

SAMPLING REPORT Marion County Landfill Marion, Kansas

Prepared for:
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Marion County
203 S. Third St
Marion, Kansas 66861

June 29, 2023

Prepared by:
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2900 NW Button Road, Suite A-7
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GSI Project Number: 23W2089.01

Chris James Staff Environmental Engineer

Alex Richards, P.G. Senior Geologist



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1.0 INTRODUCTION

GSI Engineering LLC, (GSI), was retained by Marion County, Kansas to conduct sampling of monitoring wells at the Closed Marion County Landfill (Site). This sampling event was conducted in general accordance with *Recommended Groundwater Monitoring Parameters and Detection limits for Landfills Closed Prior to April 9*, 1994.

This report is to provide a description of the activities conducted at the Site, to evaluate, and to provide a discussion pertaining to the results of the groundwater sampling.

2.0 SITE DESCRIPTION AND LOCATION

The Closed Marion County Landfill (Site) is located east of Sunflower Road and west of Commercial Street, near Marion, Kansas, with a geographical description of the southwest quarter of Section 5, Township 20 South, Range 4 East, Marion County, Kansas. Appendix A – Figure 1.0, Site Location Map shows the approximate location of the site.

2.1 Geology and Hydrogeology

Soils within Marion County are generally composed of the silt loam of the Verdigris series and the Reading series. The Verdigris series, with slopes ranging from 0-1 percent, consists of very deep, well drained soils that formed in silty alluvium on flood plains. As much as seven (7) inches of very dark brown silt loam may overlie very dark brown silt loam. The Reading series consists of very deep, well drained moderately well drained soils that formed in silty alluvium. Reading soils are on flood-plain steps and streams terraces in Nebraska and Kansas Loess-Drift Hills. Zero (0) to six (6) inches of very dark grayish silty clay loam may be present over very dark grayish brown silty clay loam.

The upper groundwater producing bedrock unit in the area is the early Permian-age Winfield Limestone within the Chase group, which is mainly cherty limestone with fossiliferous gray shale. The presumed groundwater flow direction in the area is in the southeast, with static groundwater levels varying between 12 to 80 feet below ground surface (bgs).



3.0 SUMMARY OF FIELD ACTIVITIES

3.1 Groundwater Sampling

GSI personnel traveled to the Site on May 31, 2023, to conduct groundwater sampling. There are six (6) monitoring wells that are gauged onsite, while four (4) are sampled at the Site: MW-1A, MW-2A, MW-3A, MW-4 (gauge only). MW-5A, and MW-6 (gauge only).

During the sampling event water levels were measured on the north side of the monitoring well casing using a water level indicator prior to sample collection. The levels were recorded to the nearest hundredth (0.01) foot.

The water level indicator was decontaminated using an Alconox® solution and a stainless steel or nylon brush, followed by a potable and distilled or deionized water rinse. Field personnel wore disposable gloves during the process to increase personal protection and prevent cross-contamination. New gloves were worn between each sample.

Groundwater samples were collected on May 31, 2023, from monitoring wells utilizing the HydraSleeve™ No Purge Samplers (HydraSleeve). Following the collection of water level and depth measurements, the HydraSleeve was lowered using a weight and tether to approximately one (1) foot above the total depth of the well. GSI retrieved the HydraSleeve from the monitoring well by pulling the tether in a quick and careful manner so as to fill up the sampler completely. When activated, the HydraSleeve collects a representative groundwater sample from a very defined interval in the monitoring well with minimal agitation and no displacement. When full it seals itself, isolating the sample from fluid from other zones. The sampler was brought to the surface and hung from a stable rack or hook before collecting the sample. The HydraSleeve was pierced with a straw, provided by the supplier, near the bottom of the sleeve and groundwater was carefully collected into the laboratory provided containers.

Groundwater samples were collected in the sample containers provided by the laboratory and preserved in a manner appropriate for the sample collected. All samples were placed in a cooler with ice immediately after collection. Samples were collected for volatile organic compounds (VOCs) analysis. VOCs were analyzed by Environmental Protection Agency (EPA) Method 8260 and were collected in HCl-preserved 40-ml volatile organic analysis (VOA) vials.



Groundwater samples were immediately placed into a cooler with ice for preservation in the field and during shipment to the laboratory. Samples were submitted for laboratory analysis under proper chain-of-custody procedures to Pace Analytical Services, LLC, Salina, Kansas. Pace is a Kansas state certified laboratory.

Depth to groundwater, any visual observations, and other pertinent data were described in the field notes included in Appendix C.

4.0 SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

This section describes the groundwater sampling and analytical results with some data interpretation. The analytical results are compared to the *Groundwater Monitoring Parameters* and *Detection limits for Landfills Closed Prior to April 9, 1994*. The groundwater analytical results are further presented in Appendix B and Appendix D.

4.1 Volatile Organic Compounds (VOCs)

No VOCs were identified in any groundwater sample exceeding the laboratory detection limits.

4.2 Quality Assurance/Quality Control Sample Results

Groundwater sampling activities were performed in accordance with commonly used QA/QC goals. Field staff were responsible for QA under the chain-of-custody procedures. To minimize the potential for cross contamination, disposable sampling equipment and all non-dedicated equipment was routinely decontaminated using Alconox® cleaning solutions in combination with brush removals, and potable and distilled water rinses as required between sampling locations.

A duplicate sample was collected during this monitoring event. The field duplicate was taken at MW-1A and labeled as "DUP-01". Analytical results for the duplicate sample were similar as compared to the primary sample collected from MW-1A, indicating good reproducibility.

A Trip Blank was kept in the cooler with the sample containers and analyzed in the same manner as the groundwater samples. Contaminants of concern (COCs) were not detected in any trip blanks. Therefore, contamination was not introduced during handling and shipment of the samples.



Review of the analytical report identified a total of three (3) data qualifiers with only one (1) applying to the samples collected by GSI. For the remaining qualifiers associated with the laboratory QA/QC procedures, please refer to the laboratory analytical report included in Appendix D.

A "c2" qualifier was reported for 2-Chloroethylvinyl ether in all samples, which indicates that acid preservation may not be appropriate for the analysis of 2-Chloroethylvinyl ether.

In general, the laboratory and field QA/QC parameters were considered acceptable as reported and qualified.

5.0 CONCLUSIONS

Based on the current laboratory analytical results, VOCs were not detected in any groundwater sample.

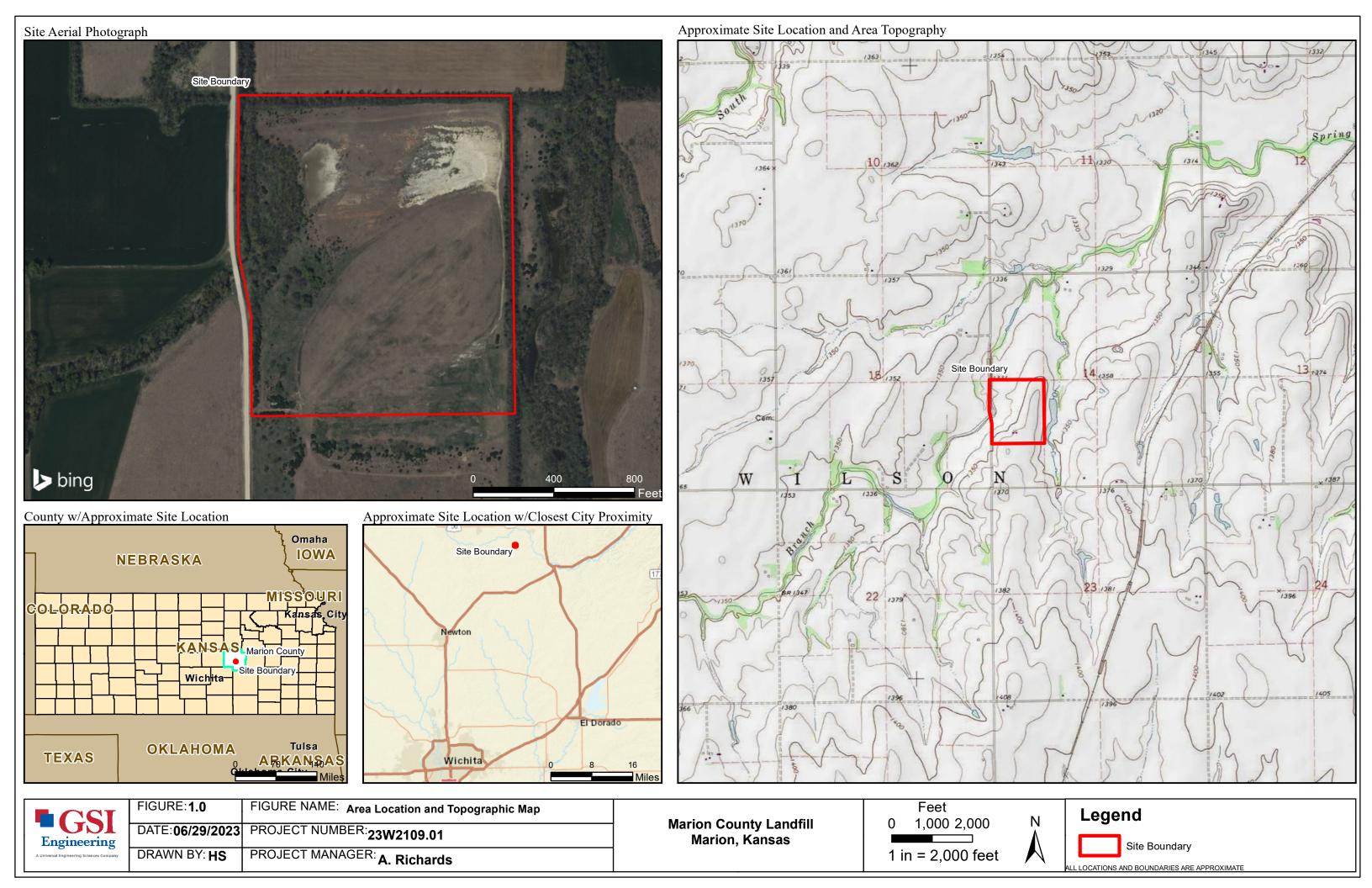
6.0 LIMITATIONS

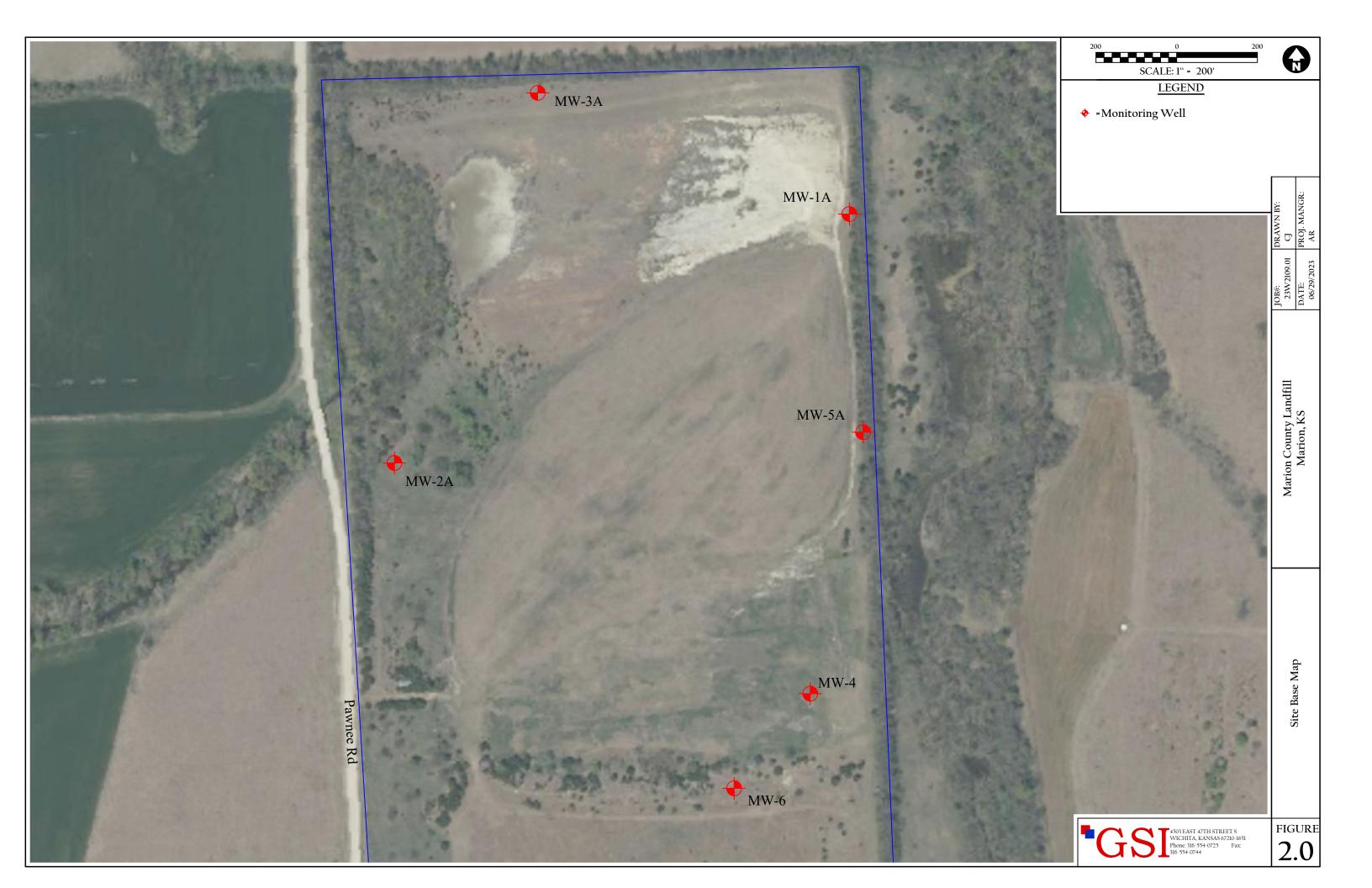
This report has been prepared on behalf of and for the exclusive use of our Client regarding the Site listed herein. Data and statements made in this report refer only to the Site and for the period of time when GSI performed the work. GSI has prepared this document in accordance with professional principles and practices generally accepted at the time and in the locality where services were rendered.

Marion County Landfill June 2023 GSI Project Number: 23W2109.01



APPENDIX A – Figures





Marion County Landfill June 2023 GSI Project Number: 23W2109.01



APPENDIX B – Tables



Marion County Landfill Table 1.0 - Groundwater Elevation Data

Well ID	Date	Bolt/Ground Surface Elevation	Top of Casing Elevation	Depth to Water	Water Level Elevation	Total Depth
		(feet)	(feet)	(feet)	(feet)	(feet)
MW-1A	05/31/23	unavailable	unavailable	22.66	NA	29.91
MW-2A	05/31/23	unavailable	unavailable	12.28	NA	15.97
MW-3A	05/31/23	unavailable	unavailable	13.05	NA	37.96
MW-4	05/31/23	unavailable	unavailable	13.45	NA	NA
MW-5A	05/31/23	unavailable	unavailable	16.55	NA	25.25
MW-6	05/31/23	unavailable	unavailable	20.18	NA	NA

NA = Not Applicable



Marion County Landfill

Table 2.0 - Groundwater VOCs Analytical Results

													,													
		/*	sentene C?	ator thide	ord perizens	drome trans	hidatarin Dibrand	Etildone's	thoroethane	chloroethane	dhoroethene cis	Schologinere Roll	st. V dettere	y the riene we that it	art direct	Stylene 1.1	22 Tachloroethane	that de the ne	duene	A A Trichlore thank	2 daethane	, large thank	Higher Vir	A Chloride Ra	THERE O	, plene
Well	Date																									
	Detection Limit	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	1.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	1.00	0.50	0.50	0.50	
	Analytical Method												EPA Meth	nod 8260												
	MCL	5.0	5.0	100.0	127.0	80.0	80.0	25.0	5.0	7.0	70.0	100.0	700.0	133.0	100.0	5.35	5.0	1,000.0	200.0	5.0	5.0	1,090.0	2.0	10,000.0	10,000.0	
MW-1A	MW-1A 5/31/2023 ND (0.5) ND (0																									
MW-2A																										
MW-3A	5/31/2023	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	ND (0.5)	ND (0.5)	ND (0.5)	
MW-4	5/31/2023	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
MW-5A	5/31/2023	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	ND (0.5)	ND (0.5)	ND (0.5)	
MW-6	5/31/2023	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
DUP-01	MW-2A 5/31/2023 ND (0.5) <																									
Trip Blank	MCL 5.0 5.0 100.0 127.0 80.0 25.0 5.0 7.0 70.0 100.0 70.0 133.0 100.0 5.35 5.0 1,000.0 200.0 5.0 1,090.0 2.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 10,000.0 <																									
		(//)		•	•	•	•		•				•			•				•	•					

All Concentrations are shown in micrograms per Liter (µg/L)

MCL = Maximum Contaminant Limit

ND = Not Detected above laboratory detection limits shown in parentheses

DUP-01 is a field duplicate of MW-1A

Not all VOCs shown; see laboratory report for full results. All results were non-detect.

Marion County Landfill June 2023 GSI Project Number: 23W2109.01



APPENDIX C – Field Notes



Project Name	3.7	Project Location:		GSI Project No:	GSI PM:
	unty Landfill	Marion, KS		23W2109.01	GOI FIN.
Arrival Time:	Departure Time:		lon- GSI Personel O		il.
Weather —					
/	5 cloudy	\$ 5-10			
Times:	Notes:				
0925	onsite				
	ON Site 2/	4, 5A, 1,	A + 3/	-	
	Dnp-01	at IA			
	Dup-01 Wh MW-6 Leave Site	+ MW-9	/		
1040	leave site				
	\				
	\				
	\				
Field Lead:		ı			
Signature:	BJ Snapp		T	Date:	
	La La			5-31-23	



Project Name:		Project Loca	tion:	GSI Project No:	Fie	ld Lead:	GSI PM:
Marion County Landfill		Marion, KS		23W2109.01	BJ	Snapp	
Well ID	Initial SWL	Total Depth	Old Tag New Tag	Date/Time Installed	Da	ite/Time Sampled	Notes/Repairs Needed
MW-2A MW-6 MW-4 MW-5A	12.28	15.97			5-	3123 0938	
MW-6	20.18						
MW-4	13.45						
MW-5A	16.55	25.25				1004	
MW-JA MW-3A	22,66	29.91				1017	Dup-01 taken at this well
MW-3A	13.05	37.96			-	1030	
Signature:	0				Date	:: 5.31-23	5
QA/QC Procedures:					111		



528 N. 9th Street, Salina, KS 67401 (785)827-1273

CHAIN OF CUSTODY RECORD

Pace Order	Number:	

PLEASE NOTE THE ATTACHED Pace SAMPLE ACCEPTANCE POLICY

Client/R	eporting Information	1				J	nvoice	Inform	nation								PAR	AMETER	S/CONT	TAINER '	LALE			COMMENTS
Company Name:				Compa	any Name	2:								\neg										
Marion County				GSI																				
Address:				Addres	SS:																			
City:	State:	Zip:		City:					State	;		Zip:		7										
Contact:				Contac	et:									-	1 VOCs									
E-mail:				E-ma	il:										KDHE Low Level Landfill 3-40mL vials - HCI	Static Water Level								
Phone Number:	Fax Numb	ег:		Phone	Number:				Fax 1	Vumb	er:				3-40ml	Static								
Sampler's Name: (Printed)	Snap	Sampler's N	Name:(Signat	ure)	,		Purch	ase O	der N	umbe	er:				Ŋ.									
File Number:	Project Name: Marion County L	andfill	- 7				site	2	Nur	iber of	Preserv	ed Bott	les											
SAMPLE IDENTIFIC (30 Characters or le	ATION	Matrix (Sample Type)	Regulatory Program		Date mpled	Time Sampled	C-Composite G-Grab	Total	HCI	NaOH	HN03	H2SO4	NONE	OTHER:										
MW-2A		GW	R	5-3	1-23	0938	G	3	3						Х	Х								
MW-5A		GW	R			1004	G	3	3						Х	X								
MW-1A		GW	R			1017	G	3	3						х	X								
DUP-01		GW	R			1100	G	3	3						х	X								
MW-3A		GW	R			1030	G	3	3						Х	Х								
TRIP BLANK		GW	R		/	0800	G	3	3				-		Х									
												-	+	+										
									_	\dashv	\dashv	-	+	-										
Matrix (Sample Type): DW=	Drinking Water	GW=Gro	ound Water.	W	W =Was	te Water,	W=\	Wine	S:	=Soli	d/Soi	1 5	I.=S	ludo	re A=4	Air O	L= ∩il/O	roanic I	iauid	O=Oth				
Regulatory Program: <u>N</u> =NPD			inking Wate		SL=503			Other				•, ~		Taag	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	(E	lease note if	non-standar	d turnaroui	nd. Rush &	Emergency	subject to ac Emergency T	ditional char	gc)
RELINQUISHED BY:						DATE:			TIME			RECEI	VED I	BY:		Siaring	W 1 K 1 . (1 .)	working day	s) Rusii i	AT. (5 WOLF	ing uays)	DATE:		TIME:
RELINQUISHED BY:					DATE:				TIME			RECEI	VED E	3Y:		5						DATE:		TIME:
RECEIVED AT LAB BY:				-		DATE:			TIME		- 1	SIHPPI		A:							<u> </u>	SEAL #:		
											ľ	AIRBII	L:									SEAL DA	TE:	

Marion County Landfill June 2023 GSI Project Number: 23W2109.01



APPENDIX D – Laboratory Analytical Reports





June 15, 2023

Dave Poague GSI 4503 E 47th St South Wichita, KS 67210

RE: Project: MARION COUNTY LANDFILL

Pace Project No.: 60429879

Dear Dave Poague:

Enclosed are the analytical results for sample(s) received by the laboratory on May 31, 2023. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

• Pace Analytical Services - Kansas City

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

Sincerely,

Petra Craddock petra.craddock@pacelabs.com (785)827-1273 PM Lab Management

Poto M. Craddock

Enclosures







CERTIFICATIONS

Project: MARION COUNTY LANDFILL

Pace Project No.: 60429879

Pace Analytical Services Kansas

9608 Loiret Boulevard, Lenexa, KS 66219

Missouri Inorganic Drinking Water Certification #: 10090

Arkansas Drinking Water

Arkansas Certification #: 88-00679 Illinois Certification #: 2000302023-5

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116 Louisiana Certification #: 03055 Nevada Certification #: KS000212023-1 Oklahoma Certification #: 2022-057 Florida: Cert E871149 SEKS WET Texas Certification #: T104704407-22-16 Utah Certification #: KS000212022-12

Illinois Certification #: 004592

Kansas Field Laboratory Accreditation: # E-92587 Missouri SEKS Micro Certification: 10070



SAMPLE SUMMARY

Project: MARION COUNTY LANDFILL

Pace Project No.: 60429879

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60429879001	MW-2A	Water	05/31/23 09:38	05/31/23 16:30
60429879002	MW-5A	Water	05/31/23 10:04	05/31/23 16:30
60429879003	MW-1A	Water	05/31/23 10:17	05/31/23 16:30
60429879004	DUP-01	Water	05/31/23 11:00	05/31/23 16:30
60429879005	MW-3A	Water	05/31/23 10:30	05/31/23 16:30
60429879006	TRIP BLANK	Water	05/31/23 08:00	05/31/23 16:30

(785)827-1273



SAMPLE ANALYTE COUNT

Project: MARION COUNTY LANDFILL

Pace Project No.: 60429879

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60429879001	MW-2A	EPA 5030B/8260	—— ——— HM1	43	PASI-K
60429879002	MW-5A	EPA 5030B/8260	HM1	43	PASI-K
60429879003	MW-1A	EPA 5030B/8260	HM1	43	PASI-K
60429879004	DUP-01	EPA 5030B/8260	HM1	43	PASI-K
60429879005	MW-3A	EPA 5030B/8260	HM1	43	PASI-K
60429879006	TRIP BLANK	EPA 5030B/8260	HM1	43	PASI-K

PASI-K = Pace Analytical Services - Kansas City



Project: MARION COUNTY LANDFILL

Pace Project No.: 60429879

Date: 06/15/2023 04:38 PM

Sample: MW-2A	Lab ID: 604	29879001	Collected: 05/31/2	23 09:38	Received:	05/31/23 16:30	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8260 MSV	Analytical Met	hod: EPA 50	030B/8260					
	Pace Analytica	al Services -	- Kansas City					
Acetone	ND	ug/L	10.0	1		06/02/23 23:53	3 67-64-1	
Benzene	ND	ug/L	0.50	1		06/02/23 23:53	3 71-43-2	
Bromodichloromethane	ND	ug/L	0.50	1		06/02/23 23:53	3 75-27-4	
Bromoform	ND	ug/L	1.0	1		06/02/23 23:53	3 75-25-2	
Bromomethane	ND	ug/L	0.50	1		06/02/23 23:53	3 74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		06/02/23 23:53	3 78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		06/02/23 23:53	3 75-15-0	
Carbon tetrachloride	ND	ug/L	0.50	1		06/02/23 23:53	3 56-23-5	
Chlorobenzene	ND	ug/L	0.50	1		06/02/23 23:53	3 108-90-7	
Chloroethane	ND	ug/L	0.50	1		06/13/23 16:34		
2-Chloroethylvinyl ether	ND	ug/L	5.0	1		06/02/23 23:53		c2
Chloroform	ND	ug/L	0.50	1		06/02/23 23:53	3 67-66-3	
Chloromethane	ND	ug/L	0.50	1		06/02/23 23:53	3 74-87-3	
Dibromochloromethane	ND	ug/L	0.50	1		06/02/23 23:53		
1,1-Dichloroethane	ND	ug/L	0.50	1		06/02/23 23:53		
,2-Dichloroethane	ND	ug/L	0.50	1		06/02/23 23:53		
1,1-Dichloroethene	ND	ug/L	0.50	1		06/02/23 23:53		
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		06/02/23 23:53	3 156-59-2	
rans-1,2-Dichloroethene	ND	ug/L	0.50	1		06/02/23 23:53		
,2-Dichloropropane	ND	ug/L	0.50	1		06/02/23 23:53		
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		06/02/23 23:53		
rans-1,3-Dichloropropene	ND	ug/L	0.50	1		06/02/23 23:53		
Ethylbenzene	ND	ug/L	0.50	1		06/02/23 23:53		
2-Hexanone	ND	ug/L	10.0	1		06/02/23 23:53		
Methylene Chloride	ND	ug/L	0.50	1		06/02/23 23:53		
1-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		06/02/23 23:53		
Methyl-tert-butyl ether	ND	ug/L	1.0	1		06/02/23 23:53		
Styrene	ND	ug/L	0.50	1		06/02/23 23:53		
I,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		06/02/23 23:53		
Tetrachloroethene	ND	ug/L	0.50	1		06/02/23 23:53		
Toluene	ND	ug/L	0.50	1		06/02/23 23:53		
I,1,1-Trichloroethane	ND	ug/L	0.50	1		06/02/23 23:53		
1,1,2-Trichloroethane	ND	ug/L	0.50	1		06/02/23 23:53		
Frichloroethene	ND	ug/L	0.50	1		06/02/23 23:53		
Trichlorofluoromethane	ND	ug/L	1.0	1		06/02/23 23:53		
/inyl acetate	ND	ug/L	20.0	1		06/02/23 23:53		
/inyl chloride	ND	ug/L	0.50	1		06/02/23 23:53		
m&p-Xylene	ND	ug/L	0.50	1			3 179601-23-1	
nap Xylene p-Xylene	ND	ug/L	0.50	1		06/02/23 23:53		
Surrogates	ND	ug/L	0.50	•		00,02,20 20.00	, 30 47 0	
4-Bromofluorobenzene (S)	105	%	80-120	1		06/02/23 23:53	3 460-00-4	
Toluene-d8 (S)	99	%	80-120	1		06/02/23 23:53		
1,2-Dichlorobenzene-d4 (S)	99	%	80-120	1		06/02/23 23:53		
Preservation pH	1.0	, •	0.10	1		06/02/23 23:53		



Project: MARION COUNTY LANDFILL

Pace Project No.: 60429879

Date: 06/15/2023 04:38 PM

Sample: MW-5A	Lab ID: 604	29879002	Collected: 05/31/2	23 10:04	Received:	05/31/23 16:30	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8260 MSV	Analytical Met	hod: EPA 50	030B/8260					
	Pace Analytica	al Services -	Kansas City					
Acetone	ND	ug/L	10.0	1		06/03/23 00:09	9 67-64-1	
Benzene	ND	ug/L	0.50	1		06/03/23 00:09	71-43-2	
Bromodichloromethane	ND	ug/L	0.50	1		06/03/23 00:09	75-27-4	
Bromoform	ND	ug/L	1.0	1		06/03/23 00:09	75-25-2	
Bromomethane	ND	ug/L	0.50	1		06/03/23 00:09	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		06/03/23 00:09		
Carbon disulfide	ND	ug/L	1.0	1		06/03/23 00:09		
Carbon tetrachloride	ND	ug/L	0.50	1		06/03/23 00:09		
Chlorobenzene	ND	ug/L	0.50	1		06/03/23 00:09		
Chloroethane	ND	ug/L	0.50	1		06/13/23 16:50		
2-Chloroethylvinyl ether	ND	ug/L	5.0	1		06/03/23 00:09		c2
Chloroform	ND	ug/L	0.50	1		06/03/23 00:09		02
Chloromethane	ND	ug/L	0.50	1		06/03/23 00:09		
Dibromochloromethane	ND	ug/L	0.50	1		06/03/23 00:09		
1,1-Dichloroethane	ND	ug/L	0.50	1		06/03/23 00:09		
1,2-Dichloroethane	ND	ug/L	0.50	1		06/03/23 00:09		
1,1-Dichloroethene	ND ND	ug/L ug/L	0.50	1		06/03/23 00:09		
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		06/03/23 00:09		
rans-1,2-Dichloroethene	ND ND	-	0.50	1		06/03/23 00:09		
·		ug/L		1				
1,2-Dichloropropane	ND	ug/L	0.50			06/03/23 00:09		
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		06/03/23 00:09		
rans-1,3-Dichloropropene	ND	ug/L	0.50	1		06/03/23 00:09		
Ethylbenzene	ND	ug/L	0.50	1		06/03/23 00:09		
2-Hexanone	ND	ug/L	10.0	1		06/03/23 00:09		
Methylene Chloride	ND	ug/L	0.50	1		06/03/23 00:09		
1-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		06/03/23 00:09		
Methyl-tert-butyl ether	ND	ug/L	1.0	1		06/03/23 00:09		
Styrene	ND	ug/L	0.50	1		06/03/23 00:09		
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		06/03/23 00:09		
Tetrachloroethene	ND	ug/L	0.50	1		06/03/23 00:09		
Toluene	ND	ug/L	0.50	1		06/03/23 00:09		
1,1,1-Trichloroethane	ND	ug/L	0.50	1		06/03/23 00:09		
I,1,2-Trichloroethane	ND	ug/L	0.50	1		06/03/23 00:09		
Trichloroethene	ND	ug/L	0.50	1		06/03/23 00:09	9 79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		06/03/23 00:09		
/inyl acetate	ND	ug/L	20.0	1		06/03/23 00:09		
/inyl chloride	ND	ug/L	0.50	1		06/03/23 00:09		
n&p-Xylene	ND	ug/L	0.50	1			9 179601-23-1	
o-Xylene	ND	ug/L	0.50	1		06/03/23 00:09	95-47-6	
Surrogates								
1-Bromofluorobenzene (S)	104	%	80-120	1		06/03/23 00:09		
Toluene-d8 (S)	101	%	80-120	1		06/03/23 00:09		
1,2-Dichlorobenzene-d4 (S)	100	%	80-120	1		06/03/23 00:09		
Preservation pH	1.0		0.10	1		06/03/23 00:09	9	



Project: MARION COUNTY LANDFILL

Pace Project No.: 60429879

Date: 06/15/2023 04:38 PM

Sample: MW-1A	Lab ID: 604	29879003	Collected: 05/31/2	23 10:17	Received: 0	05/31/23 16:30	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8260 MSV	Analytical Met	hod: EPA 50	030B/8260					
	Pace Analytic	al Services -	Kansas City					
Acetone	ND	ug/L	10.0	1		06/03/23 00:25	5 67-64-1	
Benzene	ND	ug/L	0.50	1		06/03/23 00:25		
Bromodichloromethane	ND	ug/L	0.50	1		06/03/23 00:25		
Bromoform	ND	ug/L	1.0	1		06/03/23 00:25		
Bromomethane	ND	ug/L	0.50	1		06/03/23 00:25		
2-Butanone (MEK)	ND	ug/L	10.0	1		06/03/23 00:25		
Carbon disulfide	ND	ug/L	1.0	1		06/03/23 00:25		
Carbon tetrachloride	ND	ug/L	0.50	1		06/03/23 00:25		
Chlorobenzene	ND	ug/L	0.50	1		06/03/23 00:25		
Chloroethane	ND	ug/L	0.50	1		06/13/23 17:06		
2-Chloroethylvinyl ether	ND ND	•	5.0	1		06/03/23 00:25		c2
2-Chloroform	ND ND	ug/L ug/L	0.50	1		06/03/23 00:25		62
		•		1				
Chloromethane	ND	ug/L	0.50			06/03/23 00:25		
Dibromochloromethane	ND	ug/L	0.50	1		06/03/23 00:25		
1,1-Dichloroethane	ND	ug/L	0.50	1		06/03/23 00:25		
I,2-Dichloroethane	ND	ug/L	0.50	1		06/03/23 00:25		
,1-Dichloroethene	ND	ug/L	0.50	1		06/03/23 00:25		
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		06/03/23 00:25		
rans-1,2-Dichloroethene	ND	ug/L	0.50	1		06/03/23 00:25		
1,2-Dichloropropane	ND	ug/L	0.50	1		06/03/23 00:25	78-87-5	
sis-1,3-Dichloropropene	ND	ug/L	0.50	1		06/03/23 00:25		
rans-1,3-Dichloropropene	ND	ug/L	0.50	1		06/03/23 00:25	10061-02-6	
Ethylbenzene	ND	ug/L	0.50	1		06/03/23 00:25	100-41-4	
2-Hexanone	ND	ug/L	10.0	1		06/03/23 00:25	5 591-78-6	
Methylene Chloride	ND	ug/L	0.50	1		06/03/23 00:25	75-09-2	
I-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		06/03/23 00:25	108-10-1	
Nethyl-tert-butyl ether	ND	ug/L	1.0	1		06/03/23 00:25	1634-04-4	
Styrene	ND	ug/L	0.50	1		06/03/23 00:25	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		06/03/23 00:25	79-34-5	
Tetrachloroethene	ND	ug/L	0.50	1		06/03/23 00:25	127-18-4	
Toluene	ND	ug/L	0.50	1		06/03/23 00:25	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	0.50	1		06/03/23 00:25	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	0.50	1		06/03/23 00:25	79-00-5	
Frichloroethene	ND	ug/L	0.50	1		06/03/23 00:25		
Frichlorofluoromethane	ND	ug/L	1.0	1		06/03/23 00:25		
/inyl acetate	ND	ug/L	20.0	1		06/03/23 00:25		
/inyl chloride	ND	ug/L	0.50	1		06/03/23 00:25		
n&p-Xylene	ND	ug/L	0.50	1		06/03/23 00:25		
o-Xylene	ND	ug/L	0.50	1		06/03/23 00:25		
Surrogates	ND	ug/ L	0.50	•		00,00,20 00.20	, 30 47-0	
1-Bromofluorobenzene (S)	98	%	80-120	1		06/03/23 00:25	460-00-4	
Foluene-d8 (S)	101	%	80-120	1		06/03/23 00:25		
1,2-Dichlorobenzene-d4 (S)	115	%	80-120	1		06/03/23 00:25		
Preservation pH	1.0	/0	0.10	1		06/03/23 00:25		



Project: MARION COUNTY LANDFILL

Pace Project No.: 60429879

Date: 06/15/2023 04:38 PM

Sample: DUP-01	Lab ID: 604	29879004	Collected: 05/31/2	23 11:00	Received:	05/31/23 16:30	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
3260 MSV	Analytical Met	hod: EPA 50	030B/8260					
	Pace Analytica	al Services -	Kansas City					
Acetone	ND	ug/L	10.0	1		06/03/23 00:4	1 67-64-1	
Benzene	ND	ug/L	0.50	1		06/03/23 00:4	1 71-43-2	
Bromodichloromethane	ND	ug/L	0.50	1		06/03/23 00:4	1 75-27-4	
Bromoform	ND	ug/L	1.0	1		06/03/23 00:4	1 75-25-2	
Bromomethane	ND	ug/L	0.50	1		06/03/23 00:4	1 74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		06/03/23 00:4	1 78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		06/03/23 00:4	1 75-15-0	
Carbon tetrachloride	ND	ug/L	0.50	1		06/03/23 00:4	1 56-23-5	
Chlorobenzene	ND	ug/L	0.50	1		06/03/23 00:4	1 108-90-7	
Chloroethane	ND	ug/L	0.50	1		06/13/23 17:22		
2-Chloroethylvinyl ether	ND	ug/L	5.0	1		06/03/23 00:4		c2
Chloroform	ND	ug/L	0.50	1		06/03/23 00:4	1 67-66-3	
Chloromethane	ND	ug/L	0.50	1		06/03/23 00:4	1 74-87-3	
Dibromochloromethane	ND	ug/L	0.50	1		06/03/23 00:4		
1,1-Dichloroethane	ND	ug/L	0.50	1		06/03/23 00:4		
,2-Dichloroethane	ND	ug/L	0.50	1		06/03/23 00:4		
1,1-Dichloroethene	ND	ug/L	0.50	1		06/03/23 00:4		
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		06/03/23 00:4	1 156-59-2	
rans-1,2-Dichloroethene	ND	ug/L	0.50	1		06/03/23 00:4		
,2-Dichloropropane	ND	ug/L	0.50	1		06/03/23 00:4		
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		06/03/23 00:4		
rans-1,3-Dichloropropene	ND	ug/L	0.50	1		06/03/23 00:4		
Ethylbenzene	ND	ug/L	0.50	1		06/03/23 00:4		
2-Hexanone	ND	ug/L	10.0	1		06/03/23 00:4		
Methylene Chloride	ND	ug/L	0.50	1		06/03/23 00:4		
1-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		06/03/23 00:4		
Methyl-tert-butyl ether	ND	ug/L	1.0	1		06/03/23 00:4		
Styrene	ND	ug/L	0.50	1		06/03/23 00:4		
I,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		06/03/23 00:4		
Tetrachloroethene	ND	ug/L	0.50	1		06/03/23 00:4		
Toluene	ND	ug/L	0.50	1		06/03/23 00:4		
1,1,1-Trichloroethane	ND	ug/L	0.50	1		06/03/23 00:4		
,1,2-Trichloroethane	ND	ug/L	0.50	1		06/03/23 00:4		
Frichloroethene	ND	ug/L	0.50	1		06/03/23 00:4		
Trichlorofluoromethane	ND	ug/L	1.0	1		06/03/23 00:4		
/inyl acetate	ND	ug/L	20.0	1		06/03/23 00:4		
/inyl chloride	ND ND	ug/L ug/L	0.50	1		06/03/23 00:4		
m&p-Xylene	ND	ug/L	0.50	1			1 179601-23-1	
nap Xylene p-Xylene	ND	ug/L	0.50	1		06/03/23 00:4		
Surrogates	ND	ug/L	0.50	•		00/00/20 00.4	. 00 -1-0	
4-Bromofluorobenzene (S)	116	%	80-120	1		06/03/23 00:4	1 460-00-4	
Toluene-d8 (S)	101	%	80-120	1		06/03/23 00:4		
I,2-Dichlorobenzene-d4 (S)	113	%	80-120	1		06/03/23 00:4		
Preservation pH	1.0	, •	0.10	1		06/03/23 00:4		



Project: MARION COUNTY LANDFILL

Pace Project No.: 60429879

Date: 06/15/2023 04:38 PM

Sample: MW-3A	Lab ID: 604	29879005	Collected: 05/31/2	23 10:30	Received: (05/31/23 16:30	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8260 MSV	Analytical Meth	nod: EPA 50	030B/8260					
	Pace Analytica	l Services -	Kansas City					
Acetone	ND	ug/L	10.0	1		06/03/23 00:57	7 67-64-1	
Benzene	ND	ug/L	0.50	1		06/03/23 00:57	71-43-2	
Bromodichloromethane	ND	ug/L	0.50	1		06/03/23 00:57	7 75-27-4	
Bromoform	ND	ug/L	1.0	1		06/03/23 00:57	7 75-25-2	
Bromomethane	ND	ug/L	0.50	1		06/03/23 00:57	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		06/03/23 00:57	7 78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		06/03/23 00:57	7 75-15-0	
Carbon tetrachloride	ND	ug/L	0.50	1		06/03/23 00:57	7 56-23-5	
Chlorobenzene	ND	ug/L	0.50	1		06/03/23 00:57	7 108-90-7	
Chloroethane	ND	ug/L	0.50	1		06/13/23 17:38	3 75-00-3	
2-Chloroethylvinyl ether	ND	ug/L	5.0	1		06/03/23 00:57		c2
Chloroform	ND	ug/L	0.50	1		06/03/23 00:57	7 67-66-3	
Chloromethane	ND	ug/L	0.50	1		06/03/23 00:57	7 74-87-3	
Dibromochloromethane	ND	ug/L	0.50	1		06/03/23 00:57		
1,1-Dichloroethane	ND	ug/L	0.50	1		06/03/23 00:57		
,2-Dichloroethane	ND	ug/L	0.50	1		06/03/23 00:57		
1,1-Dichloroethene	ND	ug/L	0.50	1		06/03/23 00:57		
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		06/03/23 00:57		
rans-1,2-Dichloroethene	ND	ug/L	0.50	1		06/03/23 00:57		
I,2-Dichloropropane	ND	ug/L	0.50	1		06/03/23 00:57		
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		06/03/23 00:57		
rans-1,3-Dichloropropene	ND	ug/L	0.50	1		06/03/23 00:57		
Ethylbenzene	ND	ug/L	0.50	1		06/03/23 00:57		
2-Hexanone	ND	ug/L	10.0	1		06/03/23 00:57		
Methylene Chloride	ND	ug/L	0.50	1		06/03/23 00:57		
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		06/03/23 00:57		
Methyl-tert-butyl ether	ND	ug/L	1.0	1		06/03/23 00:57		
Styrene	ND	ug/L	0.50	1		06/03/23 00:57		
I,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		06/03/23 00:57		
Tetrachloroethene	ND	ug/L	0.50	1		06/03/23 00:57		
Toluene	ND	ug/L	0.50	1		06/03/23 00:57		
I,1,1-Trichloroethane	ND	ug/L	0.50	1		06/03/23 00:57		
I,1,2-Trichloroethane	ND	ug/L	0.50	1		06/03/23 00:57		
Frichloroethene	ND	ug/L	0.50	1		06/03/23 00:57		
Trichlorofluoromethane	ND	ug/L	1.0	1		06/03/23 00:57		
Vinyl acetate	ND	ug/L	20.0	1		06/03/23 00:57		
Vinyl declate Vinyl chloride	ND ND	ug/L	0.50	1		06/03/23 00:57		
m&p-Xylene	ND	ug/L	0.50	1			7 179601-23-1	
o-Xylene	ND	ug/L	0.50	1		06/03/23 00:57		
Surrogates	ND	~g/ L	0.00	•		00,00,20 00.01	55 5	
4-Bromofluorobenzene (S)	108	%	80-120	1		06/03/23 00:57	460-00-4	
Toluene-d8 (S)	123	%	80-120	1		06/03/23 00:57		S0
1,2-Dichlorobenzene-d4 (S)	105	%	80-120	1		06/03/23 00:57		
Preservation pH	1.0		0.10	1		06/03/23 00:57		



Project: MARION COUNTY LANDFILL

Pace Project No.: 60429879

Date: 06/15/2023 04:38 PM

Sample: TRIP BLANK	Lab ID: 604	29879006	Collected: 05/31/2	23 08:00	Received:	05/31/23 16:30	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8260 MSV	Analytical Met	hod: EPA 50	030B/8260					
	Pace Analytica	al Services -	Kansas City					
Acetone	ND	ug/L	10.0	1		06/03/23 01:1:	3 67-64-1	
Benzene	ND	ug/L	0.50	1		06/03/23 01:13	3 71-43-2	
Bromodichloromethane	ND	ug/L	0.50	1		06/03/23 01:13	3 75-27-4	
Bromoform	ND	ug/L	1.0	1		06/03/23 01:13	3 75-25-2	
Bromomethane	ND	ug/L	0.50	1		06/03/23 01:13	3 74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		06/03/23 01:1:		
Carbon disulfide	ND	ug/L	1.0	1		06/03/23 01:13	3 75-15-0	
Carbon tetrachloride	ND	ug/L	0.50	1		06/03/23 01:1:		
Chlorobenzene	ND	ug/L	0.50	1		06/03/23 01:1:		
Chloroethane	ND	ug/L	0.50	1		06/13/23 17:54		
2-Chloroethylvinyl ether	ND	ug/L	5.0	1		06/03/23 01:1:		c2
Chloroform	ND	ug/L	0.50	1		06/03/23 01:13		02
Chloromethane	ND	ug/L	0.50	1		06/03/23 01:1:		
Dibromochloromethane	ND	ug/L	0.50	1		06/03/23 01:13		
I,1-Dichloroethane	ND	ug/L	0.50	1		06/03/23 01:13	-	
1,2-Dichloroethane	ND	ug/L	0.50	1		06/03/23 01:13		
1,1-Dichloroethane	ND ND	ug/L ug/L	0.50	1		06/03/23 01:13		
cis-1,2-Dichloroethene	ND	ug/L	0.50	1		06/03/23 01:13		
rans-1,2-Dichloroethene	ND	ug/L	0.50	1		06/03/23 01:13		
1,2-Dichloropropane	ND	ug/L	0.50	1		06/03/23 01:13		
cis-1,3-Dichloropropene	ND	ug/L	0.50	1		06/03/23 01:13		
rans-1,3-Dichloropropene	ND ND	_	0.50	1		06/03/23 01:13		
Ethylbenzene	ND ND	ug/L	0.50	1		06/03/23 01:13		
-		ug/L		1				
2-Hexanone	ND	ug/L	10.0	1		06/03/23 01:13		
Methylene Chloride	ND	ug/L	0.50			06/03/23 01:13		
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1 1		06/03/23 01:13		
Methyl-tert-butyl ether	ND	ug/L	1.0			06/03/23 01:13		
Styrene	ND	ug/L	0.50	1		06/03/23 01:13		
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1		06/03/23 01:1:		
Tetrachloroethene	ND	ug/L	0.50	1		06/03/23 01:13		
Toluene	ND	ug/L	0.50	1		06/03/23 01:13		
1,1,1-Trichloroethane	ND	ug/L	0.50	1		06/03/23 01:13		
1,1,2-Trichloroethane	ND	ug/L	0.50	1		06/03/23 01:13		
Frichloroethene	ND	ug/L	0.50	1		06/03/23 01:13		
Frichlorofluoromethane	ND	ug/L	1.0	1		06/03/23 01:13		
/inyl acetate	ND	ug/L	20.0	1		06/03/23 01:13		
/inyl chloride	ND	ug/L	0.50	1		06/03/23 01:13		
n&p-Xylene	ND	ug/L	0.50	1			3 179601-23-1	
o-Xylene	ND	ug/L	0.50	1		06/03/23 01:13	3 95-47-6	
Surrogates	100	۵,	00.466			00/00/00 04	. 400 00 4	
4-Bromofluorobenzene (S)	106	%	80-120	1		06/03/23 01:13		
Toluene-d8 (S)	99	%	80-120	1		06/03/23 01:1:		
1,2-Dichlorobenzene-d4 (S)	105	%	80-120	1		06/03/23 01:13		
Preservation pH	1.0		0.10	1		06/03/23 01:13	3	

(785)827-1273



QUALITY CONTROL DATA

Project: MARION COUNTY LANDFILL

Pace Project No.: 60429879

Date: 06/15/2023 04:38 PM

QC Batch: 850548 Analysis Method: EPA 5030B/8260

QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60429879001, 60429879002, 60429879003, 60429879004, 60429879005, 60429879006

METHOD BLANK: 3368947 Matrix: Water

Associated Lab Samples: 60429879001, 60429879002, 60429879003, 60429879004, 60429879005, 60429879006

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	0.50	06/02/23 22:49	
1,1,2,2-Tetrachloroethane	ug/L	ND	0.50	06/02/23 22:49	
1,1,2-Trichloroethane	ug/L	ND	0.50	06/02/23 22:49	
1,1-Dichloroethane	ug/L	ND	0.50	06/02/23 22:49	
1,1-Dichloroethene	ug/L	ND	0.50	06/02/23 22:49	
1,2-Dichloroethane	ug/L	ND	0.50	06/02/23 22:49	
1,2-Dichloropropane	ug/L	ND	0.50	06/02/23 22:49	
2-Butanone (MEK)	ug/L	ND	10.0	06/02/23 22:49	
2-Chloroethylvinyl ether	ug/L	ND	5.0	06/02/23 22:49	
2-Hexanone	ug/L	ND	10.0	06/02/23 22:49	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	06/02/23 22:49	
Acetone	ug/L	ND	10.0	06/02/23 22:49	
Benzene	ug/L	ND	0.50	06/02/23 22:49	
Bromodichloromethane	ug/L	ND	0.50	06/02/23 22:49	
Bromoform	ug/L	ND	1.0	06/02/23 22:49	
Bromomethane	ug/L	ND	0.50	06/02/23 22:49	
Carbon disulfide	ug/L	ND	1.0	06/02/23 22:49	
Carbon tetrachloride	ug/L	ND	0.50	06/02/23 22:49	
Chlorobenzene	ug/L	ND	0.50	06/02/23 22:49	
Chloroform	ug/L	ND	0.50	06/02/23 22:49	
Chloromethane	ug/L	ND	0.50	06/02/23 22:49	
cis-1,2-Dichloroethene	ug/L	ND	0.50	06/02/23 22:49	
cis-1,3-Dichloropropene	ug/L	ND	0.50	06/02/23 22:49	
Dibromochloromethane	ug/L	ND	0.50	06/02/23 22:49	
Ethylbenzene	ug/L	ND	0.50	06/02/23 22:49	
m&p-Xylene	ug/L	ND	0.50	06/02/23 22:49	
Methyl-tert-butyl ether	ug/L	ND	1.0	06/02/23 22:49	
Methylene Chloride	ug/L	ND	0.50	06/02/23 22:49	
o-Xylene	ug/L	ND	0.50	06/02/23 22:49	
Styrene	ug/L	ND	0.50	06/02/23 22:49	
Tetrachloroethene	ug/L	ND	0.50	06/02/23 22:49	
Toluene	ug/L	ND	0.50	06/02/23 22:49	
trans-1,2-Dichloroethene	ug/L	ND	0.50	06/02/23 22:49	
trans-1,3-Dichloropropene	ug/L	ND	0.50	06/02/23 22:49	
Trichloroethene	ug/L	ND	0.50	06/02/23 22:49	
Trichlorofluoromethane	ug/L	ND	1.0	06/02/23 22:49	
Vinyl acetate	ug/L	ND	20.0	06/02/23 22:49	
Vinyl chloride	ug/L	ND	0.50	06/02/23 22:49	
1,2-Dichlorobenzene-d4 (S)	%	101	80-120	06/02/23 22:49	
4-Bromofluorobenzene (S)	%	102	80-120	06/02/23 22:49	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



QUALITY CONTROL DATA

Project: MARION COUNTY LANDFILL

Pace Project No.: 60429879

Date: 06/15/2023 04:38 PM

METHOD BLANK: 3368947 Matrix: Water

Associated Lab Samples: 60429879001, 60429879002, 60429879003, 60429879004, 60429879005, 60429879006

Blank Reporting

Parameter Units Result Limit Analyzed Qualifiers

Toluene-d8 (S) % 100 80-120 06/02/23 22:49

LABORATORY CONTROL SAMPLE:	3368948					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	21.0	105	75-125	
1,1,2,2-Tetrachloroethane	ug/L	20	19.8	99	80-120	
1,1,2-Trichloroethane	ug/L	20	20.4	102	80-120	
1,1-Dichloroethane	ug/L	20	21.1	105	75-120	
1,1-Dichloroethene	ug/L	20	20.3	101	75-120	
1,2-Dichloroethane	ug/L	20	20.3	102	80-120	
1,2-Dichloropropane	ug/L	20	20.2	101	80-120	
2-Butanone (MEK)	ug/L	100	97.8	98	50-155	
2-Chloroethylvinyl ether	ug/L	100	50.2	50	25-160	
2-Hexanone	ug/L	100	94.2	94	55-145	
4-Methyl-2-pentanone (MIBK)	ug/L	100	99.9	100	70-130	
Acetone	ug/L	100	89.8	90	35-160	
Benzene	ug/L	20	20.4	102	80-120	
Bromodichloromethane	ug/L	20	21.0	105	80-120	
Bromoform	ug/L	20	22.0	110	60-130	
Bromomethane	ug/L	20	25.2	126	50-140	
Carbon disulfide	ug/L	20	20.6	103	75-125	
Carbon tetrachloride	ug/L	20	21.3	107	70-130	
Chlorobenzene	ug/L	20	20.6	103	80-120	
Chloroform	ug/L	20	20.9	105	75-120	
Chloromethane	ug/L	20	23.6	118	45-145	
cis-1,2-Dichloroethene	ug/L	20	19.4	97	80-120	
cis-1,3-Dichloropropene	ug/L	20	19.7	99	75-125	
Dibromochloromethane	ug/L	20	20.5	103	75-125	
Ethylbenzene	ug/L	20	19.8	99	80-120	
m&p-Xylene	ug/L	40	39.1	98	80-120	
Methyl-tert-butyl ether	ug/L	20	19.3	97	75-125	
Methylene Chloride	ug/L	20	21.3	107	70-140	
o-Xylene	ug/L	20	19.6	98	80-120	
Styrene	ug/L	20	23.3	116	80-120	
Tetrachloroethene	ug/L	20	21.0	105	80-125	
Toluene	ug/L	20	19.6	98	80-120	
trans-1,2-Dichloroethene	ug/L	20	19.9	99	80-120	
trans-1,3-Dichloropropene	ug/L	20	19.5	97	75-125	
Trichloroethene	ug/L	20	20.6	103	80-125	
Trichlorofluoromethane	ug/L	20	22.5	112	75-125	
Vinyl acetate	ug/L	20	19.2J	96	50-150	
Vinyl chloride	ug/L	20	22.4	112	65-140	
1,2-Dichlorobenzene-d4 (S)	%			98	80-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

(785)827-1273



QUALITY CONTROL DATA

Project: MARION COUNTY LANDFILL

Pace Project No.: 60429879

Date: 06/15/2023 04:38 PM

LABORATORY CONTROL SAMPLE: 3368948

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4-Bromofluorobenzene (S)	%			97	80-120	
Toluene-d8 (S)	%			100	80-120	

MATRIX SPIKE & MATRIX SP	IKE DUPLIC	ATE: 3369	1427		3369428							
			MS	MSD								
	60	0430084001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
1,1,1-Trichloroethane	ug/L	ND	1000	1000	1120	1110	112	111	75-125	1	15	
1,1,2,2-Tetrachloroethane	ug/L	ND	1000	1000	1320	1290	132	129	80-120	2	15	M1
1,1,2-Trichloroethane	ug/L	ND	1000	1000	1150	1110	115	111	80-120	3	20	
1,1-Dichloroethane	ug/L	ND	1000	1000	1090	1080	109	108	75-120	1	15	
1,1-Dichloroethene	ug/L	ND	1000	1000	1060	1100	106	110	75-120	4	25	
1,2-Dichloroethane	ug/L	ND	1000	1000	1170	1090	117	109	80-120	8	25	
1,2-Dichloropropane	ug/L	ND	1000	1000	1070	1030	107	103	80-120	4	20	
2-Butanone (MEK)	ug/L	ND	5000	5000	6040	5900	121	118	50-155	2	25	
2-Chloroethylvinyl ether	ug/L	ND	5000	5000	333	395	7	8	25-160		25	M1
2-Hexanone	ug/L	ND	5000	5000	5190	4940	104	99	55-145	5	20	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5000	5000	6190	6240	124	125	70-130	1	20	
Acetone	ug/L	ND	5000	5000	3380	4210	68	84	35-160	22	25	
Benzene	ug/L	ND	1000	1000	1080	1020	108	102	80-120	5	25	
Bromodichloromethane	ug/L	ND	1000	1000	1100	1060	110	106	80-120	4	15	
Bromoform	ug/L	ND	1000	1000	1220	1290	122	129	60-130	6	20	
Bromomethane	ug/L	ND	1000	1000	1270	1280	127	128	50-140	1	45	
Carbon disulfide	ug/L	ND	1000	1000	1100	1140	109	112	75-125	3	25	
Carbon tetrachloride	ug/L	ND	1000	1000	1110	1060	111	106	70-130	5	20	
Chlorobenzene	ug/L	ND	1000	1000	1040	1000	104	100	80-120	4	20	
Chloroform	ug/L	1010	1000	1000	2210	2100	119	109	75-120	5	20	
Chloromethane	ug/L	ND	1000	1000	1220	1300	120	128	45-145	6	30	
cis-1,2-Dichloroethene	ug/L	ND	1000	1000	1130	1090	112	108	80-120	4	20	
cis-1,3-Dichloropropene	ug/L	ND	1000	1000	1020	1010	102	101	75-125	1	20	
Dibromochloromethane	ug/L	ND	1000	1000	1100	1030	110	103	75-125	6	20	
Ethylbenzene	ug/L	ND	1000	1000	1010	969	100	96	80-120	4	25	
m&p-Xylene	ug/L	ND	2000	2000	1970	2080	97	102	80-120	5	30	
Methyl-tert-butyl ether	ug/L	ND	1000	1000	1100	1070	110	107	75-125	3	30	
Methylene Chloride	ug/L	ND	1000	1000	1100	1150	107	112	70-140	4	25	
o-Xylene	ug/L	55.7	1000	1000	1010	1110	95	105	80-120	9	30	
Styrene	ug/L	ND	1000	1000	1130	1290	113	129	80-120	13	30	M1
Tetrachloroethene	ug/L	3130	1000	1000	4190	3980	105	84	80-125	5	25	
Toluene	ug/L	ND	1000	1000	1040	941	104	94	80-120	10	25	
trans-1,2-Dichloroethene	ug/L	ND	1000	1000	1140	1040	114	104	80-120	9	20	
trans-1,3-Dichloropropene	ug/L	ND	1000	1000	1040	957	104	96	75-125	9	15	
Trichloroethene	ug/L	398	1000	1000	1510	1480	111	108	80-125	2	20	
Trichlorofluoromethane	-	N.D.	4000	4000	4000	4400	400	440	75 405	8	20	
Hichiofoliuofolifictifalic	ug/L	ND	1000	1000	1090	1180	109	118	75-125	Ö	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.





QUALITY CONTROL DATA

Project: MARION COUNTY LANDFILL

Pace Project No.: 60429879

Date: 06/15/2023 04:38 PM

MATRIX SPIKE & MATRIX SP	IKE DUPLIC	CATE: 3369	427 MS	MSD	3369428							
Parameter	6 Units	0430084001 Result	Spike Conc.	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Vinyl chloride	ug/L	ND	1000	1000	1280	1280	128	128	65-140	0	25	
1,2-Dichlorobenzene-d4 (S)	%						103	101	80-120			
4-Bromofluorobenzene (S)	%						107	104	80-120			
Toluene-d8 (S)	%						98	95	80-120			
Preservation pH		1.0			1.0	1.0				0		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.





QUALITY CONTROL DATA

Project: MARION COUNTY LANDFILL

Pace Project No.: 60429879

Date: 06/15/2023 04:38 PM

QC Batch: 852101 Analysis Method: EPA 5030B/8260

QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60429879001, 60429879002, 60429879003, 60429879004, 60429879005, 60429879006

METHOD BLANK: 3374630 Matrix: Water

Associated Lab Samples: 60429879001, 60429879002, 60429879003, 60429879004, 60429879005, 60429879006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloroethane	ug/L	ND ND	0.50	06/13/23 14:12	
1,2-Dichlorobenzene-d4 (S)	%	102	80-120	06/13/23 14:12	
4-Bromofluorobenzene (S)	%	102	80-120	06/13/23 14:12	
Toluene-d8 (S)	%	100	80-120	06/13/23 14:12	

LABORATORY CONTROL SAMPLE:	3374631					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Chloroethane	ug/L		18.2	91	70-130	
1,2-Dichlorobenzene-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			100	80-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

(785)827-1273



QUALIFIERS

Project: MARION COUNTY LANDFILL

Pace Project No.: 60429879

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

Date: 06/15/2023 04:38 PM

- M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- S0 Surrogate recovery outside laboratory control limits.
- c2 Acid preservation may not be appropriate for the analysis of 2-Chloroethylvinyl ether.

(785)827-1273



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MARION COUNTY LANDFILL

Pace Project No.: 60429879

Date: 06/15/2023 04:38 PM

_ab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60429879001	MW-2A	EPA 5030B/8260	850548		,
60429879001	MW-2A	EPA 5030B/8260	852101		
60429879002	MW-5A	EPA 5030B/8260	850548		
60429879002	MW-5A	EPA 5030B/8260	852101		
60429879003	MW-1A	EPA 5030B/8260	850548		
60429879003	MW-1A	EPA 5030B/8260	852101		
60429879004	DUP-01	EPA 5030B/8260	850548		
60429879004	DUP-01	EPA 5030B/8260	852101		
60429879005	MW-3A	EPA 5030B/8260	850548		
60429879005	MW-3A	EPA 5030B/8260	852101		
60429879006	TRIP BLANK	EPA 5030B/8260	850548		
60429879006	TRIP BLANK	EPA 5030B/8260	852101		

Pace ANALYTICAL STRINGS

DC#_Title: ENV-FRM-LENE-0009_Sample C

WO#:60429879

Revision: 2 Effect	tive Date: 01/12/20	60429878	
Client Name:			
Courier: FedEx UPS VIA Clay Pl	EX 🗆 ECI 🗆	Pace □ Xroads □	Client □ Other □
Tracking #: Pace	Shipping Label Used	i? Yes□ No□	
Custody Seal on Cooler/Box Present: Yes 🗀 No	Seals intact: Yes □	No 🗗	
Packing Material: Bubble Wrap ☐ Bubble Bags	Foam □	None ☐ Coth	er 🗀
Thermometer Used: 7-3/2 Type of I	ce Wet Blue Nor	ne	Date and initials of person
Cooler Temperature (°C): As-read 2.9 Corr. Facto	r <u></u> و Correct	ed <u>2.9</u>	examining contents: 5-3/-2
Temperature should be above freezing to 6°C			
Chain of Custody present:	Nes ONO ON/A		
Chain of Custody relinquished:	ØYes □No □N/A		
Samples arrived within holding time:	Mes DNo DN/A		
Short Hold Time analyses (<72hr):	□Yes □yo □N/A		
Rush Turn Around Time requested:	□Yes □N/A		
Sufficient volume:	Yes ONO ON/A		
Correct containers used:	Yes ONO ON/A		
Pace containers used:	dYes □No □N/A		
	Wes One On/A		
Containers intact:	/		
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	,		
Filtered volume received for dissolved tests?	□Yes □No □N/A		
Sample labels match COC: Date / time / ID / analyses	DYes □No □N/A		
Samples contain multiple phases? N Matrix: W	□Yes □N/A		
Containers requiring pH preservation in compliance?	□Yes □No □N/A	List sample IDs, volume date/time added.	es, lot #'s of preservative and the
(HNO₃, H₂SO₄, HCI<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT#:			
Cyanide water sample checks:			
Lead acetate strip turns dark? (Record only)	□Yes □No		
Potassium iodide test strip turns blue/purple? (Preserve)	□Yes □No		
Trip Blank present:	Yes No NA		
Headspace in VOA vials (>6mm):	□Yes PNo □N/A		
Samples from USDA Regulated Area: State:	□Yes □No □N/A		
Additional labels attached to 5035A / TX1005 vials in the field?	□Yes □No □NIA		All the same of th
Client Notification/ Resolution: Copy COC to		Field Data Required	? Y / N
Person Contacted: Date/Ti	me:		
Comments/ Resolution:			
Project Manager Review:	Date	e:	

Pace Analytical ®

528 N. 9th Street, Salina, KS 67401 (785)827-1273

CHAIN OF CUSTODY RECORD

Pace Order Number:

PLEASE NOTE THE ATTACHED Pace SAMPLE ACCEPTANCE POLICY

Client/Reporting Information				-	Invoice Information	rmation			L		PARAMET	PARAMETERS/CONTAINED TYPE	NED TVBE		COMMENTE
Company Name:			Company Name	ية							TUNCATAIL	LAS/CONTA	INEK I TEE		COMMENTS
Marion County			GSI	į											
Address.:			Address:						1						
City: State:	Zip		City:			State:	Zip.	b.	1						
Contact:			Contact:						AOC\$						
E-mail:			E-mail:						Crel Landfill	Valer Level					
Phone Number: Fax Number:	ш		Phone Number:			Fax Number:	mber;			V oilule					
Sampleys Name (Pointed)	Sampler's	Sampler's Name:(Signature)	ure)		Purchase	Purchase Order Number:	ıber:		къп						
File Number: Project Name: Marion County Landfill	andfill	1				\perp	Number of Preserved Boules	Boules							
SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sumpled	Time	quioD+D mD-D moT	Contain	HVO3	NONE							
MW-2A	MD	R	5-31-23	82%	3	м			×	×					
MW-5A	GW	×	_	1004	3	8			×	×					
MW-1A	GW	×		7101	3	3			×	×					
DUP-01	ΜS	2		1100	3	3			×	×					
MW-3A	GW	~		1030	G	8			×	×					
TRIP BLANK	GW	~	\rightarrow	000	G G				×						
Matrix (Sample Type): DW=Drinking Water,	GW=Gro	GW=Ground Water,	WW=Waste Water,	ite Water,	W=Wipe,		S=Solid/Soil,	SL=Sludge,	1 1	A=Air, OL=	OL= Oil/Organic Liquid,		0=Other		
Regulatory Program: N=NPDES, R-RCRA,		<u>D</u> -Drinking Water,		SL-503 Sludge,	O-Other					(Pleas Standard T./	r note if non-stan AT (15 working o	dard turnaround	Rush & Emergency: (5 working days) E	(Please note if non-standard turnaround. Rush & Emergency subject to additional change). Standard TAT: (15 working days). Rush TAT: (5 working days). Emergency TAT: (8 working days).	narge) rking days)
RELINQUISHED BY:				DATE:	(TIME	Ē }	RECEIVED BY	. K		۱ ا			DATE:	TIME
RELIMOUSHED BY:		"	,	DATE	1	TIME	S E	RECEIVEBRY	de	X	1	S.	4	DATE	TIME:

Pace's Standard Terms and Conditions will apply to all samples received unless a separate contractual agreement has been made, OSOC AIRBILL: 6.8.33

SEAL #:

TOWN Married Counts Memory Co.



Document Name: Internal Shipping Manifest

Document No.:

Document Revised: July 9, 2018 Page 1

Issuing Authorities:
Pace Lenxa Quality Office

Internal Shipping Manifest

SA = Pace - Salina: 528 N 9th St, Salina, KS 67401

LEN = Pace -Lenexa: 9608 Loiret Blvd - Lenexa, KS 66219

FRN = Pace -SE Kansas: 808 W Mckay St, Frontenac, KS 66763

File ID	Shipping Laboratory Location Code	Receive	d Laboratory Loca	tion Code
	SA		LEN	
		Rece	ived Cooler Temper	ature
Cooler ID	Packaged on Ice (Y/N)	IR Gun ID:		
333.3.15		Cooler Temp:	Received on Ice	Samples Intact
SAFOLIX 14 15	415	1.1	4	4
15		1.3		
		1.0		
		6.9		

		Pace		
		Location	Date	Time
Signature Relinquished <	221 R	Silve	4-1-23	1640
Signature Received	1 Zipt M	Lenexa	6.2.23	0520
Signature Relinquished	l .			
Signature Received				
Signature Relinquished				
Signature Received				

Note: The last person to receive the coolers is the person who takes the cooler temperatures.