601353**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-28**	Sampled:	01/27/16 11:30
Lab Sample ID:	**1601353-02**	Sampled By:	Eric Ruckert
Matrix:	Water	Received:	01/27/16 13:17
Unit:	ug/L	Prepared:	02/04/16 19:00 By: DLV
Dilution Factor:	1	Analyzed:	02/04/16 21:37 By: DLV
QC Batch:	1600978	Analytical Batch:	6B05010

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
67-64-1	Acetone	<20	20
107-13-1	Acrylonitrile	<5.0	5.0
71-43-2	Benzene	<1.0	1.0
74-97-5	Bromochloromethane	<1.0	1.0
75-27-4	Bromodichloromethane	<1.0	1.0
75-25-2	Bromoform	<1.0	1.0
74-83-9	Bromomethane	<5.0	5.0
75-15-0	Carbon Disulfide	<1.0	1.0
56-23-5	Carbon Tetrachloride	<1.0	1.0
108-90-7	Chlorobenzene	<1.0	1.0
75-00-3	Chloroethane	<5.0	5.0
67-66-3	Chloroform	<1.0	1.0
74-87-3	Chloromethane	<5.0	5.0
96-12-8	1,2-Dibromo-3-chloropropane	<5.0	5.0
124-48-1	Dibromochloromethane	<1.0	1.0
106-93-4	1,2-Dibromoethane	<1.0	1.0
74-95-3	Dibromomethane	<1.0	1.0
110-57-6	trans-1,4-Dichloro-2-butene	<5.0	5.0
95-50-1	1,2-Dichlorobenzene	<1.0	1.0
106-46-7	1,4-Dichlorobenzene	<1.0	1.0
75-34-3	1,1-Dichloroethane	<1.0	1.0
107-06-2	1,2-Dichloroethane	<1.0	1.0
75-35-4	1,1-Dichloroethene	<1.0	1.0
156-59-2	cis-1,2-Dichloroethene	<1.0	1.0
156-60-5	trans-1,2-Dichloroethene	<1.0	1.0
78-87-5	1,2-Dichloropropane	<1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0	1.0
100-41-4	Ethylbenzene	<1.0	1.0
591-78-6	2-Hexanone	<5.0	5.0
74-88-4	Iodomethane	<1.0	1.0

Continued on next page

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1601353**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-28**	Sampled:	01/27/16 11:30
Lab Sample ID:	**1601353-02**	Sampled By:	Eric Ruckert
Matrix:	Water	Received:	01/27/16 13:17
Unit:	ug/L	Prepared:	02/04/16 19:00 By: DLV
Dilution Factor:	1	Analyzed:	02/04/16 21:37 By: DLV
QC Batch:	1600978	Analytical Batch:	6B05010

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL
75-09-2	Methylene Chloride	<5.0	5.0
78-93-3	2-Butanone (MEK)	<5.0	5.0
108-10-1	4-Methyl-2-pentanone (MIBK)	<5.0	5.0
100-42-5	Styrene	<1.0	1.0
630-20-6	1,1,1,2-Tetrachloroethane	<1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0	1.0
127-18-4	Tetrachloroethene	<1.0	1.0
108-88-3	Toluene	<1.0	1.0
71-55-6	1,1,1-Trichloroethane	<1.0	1.0
79-00-5	1,1,2-Trichloroethane	<1.0	1.0
79-01-6	Trichloroethene	<1.0	1.0
75-69-4	Trichlorofluoromethane	<1.0	1.0
96-18-4	1,2,3-Trichloropropane	<1.0	1.0
108-05-4	Vinyl Acetate	<1.0	1.0
75-01-4	Vinyl Chloride	<1.0	1.0
1330-20-7	Xylene (Total)	<2.0	2.0

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*97*	*85-118*
1,2-Dichloroethane-d4	*103*	*87-122*
Toluene-d8	*100*	*85-113*
4-Bromofluorobenzene	*98*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1601353**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-28**	Sampled:	01/27/16 11:30
Lab Sample ID:	**1601353-02**	Sampled By:	Eric Ruckert
Matrix:	Water	Received:	01/27/16 13:17

Dissolved Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	<2.0	2.0	ug/L	1	USEPA-6020A	02/04/16 13:59	MSB	1600762
Arsenic	**2.5**	1.0	ug/L	1	USEPA-6020A	02/04/16 13:59	MSB	1600762
Barium	**14**	5.0	ug/L	1	USEPA-6020A	02/04/16 13:59	MSB	1600762
Beryllium	<1.0	1.0	ug/L	1	USEPA-6020A	02/04/16 13:59	MSB	1600762
Boron	**190**	100	ug/L	5	USEPA-6020A	02/08/16 13:44	DSC	1600762
Cadmium	<0.20	0.20	ug/L	1	USEPA-6020A	02/04/16 13:59	MSB	1600762
Chromium	<2.0	2.0	ug/L	1	USEPA-6020A	02/04/16 13:59	MSB	1600762
Cobalt	<15	15	ug/L	1	USEPA-6020A	02/04/16 13:59	MSB	1600762
Copper	<2.0	2.0	ug/L	1	USEPA-6020A	02/04/16 13:59	MSB	1600762
Iron	**390**	20	ug/L	1	USEPA-6010C	02/03/16 11:06	CKD	1600761
Lead	<1.0	1.0	ug/L	1	USEPA-6020A	02/04/16 13:59	MSB	1600762
Magnesium	**31000**	1000	ug/L	1	USEPA-6010C	02/03/16 11:06	CKD	1600761
Manganese	**34**	5.0	ug/L	1	USEPA-6020A	02/04/16 13:59	MSB	1600762
Nickel	<25	25	ug/L	1	USEPA-6020A	02/04/16 13:59	MSB	1600762
Selenium	<2.0	2.0	ug/L	1	USEPA-6020A	02/08/16 12:24	DSC	1600762
Potassium	**4400**	100	ug/L	1	USEPA-6010C	02/03/16 11:06	CKD	1600761
Silver	<0.50	0.50	ug/L	1	USEPA-6020A	02/04/16 13:59	MSB	1600762
Sodium	**29000**	1000	ug/L	1	USEPA-6010C	02/03/16 11:06	CKD	1600761
Thallium	<2.0	2.0	ug/L	1	USEPA-6020A	02/04/16 13:59	MSB	1600762
Vanadium	<10	10	ug/L	1	USEPA-6020A	02/04/16 13:59	MSB	1600762
Zinc	<10	10	ug/L	1	USEPA-6020A	02/04/16 13:59	MSB	1600762

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1601353**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-28**	Sampled:	01/27/16 11:30
Lab Sample ID:	**1601353-02**	Sampled By:	Eric Ruckert
Matrix:	Water	Received:	01/27/16 13:17

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Nitrogen, Inorganic	**450**	20	ug/L	1	[CALC]	01/28/16 12:40	HLB	[CALC]
Alkalinity, Bicarbonate	**230000**	10000	ug/L	1	SM 2320 B-2011	01/28/16 13:16	JLB	1600701
Alkalinity, Carbonate	<10000	10000	ug/L	1	SM 2320 B-2011	01/28/16 13:16	JLB	1600702
Cyanide, Total	<5.00	5.00	ug/L	1	USEPA-9014	02/03/16 12:02	LMA	1600836
Nitrogen, Nitrate+Nitrite	<0.020	0.020	mg/L	1	SM 4500-NO3 F-2011	01/27/16 18:32	HLB	1600740
Phenolics, Total	<10.0	10.0	ug/L	1	USEPA-420.4	02/05/16 08:55	LMA	1600708
Sulfate	**520**	120	mg/L	25	ASTM D516-90 (07)	02/01/16 09:46	LMA	1600822
Chloride	**7300**	1000	ug/L	1	SM 4500-Cl E-2011	02/02/16 11:04	LMA	1600837
Chemical Oxygen Demand	<5000	5000	ug/L	1	SM 5220 D-2011	02/08/16 15:29	JTW	1601066
Nitrogen, Ammonia	**450**	10	ug/L	1	SM 4500-NH3 G-2011	01/28/16 12:40	LEW	1600767
Residue, Dissolved @ 180° C	**1010000**	50000	ug/L	1	SM 2540 C-2011	02/01/16 16:00	MET	1600815
Carbon, Total Organic	**1000**	500	ug/L	1	SM 5310 C-2011	02/05/16 06:21	LEW	1601040

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TRIMATRIX LABORATORIES

QUALITY CONTROL REPORT

Volatile Organic Compounds by EPA Method 8260B

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL

QC Batch: 1600714 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank Analyzed: 01/27/2016 By: BAG
Unit: ug/L Analytical Batch: 6A28012

Acetone	<20	--	20
Acrylonitrile	<5.0		5.0
Benzene	<1.0		1.0
Bromochloromethane	<1.0		1.0
Bromodichloromethane	<1.0		1.0
Bromoform	<1.0		1.0
Bromomethane	<5.0		5.0
Carbon Disulfide	<1.0	--	1.0
Carbon Tetrachloride	<1.0		1.0
Chlorobenzene	<1.0	--	1.0
Chloroethane	<5.0		5.0
Chloroform	<1.0		1.0
Chloromethane	<5.0		5.0
1,2-Dibromo-3-chloropropane	<5.0		5.0
Dibromochloromethane	<1.0		1.0
1,2-Dibromoethane	<1.0		1.0
Dibromomethane	<1.0		1.0
trans-1,4-Dichloro-2-butene	<5.0		5.0
1,2-Dichlorobenzene	<1.0	--	1.0
1,4-Dichlorobenzene	<1.0	--	1.0
1,1-Dichloroethane	<1.0		1.0
1,2-Dichloroethane	<1.0		1.0
1,1-Dichloroethene	<1.0		1.0
cis-1,2-Dichloroethene	<1.0		1.0
trans-1,2-Dichloroethene	<1.0		1.0
1,2-Dichloropropane	<1.0		1.0
cis-1,3-Dichloropropene	<1.0		1.0
trans-1,3-Dichloropropene	<1.0		1.0
Ethylbenzene	<1.0		1.0
2-Hexanone	<5.0		5.0
Iodomethane	<1.0		1.0
Methylene Chloride	<5.0	--	5.0
2-Butanone (MEK)	<5.0		5.0
4-Methyl-2-pentanone (MIBK)	<5.0	--	5.0
Styrene	<1.0		1.0
1,1,1,2-Tetrachloroethane	<1.0		1.0

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Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL

QC Batch: 1600714 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank (Continued) Analyzed: 01/27/2016 By: BAG
Unit: ug/L Analytical Batch: 6A28012

1,1,2,2-Tetrachloroethane			<1.0				1.0
Tetrachloroethene			<1.0				1.0
Toluene			<1.0				1.0
1,1,1-Trichloroethane			<1.0				1.0
1,1,2-Trichloroethane			<1.0				1.0
Trichloroethene			<1.0				1.0
Trichlorofluoromethane			<1.0				1.0
1,2,3-Trichloropropane			<1.0				1.0
Vinyl Acetate			<1.0				1.0
Vinyl Chloride			<1.0				1.0
Xylene (Total)			<2.0				2.0
Surrogates:							
Dibromofluoromethane				*97*	*85-118*		
1,2-Dichloroethane-d4				*106*	*87-122*		
Toluene-d8				*98*	*85-113*		
4-Bromofluorobenzene				*101*	*82-110*		

Laboratory Control Sample Analyzed: 01/27/2016 By: BAG
Unit: ug/L Analytical Batch: 6A28012

Benzene	40.0	**41.3**		103	84-119	--	1.0
Chlorobenzene	40.0	**41.7**		104	84-118	--	1.0
1,1-Dichloroethene	40.0	**41.1**		103	77-123	--	1.0
Toluene	40.0	**41.6**		104	85-118	--	1.0
Trichloroethene	40.0	**38.2**		95	82-119	--	1.0

QC Batch: 1600978 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank Analyzed: 02/04/2016 By: DLV
Unit: ug/L Analytical Batch: 6B05010

Acetone			<20				20
Acrylonitrile			<5.0				5.0
Benzene			<1.0				1.0
Bromochloromethane			<1.0				1.0
Bromodichloromethane			<1.0				1.0

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Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL

QC Batch: 1600978 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank (Continued) Analyzed: 02/04/2016 By: DLV
Unit: ug/L Analytical Batch: 6B05010

Bromoform	<1.0		1.0
Bromomethane	<5.0		5.0
Carbon Disulfide	<1.0	--	1.0
Carbon Tetrachloride	<1.0		1.0
Chlorobenzene	<1.0	--	1.0
Chloroethane	<5.0		5.0
Chloroform	<1.0		1.0
Chloromethane	<5.0		5.0
1,2-Dibromo-3-chloropropane	<5.0		5.0
Dibromochloromethane	<1.0		1.0
1,2-Dibromoethane	<1.0		1.0
Dibromomethane	<1.0		1.0
trans-1,4-Dichloro-2-butene	<5.0		5.0
1,2-Dichlorobenzene	<1.0	--	1.0
1,4-Dichlorobenzene	<1.0	--	1.0
1,1-Dichloroethane	<1.0		1.0
1,2-Dichloroethane	<1.0		1.0
1,1-Dichloroethene	<1.0		1.0
cis-1,2-Dichloroethene	<1.0		1.0
trans-1,2-Dichloroethene	<1.0		1.0
1,2-Dichloropropane	<1.0		1.0
cis-1,3-Dichloropropene	<1.0		1.0
trans-1,3-Dichloropropene	<1.0		1.0
Ethylbenzene	<1.0	--	1.0
2-Hexanone	<5.0	--	5.0
Iodomethane	<1.0		1.0
Methylene Chloride	<5.0		5.0
2-Butanone (MEK)	<5.0		5.0
4-Methyl-2-pentanone (MIBK)	<5.0	--	5.0
Styrene	<1.0	--	1.0
1,1,1,2-Tetrachloroethane	<1.0		1.0
1,1,2,2-Tetrachloroethane	<1.0		1.0
Tetrachloroethene	<1.0		1.0
Toluene	<1.0	--	1.0
1,1,1-Trichloroethane	<1.0		1.0
1,1,2-Trichloroethane	<1.0		1.0

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QUALITY CONTROL REPORT

Volatile Organic Compounds by EPA Method 8260B (Continued)

QC Batch: 1600978 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank (Continued) Analyzed: 02/04/2016 By: DLV
Unit: ug/L Analytical Batch: 6B05010

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Trichloroethene			<1.0					1.0
Trichlorofluoromethane			<1.0					1.0
1,2,3-Trichloropropane			<1.0					1.0
Vinyl Acetate			<1.0			--		1.0
Vinyl Chloride			<1.0					1.0
Xylene (Total)			<2.0			--		2.0
Surrogates:								
Dibromofluoromethane				*98*	*85-118*			
1,2-Dichloroethane-d4				*101*	*87-122*			
Toluene-d8				*101*	*85-113*			
4-Bromofluorobenzene				*97*	*82-110*			

Laboratory Control Sample Analyzed: 02/04/2016 By: DLV
Unit: ug/L Analytical Batch: 6B05010

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Benzene		40.0	**41.8**	104	84-119	--		1.0
Chlorobenzene		40.0	**40.7**	102	84-118	--		1.0
1,1-Dichloroethene		40.0	**45.0**	112	77-123	--		1.0
Toluene		40.0	**42.2**	105	85-118	--		1.0
Trichloroethene		40.0	**40.7**	102	82-119	--		1.0

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TRIMATRIX LABORATORIES

QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Analyte: Antimony/USEPA-6020A									
QC Batch: 1600687 (3020A Digestion)							Analyzed: 02/04/2016		By: MSB
Method Blank			<2.0	ug/L					2.0
Laboratory Control Sample		50.0	**49.8**	ug/L	100	80-120			2.0
QC Batch: 1600762 (3020A Digestion)							Analyzed: 02/04/2016		By: MSB
Method Blank			<2.0	ug/L					2.0
Laboratory Control Sample		50.0	**47.1**	ug/L	94	80-120			2.0
Analyte: Arsenic/USEPA-6020A									
QC Batch: 1600687 (3020A Digestion)							Analyzed: 02/04/2016		By: MSB
Method Blank			<1.0	ug/L					1.0
Laboratory Control Sample		50.0	**50.4**	ug/L	101	80-120			1.0
QC Batch: 1600762 (3020A Digestion)							Analyzed: 02/04/2016		By: MSB
Method Blank			<1.0	ug/L					1.0
Laboratory Control Sample		50.0	**46.8**	ug/L	94	80-120			1.0
Analyte: Barium/USEPA-6020A									
QC Batch: 1600687 (3020A Digestion)							Analyzed: 02/04/2016		By: MSB
Method Blank			<5.0	ug/L					5.0
Laboratory Control Sample		50.0	**51.2**	ug/L	102	80-120			5.0
QC Batch: 1600762 (3020A Digestion)							Analyzed: 02/04/2016		By: MSB
Method Blank			<5.0	ug/L					5.0
Laboratory Control Sample		50.0	**49.8**	ug/L	100	80-120			5.0
Analyte: Beryllium/USEPA-6020A									
QC Batch: 1600687 (3020A Digestion)							Analyzed: 02/04/2016		By: MSB
Method Blank			<1.0	ug/L					1.0
Laboratory Control Sample		50.0	**50.2**	ug/L	100	80-120			1.0
QC Batch: 1600762 (3020A Digestion)							Analyzed: 02/04/2016		By: MSB
Method Blank			<1.0	ug/L					1.0

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QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Analyte: Beryllium/USEPA-6020A (Continued)									
QC Batch: 1600762 (Continued) (3020A Digestion)							Analyzed: 02/04/2016		By: MSB
Laboratory Control Sample		50.0	**46.0**	ug/L	92	80-120			1.0
Analyte: Boron/USEPA-6020A									
QC Batch: 1600687 (3020A Digestion)							Analyzed: 02/05/2016		By: MSB
Method Blank			<20	ug/L					20
Laboratory Control Sample		50.0	**54.5**	ug/L	109	80-120			20
QC Batch: 1600762 (3020A Digestion)							Analyzed: 02/08/2016		By: DSC
Method Blank			<20	ug/L					20
Laboratory Control Sample		50.0	**51.4**	ug/L	103	80-120			20
Analyte: Cadmium/USEPA-6020A									
QC Batch: 1600687 (3020A Digestion)							Analyzed: 02/04/2016		By: MSB
Method Blank			<0.20	ug/L					0.20
Laboratory Control Sample		50.0	**51.1**	ug/L	102	80-120			0.20
QC Batch: 1600762 (3020A Digestion)							Analyzed: 02/04/2016		By: MSB
Method Blank			<0.20	ug/L					0.20
Laboratory Control Sample		50.0	**50.1**	ug/L	100	80-120			0.20
Analyte: Chromium/USEPA-6020A									
QC Batch: 1600687 (3020A Digestion)							Analyzed: 02/04/2016		By: MSB
Method Blank			<2.0	ug/L					2.0
Laboratory Control Sample		50.0	**50.2**	ug/L	100	80-120			2.0
QC Batch: 1600762 (3020A Digestion)							Analyzed: 02/04/2016		By: MSB
Method Blank			<2.0	ug/L					2.0
Laboratory Control Sample		50.0	**48.5**	ug/L	97	80-120			2.0
Analyte: Cobalt/USEPA-6020A									
QC Batch: 1600687 (3020A Digestion)							Analyzed: 02/04/2016		By: MSB
Method Blank			<15	ug/L					15

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QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Analyte: Cobalt/USEPA-6020A (Continued)									
QC Batch: 1600687 (Continued) (3020A Digestion)							Analyzed: 02/04/2016		By: MSB
Laboratory Control Sample		50.0	**50.9**	ug/L	102	80-120			15
QC Batch: 1600762 (3020A Digestion)							Analyzed: 02/04/2016		By: MSB
Method Blank			<15	ug/L					15
Laboratory Control Sample		50.0	**48.4**	ug/L	97	80-120			15
Analyte: Copper/USEPA-6020A									
QC Batch: 1600687 (3020A Digestion)							Analyzed: 02/04/2016		By: MSB
Method Blank			<2.0	ug/L					2.0
Laboratory Control Sample		50.0	**51.1**	ug/L	102	80-120			2.0
QC Batch: 1600762 (3020A Digestion)							Analyzed: 02/04/2016		By: MSB
Method Blank			**4.5**	ug/L					2.0
*Laboratory Control Sample		50.0	**49.4**	ug/L	99	80-120			2.0
Analyte: Iron/USEPA-6010C									
QC Batch: 1600761 (3010A Digestion)							Analyzed: 02/03/2016		By: CKD
Method Blank			<20	ug/L					20
Laboratory Control Sample		400	**443**	ug/L	111	80-120			20
QC Batch: 1600686 (3010A Digestion)							Analyzed: 01/29/2016		By: CKD
Method Blank			<20	ug/L					20
Laboratory Control Sample		400	**426**	ug/L	107	80-120			20
Analyte: Lead/USEPA-6020A									
QC Batch: 1600687 (3020A Digestion)							Analyzed: 02/04/2016		By: MSB
Method Blank			<1.0	ug/L					1.0
Laboratory Control Sample		50.0	**50.7**	ug/L	101	80-120			1.0
QC Batch: 1600762 (3020A Digestion)							Analyzed: 02/04/2016		By: MSB
Method Blank			<1.0	ug/L					1.0

Continued on next page

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QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Analyte: Lead/USEPA-6020A (Continued)									
QC Batch: 1600762 (Continued) (3020A Digestion)							Analyzed: 02/04/2016		By: MSB
Laboratory Control Sample		50.0	**48.2**	ug/L	96	80-120			1.0
Analyte: Magnesium/USEPA-6010C									
QC Batch: 1600761 (3010A Digestion)							Analyzed: 02/03/2016		By: CKD
Method Blank			<1000	ug/L					1000
Laboratory Control Sample		20000	**22400**	ug/L	112	80-120			1000
QC Batch: 1600686 (3010A Digestion)							Analyzed: 01/29/2016		By: CKD
Method Blank			<1000	ug/L					1000
Laboratory Control Sample		20000	**21500**	ug/L	108	80-120			1000
Analyte: Manganese/USEPA-6020A									
QC Batch: 1600687 (3020A Digestion)							Analyzed: 02/04/2016		By: MSB
Method Blank			<5.0	ug/L					5.0
Laboratory Control Sample		50.0	**50.8**	ug/L	102	80-120			5.0
QC Batch: 1600762 (3020A Digestion)							Analyzed: 02/04/2016		By: MSB
Method Blank			<5.0	ug/L					5.0
Laboratory Control Sample		50.0	**47.8**	ug/L	96	80-120			5.0
Analyte: Nickel/USEPA-6020A									
QC Batch: 1600687 (3020A Digestion)							Analyzed: 02/04/2016		By: MSB
Method Blank			<25	ug/L					25
Laboratory Control Sample		50.0	**51.0**	ug/L	102	80-120			25
QC Batch: 1600762 (3020A Digestion)							Analyzed: 02/04/2016		By: MSB
Method Blank			<25	ug/L					25
Laboratory Control Sample		50.0	**48.3**	ug/L	97	80-120			25
Analyte: Potassium/USEPA-6010C									
QC Batch: 1600761 (3010A Digestion)							Analyzed: 02/03/2016		By: CKD
Method Blank			<100	ug/L					100

Continued on next page

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QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Analyte: Potassium/USEPA-6010C (Continued)									
QC Batch: 1600761 (Continued) (3010A Digestion)							Analyzed: 02/03/2016		By: CKD
Laboratory Control Sample		20000	**21900**	ug/L	110	80-120			100
QC Batch: 1600686 (3010A Digestion)							Analyzed: 01/29/2016		By: CKD
Method Blank			<100	ug/L					100
Laboratory Control Sample		20000	**20700**	ug/L	103	80-120			100
Analyte: Selenium/USEPA-6020A									
QC Batch: 1600687 (3020A Digestion)							Analyzed: 02/05/2016		By: MSB
Method Blank			<2.0	ug/L					2.0
Laboratory Control Sample		50.0	**51.0**	ug/L	102	80-120			2.0
QC Batch: 1600762 (3020A Digestion)							Analyzed: 02/08/2016		By: DSC
Method Blank			<2.0	ug/L					2.0
Laboratory Control Sample		50.0	**46.3**	ug/L	93	80-120			2.0
Analyte: Silver/USEPA-6020A									
QC Batch: 1600687 (3020A Digestion)							Analyzed: 02/04/2016		By: MSB
Method Blank			<0.50	ug/L					0.50
Laboratory Control Sample		50.0	**51.2**	ug/L	102	80-120			0.50
QC Batch: 1600762 (3020A Digestion)							Analyzed: 02/04/2016		By: MSB
Method Blank			<0.50	ug/L					0.50
Laboratory Control Sample		50.0	**50.0**	ug/L	100	80-120			0.50
Analyte: Sodium/USEPA-6010C									
QC Batch: 1600761 (3010A Digestion)							Analyzed: 02/03/2016		By: CKD
Method Blank			<1000	ug/L					1000
Laboratory Control Sample		20000	**22300**	ug/L	112	80-120			1000
QC Batch: 1600686 (3010A Digestion)							Analyzed: 01/29/2016		By: CKD
Method Blank			<1000	ug/L					1000

Continued on next page

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QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Analyte: Sodium/USEPA-6010C (Continued)									
QC Batch: 1600686 (Continued) (3010A Digestion)							Analyzed: 01/29/2016		By: CKD
Laboratory Control Sample		20000	**21400**	ug/L	107	80-120			1000
Analyte: Thallium/USEPA-6020A									
QC Batch: 1600687 (3020A Digestion)							Analyzed: 02/04/2016		By: MSB
Method Blank			<2.0	ug/L					2.0
Laboratory Control Sample		50.0	**49.3**	ug/L	99	80-120			2.0
QC Batch: 1600762 (3020A Digestion)							Analyzed: 02/04/2016		By: MSB
Method Blank			<2.0	ug/L					2.0
Laboratory Control Sample		50.0	**48.1**	ug/L	96	80-120			2.0
Analyte: Vanadium/USEPA-6020A									
QC Batch: 1600687 (3020A Digestion)							Analyzed: 02/04/2016		By: MSB
Method Blank			<10	ug/L					10
Laboratory Control Sample		50.0	**49.2**	ug/L	98	80-120			10
QC Batch: 1600762 (3020A Digestion)							Analyzed: 02/04/2016		By: MSB
Method Blank			<10	ug/L					10
Laboratory Control Sample		50.0	**47.9**	ug/L	96	80-120			10
Analyte: Zinc/USEPA-6020A									
QC Batch: 1600687 (3020A Digestion)							Analyzed: 02/04/2016		By: MSB
Method Blank			<10	ug/L					10
Laboratory Control Sample		50.0	**50.8**	ug/L	102	80-120			10
QC Batch: 1600762 (3020A Digestion)							Analyzed: 02/04/2016		By: MSB
Method Blank			<10	ug/L					10
Laboratory Control Sample		50.0	**46.3**	ug/L	93	80-120			10

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TRIMATRIX LABORATORIES

QUALITY CONTROL REPORT

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Analyte: Alkalinity, Bicarbonate/SM 2320 B-2011									
QC Batch: 1600701 (Method Specific Preparation)						Analyzed: 01/28/2016		By: JLB	
Method Blank			<10000	ug/L					10000
Laboratory Control Sample		238000	**235000**	ug/L	99	74-123			10000
Analyte: Alkalinity, Carbonate/SM 2320 B-2011									
QC Batch: 1600702 (Method Specific Preparation)						Analyzed: 01/28/2016		By: JLB	
Method Blank			<10000	ug/L					10000
Laboratory Control Sample		378000	**379000**	ug/L	100	72-114			10000
Analyte: Carbon, Total Organic/SM 5310 C-2011									
QC Batch: 1600845 (General Inorganic Prep)						Analyzed: 02/01/2016		By: LEW	
Method Blank			<500	ug/L					500
Laboratory Control Sample		2000	**2140**	ug/L	107	84-118			500
QC Batch: 1601040 (General Inorganic Prep)						Analyzed: 02/05/2016		By: LEW	
Method Blank			<500	ug/L					500
Laboratory Control Sample		2000	**2160**	ug/L	108	84-118			500
Analyte: Chemical Oxygen Demand/SM 5220 D-2011									
QC Batch: 1601066 (5220 D COD Digestion)						Analyzed: 02/08/2016		By: JTW	
Method Blank			<5000	ug/L					5000
Laboratory Control Sample		20000	**20500**	ug/L	103	95-105			5000
1601330-01 [DB-23]									
Matrix Spike	1730	20000	**24000**	ug/L	112	64-148			5000
Matrix Spike Duplicate	1730	20000	**24000**	ug/L	112	64-148	0	20	5000
Analyte: Chloride/SM 4500-Cl E-2011									
QC Batch: 1600837 (General Inorganic Prep)						Analyzed: 02/02/2016		By: LMA	
Method Blank			<1000	ug/L					1000
Laboratory Control Sample		50000	**48900**	ug/L	98	90-106			1000
Analyte: Cyanide, Total/USEPA-9014									
QC Batch: 1600836 (9010C Cyanide Distillation)						Analyzed: 02/03/2016		By: LMA	
Method Blank			<5.00	ug/L					5.00

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QUALITY CONTROL REPORT

Physical/Chemical Parameters by EPA/APHA/ASTM Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Analyte: Cyanide, Total/USEPA-9014 (Continued)									
QC Batch: 1600836 (Continued) (9010C Cyanide Distillation)							Analyzed: 02/03/2016		By: LMA
Laboratory Control Sample		100	**94.2**	ug/L	94	83-109			5.00
Laboratory Control Sample		40.0	**36.7**	ug/L	92	83-109			5.00
1601353-01 [DB-27]									
Matrix Spike	1.19	100	**96.8**	ug/L	96	68-118			5.00
Matrix Spike Duplicate	1.19	100	**97.1**	ug/L	96	68-118	0.3	20	5.00
Analyte: Nitrogen, Ammonia/SM 4500-NH3 G-2011									
QC Batch: 1600767 (General Inorganic Prep)							Analyzed: 01/28/2016		By: LEW
Method Blank			<10	ug/L					10
Laboratory Control Sample		500	**467**	ug/L	93	90-110			10
1601330-01 [DB-23]									
Matrix Spike	555	500	**1020**	ug/L	93	90-110			10
Matrix Spike Duplicate	555	500	**1010**	ug/L	90	90-110	2	20	10
Analyte: Nitrogen, Nitrate+Nitrite/SM 4500-NO3 F-2011									
QC Batch: 1600740 (Method Specific Preparation)							Analyzed: 01/27/2016		By: HLB
Method Blank			<0.020	mg/L					0.020
Laboratory Control Sample		0.500	**0.486**	mg/L	97	90-110			0.020
1601330-01 [DB-23]									
Matrix Spike	0.0114	0.500	**0.524**	mg/L	102	90-110			0.020
Matrix Spike Duplicate	0.0114	0.500	**0.512**	mg/L	100	90-110	2	20	0.020
Analyte: Phenolics, Total/USEPA-420.4									
QC Batch: 1600708 (420.1 Phenolics)							Analyzed: 02/05/2016		By: LMA
Method Blank			<10.0	ug/L					10.0
Laboratory Control Sample		250	**242**	ug/L	97	90-110			10.0
Analyte: Residue, Dissolved @ 180° C/SM 2540 C-2011									
QC Batch: 1600815 (General Inorganic Prep)							Analyzed: 02/01/2016		By: MET
Method Blank			<50000	ug/L					50000

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QUALITY CONTROL REPORT

Physical/Chemical Parameters by EPA/APHA/ASTM Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Analyte: Residue, Dissolved @ 180° C/SM 2540 C-2011 (Continued)									
QC Batch: 1600815 (Continued) (General Inorganic Prep)							Analyzed: 02/01/2016		By: MET
Laboratory Control Sample		200000	**178000**	ug/L	89	85-115			50000
1601353-02 [DB-28]									
Duplicate	1010000		**1020000**	ug/L			1	5	50000
QC Batch: 1600711 (General Inorganic Prep)							Analyzed: 01/28/2016		By: MET
Method Blank			<50000	ug/L					50000
Laboratory Control Sample		200000	**178000**	ug/L	89	85-115			50000
1601353-01 [DB-27]									
Duplicate	712000		**734000**	ug/L			3	5	50000
Analyte: Sulfate/ASTM D516-90 (07)									
QC Batch: 1600822 (General Inorganic Prep)							Analyzed: 02/01/2016		By: LMA
Method Blank			<1.0	mg/L					1.0
Method Blank			<2.0	mg/L					2.0
Laboratory Control Sample		10.0	**9.86**	mg/L	99	88-116			1.0
Laboratory Control Sample		20.0	**19.1**	mg/L	95	88-116			2.0

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TRIMATRIX LABORATORIES

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Chain of Custody Record

COC No. 153116

Pg. 1 of ___

For Lab Use Only	
Cart	3
VOA Rack/Tray	524-RED
Receipt Log No.	1/2-26
Project Chemist	
Work Order No.	1601330

Client Name	Republic Services
Address	
City, State Zip	
Phone/Fax	
Email	j.bomba@comcast.net
Project Name	Ottawa County Farms LF
Client Project No. / P.O. No.	5464253
Invoice To	☒ Client ☐ Other (comments)
Contact/Report To	John Bomba KECK

Analyses Requested

PRESERVATIVES: A NONE pH~7; B HNO_3 pH<2; C H_2SO_4 pH<2; D 1+1 HCl pH<2; E NaOH pH>12; F ZnAc/NaOH pH>9; G MeOH; H Other (note below)

Schedule	Matrix Code	Sample Number		Field Sample ID	Cooler ID	Sample Date	Sample Time	COMP	GRAB	Matrix	Rule 450 (1)	Rule 451 (3)	Rule 452 (4)	Rule 453 (5)	Rule 454 (11)	(13)	(15)	Total	Sample Comments
A		01	1	DB-23		1/26/16	1020		x	GW	x	x	x	x	x			10	
		02	2	DB-26		1/26/16	1100		x	GW	x	x	x	x	x			10	
		03	3	DB-25		1/26/16	1415		x	GW	x	x	x	x	x			10	
		04	4	DB-24		1/26/16	1505		x	GW	x	x	x	x	x			10	
			5																
			6																
			7																
			8																
			9																
			10																

Container Type (corresponds to Container Packing List): 1, 3, 4, 5, 11, 13, 15
Number of Containers Submitted

Sampled By (print): Eric Ruckert
Sampler's Signature:
Company: KECK Consulting Services, 110 Knapp Dr, Battle Creek, MI 49015

How Shipped? Hand X Carrier ___
Tracking No.

Comments

Relinquished By	Date	Time
1. Eric Ruckert	1/26/16	1737
2.		
3.		

Received By	Date	Time
1.		
2.		
3. R. Nordin (Lab)	1-26-16	1737

WHITE COPY - REPORT YELLOW COPY - LABORATORY PINK COPY - FIELD

SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: REPUBLIC - DCF
Receipt Record Page/Line #: 42-22
Work Order #: 1601330
New / Add To
Project Chemist
Sample #s: 01-04

Recorded by (initials/date): DN 1-26-16

☑ Cooler ☐ Box ☐ Other
Qty Received: 1
Thermometer Used: ☑ IR Gun (#202) ☐ Digital Thermometer (#54) ☐ Other (#_____)
☐ See Additional Cooler Information Form

Cooler #	Time	Custody Seals	Coolant Type	Coolant Location	Temp Blank Present	If Present, Temperature Blank Location is
1173610	2146	☑ None ☐ Present / Intact ☐ Present / Not Intact	☐ Loose Ice ☑ Bagged Ice ☐ Blue Ice ☐ None	Dispersed / Top / Middle / Bottom	☑ Yes ☐ No	☑ Representative ☐ Not Representative
		☐ None ☐ Present / Intact ☐ Present / Not Intact	☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None	Dispersed / Top / Middle / Bottom	☐ Yes ☐ No	☐ Representative ☐ Not Representative
		☐ None ☐ Present / Intact ☐ Present / Not Intact	☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None	Dispersed / Top / Middle / Bottom	☐ Yes ☐ No	☐ Representative ☐ Not Representative
		☐ None ☐ Present / Intact ☐ Present / Not Intact	☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None	Dispersed / Top / Middle / Bottom	☐ Yes ☐ No	☐ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:	10.0	0	10.0
Sample 1:	8.4	0	8.4
Sample 2:	8.1	0	8.1
Sample 3:	9.0	0	9.0
3 Sample Average °C:			8.5

☐ Cooler ID on COC?
☐ VOC Trip Blank received?

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☑	☐	Chain of Custody record(s)? If No, Initiated By _____
☑	☐	Received for Lab Signed/Date/Time?
☐	☑	Shipping document?
☐	☑	Other _____

COC Information

☑ TriMatrix COC ☐ Other _____

COC ID Numbers: 153116

Check COC for Accuracy

Yes	No	
☑	☐	Analysis Requested?
☑	☐	Sample ID matches COC?
☑	☐	Sample Date and Time matches COC?
☑		Container type completed on COC?
☑	☐	All container types indicated are received?

Check Sample Preservation

N/A	Yes	No	
	☑	☐	Temperature Blank **OR** average sample temperature, ≥6° C?
☑	☐	☐	If either is ≥6° C, was thermal preservation required?
☑	☐		If "Yes", Project Chemist Approval Initials: _____
☑	☐		If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☐	☑		Completed Sample Preservation Verification Form?
☐	☑	☐	Samples chemically preserved correctly?
☑	☐		If "No", added orange tag?
☐	☑		Received pre-preserved VOC soils? ☐ MeOH ☐ Na_2SO_4

Check for Short Hold-Time Prep/Analyses

☐ Bacteriological
☐ Air Bags
☐ EnCores / Methanol Pre-Preserved
☐ Formaldehyde/Aldehyde
☑ Green-tagged containers
☐ Yellow/White-tagged 1 L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)
☐ NONE RECEIVED
☑ RECEIVED, COCs TO LAB(S)

Sample Condition Summary

N/A	Yes	No	
	☐	☑	Broken containers/lids?
	☐	☑	Missing or incomplete labels?
	☐	☑	Illegible information on labels?
	☐	☑	Low volume received?
	☐	☑	Inappropriate or non-TriMatrix containers received?
☐	☐	☑	VOC vials / TOX containers have headspace?
☑	☐	☐	Extra sample locations / containers not listed on COC?

Notes

☐ Trip Blank received ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
DN 1-26-16	1-26-16	Yes / No

TRIMATRIX LABORATORIES

SAMPLE PRESERVATION VERIFICATION FORM

page ____ of ____

Client: REPUBLIC - DCF	Work Order #: 1601330
Receipt Log #: 42-26 / Completed By (initials/date): DN 1-26-16	Project Chemist:

COC ID #: 153116

Adjusted by: _____
Date: _____

DO NOT ADJUST pH FOR THESE CONTAINER TYPES

Container Type	5 / 23	4	13		6	15		
Tag Color	Lt. Blue	Blue	Brown		Red	Red Stripe		
Preservative	NaOH	H_2SO_4	H_2SO_4		HNO_3	HNO_3		
Expected pH	>12	<2	<2		<2	<2		
COC Line #1	✓	✓	✓			✓		
COC Line #2	✓	✓	✓			✓		
COC Line #3	✓	✓	✓			✓		
COC Line #4	✓	✓	✓			✓		
COC Line #5								
COC Line #6								
COC Line #7								
COC Line #8								
COC Line #9								
COC Line #10								

Comments

pH Strip Reagent #

☑ 5120353

☐ _____

Aqueous Samples: For each sample and container type, check the box if pH is acceptable. If pH is not acceptable for any sample container, record pH in box, and note on Sample Receiving Checklist and on Sample Receiving Non-Conformance Form. If approved by Project Chemist, add acid or base to the sample to achieve the correct pH. Add up to, but do not exceed 2x the volume initially added at container prep (see table below for initial volumes used). Add orange pH tag to sample container and record information requested. Record adjusted pH on this form. Do not adjust pH for container types 6 and 15.

COC ID #: _____

Adjusted by: _____
Date: _____

DO NOT ADJUST pH FOR THESE CONTAINER TYPES

Container Type	5 / 23	4	13		6	15		
Tag Color	Lt. Blue	Blue	Brown		Red	Red Stripe		
Preservative	NaOH	H_2SO_4	H_2SO_4		HNO_3	HNO_3		
Expected pH	>12	<2	<2		<2	<2		
COC Line #1								
COC Line #2								
COC Line #3								
COC Line #4								
COC Line #5								
COC Line #6								
COC Line #7								
COC Line #8								
COC Line #9								
COC Line #10								

Comments

Container Size (mL)	Original Vol. of Preservative (mL)
Container Type 5	NaOH
500	2.5
1000	5.0
Container Type 4	H_2SO_4
125	0.5
250	1.0
500	2.0
1000	4.0
Container Type 13	H_2SO_4
500	2.5

TRIMATRIX LABORATORIES

5560 Corporate Exchange Court SE
Grand Rapids, MI 49512
Phone (616) 975-4500 Fax (616) 942-7463
www.trimatrixlabs.com

Chain of Custody Record

COC No. 153114

Pg. 2 of 2

For Lab Use Only

Cart: 13
VOA Rack/Tray: 489 White
Receipt Log No.: 43-19
Project Chemist:
Work Order No.: 1601353

Client Name: Republic Services
Address:
City, State Zip:
Phone/Fax:
Email: j.bomba@comcast.net

Project Name: Ottawa County Farms LF
Client Project No. / P.O. No.: 5464253
Invoice To: ☒ Client ☐ Other (comments)
Contact/Report To: John Bomba, KECK

Analyses Requested

Container Type (corresponds to Container Packing List): Rule 450, Rule 451, Rule 452, Rule 453, Rule 454

Number of Containers Submitted

PRESERVATIVES
A NONE pH~7
B HNO_3 pH<2
C H_2SO_4 pH<2
D 1+1 HCl pH<2
E NaOH pH>12
F ZnAc/NaOH pH>9
G MeOH
H Other (note below)

Schedule	Matrix Code	Sample Number		Field Sample ID	Cooler ID	Sample Date	Sample Time	COMP	GRAB	Matrix	450	451	452	453	454	Total	Sample Comments
		01	1	DB-27		1/27/15	0820		x	GW	x	x	x	x	x		
		02	2	DB-28		1/27/15	1130		x	GW	x	x	x	x	x		
			3														
			4														
			5														
			6														
			7														
			8														
			9														
			10														

Sampled By (print): Eric M Buckert
Sampler's Signature:
Company: KECK Consulting

How Shipped? Hand ✓ Carrier
Tracking No.

1. Relinquished By: Date 1/27/16 Time 1317
1. Received By: Date Time

2. Relinquished By: Date Time
2. Received By: Date Time

3. Relinquished By: Date Time
3. Received For Lab By: Date 1/27/16 Time 1317

Comments

WHITE COPY - REPORT YELLOW COPY - LABORATORY PINK COPY - FIELD

SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: Republic Services
Receipt Record Page/Line #: 43-19
Work Order #: 1601353
New / Add To
Project Chemist
Sample #s: 01-02

Recorded by (initials/date): LR 1/27/16

☑ Cooler ☐ Box ☐ Other
Qty Received: 1
Thermometer Used: ☑ IR Gun (#202) ☐ Digital Thermometer (#54) ☐ Other (#_____)
☐ See Additional Cooler Information Form

Cooler #	Time	Custody Seals	Coolant Type	Coolant Location	Temp Blank Present	If Present, Temperature Blank Location is
TM3620	1346	☑ None ☐ Present / Intact ☐ Present / Not Intact	☐ Loose Ice ☑ Bagged Ice ☐ Blue Ice ☐ None	Dispersed / (Top) / Middle / Bottom	☑ Yes ☐ No	☑ Representative ☐ Not Representative
		☐ None ☐ Present / Intact ☐ Present / Not Intact	☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None	Dispersed / Top / Middle / Bottom	☐ Yes ☐ No	☐ Representative ☐ Not Representative
		☐ None ☐ Present / Intact ☐ Present / Not Intact	☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None	Dispersed / Top / Middle / Bottom	☐ Yes ☐ No	☐ Representative ☐ Not Representative
		☐ None ☐ Present / Intact ☐ Present / Not Intact	☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None	Dispersed / Top / Middle / Bottom	☐ Yes ☐ No	☐ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:	2.4	-	2.4
Sample 2:	2.4	-	2.4
Sample 3:	3.3	-	3.3
3 Sample Average °C:	2.7		

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			
3 Sample Average °C:			

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			
3 Sample Average °C:			

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			
3 Sample Average °C:			

☐ Cooler ID on COC? ☐ VOC Trip Blank received?

☐ Cooler ID on COC? ☐ VOC Trip Blank received?

☐ Cooler ID on COC? ☐ VOC Trip Blank received?

☐ Cooler ID on COC? ☐ VOC Trip Blank received?

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☑	☐	Chain of Custody record(s)? If No, Initiated By _____
☑		Received for Lab Signed/Date/Time?
☐	☑	Shipping document?
☐	☑	Other _____

COC Information

☑ TriMatrix COC ☐ Other 153114

COC ID Numbers:

Check Sample Preservation

N/A	Yes	No	
	☑	☐	Temperature Blank **OR** average sample temperature, ≥6° C?
☑	☐	☐	If either is ≥6° C, was thermal preservation required?
☑		☐	If "Yes", Project Chemist Approval Initials: _____
☑		☐	If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☐	☑		Completed Sample Preservation Verification Form?
☐	☑	☐	Samples chemically preserved correctly?
☑		☐	If "No", added orange tag?
		☐	Received pre-preserved VOC soils? ☐ MeOH ☐ Na_2SO_4

Check COC for Accuracy

Yes	No	
☑	☐	Analysis Requested?
☑	☐	Sample ID matches COC?
☑	☐	Sample Date and Time matches COC?
☑		Container type completed on COC?
☑	☐	All container types indicated are received?

Check for Short Hold-Time Prep/Analyses

☐ Bacteriological
☐ Air Bags
☐ EnCores / Methanol Pre-Preserved
☐ Formaldehyde/Aldehyde
☑ Green-tagged containers
☐ Yellow/White-tagged 1 L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)
☐ NONE RECEIVED
☑ RECEIVED, COCs TO LAB(S)

Sample Condition Summary

N/A	Yes	No	
	☐	☑	Broken containers/lids?
	☐	☑	Missing or incomplete labels?
	☐	☑	Illegible information on labels?
	☐	☑	Low volume received?
	☐	☑	Inappropriate or non-TriMatrix containers received?
☐	☐	☑	VOC vials / TOX containers have headspace?
☐	☐	☑	Extra sample locations / containers not listed on COC?

Notes

☐ Trip Blank received ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
1/27/16 1317	1/27/16 1416	(Yes) / No

TRIMATRIX LABORATORIES

SAMPLE PRESERVATION VERIFICATION FORM

page ____ of ____

Client: Republic Services	Work Order #: 1601353
Receipt Log #: 43-19	Completed By (initials/date): SR 1/27/14
	Project Chemist:

COC ID # 153114			Adjusted by: ____ Date: ____		DO NOT ADJUST pH FOR THESE CONTAINER TYPES			
Container Type	5 / 23	4	13		6	15		
Tag Color	Lt. Blue	Blue	Brown		Red	Red Stripe		
Preservative	NaOH	H_2SO_4	H_2SO_4		HNO_3	HNO_3		
Expected pH	>12	<2	<2		<2	<2		
COC Line #1	✓	✓	✓			✓		
COC Line #2	✓	✓	✓			✓		
COC Line #3								
COC Line #4								
COC Line #5								
COC Line #6								
COC Line #7								
COC Line #8								
COC Line #9								
COC Line #10								

Comments

COC ID #			Adjusted by: ____ Date: ____		DO NOT ADJUST pH FOR THESE CONTAINER TYPES			
Container Type	5 / 23	4	13		6	15		
Tag Color	Lt. Blue	Blue	Brown		Red	Red Stripe		
Preservative	NaOH	H_2SO_4	H_2SO_4		HNO_3	HNO_3		
Expected pH	>12	<2	<2		<2	<2		
COC Line #1								
COC Line #2								
COC Line #3								
COC Line #4								
COC Line #5								
COC Line #6								
COC Line #7								
COC Line #8								
COC Line #9								
COC Line #10								

Comments

pH Strip Reagent #	
☑	5120353
☐	

Aqueous Samples: For each sample and container type, check the box if pH is acceptable. If pH is not acceptable for any sample container, record pH in box, and note on Sample Receiving Checklist and on Sample Receiving Non-Conformance Form. If approved by Project Chemist, add acid or base to the sample to achieve the correct pH. Add up to, but do not exceed 2x the volume initially added at container prep (see table below for initial volumes used). Add orange pH tag to sample container and record information requested. Record adjusted pH on this form. Do not adjust pH for container types 6 and 15.

Container Size (mL)	Original Vol. of Preservative (mL)
Container Type 5	NaOH
500	2.5
1000	5.0
Container Type 4	H_2SO_4
125	0.5
250	1.0
500	2.0
1000	4.0
Container Type 13	H_2SO_4
500	2.5

April 06, 2016

Republic Services, Inc.
Attn: John Bomba - Keck
110 Knapp Drive; Suite 144
Battle Creek, MI 49015

Project: Ottawa County Farms Landfill

Dear John Bomba - Keck,

Enclosed is a copy of the laboratory report for the following work order(s) received by TriMatrix Laboratories:

Work Order	Received	Description
1603322	03/17/2016	Laboratory Services
1603336	03/18/2016	Laboratory Services

This report relates only to the sample(s) as received. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Program (NELAP) and/or one of the following certification programs:

ANAB DoD-ELAP/ISO17025 (#ADE-1542); Arkansas DEP (#88-0730/13-049-0); Florida DEP (#E87622-24); Georgia EPD (#E87622-24); Illinois DEP (#200026/003329); Kentucky DEP (AL123065/#0021); Michigan DPH (#0034); Minnesota DPH (#491715); New York ELAP (#11776/53116); North Carolina DNRE (#659); Virginia DCLS (#460153/7952); Wisconsin DNR (#999472650); USDA Soil Import Permit (#P330-14-00305).

Any qualification or narration of results, including sample acceptance requirements and test exceptions to the above referenced programs, is presented in the Statement of Data Qualifications and Project Technical Narrative sections of this report. Estimates of analytical uncertainties and certification documents for the test results contained within this report are available upon request.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Jennifer L. Rice
Project Chemist

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PROJECT TECHNICAL NARRATIVE(s)

Volatile Organic Compounds by EPA Method 8260B

Narrative: Manual integration was required on the analytes listed below. All manual integrations were performed and reviewed in accordance with TriMatrix laboratory policy.

Analysis: USEPA-8260B

6C24052-CAL1	Dichlorodifluoromethane

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PROJECT TECHNICAL NARRATIVE(s)

Dissolved Metals by EPA 6000/7000 Series Methods

Narrative: The MS and/or MSD recovery was outside the control limit. The non-spiked sample concentration for the same analyte was greater than or equal to 4 times the spiked amount; matrix QC results are not available.

Analysis: USEPA-6020A

Sample/Analyte: 1603322-01 DB-23 Boron

Narrative: This analyte was not present in this sample at a concentration greater than 100 times the MDL, therefore serial dilution is not required.

Analysis: USEPA-6020A

Sample/Analyte: 1603322-01 DB-23 Boron
1603322-01 DB-23 Silver

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PROJECT TECHNICAL NARRATIVE(s)

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Narrative: Due to sample volumes, batch matrix quality control (QC) was not performed for this analysis. A Method Blank and Laboratory Control Sample comprise the batch QC.

Analysis: SM 5310 C-2011

Sample/Analyte:			
	1603322-01	DB-23	Carbon, Total Organic
	1603322-02	DB-26	Carbon, Total Organic
	1603322-03	DB-24	Carbon, Total Organic
	1603322-04	DB-25	Carbon, Total Organic
	1603336-01	DB-27	Carbon, Total Organic
	1603336-02	DB-28	Carbon, Total Organic

Narrative: The CRL recovery for this analyte was outside of the laboratory control limits.

Analysis: SM 4500-NH3 G-2011

6D01015-CRL1	Nitrogen, Ammonia

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STATEMENT OF DATA QUALIFICATIONS

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Qualification: The MS and/or MSD recovery was outside the laboratory or method control limit.

Analysis: USEPA-420.4

Sample/Analyte: 1603322-01 DB-23 Phenolics, Total

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1603322**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-23**	Sampled:	03/17/16 09:05
Lab Sample ID:	**1603322-01**	Sampled By:	E. Ruckert
Matrix:	Water	Received:	03/17/16 16:39
Unit:	ug/L	Prepared:	03/24/16 19:00 By: BAG
Dilution Factor:	1	Analyzed:	03/25/16 03:14 By: BAG
QC Batch:	1602810	Analytical Batch:	6C25009

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
67-64-1	Acetone	<20	20
107-13-1	Acrylonitrile	<5.0	5.0
71-43-2	Benzene	<1.0	1.0
74-97-5	Bromochloromethane	<1.0	1.0
75-27-4	Bromodichloromethane	<1.0	1.0
75-25-2	Bromoform	<1.0	1.0
74-83-9	Bromomethane	<5.0	5.0
75-15-0	Carbon Disulfide	<1.0	1.0
56-23-5	Carbon Tetrachloride	<1.0	1.0
108-90-7	Chlorobenzene	<1.0	1.0
75-00-3	Chloroethane	<5.0	5.0
67-66-3	Chloroform	<1.0	1.0
74-87-3	Chloromethane	<5.0	5.0
96-12-8	1,2-Dibromo-3-chloropropane	<5.0	5.0
124-48-1	Dibromochloromethane	<1.0	1.0
106-93-4	1,2-Dibromoethane	<1.0	1.0
74-95-3	Dibromomethane	<1.0	1.0
110-57-6	trans-1,4-Dichloro-2-butene	<5.0	5.0
95-50-1	1,2-Dichlorobenzene	<1.0	1.0
106-46-7	1,4-Dichlorobenzene	<1.0	1.0
75-34-3	1,1-Dichloroethane	<1.0	1.0
107-06-2	1,2-Dichloroethane	<1.0	1.0
75-35-4	1,1-Dichloroethene	<1.0	1.0
156-59-2	cis-1,2-Dichloroethene	<1.0	1.0
156-60-5	trans-1,2-Dichloroethene	<1.0	1.0
78-87-5	1,2-Dichloropropane	<1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0	1.0
100-41-4	Ethylbenzene	<1.0	1.0
591-78-6	2-Hexanone	<5.0	5.0
74-88-4	Iodomethane	<1.0	1.0

Continued on next page

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1603322**		
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services		
Client Sample ID:	**DB-23**	Sampled:	03/17/16 09:05		
Lab Sample ID:	**1603322-01**	Sampled By:	E. Ruckert		
Matrix:	Water	Received:	03/17/16 16:39		
Unit:	ug/L	Prepared:	03/24/16 19:00	By:	BAG
Dilution Factor:	1	Analyzed:	03/25/16 03:14	By:	BAG
QC Batch:	1602810	Analytical Batch:	6C25009		

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL
75-09-2	Methylene Chloride	<5.0	5.0
78-93-3	2-Butanone (MEK)	<5.0	5.0
108-10-1	4-Methyl-2-pentanone (MIBK)	<5.0	5.0
100-42-5	Styrene	<1.0	1.0
630-20-6	1,1,1,2-Tetrachloroethane	<1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0	1.0
127-18-4	Tetrachloroethene	<1.0	1.0
108-88-3	Toluene	<1.0	1.0
71-55-6	1,1,1-Trichloroethane	<1.0	1.0
79-00-5	1,1,2-Trichloroethane	<1.0	1.0
79-01-6	Trichloroethene	<1.0	1.0
75-69-4	Trichlorofluoromethane	<1.0	1.0
96-18-4	1,2,3-Trichloropropane	<1.0	1.0
108-05-4	Vinyl Acetate	<1.0	1.0
75-01-4	Vinyl Chloride	<1.0	1.0
1330-20-7	Xylene (Total)	<2.0	2.0

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*101*	*85-118*
1,2-Dichloroethane-d4	*96*	*87-122*
Toluene-d8	*97*	*85-113*
4-Bromofluorobenzene	*101*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1603322**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-23**	Sampled:	03/17/16 09:05
Lab Sample ID:	**1603322-01**	Sampled By:	E. Ruckert
Matrix:	Water	Received:	03/17/16 16:39

Dissolved Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	<2.0	2.0	ug/L	1	USEPA-6020A	03/23/16 11:39	DSC	1602541
Arsenic	**7.5**	1.0	ug/L	1	USEPA-6020A	03/23/16 11:39	DSC	1602541
Barium	**12**	5.0	ug/L	1	USEPA-6020A	03/23/16 11:39	DSC	1602541
Beryllium	<1.0	1.0	ug/L	1	USEPA-6020A	03/23/16 11:39	DSC	1602541
Boron	**220**	100	ug/L	5	USEPA-6020A	03/23/16 16:53	DSC	1602541
Cadmium	<0.20	0.20	ug/L	1	USEPA-6020A	03/23/16 11:39	DSC	1602541
Chromium	<2.0	2.0	ug/L	1	USEPA-6020A	03/23/16 11:39	DSC	1602541
Cobalt	<15	15	ug/L	1	USEPA-6020A	03/23/16 11:39	DSC	1602541
Copper	**4.3**	2.0	ug/L	1	USEPA-6020A	03/23/16 11:39	DSC	1602541
Iron	**1600**	20	ug/L	1	USEPA-6010C	03/22/16 15:13	CKD	1602539
Lead	<1.0	1.0	ug/L	1	USEPA-6020A	03/23/16 11:39	DSC	1602541
Magnesium	**24000**	1000	ug/L	1	USEPA-6010C	03/22/16 15:13	CKD	1602539
Manganese	**19**	5.0	ug/L	1	USEPA-6020A	03/23/16 11:39	DSC	1602541
Nickel	<25	25	ug/L	1	USEPA-6020A	03/23/16 11:39	DSC	1602541
Potassium	**2700**	100	ug/L	1	USEPA-6010C	03/22/16 15:13	CKD	1602539
Selenium	<2.0	2.0	ug/L	1	USEPA-6020A	03/23/16 11:39	DSC	1602541
Silver	<0.50	0.50	ug/L	1	USEPA-6020A	03/23/16 11:39	DSC	1602541
Sodium	**38000**	1000	ug/L	1	USEPA-6010C	03/22/16 15:13	CKD	1602539
Thallium	<2.0	2.0	ug/L	1	USEPA-6020A	03/23/16 11:39	DSC	1602541
Vanadium	<10	10	ug/L	1	USEPA-6020A	03/23/16 11:39	DSC	1602541
Zinc	<10	10	ug/L	1	USEPA-6020A	03/23/16 11:39	DSC	1602541

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1603322**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-23**	Sampled:	03/17/16 09:05
Lab Sample ID:	**1603322-01**	Sampled By:	E. Ruckert
Matrix:	Water	Received:	03/17/16 16:39

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Nitrogen, Inorganic	**550**	20	ug/L	1	[CALC]	03/24/16 14:50	HLB	[CALC]
Alkalinity, Bicarbonate	**230000**	10000	ug/L	1	SM 2320 B-2011	03/25/16 12:40	JLB	1602790
Alkalinity, Carbonate	<10000	10000	ug/L	1	SM 2320 B-2011	03/25/16 12:40	JLB	1602791
Cyanide, Total	<5.00	5.00	ug/L	1	USEPA-9014	03/22/16 12:43	LMA	1602616
***Phenolics, Total**	**11.2**	10.0	ug/L	1	USEPA-420.4	03/25/16 09:02	LMA	1602744
Sulfate	**370**	120	mg/L	25	ASTM D516-90 (07)	03/21/16 11:30	LMA	1602600
Nitrogen, Nitrate+Nitrite	<0.020	0.020	mg/L	1	SM 4500-NO3 F-2011	03/22/16 20:27	HLB	1602631
Chloride	**2800**	1000	ug/L	1	SM 4500-Cl E-2011	03/24/16 09:01	LMA	1602736
Chemical Oxygen Demand	<5000	5000	ug/L	1	SM 5220 D-2011	03/31/16 09:02	JTW	1603000
Nitrogen, Ammonia	**550**	10	ug/L	1	SM 4500-NH3 G-2011	03/24/16 14:50	LEW	1602977
Residue, Dissolved @ 180° C	**798000**	50000	ug/L	1	SM 2540 C-2011	03/24/16 12:15	MET	1602750
Carbon, Total Organic	**1300**	500	ug/L	1	SM 5310 C-2011	04/04/16 22:07	LEW	1603105

*See Statement of Data Qualifications

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1603322**		
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services		
Client Sample ID:	**DB-26**	Sampled:	03/17/16 10:25		
Lab Sample ID:	**1603322-02**	Sampled By:	E. Ruckert		
Matrix:	Water	Received:	03/17/16 16:39		
Unit:	ug/L	Prepared:	03/24/16 19:00	By:	BAG
Dilution Factor:	1	Analyzed:	03/25/16 03:42	By:	BAG
QC Batch:	1602810	Analytical Batch:	6C25009		

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
67-64-1	Acetone	<20	20
107-13-1	Acrylonitrile	<5.0	5.0
71-43-2	Benzene	<1.0	1.0
74-97-5	Bromochloromethane	<1.0	1.0
75-27-4	Bromodichloromethane	<1.0	1.0
75-25-2	Bromoform	<1.0	1.0
74-83-9	Bromomethane	<5.0	5.0
75-15-0	Carbon Disulfide	<1.0	1.0
56-23-5	Carbon Tetrachloride	<1.0	1.0
108-90-7	Chlorobenzene	<1.0	1.0
75-00-3	Chloroethane	<5.0	5.0
67-66-3	Chloroform	<1.0	1.0
74-87-3	Chloromethane	<5.0	5.0
96-12-8	1,2-Dibromo-3-chloropropane	<5.0	5.0
124-48-1	Dibromochloromethane	<1.0	1.0
106-93-4	1,2-Dibromoethane	<1.0	1.0
74-95-3	Dibromomethane	<1.0	1.0
110-57-6	trans-1,4-Dichloro-2-butene	<5.0	5.0
95-50-1	1,2-Dichlorobenzene	<1.0	1.0
106-46-7	1,4-Dichlorobenzene	<1.0	1.0
75-34-3	1,1-Dichloroethane	<1.0	1.0
107-06-2	1,2-Dichloroethane	<1.0	1.0
75-35-4	1,1-Dichloroethene	<1.0	1.0
156-59-2	cis-1,2-Dichloroethene	<1.0	1.0
156-60-5	trans-1,2-Dichloroethene	<1.0	1.0
78-87-5	1,2-Dichloropropane	<1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0	1.0
100-41-4	Ethylbenzene	<1.0	1.0
591-78-6	2-Hexanone	<5.0	5.0
74-88-4	Iodomethane	<1.0	1.0

Continued on next page

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1603322**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-26**	Sampled:	03/17/16 10:25
Lab Sample ID:	**1603322-02**	Sampled By:	E. Ruckert
Matrix:	Water	Received:	03/17/16 16:39
Unit:	ug/L	Prepared:	03/24/16 19:00 By: BAG
Dilution Factor:	1	Analyzed:	03/25/16 03:42 By: BAG
QC Batch:	1602810	Analytical Batch:	6C25009

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL
75-09-2	Methylene Chloride	<5.0	5.0
78-93-3	2-Butanone (MEK)	<5.0	5.0
108-10-1	4-Methyl-2-pentanone (MIBK)	<5.0	5.0
100-42-5	Styrene	<1.0	1.0
630-20-6	1,1,1,2-Tetrachloroethane	<1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0	1.0
127-18-4	Tetrachloroethene	<1.0	1.0
108-88-3	Toluene	<1.0	1.0
71-55-6	1,1,1-Trichloroethane	<1.0	1.0
79-00-5	1,1,2-Trichloroethane	<1.0	1.0
79-01-6	Trichloroethene	<1.0	1.0
75-69-4	Trichlorofluoromethane	<1.0	1.0
96-18-4	1,2,3-Trichloropropane	<1.0	1.0
108-05-4	Vinyl Acetate	<1.0	1.0
75-01-4	Vinyl Chloride	<1.0	1.0
1330-20-7	Xylene (Total)	<2.0	2.0

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*100*	*85-118*
1,2-Dichloroethane-d4	*96*	*87-122*
Toluene-d8	*97*	*85-113*
4-Bromofluorobenzene	*100*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1603322**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-26**	Sampled:	03/17/16 10:25
Lab Sample ID:	**1603322-02**	Sampled By:	E. Ruckert
Matrix:	Water	Received:	03/17/16 16:39

Dissolved Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	<2.0	2.0	ug/L	1	USEPA-6020A	03/23/16 12:02	DSC	1602541
Arsenic	**5.6**	1.0	ug/L	1	USEPA-6020A	03/23/16 12:02	DSC	1602541
Barium	**52**	5.0	ug/L	1	USEPA-6020A	03/23/16 12:02	DSC	1602541
Beryllium	<1.0	1.0	ug/L	1	USEPA-6020A	03/23/16 12:02	DSC	1602541
Boron	**240**	100	ug/L	5	USEPA-6020A	03/23/16 17:11	DSC	1602541
Cadmium	<0.20	0.20	ug/L	1	USEPA-6020A	03/23/16 12:02	DSC	1602541
Chromium	<2.0	2.0	ug/L	1	USEPA-6020A	03/23/16 12:02	DSC	1602541
Cobalt	<15	15	ug/L	1	USEPA-6020A	03/23/16 12:02	DSC	1602541
Copper	<2.0	2.0	ug/L	1	USEPA-6020A	03/23/16 12:02	DSC	1602541
Iron	**2200**	20	ug/L	1	USEPA-6010C	03/22/16 15:33	CKD	1602539
Lead	<1.0	1.0	ug/L	1	USEPA-6020A	03/23/16 12:02	DSC	1602541
Magnesium	**31000**	1000	ug/L	1	USEPA-6010C	03/22/16 15:33	CKD	1602539
Manganese	**77**	5.0	ug/L	1	USEPA-6020A	03/23/16 12:02	DSC	1602541
Nickel	<25	25	ug/L	1	USEPA-6020A	03/23/16 12:02	DSC	1602541
Selenium	<2.0	2.0	ug/L	1	USEPA-6020A	03/23/16 12:02	DSC	1602541
Potassium	**3200**	100	ug/L	1	USEPA-6010C	03/22/16 15:33	CKD	1602539
Silver	<0.50	0.50	ug/L	1	USEPA-6020A	03/23/16 12:02	DSC	1602541
Sodium	**37000**	1000	ug/L	1	USEPA-6010C	03/22/16 15:33	CKD	1602539
Thallium	<2.0	2.0	ug/L	1	USEPA-6020A	03/23/16 12:02	DSC	1602541
Vanadium	<10	10	ug/L	1	USEPA-6020A	03/23/16 12:02	DSC	1602541
Zinc	<10	10	ug/L	1	USEPA-6020A	03/23/16 12:02	DSC	1602541

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1603322**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-26**	Sampled:	03/17/16 10:25
Lab Sample ID:	**1603322-02**	Sampled By:	E. Ruckert
Matrix:	Water	Received:	03/17/16 16:39

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Nitrogen, Inorganic	**580**	20	ug/L	1	[CALC]	03/24/16 14:50	HLB	[CALC]
Alkalinity, Bicarbonate	**220000**	10000	ug/L	1	SM 2320 B-2011	03/25/16 12:40	JLB	1602790
Alkalinity, Carbonate	<10000	10000	ug/L	1	SM 2320 B-2011	03/25/16 12:40	JLB	1602791
Cyanide, Total	<5.00	5.00	ug/L	1	USEPA-9014	03/22/16 12:49	LMA	1602616
Nitrogen, Nitrate+Nitrite	<0.020	0.020	mg/L	1	SM 4500-NO3 F-2011	03/22/16 20:28	HLB	1602631
Phenolics, Total	<10.0	10.0	ug/L	1	USEPA-420.4	03/25/16 09:08	LMA	1602744
Sulfate	**560**	120	mg/L	25	ASTM D516-90 (07)	03/21/16 10:28	LMA	1602600
Chloride	**2900**	1000	ug/L	1	SM 4500-Cl E-2011	03/24/16 09:01	LMA	1602736
Chemical Oxygen Demand	<5000	5000	ug/L	1	SM 5220 D-2011	03/31/16 09:05	JTW	1603000
Nitrogen, Ammonia	**580**	10	ug/L	1	SM 4500-NH3 G-2011	03/24/16 14:50	LEW	1602977
Residue, Dissolved @ 180° C	**1020000**	50000	ug/L	1	SM 2540 C-2011	03/24/16 12:15	MET	1602750
Carbon, Total Organic	**1200**	500	ug/L	1	SM 5310 C-2011	04/04/16 22:18	LEW	1603105

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1603322**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-24**	Sampled:	03/17/16 14:40
Lab Sample ID:	**1603322-03**	Sampled By:	E. Ruckert
Matrix:	Water	Received:	03/17/16 16:39
Unit:	ug/L	Prepared:	03/24/16 19:00 By: BAG
Dilution Factor:	1	Analyzed:	03/25/16 04:09 By: BAG
QC Batch:	1602810	Analytical Batch:	6C25009

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
67-64-1	Acetone	<20	20
107-13-1	Acrylonitrile	<5.0	5.0
71-43-2	Benzene	<1.0	1.0
74-97-5	Bromochloromethane	<1.0	1.0
75-27-4	Bromodichloromethane	<1.0	1.0
75-25-2	Bromoform	<1.0	1.0
74-83-9	Bromomethane	<5.0	5.0
75-15-0	Carbon Disulfide	<1.0	1.0
56-23-5	Carbon Tetrachloride	<1.0	1.0
108-90-7	Chlorobenzene	<1.0	1.0
75-00-3	Chloroethane	<5.0	5.0
67-66-3	Chloroform	<1.0	1.0
74-87-3	Chloromethane	<5.0	5.0
96-12-8	1,2-Dibromo-3-chloropropane	<5.0	5.0
124-48-1	Dibromochloromethane	<1.0	1.0
106-93-4	1,2-Dibromoethane	<1.0	1.0
74-95-3	Dibromomethane	<1.0	1.0
110-57-6	trans-1,4-Dichloro-2-butene	<5.0	5.0
95-50-1	1,2-Dichlorobenzene	<1.0	1.0
106-46-7	1,4-Dichlorobenzene	<1.0	1.0
75-34-3	1,1-Dichloroethane	<1.0	1.0
107-06-2	1,2-Dichloroethane	<1.0	1.0
75-35-4	1,1-Dichloroethene	<1.0	1.0
156-59-2	cis-1,2-Dichloroethene	<1.0	1.0
156-60-5	trans-1,2-Dichloroethene	<1.0	1.0
78-87-5	1,2-Dichloropropane	<1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0	1.0
100-41-4	Ethylbenzene	<1.0	1.0
591-78-6	2-Hexanone	<5.0	5.0
74-88-4	Iodomethane	<1.0	1.0

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1603322**		
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services		
Client Sample ID:	**DB-24**	Sampled:	03/17/16 14:40		
Lab Sample ID:	**1603322-03**	Sampled By:	E. Ruckert		
Matrix:	Water	Received:	03/17/16 16:39		
Unit:	ug/L	Prepared:	03/24/16 19:00	By:	BAG
Dilution Factor:	1	Analyzed:	03/25/16 04:09	By:	BAG
QC Batch:	1602810	Analytical Batch:	6C25009		

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL
75-09-2	Methylene Chloride	<5.0	5.0
78-93-3	2-Butanone (MEK)	<5.0	5.0
108-10-1	4-Methyl-2-pentanone (MIBK)	<5.0	5.0
100-42-5	Styrene	<1.0	1.0
630-20-6	1,1,1,2-Tetrachloroethane	<1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0	1.0
127-18-4	Tetrachloroethene	<1.0	1.0
108-88-3	Toluene	<1.0	1.0
71-55-6	1,1,1-Trichloroethane	<1.0	1.0
79-00-5	1,1,2-Trichloroethane	<1.0	1.0
79-01-6	Trichloroethene	<1.0	1.0
75-69-4	Trichlorofluoromethane	<1.0	1.0
96-18-4	1,2,3-Trichloropropane	<1.0	1.0
108-05-4	Vinyl Acetate	<1.0	1.0
75-01-4	Vinyl Chloride	<1.0	1.0
1330-20-7	Xylene (Total)	<2.0	2.0

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*102*	*85-118*
1,2-Dichloroethane-d4	*95*	*87-122*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*100*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1603322**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-24**	Sampled:	03/17/16 14:40
Lab Sample ID:	**1603322-03**	Sampled By:	E. Ruckert
Matrix:	Water	Received:	03/17/16 16:39

Dissolved Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	<2.0	2.0	ug/L	1	USEPA-6020A	03/23/16 12:06	DSC	1602541
Arsenic	**3.1**	1.0	ug/L	1	USEPA-6020A	03/23/16 12:06	DSC	1602541
Barium	**21**	5.0	ug/L	1	USEPA-6020A	03/23/16 12:06	DSC	1602541
Beryllium	<1.0	1.0	ug/L	1	USEPA-6020A	03/23/16 12:06	DSC	1602541
Boron	**240**	100	ug/L	5	USEPA-6020A	03/23/16 17:15	DSC	1602541
Cadmium	<0.20	0.20	ug/L	1	USEPA-6020A	03/23/16 12:06	DSC	1602541
Chromium	<2.0	2.0	ug/L	1	USEPA-6020A	03/23/16 12:06	DSC	1602541
Cobalt	<15	15	ug/L	1	USEPA-6020A	03/23/16 12:06	DSC	1602541
Copper	<2.0	2.0	ug/L	1	USEPA-6020A	03/23/16 12:06	DSC	1602541
Iron	**2200**	20	ug/L	1	USEPA-6010C	03/22/16 15:38	CKD	1602539
Lead	<1.0	1.0	ug/L	1	USEPA-6020A	03/23/16 12:06	DSC	1602541
Magnesium	**32000**	1000	ug/L	1	USEPA-6010C	03/22/16 15:38	CKD	1602539
Manganese	**30**	5.0	ug/L	1	USEPA-6020A	03/23/16 12:06	DSC	1602541
Nickel	<25	25	ug/L	1	USEPA-6020A	03/23/16 12:06	DSC	1602541
Potassium	**3600**	100	ug/L	1	USEPA-6010C	03/22/16 15:38	CKD	1602539
Selenium	<2.0	2.0	ug/L	1	USEPA-6020A	03/23/16 12:06	DSC	1602541
Silver	<0.50	0.50	ug/L	1	USEPA-6020A	03/23/16 12:06	DSC	1602541
Sodium	**37000**	1000	ug/L	1	USEPA-6010C	03/22/16 15:38	CKD	1602539
Thallium	<2.0	2.0	ug/L	1	USEPA-6020A	03/23/16 12:06	DSC	1602541
Vanadium	<10	10	ug/L	1	USEPA-6020A	03/23/16 12:06	DSC	1602541
Zinc	<10	10	ug/L	1	USEPA-6020A	03/23/16 12:06	DSC	1602541

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1603322**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-24**	Sampled:	03/17/16 14:40
Lab Sample ID:	**1603322-03**	Sampled By:	E. Ruckert
Matrix:	Water	Received:	03/17/16 16:39

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Nitrogen, Inorganic	**610**	20	ug/L	1	[CALC]	03/24/16 14:50	HLB	[CALC]
Alkalinity, Bicarbonate	**220000**	10000	ug/L	1	SM 2320 B-2011	03/25/16 12:40	JLB	1602790
Alkalinity, Carbonate	<10000	10000	ug/L	1	SM 2320 B-2011	03/25/16 12:40	JLB	1602791
Phenolics, Total	**81.4**	10.0	ug/L	1	USEPA-420.4	03/25/16 09:08	LMA	1602744
Sulfate	**520**	120	mg/L	25	ASTM D516-90 (07)	03/21/16 10:28	LMA	1602600
Cyanide, Total	<5.00	5.00	ug/L	1	USEPA-9014	03/22/16 12:49	LMA	1602616
Nitrogen, Nitrate+Nitrite	<0.020	0.020	mg/L	1	SM 4500-NO3 F-2011	03/22/16 20:29	HLB	1602631
Chloride	**3200**	1000	ug/L	1	SM 4500-Cl E-2011	03/24/16 09:01	LMA	1602736
Chemical Oxygen Demand	<5000	5000	ug/L	1	SM 5220 D-2011	03/31/16 09:06	JTW	1603000
Nitrogen, Ammonia	**610**	10	ug/L	1	SM 4500-NH3 G-2011	03/24/16 14:50	LEW	1602977
Residue, Dissolved @ 180° C	**972000**	50000	ug/L	1	SM 2540 C-2011	03/24/16 12:15	MET	1602750
Carbon, Total Organic	**1200**	500	ug/L	1	SM 5310 C-2011	04/04/16 22:30	LEW	1603105

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1603322**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-25**	Sampled:	03/17/16 13:50
Lab Sample ID:	**1603322-04**	Sampled By:	E. Ruckert
Matrix:	Water	Received:	03/17/16 16:39
Unit:	ug/L	Prepared:	03/24/16 19:00 By: BAG
Dilution Factor:	1	Analyzed:	03/25/16 04:37 By: BAG
QC Batch:	1602810	Analytical Batch:	6C25009

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
67-64-1	Acetone	<20	20
107-13-1	Acrylonitrile	<5.0	5.0
71-43-2	Benzene	<1.0	1.0
74-97-5	Bromochloromethane	<1.0	1.0
75-27-4	Bromodichloromethane	<1.0	1.0
75-25-2	Bromoform	<1.0	1.0
74-83-9	Bromomethane	<5.0	5.0
75-15-0	Carbon Disulfide	<1.0	1.0
56-23-5	Carbon Tetrachloride	<1.0	1.0
108-90-7	Chlorobenzene	<1.0	1.0
75-00-3	Chloroethane	<5.0	5.0
67-66-3	Chloroform	<1.0	1.0
74-87-3	Chloromethane	<5.0	5.0
96-12-8	1,2-Dibromo-3-chloropropane	<5.0	5.0
124-48-1	Dibromochloromethane	<1.0	1.0
106-93-4	1,2-Dibromoethane	<1.0	1.0
74-95-3	Dibromomethane	<1.0	1.0
110-57-6	trans-1,4-Dichloro-2-butene	<5.0	5.0
95-50-1	1,2-Dichlorobenzene	<1.0	1.0
106-46-7	1,4-Dichlorobenzene	<1.0	1.0
75-34-3	1,1-Dichloroethane	<1.0	1.0
107-06-2	1,2-Dichloroethane	<1.0	1.0
75-35-4	1,1-Dichloroethene	<1.0	1.0
156-59-2	cis-1,2-Dichloroethene	<1.0	1.0
156-60-5	trans-1,2-Dichloroethene	<1.0	1.0
78-87-5	1,2-Dichloropropane	<1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0	1.0
100-41-4	Ethylbenzene	<1.0	1.0
591-78-6	2-Hexanone	<5.0	5.0
74-88-4	Iodomethane	<1.0	1.0

Continued on next page

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1603322**		
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services		
Client Sample ID:	**DB-25**	Sampled:	03/17/16 13:50		
Lab Sample ID:	**1603322-04**	Sampled By:	E. Ruckert		
Matrix:	Water	Received:	03/17/16 16:39		
Unit:	ug/L	Prepared:	03/24/16 19:00	By:	BAG
Dilution Factor:	1	Analyzed:	03/25/16 04:37	By:	BAG
QC Batch:	1602810	Analytical Batch:	6C25009		

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL
75-09-2	Methylene Chloride	<5.0	5.0
78-93-3	2-Butanone (MEK)	<5.0	5.0
108-10-1	4-Methyl-2-pentanone (MIBK)	<5.0	5.0
100-42-5	Styrene	<1.0	1.0
630-20-6	1,1,1,2-Tetrachloroethane	<1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0	1.0
127-18-4	Tetrachloroethene	<1.0	1.0
108-88-3	Toluene	<1.0	1.0
71-55-6	1,1,1-Trichloroethane	<1.0	1.0
79-00-5	1,1,2-Trichloroethane	<1.0	1.0
79-01-6	Trichloroethene	<1.0	1.0
75-69-4	Trichlorofluoromethane	<1.0	1.0
96-18-4	1,2,3-Trichloropropane	<1.0	1.0
108-05-4	Vinyl Acetate	<1.0	1.0
75-01-4	Vinyl Chloride	<1.0	1.0
1330-20-7	Xylene (Total)	<2.0	2.0

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*102*	*85-118*
1,2-Dichloroethane-d4	*95*	*87-122*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*100*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1603322**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-25**	Sampled:	03/17/16 13:50
Lab Sample ID:	**1603322-04**	Sampled By:	E. Ruckert
Matrix:	Water	Received:	03/17/16 16:39

Dissolved Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	<2.0	2.0	ug/L	1	USEPA-6020A	03/23/16 12:24	DSC	1602541
Arsenic	**3.7**	1.0	ug/L	1	USEPA-6020A	03/23/16 12:24	DSC	1602541
Barium	**18**	5.0	ug/L	1	USEPA-6020A	03/23/16 12:24	DSC	1602541
Beryllium	<1.0	1.0	ug/L	1	USEPA-6020A	03/23/16 12:24	DSC	1602541
Boron	**260**	100	ug/L	5	USEPA-6020A	03/23/16 17:20	DSC	1602541
Cadmium	<0.20	0.20	ug/L	1	USEPA-6020A	03/23/16 12:24	DSC	1602541
Chromium	<2.0	2.0	ug/L	1	USEPA-6020A	03/23/16 12:24	DSC	1602541
Cobalt	<15	15	ug/L	1	USEPA-6020A	03/23/16 12:24	DSC	1602541
Copper	<2.0	2.0	ug/L	1	USEPA-6020A	03/23/16 12:24	DSC	1602541
Iron	**2400**	20	ug/L	1	USEPA-6010C	03/22/16 15:59	CKD	1602539
Lead	<1.0	1.0	ug/L	1	USEPA-6020A	03/23/16 12:24	DSC	1602541
Magnesium	**33000**	1000	ug/L	1	USEPA-6010C	03/22/16 15:59	CKD	1602539
Manganese	**39**	5.0	ug/L	1	USEPA-6020A	03/23/16 12:24	DSC	1602541
Nickel	<25	25	ug/L	1	USEPA-6020A	03/23/16 12:24	DSC	1602541
Selenium	<2.0	2.0	ug/L	1	USEPA-6020A	03/23/16 12:24	DSC	1602541
Potassium	**4500**	100	ug/L	1	USEPA-6010C	03/22/16 15:59	CKD	1602539
Silver	<0.50	0.50	ug/L	1	USEPA-6020A	03/23/16 12:24	DSC	1602541
Sodium	**42000**	1000	ug/L	1	USEPA-6010C	03/22/16 15:59	CKD	1602539
Thallium	<2.0	2.0	ug/L	1	USEPA-6020A	03/23/16 12:24	DSC	1602541
Vanadium	<10	10	ug/L	1	USEPA-6020A	03/23/16 12:24	DSC	1602541
Zinc	<10	10	ug/L	1	USEPA-6020A	03/23/16 12:24	DSC	1602541

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1603322**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-25**	Sampled:	03/17/16 13:50
Lab Sample ID:	**1603322-04**	Sampled By:	E. Ruckert
Matrix:	Water	Received:	03/17/16 16:39

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Nitrogen, Inorganic	**650**	20	ug/L	1	[CALC]	03/24/16 14:50	HLB	[CALC]
Alkalinity, Bicarbonate	**200000**	10000	ug/L	1	SM 2320 B-2011	03/25/16 12:40	JLB	1602790
Alkalinity, Carbonate	<10000	10000	ug/L	1	SM 2320 B-2011	03/25/16 12:40	JLB	1602791
Cyanide, Total	<5.00	5.00	ug/L	1	USEPA-9014	03/22/16 12:49	LMA	1602616
Nitrogen, Nitrate+Nitrite	<0.020	0.020	mg/L	1	SM 4500-NO3 F-2011	03/22/16 20:30	HLB	1602631
Phenolics, Total	<10.0	10.0	ug/L	1	USEPA-420.4	03/25/16 09:08	LMA	1602744
Sulfate	**560**	120	mg/L	25	ASTM D516-90 (07)	03/21/16 10:28	LMA	1602600
Chloride	**4700**	1000	ug/L	1	SM 4500-Cl E-2011	03/24/16 09:01	LMA	1602736
Chemical Oxygen Demand	<5000	5000	ug/L	1	SM 5220 D-2011	03/31/16 09:07	JTW	1603000
Nitrogen, Ammonia	**650**	10	ug/L	1	SM 4500-NH3 G-2011	03/24/16 14:50	LEW	1602977
Residue, Dissolved @ 180° C	**1030000**	50000	ug/L	1	SM 2540 C-2011	03/24/16 12:15	MET	1602750
Carbon, Total Organic	**1100**	500	ug/L	1	SM 5310 C-2011	04/04/16 23:22	LEW	1603105

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1603336**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-27**	Sampled:	03/18/16 08:30
Lab Sample ID:	**1603336-01**	Sampled By:	Eric Ruckert
Matrix:	Water	Received:	03/18/16 13:38
Unit:	ug/L	Prepared:	03/24/16 19:00 By: BAG
Dilution Factor:	1	Analyzed:	03/25/16 05:05 By: BAG
QC Batch:	1602810	Analytical Batch:	6C25009

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
67-64-1	Acetone	<20	20
107-13-1	Acrylonitrile	<5.0	5.0
71-43-2	Benzene	<1.0	1.0
74-97-5	Bromochloromethane	<1.0	1.0
75-27-4	Bromodichloromethane	<1.0	1.0
75-25-2	Bromoform	<1.0	1.0
74-83-9	Bromomethane	<5.0	5.0
75-15-0	Carbon Disulfide	<1.0	1.0
56-23-5	Carbon Tetrachloride	<1.0	1.0
108-90-7	Chlorobenzene	<1.0	1.0
75-00-3	Chloroethane	<5.0	5.0
67-66-3	Chloroform	<1.0	1.0
74-87-3	Chloromethane	<5.0	5.0
96-12-8	1,2-Dibromo-3-chloropropane	<5.0	5.0
124-48-1	Dibromochloromethane	<1.0	1.0
106-93-4	1,2-Dibromoethane	<1.0	1.0
74-95-3	Dibromomethane	<1.0	1.0
110-57-6	trans-1,4-Dichloro-2-butene	<5.0	5.0
95-50-1	1,2-Dichlorobenzene	<1.0	1.0
106-46-7	1,4-Dichlorobenzene	<1.0	1.0
75-34-3	1,1-Dichloroethane	<1.0	1.0
107-06-2	1,2-Dichloroethane	<1.0	1.0
75-35-4	1,1-Dichloroethene	<1.0	1.0
156-59-2	cis-1,2-Dichloroethene	<1.0	1.0
156-60-5	trans-1,2-Dichloroethene	<1.0	1.0
78-87-5	1,2-Dichloropropane	<1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0	1.0
100-41-4	Ethylbenzene	<1.0	1.0
591-78-6	2-Hexanone	<5.0	5.0
74-88-4	Iodomethane	<1.0	1.0

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1603336**		
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services		
Client Sample ID:	**DB-27**	Sampled:	03/18/16 08:30		
Lab Sample ID:	**1603336-01**	Sampled By:	Eric Ruckert		
Matrix:	Water	Received:	03/18/16 13:38		
Unit:	ug/L	Prepared:	03/24/16 19:00	By:	BAG
Dilution Factor:	1	Analyzed:	03/25/16 05:05	By:	BAG
QC Batch:	1602810	Analytical Batch:	6C25009		

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL
75-09-2	Methylene Chloride	<5.0	5.0
78-93-3	2-Butanone (MEK)	<5.0	5.0
108-10-1	4-Methyl-2-pentanone (MIBK)	<5.0	5.0
100-42-5	Styrene	<1.0	1.0
630-20-6	1,1,1,2-Tetrachloroethane	<1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0	1.0
127-18-4	Tetrachloroethene	<1.0	1.0
108-88-3	Toluene	<1.0	1.0
71-55-6	1,1,1-Trichloroethane	<1.0	1.0
79-00-5	1,1,2-Trichloroethane	<1.0	1.0
79-01-6	Trichloroethene	<1.0	1.0
75-69-4	Trichlorofluoromethane	<1.0	1.0
96-18-4	1,2,3-Trichloropropane	<1.0	1.0
108-05-4	Vinyl Acetate	<1.0	1.0
75-01-4	Vinyl Chloride	<1.0	1.0
1330-20-7	Xylene (Total)	<2.0	2.0

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*102*	*85-118*
1,2-Dichloroethane-d4	*93*	*87-122*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*100*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1603336**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-27**	Sampled:	03/18/16 08:30
Lab Sample ID:	**1603336-01**	Sampled By:	Eric Ruckert
Matrix:	Water	Received:	03/18/16 13:38

Dissolved Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	<2.0	2.0	ug/L	1	USEPA-6020A	03/23/16 12:29	DSC	1602541
Arsenic	**5.3**	1.0	ug/L	1	USEPA-6020A	03/23/16 12:29	DSC	1602541
Barium	**17**	5.0	ug/L	1	USEPA-6020A	03/23/16 12:29	DSC	1602541
Beryllium	<1.0	1.0	ug/L	1	USEPA-6020A	03/23/16 12:29	DSC	1602541
Boron	**220**	100	ug/L	5	USEPA-6020A	03/23/16 17:24	DSC	1602541
Cadmium	<0.20	0.20	ug/L	1	USEPA-6020A	03/23/16 12:29	DSC	1602541
Chromium	<2.0	2.0	ug/L	1	USEPA-6020A	03/23/16 12:29	DSC	1602541
Cobalt	<15	15	ug/L	1	USEPA-6020A	03/23/16 12:29	DSC	1602541
Copper	<2.0	2.0	ug/L	1	USEPA-6020A	03/23/16 12:29	DSC	1602541
Iron	**1900**	20	ug/L	1	USEPA-6010C	03/22/16 16:03	CKD	1602539
Lead	<1.0	1.0	ug/L	1	USEPA-6020A	03/23/16 12:29	DSC	1602541
Magnesium	**29000**	1000	ug/L	1	USEPA-6010C	03/22/16 16:03	CKD	1602539
Manganese	**31**	5.0	ug/L	1	USEPA-6020A	03/23/16 12:29	DSC	1602541
Nickel	<25	25	ug/L	1	USEPA-6020A	03/23/16 12:29	DSC	1602541
Potassium	**3000**	100	ug/L	1	USEPA-6010C	03/22/16 16:03	CKD	1602539
Selenium	<2.0	2.0	ug/L	1	USEPA-6020A	03/23/16 12:29	DSC	1602541
Silver	<0.50	0.50	ug/L	1	USEPA-6020A	03/23/16 12:29	DSC	1602541
Sodium	**36000**	1000	ug/L	1	USEPA-6010C	03/22/16 16:03	CKD	1602539
Thallium	<2.0	2.0	ug/L	1	USEPA-6020A	03/23/16 12:29	DSC	1602541
Vanadium	<10	10	ug/L	1	USEPA-6020A	03/23/16 12:29	DSC	1602541
Zinc	<10	10	ug/L	1	USEPA-6020A	03/23/16 12:29	DSC	1602541

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1603336**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-27**	Sampled:	03/18/16 08:30
Lab Sample ID:	**1603336-01**	Sampled By:	Eric Ruckert
Matrix:	Water	Received:	03/18/16 13:38

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Nitrogen, Inorganic	**570**	20	ug/L	1	[CALC]	03/24/16 14:50	HLB	[CALC]
Alkalinity, Bicarbonate	**240000**	10000	ug/L	1	SM 2320 B-2011	03/25/16 12:40	JLB	1602790
Alkalinity, Carbonate	<10000	10000	ug/L	1	SM 2320 B-2011	03/25/16 12:40	JLB	1602791
Phenolics, Total	<10.0	10.0	ug/L	1	USEPA-420.4	03/25/16 09:08	LMA	1602744
Sulfate	**340**	50	mg/L	10	ASTM D516-90 (07)	03/21/16 11:01	LMA	1602600
Cyanide, Total	<5.00	5.00	ug/L	1	USEPA-9014	03/22/16 12:49	LMA	1602616
Nitrogen, Nitrate+Nitrite	<0.020	0.020	mg/L	1	SM 4500-NO3 F-2011	03/22/16 20:37	HLB	1602631
Chloride	**3200**	1000	ug/L	1	SM 4500-Cl E-2011	03/24/16 09:01	LMA	1602736
Chemical Oxygen Demand	<5000	5000	ug/L	1	SM 5220 D-2011	03/31/16 09:11	JTW	1603000
Nitrogen, Ammonia	**570**	10	ug/L	1	SM 4500-NH3 G-2011	03/24/16 14:50	LEW	1602977
Residue, Dissolved @ 180° C	**768000**	50000	ug/L	1	SM 2540 C-2011	03/24/16 12:15	MET	1602750
Carbon, Total Organic	**1200**	500	ug/L	1	SM 5310 C-2011	04/04/16 23:34	LEW	1603105

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1603336**		
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services		
Client Sample ID:	**DB-28**	Sampled:	03/18/16 11:20		
Lab Sample ID:	**1603336-02**	Sampled By:	Eric Ruckert		
Matrix:	Water	Received:	03/18/16 13:38		
Unit:	ug/L	Prepared:	03/24/16 19:00	By:	BAG
Dilution Factor:	1	Analyzed:	03/25/16 05:32	By:	BAG
QC Batch:	1602810	Analytical Batch:	6C25009		

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
67-64-1	Acetone	<20	20
107-13-1	Acrylonitrile	<5.0	5.0
71-43-2	Benzene	<1.0	1.0
74-97-5	Bromochloromethane	<1.0	1.0
75-27-4	Bromodichloromethane	<1.0	1.0
75-25-2	Bromoform	<1.0	1.0
74-83-9	Bromomethane	<5.0	5.0
75-15-0	Carbon Disulfide	<1.0	1.0
56-23-5	Carbon Tetrachloride	<1.0	1.0
108-90-7	Chlorobenzene	<1.0	1.0
75-00-3	Chloroethane	<5.0	5.0
67-66-3	Chloroform	<1.0	1.0
74-87-3	Chloromethane	<5.0	5.0
96-12-8	1,2-Dibromo-3-chloropropane	<5.0	5.0
124-48-1	Dibromochloromethane	<1.0	1.0
106-93-4	1,2-Dibromoethane	<1.0	1.0
74-95-3	Dibromomethane	<1.0	1.0
110-57-6	trans-1,4-Dichloro-2-butene	<5.0	5.0
95-50-1	1,2-Dichlorobenzene	<1.0	1.0
106-46-7	1,4-Dichlorobenzene	<1.0	1.0
75-34-3	1,1-Dichloroethane	<1.0	1.0
107-06-2	1,2-Dichloroethane	<1.0	1.0
75-35-4	1,1-Dichloroethene	<1.0	1.0
156-59-2	cis-1,2-Dichloroethene	<1.0	1.0
156-60-5	trans-1,2-Dichloroethene	<1.0	1.0
78-87-5	1,2-Dichloropropane	<1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0	1.0
100-41-4	Ethylbenzene	<1.0	1.0
591-78-6	2-Hexanone	<5.0	5.0
74-88-4	Iodomethane	<1.0	1.0

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1603336**		
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services		
Client Sample ID:	**DB-28**	Sampled:	03/18/16 11:20		
Lab Sample ID:	**1603336-02**	Sampled By:	Eric Ruckert		
Matrix:	Water	Received:	03/18/16 13:38		
Unit:	ug/L	Prepared:	03/24/16 19:00	By:	BAG
Dilution Factor:	1	Analyzed:	03/25/16 05:32	By:	BAG
QC Batch:	1602810	Analytical Batch:	6C25009		

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL
75-09-2	Methylene Chloride	<5.0	5.0
78-93-3	2-Butanone (MEK)	<5.0	5.0
108-10-1	4-Methyl-2-pentanone (MIBK)	<5.0	5.0
100-42-5	Styrene	<1.0	1.0
630-20-6	1,1,1,2-Tetrachloroethane	<1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0	1.0
127-18-4	Tetrachloroethene	<1.0	1.0
108-88-3	Toluene	<1.0	1.0
71-55-6	1,1,1-Trichloroethane	<1.0	1.0
79-00-5	1,1,2-Trichloroethane	<1.0	1.0
79-01-6	Trichloroethene	<1.0	1.0
75-69-4	Trichlorofluoromethane	<1.0	1.0
96-18-4	1,2,3-Trichloropropane	<1.0	1.0
108-05-4	Vinyl Acetate	<1.0	1.0
75-01-4	Vinyl Chloride	<1.0	1.0
1330-20-7	Xylene (Total)	<2.0	2.0

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*101*	*85-118*
1,2-Dichloroethane-d4	*94*	*87-122*
Toluene-d8	*97*	*85-113*
4-Bromofluorobenzene	*99*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1603336**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-28**	Sampled:	03/18/16 11:20
Lab Sample ID:	**1603336-02**	Sampled By:	Eric Ruckert
Matrix:	Water	Received:	03/18/16 13:38

Dissolved Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	<2.0	2.0	ug/L	1	USEPA-6020A	03/23/16 12:33	DSC	1602541
Arsenic	**2.3**	1.0	ug/L	1	USEPA-6020A	03/23/16 12:33	DSC	1602541
Barium	**12**	5.0	ug/L	1	USEPA-6020A	03/23/16 12:33	DSC	1602541
Beryllium	<1.0	1.0	ug/L	1	USEPA-6020A	03/23/16 12:33	DSC	1602541
Boron	**200**	100	ug/L	5	USEPA-6020A	03/23/16 17:27	DSC	1602541
Cadmium	<0.20	0.20	ug/L	1	USEPA-6020A	03/23/16 12:33	DSC	1602541
Chromium	<2.0	2.0	ug/L	1	USEPA-6020A	03/23/16 12:33	DSC	1602541
Cobalt	<15	15	ug/L	1	USEPA-6020A	03/23/16 12:33	DSC	1602541
Copper	<2.0	2.0	ug/L	1	USEPA-6020A	03/23/16 12:33	DSC	1602541
Iron	**490**	20	ug/L	1	USEPA-6010C	03/22/16 16:08	CKD	1602539
Lead	<1.0	1.0	ug/L	1	USEPA-6020A	03/23/16 12:33	DSC	1602541
Magnesium	**31000**	1000	ug/L	1	USEPA-6010C	03/22/16 16:08	CKD	1602539
Manganese	**36**	5.0	ug/L	1	USEPA-6020A	03/23/16 12:33	DSC	1602541
Nickel	<25	25	ug/L	1	USEPA-6020A	03/23/16 12:33	DSC	1602541
Selenium	<2.0	2.0	ug/L	1	USEPA-6020A	03/23/16 12:33	DSC	1602541
Potassium	**4100**	100	ug/L	1	USEPA-6010C	03/22/16 16:08	CKD	1602539
Silver	<0.50	0.50	ug/L	1	USEPA-6020A	03/23/16 12:33	DSC	1602541
Sodium	**29000**	1000	ug/L	1	USEPA-6010C	03/22/16 16:08	CKD	1602539
Thallium	<2.0	2.0	ug/L	1	USEPA-6020A	03/23/16 12:33	DSC	1602541
Vanadium	<10	10	ug/L	1	USEPA-6020A	03/23/16 12:33	DSC	1602541
Zinc	<10	10	ug/L	1	USEPA-6020A	03/23/16 12:33	DSC	1602541

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Republic Services, Inc.**	Work Order:	**1603336**
Project:	Ottawa County Farms Landfill	Description:	Laboratory Services
Client Sample ID:	**DB-28**	Sampled:	03/18/16 11:20
Lab Sample ID:	**1603336-02**	Sampled By:	Eric Ruckert
Matrix:	Water	Received:	03/18/16 13:38

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Nitrogen, Inorganic	**440**	20	ug/L	1	[CALC]	03/24/16 14:50	HLB	[CALC]
Alkalinity, Bicarbonate	**240000**	10000	ug/L	1	SM 2320 B-2011	03/25/16 12:40	JLB	1602790
Alkalinity, Carbonate	<10000	10000	ug/L	1	SM 2320 B-2011	03/25/16 12:40	JLB	1602791
Cyanide, Total	<5.00	5.00	ug/L	1	USEPA-9014	03/22/16 12:49	LMA	1602616
Nitrogen, Nitrate+Nitrite	<0.020	0.020	mg/L	1	SM 4500-NO3 F-2011	03/22/16 20:38	HLB	1602631
Phenolics, Total	<10.0	10.0	ug/L	1	USEPA-420.4	03/25/16 09:08	LMA	1602744
Sulfate	**520**	120	mg/L	25	ASTM D516-90 (07)	03/21/16 10:31	LMA	1602600
Chloride	**6700**	1000	ug/L	1	SM 4500-Cl E-2011	03/24/16 09:01	LMA	1602736
Chemical Oxygen Demand	<5000	5000	ug/L	1	SM 5220 D-2011	03/31/16 09:12	JTW	1603000
Nitrogen, Ammonia	**440**	10	ug/L	1	SM 4500-NH3 G-2011	03/24/16 14:50	LEW	1602977
Residue, Dissolved @ 180° C	**1040000**	50000	ug/L	1	SM 2540 C-2011	03/24/16 12:15	MET	1602750
Carbon, Total Organic	**1100**	500	ug/L	1	SM 5310 C-2011	04/04/16 23:46	LEW	1603105

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QUALITY CONTROL REPORT

Volatile Organic Compounds by EPA Method 8260B

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL

QC Batch: 1602810 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank Analyzed: 03/24/2016 By: BAG
Unit: ug/L Analytical Batch: 6C25009

Acetone	<20	--	20
Acrylonitrile	<5.0		5.0
Benzene	<1.0		1.0
Bromochloromethane	<1.0		1.0
Bromodichloromethane	<1.0		1.0
Bromoform	<1.0		1.0
Bromomethane	<5.0		5.0
Carbon Disulfide	<1.0	--	1.0
Carbon Tetrachloride	<1.0		1.0
Chlorobenzene	<1.0	--	1.0
Chloroethane	<5.0		5.0
Chloroform	<1.0		1.0
Chloromethane	<5.0		5.0
1,2-Dibromo-3-chloropropane	<5.0		5.0
Dibromochloromethane	<1.0		1.0
1,2-Dibromoethane	<1.0		1.0
Dibromomethane	<1.0		1.0
trans-1,4-Dichloro-2-butene	<5.0		5.0
1,2-Dichlorobenzene	<1.0	--	1.0
1,4-Dichlorobenzene	<1.0	--	1.0
1,1-Dichloroethane	<1.0		1.0
1,2-Dichloroethane	<1.0		1.0
1,1-Dichloroethene	<1.0		1.0
cis-1,2-Dichloroethene	<1.0		1.0
trans-1,2-Dichloroethene	<1.0		1.0
1,2-Dichloropropane	<1.0		1.0
cis-1,3-Dichloropropene	<1.0		1.0
trans-1,3-Dichloropropene	<1.0		1.0
Ethylbenzene	<1.0	--	1.0
2-Hexanone	<5.0		5.0
Iodomethane	<1.0		1.0
Methylene Chloride	<5.0	--	5.0
2-Butanone (MEK)	<5.0		5.0
4-Methyl-2-pentanone (MIBK)	<5.0	--	5.0
Styrene	<1.0	--	1.0
1,1,1,2-Tetrachloroethane	<1.0		1.0

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QUALITY CONTROL REPORT

Volatile Organic Compounds by EPA Method 8260B (Continued)

QC Batch: 1602810 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank (Continued) Analyzed: 03/24/2016 By: BAG
Unit: ug/L Analytical Batch: 6C25009

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
1,1,2,2-Tetrachloroethane			<1.0					1.0
Tetrachloroethene			<1.0					1.0
Toluene			<1.0			--		1.0
1,1,1-Trichloroethane			<1.0					1.0
1,1,2-Trichloroethane			<1.0					1.0
Trichloroethene			<1.0					1.0
Trichlorofluoromethane			<1.0					1.0
1,2,3-Trichloropropane			<1.0					1.0
Vinyl Acetate			<1.0					1.0
Vinyl Chloride			<1.0					1.0
Xylene (Total)			<2.0			--		2.0
Surrogates:								
Dibromofluoromethane				*96*	*85-118*			
1,2-Dichloroethane-d4				*98*	*87-122*			
Toluene-d8				*95*	*85-113*			
4-Bromofluorobenzene				*100*	*82-110*			

Laboratory Control Sample Analyzed: 03/24/2016 By: BAG
Unit: ug/L Analytical Batch: 6C25009

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Benzene		40.0	**42.0**	105	84-119	--		1.0
Chlorobenzene		40.0	**41.9**	105	84-118	--		1.0
1,1-Dichloroethene		40.0	**41.0**	102	77-123	--		1.0
Toluene		40.0	**42.1**	105	85-118	--		1.0
Trichloroethene		40.0	**43.5**	109	82-119	--		1.0

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TRIMATRIX LABORATORIES

QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Analyte: Antimony/USEPA-6020A									
QC Batch: 1602541 (3020A Digestion)							Analyzed: 03/23/2016		By: DSC
Method Blank			<2.0	ug/L					2.0
Laboratory Control Sample		50.0	**44.9**	ug/L	90	80-120			2.0
1603322-01 [DB-23]									
Matrix Spike	0.203	50.0	**46.7**	ug/L	93	75-125			2.0
Matrix Spike Duplicate	0.203	50.0	**46.3**	ug/L	92	75-125	0.7	20	2.0
Analyte: Arsenic/USEPA-6020A									
QC Batch: 1602541 (3020A Digestion)							Analyzed: 03/23/2016		By: DSC
Method Blank			<1.0	ug/L					1.0
Laboratory Control Sample		50.0	**46.3**	ug/L	93	80-120			1.0
1603322-01 [DB-23]									
Matrix Spike	7.46	50.0	**56.0**	ug/L	97	75-125			1.0
Matrix Spike Duplicate	7.46	50.0	**56.9**	ug/L	99	75-125	2	20	1.0
Analyte: Barium/USEPA-6020A									
QC Batch: 1602541 (3020A Digestion)							Analyzed: 03/23/2016		By: DSC
Method Blank			<5.0	ug/L					5.0
Laboratory Control Sample		50.0	**45.1**	ug/L	90	80-120			5.0
1603322-01 [DB-23]									
Matrix Spike	11.9	50.0	**56.1**	ug/L	88	75-125			5.0
Matrix Spike Duplicate	11.9	50.0	**57.1**	ug/L	90	75-125	2	20	5.0
Analyte: Beryllium/USEPA-6020A									
QC Batch: 1602541 (3020A Digestion)							Analyzed: 03/23/2016		By: DSC
Method Blank			<1.0	ug/L					1.0
Laboratory Control Sample		50.0	**51.2**	ug/L	102	80-120			1.0
1603322-01 [DB-23]									
Matrix Spike	<1.0	50.0	**51.6**	ug/L	103	75-125			1.0
Matrix Spike Duplicate	<1.0	50.0	**52.2**	ug/L	104	75-125	1	20	1.0
Analyte: Boron/USEPA-6020A									
QC Batch: 1602541 (3020A Digestion)							Analyzed: 03/23/2016		By: DSC
Method Blank			<20	ug/L					20

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QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Analyte: Boron/USEPA-6020A (Continued)									
QC Batch: 1602541 (Continued) (3020A Digestion)							Analyzed: 03/23/2016		By: DSC
Laboratory Control Sample		50.0	**51.4**	ug/L	103	80-120			20
Analyte: Cadmium/USEPA-6020A									
QC Batch: 1602541 (3020A Digestion)							Analyzed: 03/23/2016		By: DSC
Method Blank			<0.20	ug/L					0.20
Laboratory Control Sample		50.0	**46.1**	ug/L	92	80-120			0.20
1603322-01 [DB-23]									
Matrix Spike	0.0449	50.0	**47.3**	ug/L	95	75-125			0.20
Matrix Spike Duplicate	0.0449	50.0	**48.2**	ug/L	96	75-125	2	20	0.20
Analyte: Chromium/USEPA-6020A									
QC Batch: 1602541 (3020A Digestion)							Analyzed: 03/23/2016		By: DSC
Method Blank			<2.0	ug/L					2.0
Laboratory Control Sample		50.0	**46.3**	ug/L	93	80-120			2.0
1603322-01 [DB-23]									
Matrix Spike	0.237	50.0	**46.6**	ug/L	93	75-125			2.0
Matrix Spike Duplicate	0.237	50.0	**47.0**	ug/L	94	75-125	1	20	2.0
Analyte: Cobalt/USEPA-6020A									
QC Batch: 1602541 (3020A Digestion)							Analyzed: 03/23/2016		By: DSC
Method Blank			<15	ug/L					15
Laboratory Control Sample		50.0	**46.7**	ug/L	93	80-120			15
1603322-01 [DB-23]									
Matrix Spike	0.226	50.0	**46.1**	ug/L	92	75-125			15
Matrix Spike Duplicate	0.226	50.0	**46.8**	ug/L	93	75-125	1	20	15
Analyte: Copper/USEPA-6020A									
QC Batch: 1602541 (3020A Digestion)							Analyzed: 03/23/2016		By: DSC
Method Blank			<2.0	ug/L					2.0

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QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Analyte: Copper/USEPA-6020A (Continued)									
QC Batch: 1602541 (Continued) (3020A Digestion)							Analyzed: 03/23/2016		By: DSC
Laboratory Control Sample		50.0	**46.4**	ug/L	93	80-120			2.0
1603322-01 [DB-23]									
Matrix Spike	4.34	50.0	**44.8**	ug/L	81	75-125			2.0
Matrix Spike Duplicate	4.34	50.0	**45.5**	ug/L	82	75-125	1	20	2.0
Analyte: Iron/USEPA-6010C									
QC Batch: 1602539 (3010A Digestion)							Analyzed: 03/22/2016		By: CKD
Method Blank			<20	ug/L					20
Laboratory Control Sample		400	**405**	ug/L	101	80-120			20
1603322-01 [DB-23]									
Matrix Spike	1570	400	**1920**	ug/L	88	75-125			20
Matrix Spike Duplicate	1570	400	**1940**	ug/L	93	75-125	0.9	20	20
Analyte: Lead/USEPA-6020A									
QC Batch: 1602541 (3020A Digestion)							Analyzed: 03/23/2016		By: DSC
Method Blank			<1.0	ug/L					1.0
Laboratory Control Sample		50.0	**46.3**	ug/L	93	80-120			1.0
1603322-01 [DB-23]									
Matrix Spike	0.0948	50.0	**46.8**	ug/L	93	75-125			1.0
Matrix Spike Duplicate	0.0948	50.0	**47.7**	ug/L	95	75-125	2	20	1.0
Analyte: Magnesium/USEPA-6010C									
QC Batch: 1602539 (3010A Digestion)							Analyzed: 03/22/2016		By: CKD
Method Blank			<1000	ug/L					1000
Laboratory Control Sample		20000	**20200**	ug/L	101	80-120			1000
1603322-01 [DB-23]									
Matrix Spike	23700	20000	**43800**	ug/L	100	75-125			1000
Matrix Spike Duplicate	23700	20000	**44100**	ug/L	102	75-125	0.7	20	1000
Analyte: Manganese/USEPA-6020A									
QC Batch: 1602541 (3020A Digestion)							Analyzed: 03/23/2016		By: DSC
Method Blank			<5.0	ug/L					5.0

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QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Analyte: Manganese/USEPA-6020A (Continued)									
QC Batch: 1602541 (Continued) (3020A Digestion)							Analyzed: 03/23/2016		By: DSC
Laboratory Control Sample		50.0	**45.7**	ug/L	91	80-120			5.0
1603322-01 [DB-23]									
Matrix Spike	18.5	50.0	**63.9**	ug/L	91	75-125			5.0
Matrix Spike Duplicate	18.5	50.0	**65.4**	ug/L	94	75-125	2	20	5.0
Analyte: Nickel/USEPA-6020A									
QC Batch: 1602541 (3020A Digestion)							Analyzed: 03/23/2016		By: DSC
Method Blank			<25	ug/L					25
Laboratory Control Sample		50.0	**46.4**	ug/L	93	80-120			25
1603322-01 [DB-23]									
Matrix Spike	4.48	50.0	**49.0**	ug/L	89	75-125			25
Matrix Spike Duplicate	4.48	50.0	**50.2**	ug/L	92	75-125	3	20	25
Analyte: Potassium/USEPA-6010C									
QC Batch: 1602539 (3010A Digestion)							Analyzed: 03/22/2016		By: CKD
Method Blank			<100	ug/L					100
Laboratory Control Sample		20000	**20700**	ug/L	104	80-120			100
1603322-01 [DB-23]									
Matrix Spike	2700	20000	**23700**	ug/L	105	75-125			100
Matrix Spike Duplicate	2700	20000	**23700**	ug/L	105	75-125	0.1	20	100
Analyte: Selenium/USEPA-6020A									
QC Batch: 1602541 (3020A Digestion)							Analyzed: 03/23/2016		By: DSC
Method Blank			<2.0	ug/L					2.0
Laboratory Control Sample		50.0	**45.1**	ug/L	90	80-120			2.0
1603322-01 [DB-23]									
Matrix Spike	<2.0	50.0	**48.0**	ug/L	96	75-125			2.0
Matrix Spike Duplicate	<2.0	50.0	**48.3**	ug/L	97	75-125	0.7	20	2.0
Analyte: Silver/USEPA-6020A									
QC Batch: 1602541 (3020A Digestion)							Analyzed: 03/23/2016		By: DSC
Method Blank			<0.50	ug/L					0.50

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QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Analyte: Silver/USEPA-6020A (Continued)									
QC Batch: 1602541 (Continued) (3020A Digestion)							Analyzed: 03/23/2016		By: DSC
Laboratory Control Sample		50.0	**46.1**	ug/L	92	80-120			0.50
1603322-01 [DB-23]									
Matrix Spike	0.0291	50.0	**46.1**	ug/L	92	75-125			0.50
Matrix Spike Duplicate	0.0291	50.0	**46.5**	ug/L	93	75-125	1	20	0.50
Analyte: Sodium/USEPA-6010C									
QC Batch: 1602539 (3010A Digestion)							Analyzed: 03/22/2016		By: CKD
Method Blank			<1000	ug/L					1000
Laboratory Control Sample		20000	**21100**	ug/L	106	80-120			1000
1603322-01 [DB-23]									
Matrix Spike	37700	20000	**57600**	ug/L	99	75-125			1000
Matrix Spike Duplicate	37700	20000	**58600**	ug/L	105	75-125	2	20	1000
Analyte: Thallium/USEPA-6020A									
QC Batch: 1602541 (3020A Digestion)							Analyzed: 03/23/2016		By: DSC
Method Blank			<2.0	ug/L					2.0
Laboratory Control Sample		50.0	**46.2**	ug/L	92	80-120			2.0
1603322-01 [DB-23]									
Matrix Spike	<2.0	50.0	**46.6**	ug/L	93	75-125			2.0
Matrix Spike Duplicate	<2.0	50.0	**47.8**	ug/L	96	75-125	3	20	2.0
Analyte: Vanadium/USEPA-6020A									
QC Batch: 1602541 (3020A Digestion)							Analyzed: 03/23/2016		By: DSC
Method Blank			<10	ug/L					10
Laboratory Control Sample		50.0	**45.8**	ug/L	92	80-120			10
1603322-01 [DB-23]									
Matrix Spike	<10	50.0	**46.4**	ug/L	93	75-125			10
Matrix Spike Duplicate	<10	50.0	**47.2**	ug/L	94	75-125	2	20	10
Analyte: Zinc/USEPA-6020A									
QC Batch: 1602541 (3020A Digestion)							Analyzed: 03/23/2016		By: DSC
Method Blank			<10	ug/L					10

Continued on next page

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QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Analyte: Zinc/USEPA-6020A (Continued)									
QC Batch: 1602541 (Continued) (3020A Digestion)							Analyzed: 03/23/2016		By: DSC
Laboratory Control Sample		50.0	**43.3**	ug/L	87	80-120			10
1603322-01 [DB-23]									
Matrix Spike	2.14	50.0	**43.6**	ug/L	83	75-125			10
Matrix Spike Duplicate	2.14	50.0	**43.7**	ug/L	83	75-125	0.2	20	10

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TRIMATRIX LABORATORIES

QUALITY CONTROL REPORT

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Analyte: Alkalinity, Bicarbonate/SM 2320 B-2011									
QC Batch: 1602790 (Method Specific Preparation)							Analyzed: 03/25/2016		By: JLB
Method Blank			<10000	ug/L					10000
Laboratory Control Sample		238000	**237000**	ug/L	99	74-123			10000
Analyte: Alkalinity, Carbonate/SM 2320 B-2011									
QC Batch: 1602791 (Method Specific Preparation)							Analyzed: 03/25/2016		By: JLB
Method Blank			<10000	ug/L					10000
Laboratory Control Sample		378000	**382000**	ug/L	101	72-114			10000
Analyte: Carbon, Total Organic/SM 5310 C-2011									
QC Batch: 1603105 (General Inorganic Prep)							Analyzed: 04/04/2016		By: LEW
Method Blank			<500	ug/L					500
Laboratory Control Sample		2000	**2260**	ug/L	113	84-118			500
Analyte: Chemical Oxygen Demand/SM 5220 D-2011									
QC Batch: 1603000 (5220 D COD Digestion)							Analyzed: 03/31/2016		By: JTW
Method Blank			<5000	ug/L					5000
Laboratory Control Sample		20000	**20900**	ug/L	105	95-105			5000
1603322-01 [DB-23]									
Matrix Spike	<5000	20000	**21600**	ug/L	108	64-148			5000
Matrix Spike Duplicate	<5000	20000	**21600**	ug/L	108	64-148	0.06	20	5000
Analyte: Chloride/SM 4500-Cl E-2011									
QC Batch: 1602736 (General Inorganic Prep)							Analyzed: 03/24/2016		By: LMA
Method Blank			<1000	ug/L					1000
Laboratory Control Sample		50000	**50200**	ug/L	100	90-106			1000
Analyte: Cyanide, Total/USEPA-9014									
QC Batch: 1602616 (9010C Cyanide Distillation)							Analyzed: 03/22/2016		By: LMA
Method Blank			<5.00	ug/L					5.00

Continued on next page

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QUALITY CONTROL REPORT

Physical/Chemical Parameters by EPA/APHA/ASTM Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Analyte: Cyanide, Total/USEPA-9014 (Continued)									
QC Batch: 1602616 (Continued) (9010C Cyanide Distillation)							Analyzed: 03/22/2016		By: LMA
Laboratory Control Sample		100	**93.9**	ug/L	94	83-109			5.00
Laboratory Control Sample		40.0	**40.6**	ug/L	102	83-109			5.00
1603322-01 [DB-23]									
Matrix Spike	<5.00	100	**102**	ug/L	102	68-118			5.00
Matrix Spike Duplicate	<5.00	100	**99.1**	ug/L	99	68-118	3	20	5.00
Analyte: Nitrogen, Ammonia/SM 4500-NH3 G-2011									
QC Batch: 1602977 (Method Specific Preparation)							Analyzed: 03/24/2016		By: LEW
Method Blank			<10	ug/L					10
Laboratory Control Sample		500	**480**	ug/L	96	90-110			10
Analyte: Nitrogen, Nitrate+Nitrite/SM 4500-NO3 F-2011									
QC Batch: 1602631 (Method Specific Preparation)							Analyzed: 03/22/2016		By: HLB
Method Blank			<0.020	mg/L					0.020
Laboratory Control Sample		0.500	**0.507**	mg/L	101	90-110			0.020
Analyte: Phenolics, Total/USEPA-420.4									
QC Batch: 1602744 (420.1 Phenolics)							Analyzed: 03/25/2016		By: LMA
Method Blank			<10.0	ug/L					10.0
Laboratory Control Sample		250	**229**	ug/L	92	90-110			10.0
1603322-01 [DB-23]									
Matrix Spike	11.2	250	**217**	ug/L	**82**	90-110			10.0
Matrix Spike Duplicate	11.2	250	**190**	ug/L	**72**	90-110	13	20	10.0
Analyte: Residue, Dissolved @ 180° C/SM 2540 C-2011									
QC Batch: 1602750 (General Inorganic Prep)							Analyzed: 03/24/2016		By: MET
Method Blank			<50000	ug/L					50000
Laboratory Control Sample		200000	**184000**	ug/L	92	85-115			50000
1603322-01 [DB-23]									
Duplicate	798000		**808000**	ug/L			1	5	50000

Continued on next page

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QUALITY CONTROL REPORT

Physical/Chemical Parameters by EPA/APHA/ASTM Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Analyte: Sulfate/ASTM D516-90 (07)									
QC Batch: 1602600 (General Inorganic Prep)							Analyzed: 03/21/2016		By: LMA
Method Blank			<1.0	mg/L					1.0
Method Blank			<5.0	mg/L					5.0
Laboratory Control Sample		10.0	**10.1**	mg/L	101	88-116			1.0
Laboratory Control Sample		20.0	**19.2**	mg/L	96	88-116			5.0

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TRIMATRIX LABORATORIES

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Phone (616) 975-4500 Fax (616) 942-7463
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Chain of Custody Record

COC No. 154051

Pg. 1 of ___

For Lab Use Only

Cart: 2
VOA Rack/Tray: 734-W
Receipt Log No.: 28-21
Project Chemist: JLR
Work Order No.: 1603322

Client Name: Republic Services
Address:
City, State Zip:
Phone/Fax: 269-719-2743 / 269-282-1075
Email: See comments below

Project Name: Ottawa County Farms LF
Client Project No. / P.O. No.:
Invoice To: ☑ Client ☐ Other (comments)
Contact/Report To: John Bomba and Kurt Van Appledorn

Analyses Requested: Rule 450, Rule 451, Rule 452, Rule 453, Rule 454

PRESERVATIVES
A NONE pH~7
B HNO_3 pH<2
C H_2SO_4 pH<2
D 1+1 HCl pH<2
E NaOH pH>12
F ZnAc/NaOH pH>9
G MeOH
H Other (note below)

Schedule	Matrix Code	Sample Number		Field Sample ID	Cooler ID	Sample Date	Sample Time	COMP	GRAB	Matrix	Rule 450	Rule 451	Rule 452	Rule 453	Rule 454	Total	Sample Comments
A		01	1	DB-23		3/17/16	0905		x	GW	x	x	x	x	x	10	
		02	2	DB-26		3/17/16	1025		x	GW	x	x	x	x	x		
		03	3	DB-24		3/17/16	1440		x	GW	x	x	x	x	x		
		04	4	DB-25		3/17/16	1350		x	GW	x	x	x	x	x		
			5														
			6														
			7														
			8														
			9														
			10														

Container Type (corresponds to Container Packing List)
Number of Containers Submitted

Sampled By (print): ERIC RUCKERT
Sampler's Signature:
Company: KECK Consulting

How Shipped? Hand ☒ Carrier ____
Tracking No.

Comments: Email report to: John Bomba @ j.bomba@comcast.net and Kurt Van Appledorn @ kurt.vanappledorn@geosolutions.com

	Date	Time
1. Relinquished By	3/17/16	1639
1. Received By		
2. Relinquished By		
2. Received By		
3. Relinquished By		
3. Received For Lab By	3/17/16	163

WHITE COPY - REPORT YELLOW COPY - LABORATORY PINK COPY - FIELD

SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: REPUBLIC - DCF
Receipt Record Page/Line #: 28-21
Work Order #: 1603322
New / Add To
Project Chemist | Sample #s: 01-04

Recorded by (initials/date): DN 3-17-16

☑ Cooler ☐ Box ☐ Other
Qty Received: 1

Thermometer Used: ☑ IR Gun (#202) ☐ Digital Thermometer (#54) ☐ Other (#_____)

☐ See Additional Cooler Information Form

Cooler #	Time
1713594	2020

Custody Seals: ☑ None ☐ Present / Intact ☐ Present / Not Intact

Coolant Type: ☑ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None

Coolant Location: Dispersed / Top / Middle / Bottom

Temp Blank Present: ☑ Yes ☐ No

If Present, Temperature Blank Location is: ☑ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:	5.2	0	5.2
Sample 1:	5.0	0	5.0
Sample 2:	5.7	0	5.7
Sample 3:	5.9	0	5.9

3 Sample Average °C: 5.5

☐ Cooler ID on COC? ☐ VOC Trip Blank received?

Cooler #	Time

Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact

Coolant Type: ☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None

Coolant Location: Dispersed / Top / Middle / Bottom

Temp Blank Present: ☐ Yes ☐ No

If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			

3 Sample Average °C:

☐ Cooler ID on COC? ☐ VOC Trip Blank received?

Cooler #	Time

Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact

Coolant Type: ☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None

Coolant Location: Dispersed / Top / Middle / Bottom

Temp Blank Present: ☐ Yes ☐ No

If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			

3 Sample Average °C:

☐ Cooler ID on COC? ☐ VOC Trip Blank received?

Cooler #	Time

Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact

Coolant Type: ☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None

Coolant Location: Dispersed / Top / Middle / Bottom

Temp Blank Present: ☐ Yes ☐ No

If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			

3 Sample Average °C:

☐ Cooler ID on COC? ☐ VOC Trip Blank received?

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☑	☐	Chain of Custody record(s)? If No, initiated By _____
☑	☐	Received for Lab Signed/Date/Time?
☐	☑	Shipping document?
☐	☑	Other _____

COC Information

☑ TriMatrix COC ☐ Other_____

COC ID Numbers: 154051

Check COC for Accuracy

Yes	No	
☑	☐	Analysis Requested?
☑	☐	Sample ID matches COC?
☑	☐	Sample Date and Time matches COC?
☑		Container type completed on COC?
☑	☐	All container types indicated are received?

Check Sample Preservation

N/A	Yes	No	
	☐	☑	Temperature Blank **OR** average sample temperature, ≥6° C?
☑	☐	☐	If either is ≥6° C, was thermal preservation required?
☑	☐		If "Yes", Project Chemist Approval Initials:_____
☑	☐		If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☐	☑		Completed Sample Preservation Verification Form?
☐	☑	☐	Samples chemically preserved correctly?
☑	☐		If "No", added orange tag?
	☐	☑	Received pre-preserved VOC soils?
			☐ MeOH ☐ Na_2SO_4

Check for Short Hold-Time Prep/Analyses

☐ Bacteriological
☐ Air Bags
☐ EnCores / Methanol Pre-Preserved
☐ Formaldehyde/Aldehyde
☑ Green-tagged containers
☐ Yellow/White-tagged 1 L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)
☐ NONE RECEIVED
☑ RECEIVED, COCs TO LAB(S)

Sample Condition Summary

N/A	Yes	No	
	☐	☑	Broken containers/lids?
	☐	☑	Missing or incomplete labels?
	☐	☑	Illegible information on labels?
	☐	☑	Low volume received?
	☐	☑	Inappropriate or non-TriMatrix containers received?
☐	☐	☑	VOC vials / TOX containers have headspace?
☑	☐	☐	Extra sample locations / containers not listed on COC?

Notes

☐ Trip Blank received ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
DN 3-17-16	3-17-16	Yes / No

TRIMATRIX LABORATORIES

SAMPLE PRESERVATION VERIFICATION FORM

Client: REPUBLIC - OCF	Work Order #: 1603322
Receipt Log #: 2821	Completed By (initials/date): DN 3-17-16
	Project Chemist:

COC ID #: 154051

Adjusted by: _____
Date: _____

DO NOT ADJUST pH FOR THESE CONTAINER TYPES

Container Type	5 / 23	4	13		6	15		
Tag Color	Lt. Blue	Blue	Brown		Red	Red Stripe		
Preservative	NaOH	H_2SO_4	H_2SO_4		HNO_3	HNO_3		
Expected pH	>12	<2	<2		<2	<2		
COC Line #1	✓	✓	✓			✓		
COC Line #2	✓	✓	✓			✓		
COC Line #3	✓	✓	✓			✓		
COC Line #4	✓	✓	✓			✓		
COC Line #5								
COC Line #6								
COC Line #7								
COC Line #8								
COC Line #9								
COC Line #10								

Comments

pH Strip Reagent #: 5120353

Aqueous Samples: For each sample and container type, check the box if pH is acceptable. If pH is not acceptable for any sample container, record pH in box, and note on Sample Receiving Checklist and on Sample Receiving Non-Conformance Form. If approved by Project Chemist, add acid or base to the sample to achieve the correct pH. Add up to, but do not exceed 2x the volume initially added at container prep (see table below for initial volumes used). Add orange pH tag to sample container and record information requested. Record adjusted pH on this form. Do not adjust pH for container types 6 and 15.

COC ID #: _____

Adjusted by: _____
Date: _____

DO NOT ADJUST pH FOR THESE CONTAINER TYPES

Container Type	5 / 23	4	13		6	15		
Tag Color	Lt. Blue	Blue	Brown		Red	Red Stripe		
Preservative	NaOH	H_2SO_4	H_2SO_4		HNO_3	HNO_3		
Expected pH	>12	<2	<2		<2	<2		
COC Line #1								
COC Line #2								
COC Line #3								
COC Line #4								
COC Line #5								
COC Line #6								
COC Line #7								
COC Line #8								
COC Line #9								
COC Line #10								

Comments

Container Size (mL)	Original Vol. of Preservative (mL)
Container Type 5	NaOH
500	2.5
1000	5.0
Container Type 4	H_2SO_4
125	0.5
250	1.0
500	2.0
1000	4.0
Container Type 13	H_2SO_4
500	2.5

TRIMATRIX LABORATORIES

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Chain of Custody Record

COC No. 153147

Pg. 2 of 2

For Lab Use Only

Cart:

VOA Rack/Tray: 493W

Receipt Log No.: 29.13

Project Chemist:

Work Order No.: 16033316

Client Name: Republic Services

Address:

City, State Zip:

Phone/Fax: 269-719-3743 / 269-282-1675

Email: See comments

Project Name: Ottawa County Farms LF

Client Project No. / P.O. No.:

Invoice To: ☒ Client ☐ Other (comments)

Contact/Report To: John Bomba and Kurt Van Appledorn

Analyses Requested: Rule 450, Rule 451, Rule 452, Rule 453, Rule 454

PRESERVATIVES
A NONE pH~7
B HNO_3 pH<2
C H_2SO_4 pH<2
D 1+1 HCl pH<2
E NaOH pH>12
F ZnAc/NaOH pH>9
G MeOH
H Other (note below)

Schedule	Matrix Code	Sample Number	Field Sample ID	Cooler ID	Sample Date	Sample Time	COMP	GRAB	Matrix	Container Type (corresponds to Container Packing List)	Number of Containers Submitted	Total	Sample Comments
		01	DB-27		3/18/16	0830		x	GW		✓ ✓ ✓ ✓ ✓		
		02	DB-28		3/18/16	1120		x	GW		✓ ✓ ✓ ✓ ✓		

Sampled By (print): ERIC RUCKERT

Sampler's Signature:

Company: KECK Consulting

How Shipped? Hand ✓ Carrier:

Tracking No.:

Comments: John Bomba — j.bomba@comcast.net
Kurt Van Appledorn
kurt.vanappledorn@geosolutions.com

1. Relinquished By	Date	Time	2. Relinquished By	Date	Time	3. Relinquished By	Date	Time
	3/18/16	1338						

1. Received By	Date	Time	2. Received By	Date	Time	3. Received For Lab By	Date	Time
							3.18.16	1330

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SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: Republic Services
Work Order #: 1603336
New / Add To
Receipt Record Page/Line #: 29.13
Project Chemist
Sample #s

Recorded by (initials/date): WC 3.18.16

☑ Cooler ☐ Box ☐ Other
Qty Received: 1
Thermometer Used: ☑ IR Gun (#202) ☐ Digital Thermometer (#54) ☐ Other (#_____)
☐ See Additional Cooler Information Form

Cooler #	Time	Custody Seals	Coolant Type	Coolant Location	Temp Blank Present	If Present, Temperature Blank Location is
Tm 3344	1400	☑ None ☐ Present / Intact ☐ Present / Not Intact	☑ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None	(Dispersed) / Top / Middle / Bottom	☑ Yes ☐ No	☑ Representative ☐ Not Representative
		☐ None ☐ Present / Intact ☐ Present / Not Intact	☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None	Dispersed / Top / Middle / Bottom	☐ Yes ☐ No	☐ Representative ☐ Not Representative
		☐ None ☐ Present / Intact ☐ Present / Not Intact	☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None	Dispersed / Top / Middle / Bottom	☐ Yes ☐ No	☐ Representative ☐ Not Representative
		☐ None ☐ Present / Intact ☐ Present / Not Intact	☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None	Dispersed / Top / Middle / Bottom	☐ Yes ☐ No	☐ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:	3.9	-	3.9
Sample 1:	9.0	-	9.0
Sample 2:	7.3	-	7.3
Sample 3:	9.9	-	9.9
3 Sample Average °C:	8.7		

☐ Cooler ID on COC?
☐ VOC Trip Blank received?

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☐	☐	Chain of Custody record(s)? If No, Initiated By _____
☐		Received for Lab Signed/Date/Time?
☐	☑	Shipping document?
☐	☑	Other _____

COC Information

☑ TriMatrix COC ☐ Other _____

COC ID Numbers:

Check COC for Accuracy

Yes	No	
☑	☐	Analysis Requested?
☑	☐	Sample ID matches COC?
☑	☐	Sample Date and Time matches COC?
☑		Container type completed on COC?
☑	☐	All container types indicated are received?

Check Sample Preservation

N/A	Yes	No	
	☑	☐	Temperature Blank **OR** average sample temperature, ≥6° C?
☑	☐	☐	If either is ≥6° C, was thermal preservation required?
☑	☑		If "Yes", Project Chemist Approval Initials: _____
☑	☑		If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☑	☑		Completed Sample Preservation Verification Form?
☑	☐	☐	Samples chemically preserved correctly?
☑	☑		If "No", added orange tag?
	☑	☐	Received pre-preserved VOC soils?
			☐ MeOH ☐ Na_2SO_4

Check for Short Hold-Time Prep/Analyses

☐ Bacteriological
☐ Air Bags
☐ EnCores / Methanol Pre-Preserved
☐ Formaldehyde/Aldehyde
☑ Green-tagged containers
☐ Yellow/White-tagged 1 L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)
☐ NONE RECEIVED
☑ RECEIVED, COCs TO LAB(S)

Sample Condition Summary

N/A	Yes	No	
	☐	☑	Broken containers/lids?
	☐	☑	Missing or incomplete labels?
	☐	☑	Illegible information on labels?
	☐	☑	Low volume received?
	☐	☑	Inappropriate or non-TriMatrix containers received?
☐	☐	☑	VOC vials / TOX containers have headspace?
☐	☐	☑	Extra sample locations / containers not listed on COC?

Notes

☐ Trip Blank received ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
3.18.16 1338	3.18.16 1410	(Yes) No

TRIMATRIX LABORATORIES

SAMPLE PRESERVATION VERIFICATION FORM

Client: Republic Services	Work Order # 1603336
Receipt Log # 29.13	Completed By (initials/date) WC 3.18.16
	Project Chemist

COC ID # 153147

Adjusted by: _____
Date: _____

DO NOT ADJUST pH FOR THESE CONTAINER TYPES

Container Type	5 / 23	4	13		6	15		
Tag Color	Lt. Blue	Blue	Brown		Red	Red Stripe		
Preservative	NaOH	H_2SO_4	H_2SO_4		HNO_3	HNO_3		
Expected pH	>12	<2	<2		<2	<2		
COC Line #1	✓	✓	✓			✓		
COC Line #2	✓	✓	✓			✓		
COC Line #3								
COC Line #4								
COC Line #5								
COC Line #6								
COC Line #7								
COC Line #8								
COC Line #9								
COC Line #10								

Comments

pH Strip Reagent #

☐ 5120353

☐ _____

Aqueous Samples: For each sample and container type, check the box if pH is acceptable. If pH is not acceptable for any sample container, record pH in box, and note on Sample Receiving Checklist and on Sample Receiving Non-Conformance Form. If approved by Project Chemist, add acid or base to the sample to achieve the correct pH. Add up to, but do not exceed 2x the volume initially added at container prep (see table below for initial volumes used). Add orange pH tag to sample container and record information requested. Record adjusted pH on this form. Do not adjust pH for container types 6 and 15.

COC ID # _____

Adjusted by: _____
Date: _____

DO NOT ADJUST pH FOR THESE CONTAINER TYPES

Container Type	5 / 23	4	13		6	15		
Tag Color	Lt. Blue	Blue	Brown		Red	Red Stripe		
Preservative	NaOH	H_2SO_4	H_2SO_4		HNO_3	HNO_3		
Expected pH	>12	<2	<2		<2	<2		
COC Line #1								
COC Line #2								
COC Line #3								
COC Line #4								
COC Line #5								
COC Line #6								
COC Line #7								
COC Line #8								
COC Line #9								
COC Line #10								

Comments

Container Size (mL)	Original Vol. of Preservative (mL)
Container Type 5	NaOH
500	2.5
1000	5.0
Container Type 4	H_2SO_4
125	0.5
250	1.0
500	2.0
1000	4.0
Container Type 13	H_2SO_4
500	2.5

OCF - LF BMR 5/5/16

DB-23	21.37
DB-24	40.30
DB-25	34.46
DB-26	35.94
DB-27	38.17
DB-28	42.13

DB-22	57.91
DB-21	59.13
DB-16	38.29
DB-3	44.38
DB-2R	29.98
DB-11	30.21
DB-14	62.17
DB-15	11.23
DB-1	59.09
DB-18	62.05
DB-20	60.21
DB-19R	70.67
DB-17R	65.93

5/5/16

PROJECT: OCF - 2F

GROUNDWATER SAMPLING FIELD SHEET
DATA SHEET

Well Number: DB-23
Sample ID: _____ (If different from well no.)

KECK PERSONNEL: ERIC RUCKERT
DATE: 5/5/16 TIME: 0735
WEATHER: Sunny AIR TEMP: 80

WELL DATA:

Casing Diameter: 2 ☐ Stainless Steel ☐ Steel ☒ PVC ☐ Teflon ☐ Other: _____
Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open Rock

DEPTH TO: Static Water Level: 21.37 Bottom of Well: 31.10
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☒ Yes ☐ No
Is Prot. Casing in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intace? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☒ Yes ☐ No Is Inner Casing Intact? ☒ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No

VOLUME OF WATER: Standing in well: 8.63 To be purged: 34
14.5

PURGE DATA:

METHOD: Bladder Pump: ☐ w/ packer ☒ w/o packer ☐ 2" Submersible Pump
☐ Centrifugal Pump ☒ Peristaltic Pump ☐ Other: _____

MATERIALS: PUMP: ☐ Teflon® ☐ Stainless Steel ☒ PVC ☐ Other: _____ Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: _____
210 130 210

Pumping Rate: 0.5 Elapsed Time: 0735 - Volume Pumped: 46
Was well Evacuated? ☐ Yes ☐ No Number of Well Volumes Removed: _____

TIME SERIES DATA:

Well Volumes:	1 (805)	2 (840)	3			
Temp.:	10.16	10.48	10.70			
pH:	6.97	7.07	7.14			
Spec. Cond.:	1003	1005	1007			
DO	6.97	5.30	2.25			
ORP	33.1	3.4	-15.7			
COND	718	727	732			

PURGING EQUIPMENT: ☒ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned

SAMPLING DATA: SAMPLE TIME: 0915

METHOD: Bladder Pump: ☐ w/ packer ☒ w/o packer ☐ 2" Submersible Pump
☐ Bailer ☐ Other: _____

MATERIALS: PUMP: ☐ Teflon® ☐ Stainless Steel ☒ PVC ☐ Other _____ Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: _____

SAMPLING EQUIPMENT: ☒ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color ☐ Contains Immiscible Liquid Turbidity: _____
FIELD DETERMINATIONS: pH: _____ Meter Model: _____ Meter S/N: _____
Temperature: _____ Sped. Cond.: _____ Meter Model: _____ Meter S/N: _____
REMARKS: _____

I certify that this sample wasw collected and handled in accordance with applicable regulatory and project protocols

Signature: [signature] Date: 5/5/16

PROJECT: OCF - LF

GROUNDWATER SAMPLING FIELD SHEET
DATA SHEET

Well Number: DB-24
Sample ID: _____ (If different from well no.)

KECK PERSONNEL: Eric Ruckert
DATE: 5/5/16 TIME: 1020
WEATHER: Sunny AIR TEMP: 60

WELL DATA:

Casing Diameter: 2 ☐ Stainless Steel ☐ Steel ☒ PVC ☐ Teflon ☐ Other: _____
Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open Rock

DEPTH TO: Static Water Level: 40.30 Bottom of Well: ≈ 172.5'
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☒ Yes ☐ No
Is Prot. Casing in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intace? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☒ Yes ☐ No Is Inner Casing Intact? ☒ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No

VOLUME OF WATER: Standing in well: 132.2 To be purged: ≈ 66
≈ 22 ≈ 22 min

PURGE DATA:

METHOD: Bladder Pump: ☐ w/ packer ☒ w/o packer ☐ 2" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other: _____

MATERIALS: PUMP: ☐ Teflon® ☐ Stainless Steel ☒ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: ≈ 0.3 L Elapsed Time: 1035 Volume Pumped: _____
Was well Evacuated? ☐ Yes ☐ No Number of Well Volumes Removed: _____

TIME SERIES DATA:

Well Volumes:	1 (1137)	2 (1240)	3 (1345)			
Temp.:	12.15	12.25	12.13			
pH:	7.26	7.28	7.33			
Spec. Cond.:	1209	1213	1214			
DO	4.60	4.05	4.19			
ORP	-17.3	-7.6	-21.6			
COND	913	920	935			

PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned

SAMPLING DATA: SAMPLE TIME: 1250

METHOD: Bladder Pump: ☐ w/ packer ☒ w/o packer ☐ 2" Submersible Pump
☐ Bailer ☐ Other: _____

MATERIALS: PUMP: ☐ Teflon® ☐ Stainless Steel ☒ PVC ☐ Other _____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: _____

SAMPLING EQUIPMENT: ☒ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color ☐ Contains Immiscible Liquid Turbidity: _____
FIELD DETERMINATIONS: pH: _____ Meter Model: _____ Meter S/N: _____
Temperature: _____ Sped. Cond.: _____ Meter Model: _____ Meter S/N: _____
REMARKS: CPM 4 5.6/9.5 → changed to 5/10
4.6 DO - SW2 while pumping

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols

Signature: _____ Date: 5/5/16

PROJECT: OCF - LF

GROUNDWATER SAMPLING FIELD SHEET
DATA SHEET

Well Number: DB-25
Sample ID: _____ (if different from well no.)

KECK PERSONNEL: ERIC RUCKER DT
DATE: 5/5/16 TIME: 1015
WEATHER: Sunny AIR TEMP: 50

WELL DATA:

Casing Diameter: 2 ☐ Stainless Steel ☐ Steel ☒ PVC ☐ Teflon ☐ Other: _____
Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open Rock

DEPTH TO: Static Water Level: 34.46 Bottom of Well: 160.3
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☒ Yes ☐ No
Is Prot. Casing in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intace? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☒ Yes ☐ No Is Inner Casing Intact? ☒ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No

VOLUME OF WATER: Standing in well: 127.8 To be purged: 63
21

PURGE DATA:

METHOD: Bladder Pump: ☐ w/ packer ☒ w/o packer ☐ 2" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other: _____

MATERIALS: PUMP: ☐ Teflon® ☐ Stainless Steel ☒ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 0.37 Elapsed Time: 1015 Volume Pumped: 66
Was well Evacuated? ☐ Yes ☐ No Number of Well Volumes Removed: _____

TIME SERIES DATA:						
Well Volumes:	1 (1115)	2 (1215)	3 (1315)			
Temp.:	11.36	12.49	12.59			
pH:	7.23	7.28	7.35			
Spec. Cond.:	1250	1259	1273			
DO	4.04	2.19	3.60			
ORP	-39.2	-16.5	-27.5			
COND	925	964	975			

PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned

SAMPLING DATA: SAMPLE TIME: 1320

METHOD: Bladder Pump: ☐ w/ packer ☒ w/o packer ☐ 2" Submersible Pump
☐ Bailer ☐ Other: _____

MATERIALS: PUMP: ☐ Teflon® ☐ Stainless Steel ☒ PVC ☐ Other _____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: _____

SAMPLING EQUIPMENT: ☒ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color ☐ Contains Immiscible Liquid Turbidity: _____
FIELD DETERMINATIONS: pH: _____ Meter Model: _____ Meter S/N: _____
Temperature: _____ Sped. Cond.: _____ Meter Model: _____ Meter S/N: _____
REMARKS: CPM 4 9/6

I certify that this sample wasw collected and handled in accordance with applicable regulatory and project protocols

Signature: [signature] Date: 5/6/16

PROJECT: OCF - LF

GROUNDWATER SAMPLING FIELD SHEET
DATA SHEET

Well Number: DB-26
Sample ID: _____ (if different from well no.)

KECK PERSONNEL: ERIK RUCKERT
DATE: 5/5/16 TIME: 0700
WEATHER: Sunny 50's AIR TEMP: 45

WELL DATA:

Casing Diameter: 2 ☐ Stainless Steel ☐ Steel ☒ PVC ☐ Teflon ☐ Other: _____
Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open Rock

DEPTH TO: Static Water Level: 35.94 Bottom of Well: ≈155
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☒ Yes ☐ No
Is Prot. Casing in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intace? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☒ Yes ☐ No Is Inner Casing Intact? ☒ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No

VOLUME OF WATER: Standing in well: 119 To be purged: ≈58
19.4

PURGE DATA:

METHOD: Bladder Pump: ☐ w/ packer ☒ w/o packer ☐ 2" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other: _____

MATERIALS: PUMP: ☐ Teflon® ☐ Stainless Steel ☒ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: _____

240 ≈5# min 0700 0845 0935

Pumping Rate: ≈0.38 Elapsed Time: 0705 - 0935 Volume Pumped: _____
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: _____

TIME SERIES DATA:

	0750					
Well Volumes:	1	2	3			
Temp.:	10.45	10.54	10.80			
pH:	7.10	7.03	7.14			
Spec. Cond.:	1248	1248	1247			
DO	5.55	4.43	2.44			
ORP	4.8	-12.0	-12.1			
COND	902	904	909			

PURGING EQUIPMENT: ☒ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned

SAMPLING DATA: SAMPLE TIME: 0940

METHOD: Bladder Pump: ☐ w/ packer ☒ w/o packer ☐ 2" Submersible Pump
☐ Bailer ☐ Other: _____

MATERIALS: PUMP: ☐ Teflon® ☐ Stainless Steel ☒ PVC ☐ Other _____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: _____

SAMPLING EQUIPMENT: ☒ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color ☐ Contains Immiscible Liquid Turbidity: _____
FIELD DETERMINATIONS: pH: _____ Meter Model: _____ Meter S/N: _____
Temperature: _____ Sped. Cond.: _____ Meter Model: _____ Meter S/N: _____
REMARKS: 6/5/5

I certify that this sample wasw collected and handled in accordance with applicable regulatory and project protocols

Signature: [signature] Date: 5/5/16

PROJECT: OCP-LP

GROUNDWATER SAMPLING FIELD SHEET
DATA SHEET

Well Number: DB27
Sample ID: – (if different from well no.)

KECK PERSONNEL: ERIC RUCKERT
DATE: 5/6/16 TIME: 0730
WEATHER: Sunny AIR TEMP: 38

WELL DATA:

Casing Diameter: 2 ☐ Stainless Steel ☐ Steel ☒ PVC ☐ Teflon ☐ Other: _____
Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open Rock

DEPTH TO: Static Water Level: 38.17 Bottom of Well: ≈90
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☒ Yes ☐ No
Is Prot. Casing in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intace? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☒ Yes ☐ No Is Inner Casing Intact? ☒ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No

VOLUME OF WATER: Standing in well: 51.83 To be purged: ≈26
8.4

PURGE DATA:

METHOD: Bladder Pump: ☐ w/ packer ☒ w/o packer ☐ 2" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other: _____

MATERIALS: PUMP: ☐ Teflon® ☐ Stainless Steel ☒ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: ≈0.5 Elapsed Time: 0732–820 Volume Pumped: ≈26
Was well Evacuated? ☐ Yes ☐ No Number of Well Volumes Removed: _____

TIME SERIES DATA:

	0750					
Well Volumes:	1	2	3			
Temp.:	11.26	11.74	11.07			
pH:	7.96	7.48	7.44			
Spec. Cond.:	984	985	978			
DO	4.97	3.00	2.08			
ORD	-39.7	-63.9	-75.1			

PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned

SAMPLING DATA: SAMPLE TIME: 0820

COND	731	747	717

METHOD: Bladder Pump: ☐ w/ packer ☒ w/o packer ☐ 2" Submersible Pump
☐ Bailer ☐ Other: _____

MATERIALS: PUMP: ☐ Teflon® ☐ Stainless Steel ☒ PVC ☐ Other _____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: _____

SAMPLING EQUIPMENT: ☒ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color ☐ Contains Immiscible Liquid Turbidity: _____
FIELD DETERMINATIONS: pH: _____ Meter Model: _____ Meter S/N: _____
Temperature: _____ Sped. Cond.: _____ Meter Model: _____ Meter S/N: _____
REMARKS: _____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols

Signature: [signature] Date: 5/6/16

11 | 11 | 11

PROJECT: OCF - LF

GROUNDWATER SAMPLING FIELD SHEET
DATA SHEET

Well Number: DB-28
Sample ID: _____ (If different from well no.)

KECK PERSONNEL: ERIC RUCKERT
DATE: 5/6/10 TIME: 0630
WEATHER: Sunny AIR TEMP: 39

WELL DATA:

Casing Diameter: 2" ☐ Stainless Steel ☐ Steel ☒ PVC ☐ Teflon ☐ Other: _____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open Rock

DEPTH TO: Static Water Level: 42.13 Bottom of Well: 217'
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☒ Yes ☐ No
Is Prot. Casing in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intace? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☒ Yes ☐ No Is Inner Casing Intact? ☒ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No

VOLUME OF WATER: Standing in well: ~~174.9~~ 28.5 To be purged: 486

PURGE DATA:

METHOD: Bladder Pump: ☐ w/ packer ☒ w/o packer ☐ 2" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other: _____

MATERIALS: PUMP: ☐ Teflon® ☒ Stainless Steel Drop Tube ☒ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 0.3 Elapsed Time: 0615 - 1145 Volume Pumped: 90
Was well Evacuated? ☐ Yes ☐ No Number of Well Volumes Removed: _____

TIME SERIES DATA:

Well Volumes:	1	2	3			
Temp.:	10.80	12.20	11.49			
pH:	7.30	7.41	7.38			
Spec. Cond.:	1238	1243	1241			

PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned

DO	2.08	3.00	3.28
ORP	380	36.3	38.7
COND	903	939	921

SAMPLING DATA: SAMPLE TIME: 1145

METHOD: Bladder Pump: ☐ w/ packer ☒ w/o packer ☐ 2" Submersible Pump
☐ Bailer ☐ Other: _____

MATERIALS: PUMP: ☐ Teflon® ☒ Stainless Steel - Drop Tube ☒ PVC ☐ Other _____
Tubing/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other: _____

SAMPLING EQUIPMENT: ☒ Dedicated ☐ Prepared Off-Site ☐ Field Cleaned
APPEARANCE: ☐ Clear ☐ Turbid ☐ Color ☐ Contains Immiscible Liquid Turbidity: _____
FIELD DETERMINATIONS: pH: _____ Meter Model: _____ Meter S/N: _____
Temperature: _____ Sped. Cond.: _____ Meter Model: _____ Meter S/N: _____
REMARKS: _____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols

Signature: _____ Date: 5/6/10

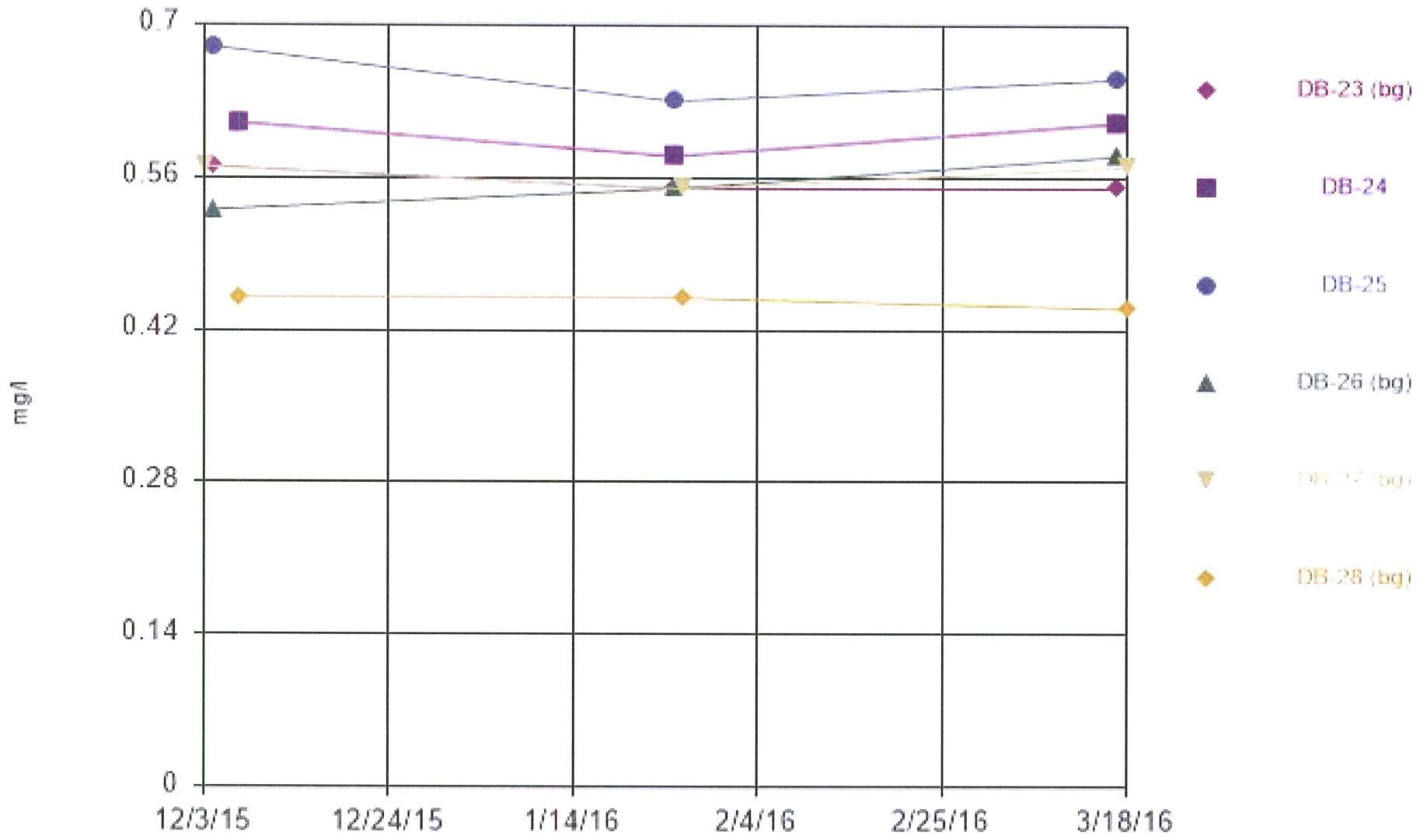
CCF - LF Parameters at time of Sample EMR

LOCATION	DATE	pH	CONDUCTIVITY	Spec Cond	TEMP °C
DB-23	5/5/16	7.14	732	1007	10.70
DB-24	5/5/16	7.33	935	1214	12.03
DB-25	5/5/16	7.35	975	1273	12.59
DB-26	5/5/16	7.14	909	1247	10.80
DB-27	5/6/16	7.44	717	978	11.07
DB-28	5/6/16	7.38	921	1241	11.49

Time Series Graphs

Background Part 201 Comparisons

Time Series



Constituent: Ammonia Nitrogen Analysis Run 4/28/2016 2:56 PM

Ottawa County Farms Landfill Client: Republic Data: OCFLF sanitas file 2016 update

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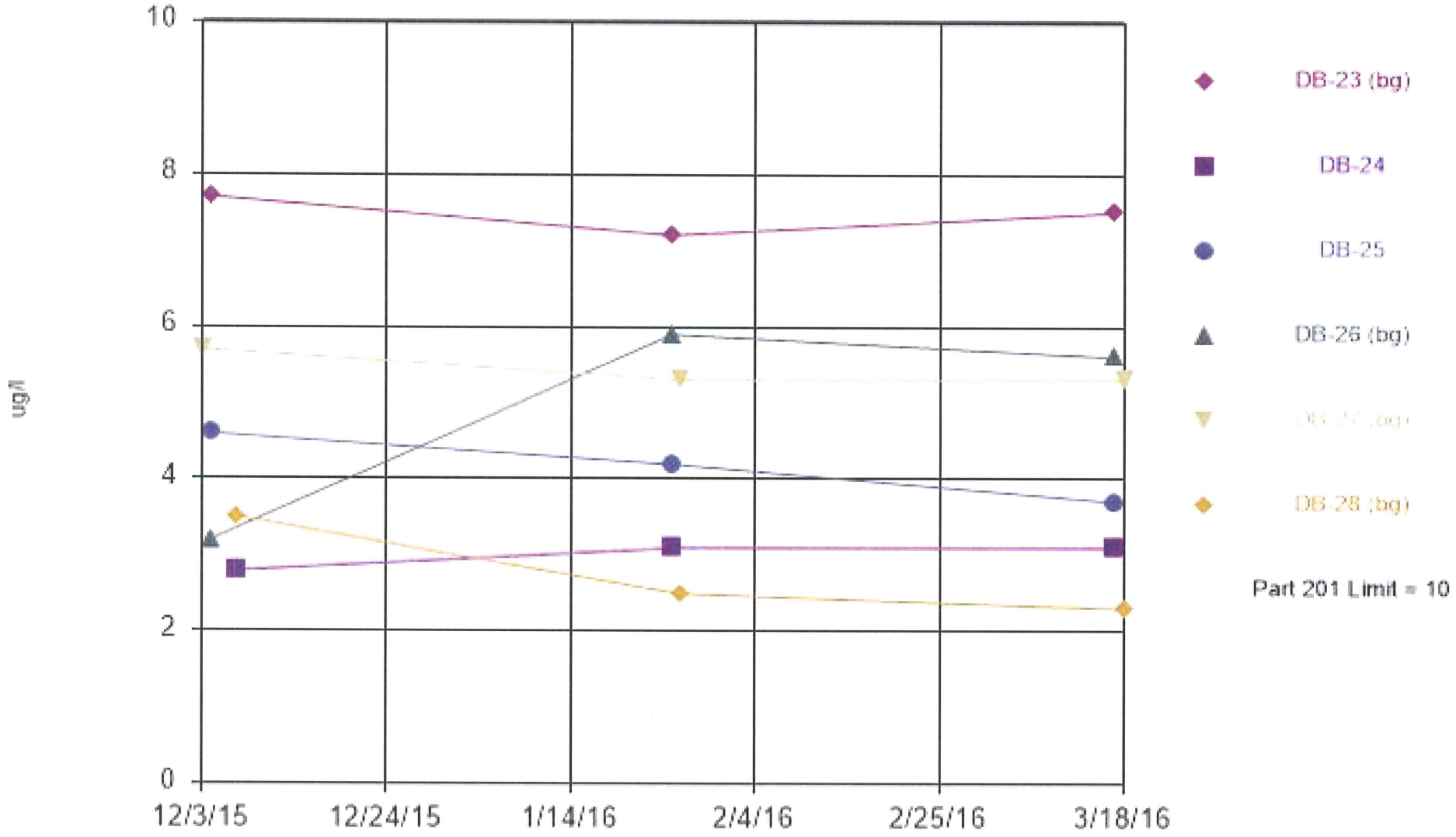
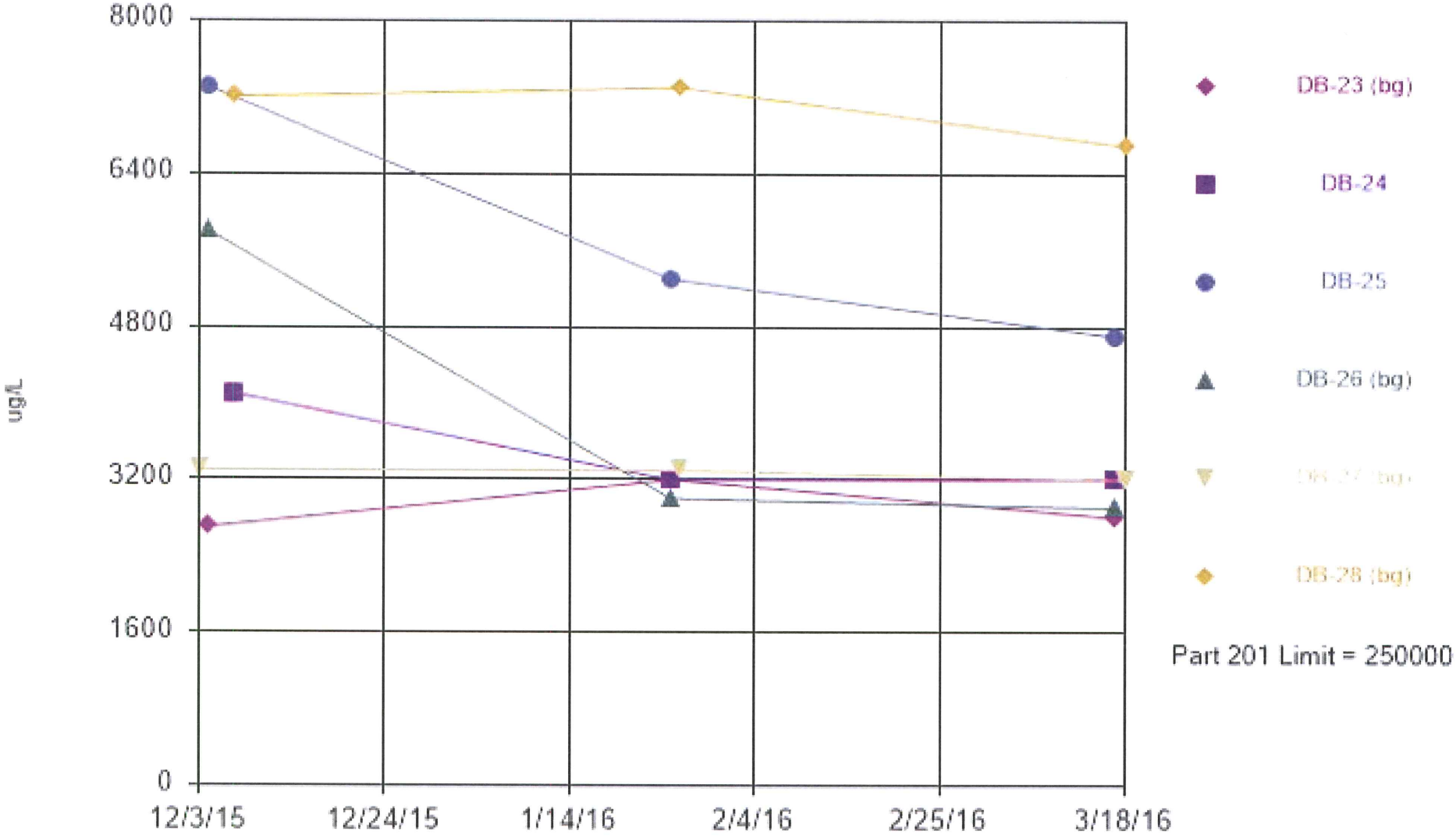
Time Series



Constituent: Arsenic Analysis Run 4/28/2016 3:08 PM

Ottawa County Farms Landfill Client: Republic Data: OCFLF sanitas file 2016 update

Time Series



Constituent: chlorides Analysis Run 4/28/2016 3:02 PM

Ottawa County Farms Landfill Client: Republic Data: OCFLF sanitas file 2016 update

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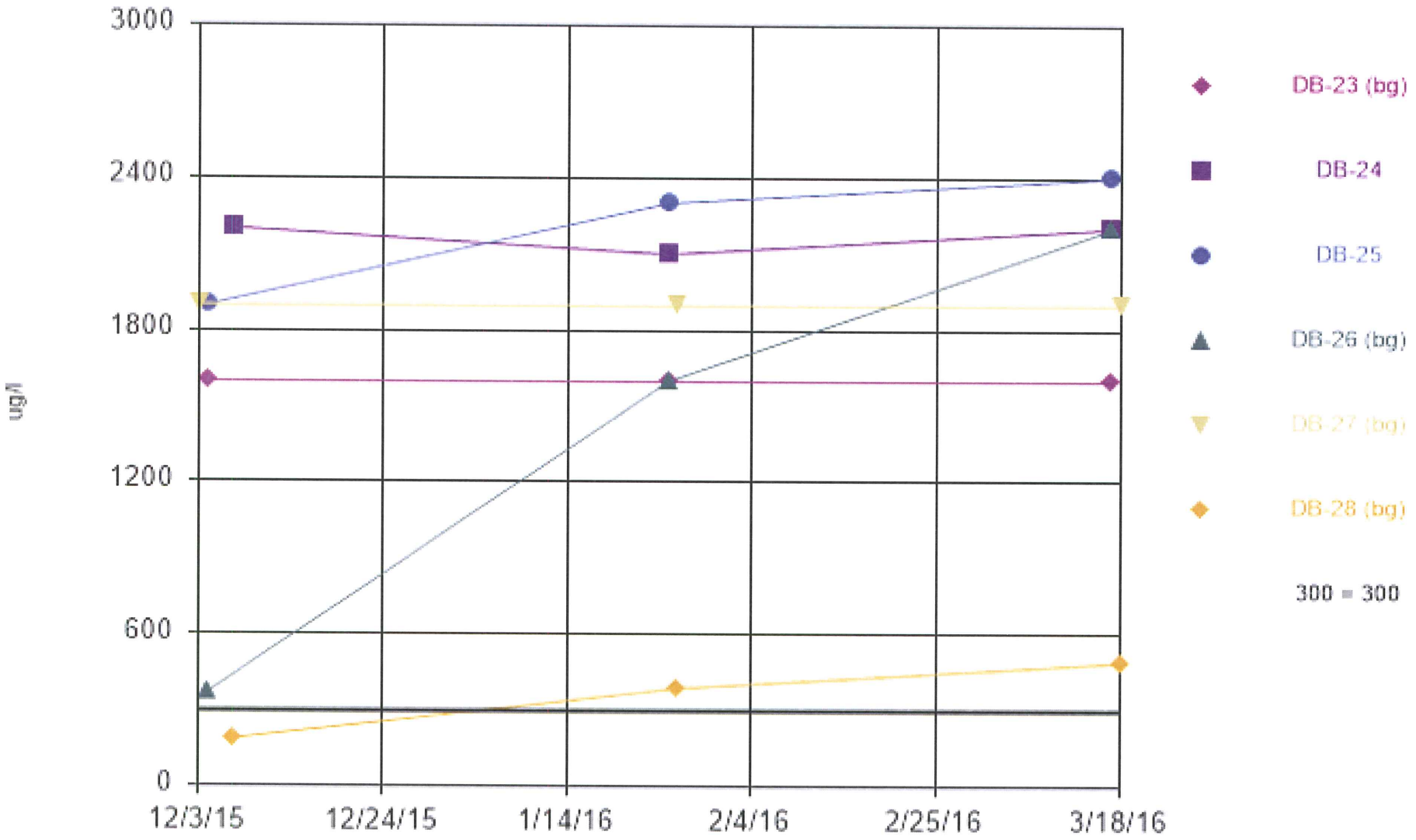
Time Series



Constituent: Iron Analysis Run 4/28/2016 2:07 PM

Ottawa County Farms Landfill Client: Republic Data: OCFLF sanitas file 2016 update

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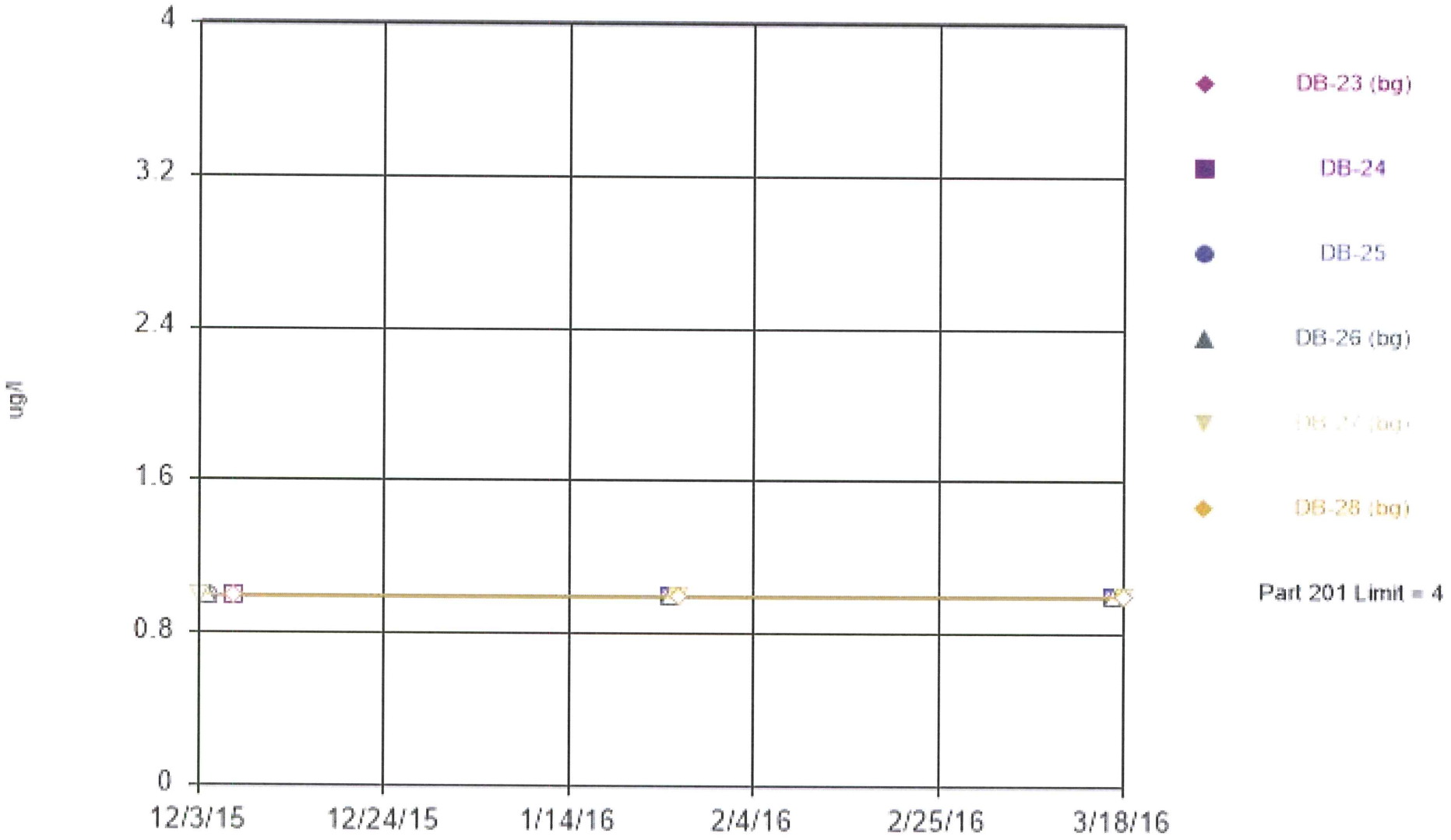
Hollow symbols indicate censored values.

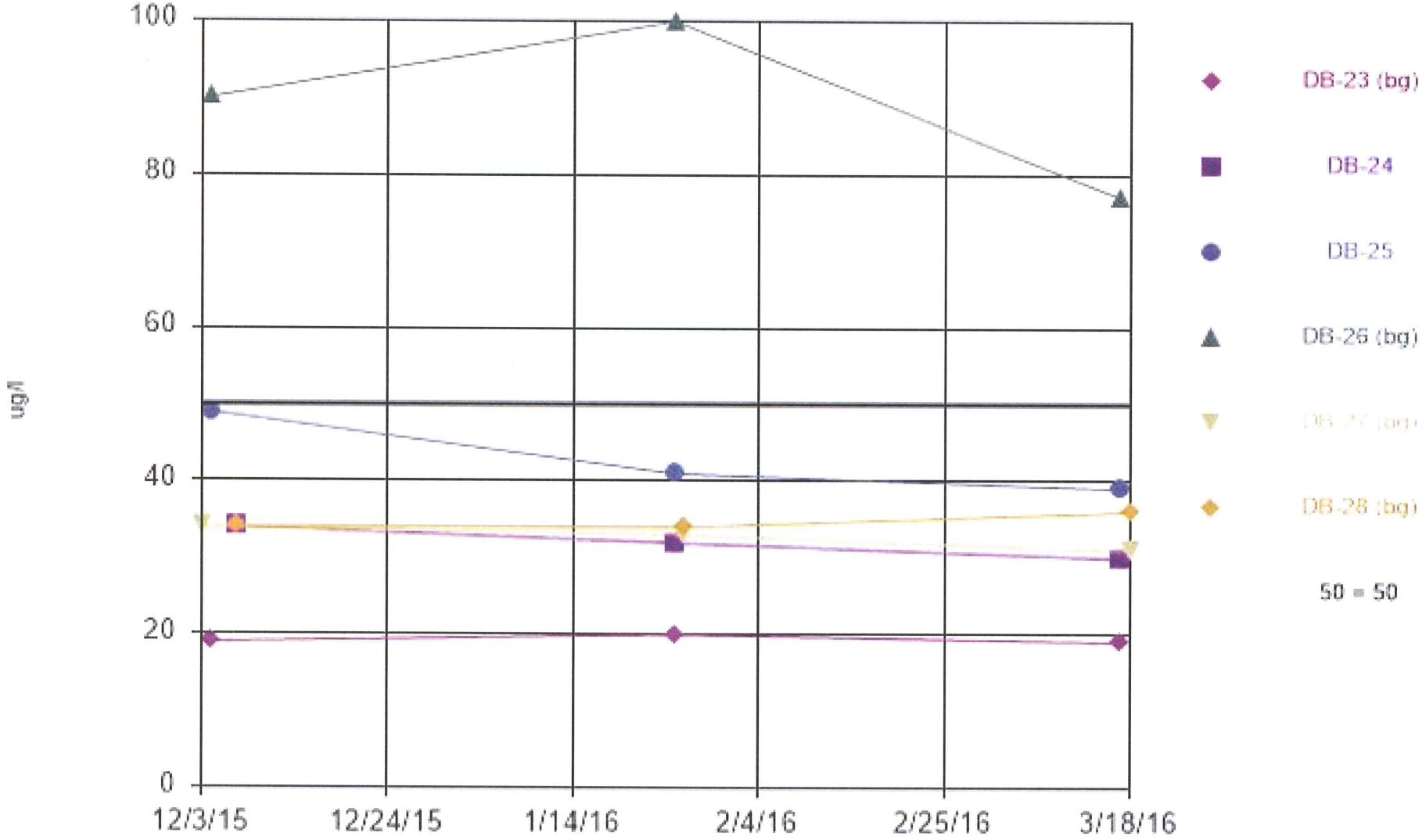
Time Series



Constituent: Lead Analysis Run 4/28/2016 2:42 PM

Ottawa County Farms Landfill Client: Republic Data: OCFLF sanitas file 2016 update

Time Series



Constituent: Manganese Analysis Run 4/28/2016 2:15 PM

Ottawa County Farms Landfill Client: Republic Data: OCFLF sanitas file 2016 update

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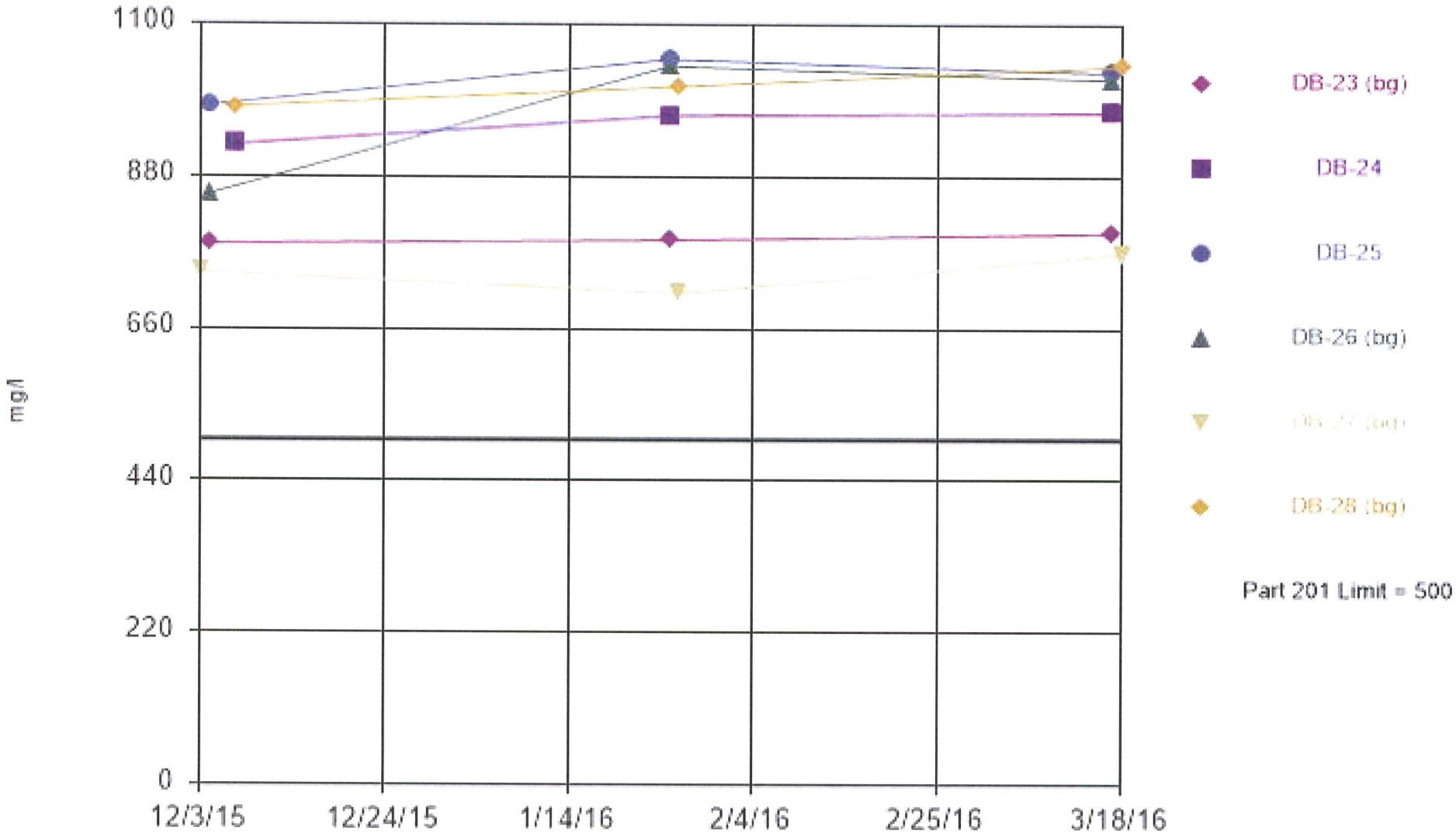
Time Series



Constituent: Total Dissolved Solids Analysis Run 4/28/2016 2:22 PM

Ottawa County Farms Landfill Client: Republic Data: OCFLF sanitas file 2016 update

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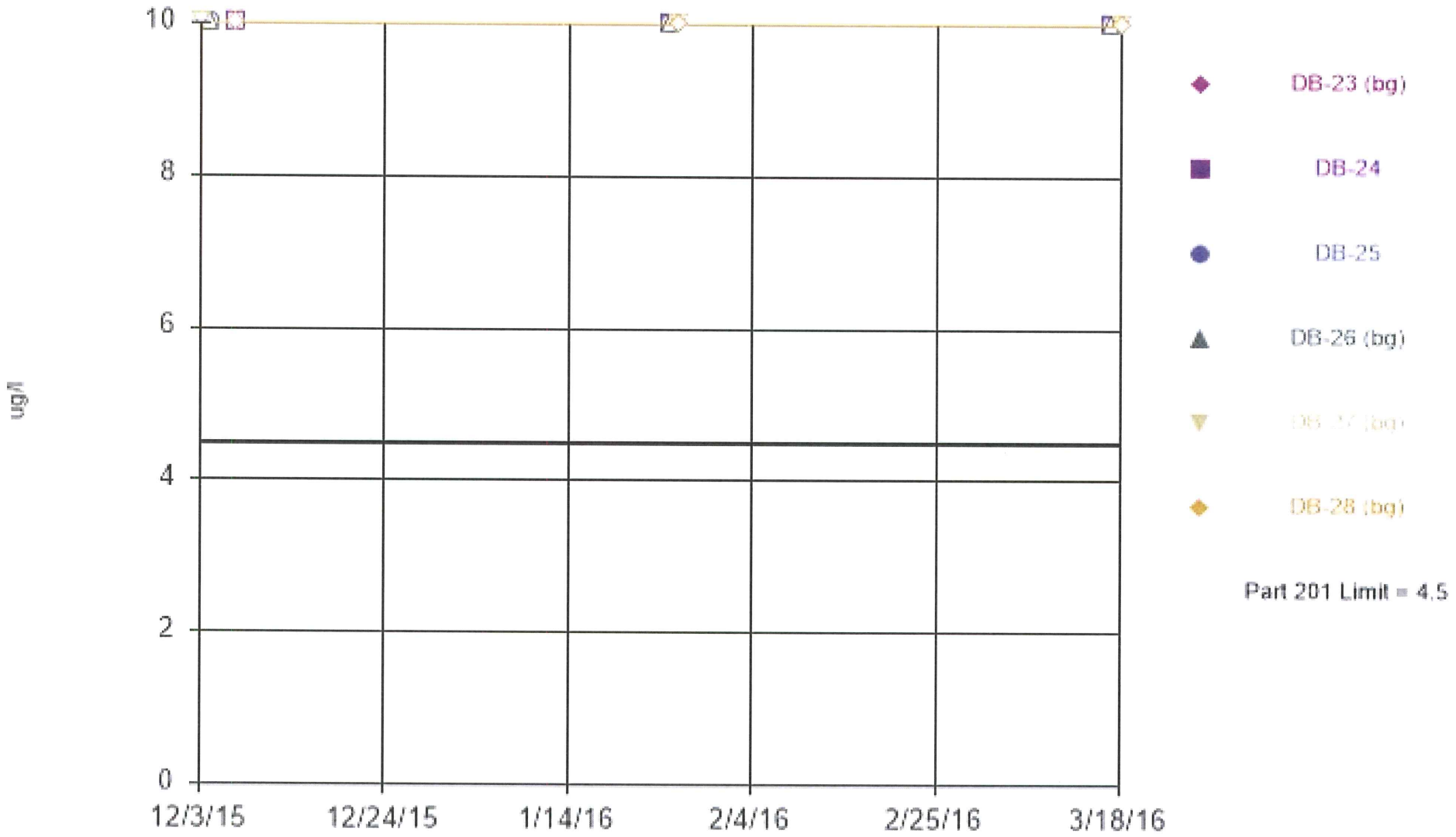
Hollow symbols indicate censored values.

Time Series



Constituent: Vanadium Analysis Run 4/28/2016 2:34 PM

Ottawa County Farms Landfill Client: Republic Data: OCFLF sanitas file 2016 update

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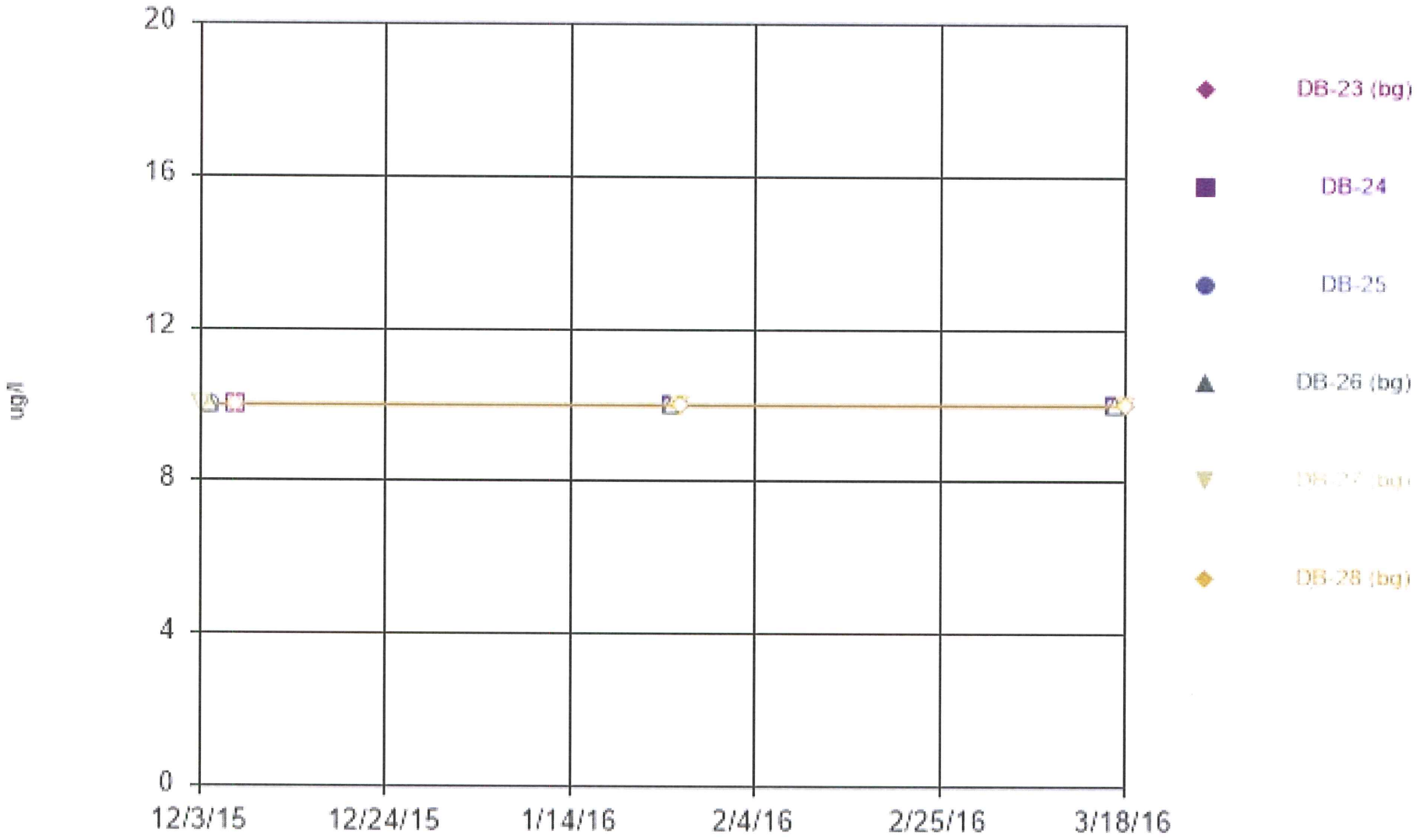
Hollow symbols indicate censored values.

Time Series



Constituent: Zinc Analysis Run 4/28/2016 2:39 PM

Ottawa County Farms Landfill Client: Republic Data: OCFLF sanitas file 2016 update