Marathon County Solid Waste Department

172900 State Highway 29
Ringle, WI 54471

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Solid Waste & Recycling Info Line	877-270-3989 toll-free

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March 27, 2020

Ms. Sally Hronek
Wisconsin Department of Natural Resources
Waste Management Engineer
2984 Shawano Avenue
Green Bay, WI 54313-6727

Re: Marathon County Solid Waste – Area B Landfill #3338 FID 737092730

Dear Ms. Hronek:

Please accept this submittal of the 2019 Annual Solid Waste Report for the Area B landfill of Marathon County. This Annual Solid Waste Report is being submitted in accordance with the approved Plan of Operation for Area B.

In accordance with your request, two (2) additional hard copies and emailed PDF copies are being distributed to the WDNR staff as noted below.

Should you have any questions or comments regarding this Annual Solid Waste Report, please do not hesitate to contact me at (715) 445- 3101.

Thank you,

Dave Hagenbucher
Solid Waste Operations Manager
Marathon County Solid Waste Dept
172900 State Highway 29
Ringle, Wisconsin 54471
C: 715-551-5864 O: 715-446-3101x102

CC: C. Lee Daigle, PE – Tetra Tech Senior Project Manager
Nathan Coller – WDNR Spooner Service Center (1 hard copy and 1 electronic copy)
John Morris – WDNR Eau Claire Service Center (1 hard copy and 1 electronic copy)

<u>Marathon County Solid Waste Department</u>
<u>Area B Landfill</u>
2019 ANNUAL REPORT

WDNR License No. 3338
FID 737092730

Marathon County Solid Waste Management Department
172900 Highway 29
Ringle, WI 54471

Solid Waste & Recycling Information Line: 877-270-3989

www.marathoncountysolidwaste.org

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Staff, Consultants & Contractors

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Solid Waste Scale Master	Jessica Kubichek
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  Madison, WI 53717

Introduction

This report provides a summary of site conditions, work conducted at and other activities related to the active Area B Landfill (Area B) during 2019. This report is intended to meet the intent and focus of the annual reporting requirements found in all approved documentation for Area B. This document meets the annual reporting requirements of the Wisconsin Department of Natural Resources (WDNR) Plan of Operation Approval dated March 22, 2002, the 2006 plan modification for the expansion of Phase IV and the 2013 Modification to the Monitoring Plan (for Groundwater, Lysimeters and Leachate Collection).

Area B Background

Marathon County Solid Waste Department (MCSWD) owns, operates and manages the Area B Landfill (Area B). The 32 acre facility opened in 1993 and has an amended design capacity of 2,508,000 cubic yards. Approximately 5 acres has final cover. The site is located along the north side of Hwy 29, in the town of Ringle, Wisconsin and north of the closed Area A Landfill.

MCSWD and various contracted firms have and will continue to work collaboratively to ensure operations/post-closure activities are conducted in accordance with all required current and long-term care approvals. This includes, but is not limited to, operation of and maintenance of the following systems: intermediate cover, final cover, storm water, landfill gas and condensate, leachate collection, and groundwater monitoring.

Summary of Landfill Activities in 2019

From 1994 to early 2014, MCSWD retained an independent contractor to conduct operations. MCSWD began internal operations of the landfill with its own staff and equipment in May 2014. Operational duties typically include, but are not limited to full-time administrative management, active fill area management and scale operations (when accepting wastes), site operational oversight and trouble-shooting and other maintenance and conditionally regulated duties such as:

- Monthly visual inspections of the final cover surface
- Inspections of storm water management pathways
- Removal of obstructions or repair to storm water pathways
- Mowing pathways for surface emission monitoring work
- General mowing to control for woody herbaceous growth
- Snow plowing of access roads
- Grading and dust management of access roads using calcium chloride was applied to both interior landfill roads and gravel site roads
- Preventative maintenance on gas system and leachate pumping system
- Cover maintenance including repair of leachate seeps
- Daily operations with waste acceptance, compaction and cover

As needed, MCSWD hired various contractors and/or consultants to perform specific tasks beyond the capabilities of the site staff such as air permit compliance and reporting, and contracted leachate hauling.

Waste Disposal Activities

During 2019, approximately 896.71 tons of waste was accepted in Area B that was disposed in the top of Phase IV area. The tonnage received was categorized as Category 6-All other wastes. There were no issues or problems in handling the wastes delivered.

Special Wastes

Area B is licensed to accept waste that would be considered non-hazardous special wastes. This includes contaminated soils. Special waste tonnages disposed at the site, provided in the tons reported to the state as identified above, included approximately 896.71 tons of contaminated soil (C-Soil). Special wastes were placed in Area B during 2019 primarily to prepare the site for closure which is anticipated to occur in 2021.

MCSWD pre-screens all special wastes via a Special Waste Profile form. Customers desiring to deliver non-standard wastes must complete the form and provide to it MCSWD staff for review and approval. The generator of waste, or their agent, must complete the form and also have a variety of select laboratory tests conducted on the special waste prior to a decision being made on acceptance. The MCSWD Special Waste Analytical Protocol and Acceptance Criteria delineates parameter thresholds the waste material must meet in order to qualify as a non-hazardous special waste. No special wastes are accepted without first completing this process. Records are retained on site. In 2019, the site had no non- approved wastes.

Settlement Monitoring

Very little settlement occurred in Area B during the past few years at the location of the Settlement Points. The below tables summarize the Area B settlement monitoring points for the period of 2018.

Settlement Points 09-27-18				
			elevation	
SP	North	East	Ground	Top
North	8000.7	15699.6	1402.4	1404.91
South	7597.6	15500	1400.91	1403.89
Settlement Points 12-6-18				
			elevation	
SP	North	East	Ground	Top
North	8000.93	15699.57	1402.47	1404.9
South	7597.61	15500.4	1400.96	1403.83

Settlement Point data was not retrieved in 2019 due to inactivity on Area B

Area B located top left of photo.

Landfill Maintenance

Marathon County Solid Waste continued maintenance and service on all leachate collection infrastructure. During 2019, numerous panels were repaired after a power outage caused damage. Additionally, the pump on Side Slope Riser 3 was replaced due to pumping issues.

To follow protocol and best management practices in regard to surface emissions, MCSWD staff applied a large quantity of bentonite around all penetration points on Area B. The bentonite acted as a seal to prevent emissions from finding their way above the landfill surface. All surface emission monitoring was completed without compliance issues, thus providing confirmation that the seals worked well.

During the fall of 2019, MCSWD staff worked to correct numerous issues with groundwater monitoring wells around the entire site. During October of 2019, staff followed direction from WDNR to correct any issues with the condition of the groundwater wells around the site. Work included labeling, locking, and grading of the surface. Seals of clay or bentonite were also addressed to ensure that the wells were functioning as designed. Additionally, staff installed signage to effectively communicate that site visitors are welcome on the property, but cannot touch or tamper with any site infrastructure. This work was documented and sent to WDNR in an official notice on November 13th, 2019.

Gas Collection System

Area B, located on the northern portion of the entire 574 acre facility (and north of the closed Area A Landfill), has an active landfill gas extraction system consisting of gas collectors and transfer piping, blower to move the gas collected and end-use equipment (described below). The landfill gas extraction system has been operational since the late 1990s. Landfill gas emissions from the entire MCSWD property, including Area B, are regulated in accordance with Air Pollution Control Operation Permit No. 737092730-P20 dated November 2, 2015.

The gas wells located in Area B consist of vertical and horizontal gas extraction wells, connected via a sub-header system within the footprint of the landfill. The landfill gas extracted from the landfill is transferred to the on-site landfill gas recovery building (located south of the Area A Landfill) via a header pipe to a landfill gas to energy plant or to a flare. Vacuum applied to the wellfield is regulated by the variable frequency drive (VFD) blower station that controls the gas collection and control system (GCCS). A map of the Area B GCCS, following improvements made in 2015, is provided in Attachment A.

Students learning about landfill gas collection on Area B.

Existing sensing devices measure gas flow rates, pressure, vacuum, and methane and oxygen concentrations. These sensors are located on the main header line pipe leading into the gas recovery building and includes gas collected from Area A, Area B and BRRDF landfills. Data is recorded and stored on a computerized data collection system. This data is used for operating and reporting purposes.

The Marathon County GCCS operated 98.31% of the year and approximately 8,611.74 hours of operation. The average aggregated flow rate for the site GCCS was approximately 664.33 standard cubic feet per minute (scfm). Methane and oxygen concentrations of landfill gas averaged, by volume, 48.7% for methane and 1.0% oxygen. Total gas collected from the site in 2019 was 379,820,134.73 standard cubic feet (scf). From the total gas collected at the site, 30,137,124.25 scf was used for production of electricity and 349,683,010.47 scf was sent to the flare. The table below summarizes the aggregated flow, combustion location, and vacuum of the GCCS at the site.

2019 MARATHON COUNTY GCCS DATA (INCLUDES AREA A, AREA B & BRRDF)

Month	Average CFM	Total CFM	CFM to Electric	CFM to Flare
Jan	469.87	31,074,896.25	10,100,040.05	20,974,856.20
Feb	468.78	27,377,343.11	8,476,124.60	18,901,218.51
Mar	520.44	29,244,410.46	6,012,000.23	23,232,410.22
Apr	581.56	29,051,175.86	3,927,714.23	25,123,461.62
May	665.95	29,759,679.84	31,727.17	29,727,952.67
Jun	694.42	30,015,041.54	15,953.36	29,999,088.18
Jul	672.9	30,038,221.55	91.96	30,038,129.59
Aug	672.94	30,042,858.49	2,781.34	30,040,077.16
Sep	766.38	33,111,328.85	3,497.19	33,107,831.66
Oct	813.48	36,313,769.15	0.26	36,313,768.89
Nov	845.18	36,512,866.46	1,050.27	36,511,816.19
Dec	800.01	37,278,543.17	1,566,143.59	35,712,399.58
TOTAL	664.33	379,820,134.73	30,137,124.25	349,683,010.47

Below is a chart listing average monthly methane (CH4), oxygen (O2) and concentrations of the site GCCS (combined Area A, Area B and BRRDF landfill gas).

2019 GCCS Vacuum and Concentrations	Ave Vacuum (negative inches water column)	Ave CH4%	Ave O2%
January	26.64	50.2	0.9
February	24.66	50.5	1.0
March	22.38	53.5	0.8
April	25.09	51.0	1.1
May	24.92	52.2	0.8
June	26.66	52.8	0.7
July	25.45	50.8	0.6
August	25.27	22.3	1.1
September	26.73	52.0	1.1
October	26.98	51.3	1.2
November	26.48	48.3	1.5
December	27.01	49.4	1.5
Average	25.69	48.7	1.0

Gas System Outages

As indicated previously, the gas extraction system operated nearly continuously. Any shutdowns, whether for planned maintenance or unplanned events were reported to the WDNR Air Management staff. The January to June 2019 Semi-annual Report and July to December 2019 Semi-annual Report for the facility include descriptions of the startup, shutdown and malfunction events associated with the GCCS, single control devices and the continuous monitoring system.

Surface Emission Monitoring

Surface emission monitoring (SEM) of Area B was conducted on March 28 2019, May 20 2019, September 25 2019, and December 25 2019. No (0) exceedances were detected during any of these quarterly SEM events.

For all SEM events, a flame ionization detector (FID) is used while MCSWD's environmental technician walked a serpentine pattern across the surface of the landfill. Results of the monitoring are provided in Attachment B.

To follow protocol and best management practices in regard to surface emissions, MCSWD staff applied a large quantity of bentonite around all penetration points on Area B. The bentonite acted as a seal to prevent emissions from finding their way above the landfill surface. All surface emission monitoring was completed without compliance issues, thus providing confirmation that the seals worked well.

Soil Gas Monitoring

During 2019, the soil gas probes were monitored quarterly for relative pressure, methane (CH4), oxygen (02), and soil gas pressure. In 2019, these monitoring results indicated no gas migration.

First Quarter Probe Data (February 7, 2019):

Gas Probe [Depth in feet]	Location	Methane (%CH4 by Vol.)	Oxygen (%O2 by Vol.)	Pressure (inch W.C.)	Notes:
Lic. 3338	**WDNR Parm #**	**85547**	**85550**	**46389**	**WDNR ID No.**
Area B Probes					
G-5 [26']	S Area B	0	18.9	-0.03	710
G-6 [30']	W Area B	0	18.2	0.02	712
G-7 [20']	N Area B	0	19.9	0.04	714
G-8 [15']	E Area B	0	18.7	0.08	716

Second Quarter Probe Data (May 7, 2019):

Gas Probe [Depth in feet]	Location	Methane (%CH4 by Vol.)	Oxygen (%O2 by Vol.)	Pressure (inch W.C.)	Notes:
Lic. 3338	**WDNR Parm #**	**85547**	**85550**	**46389**	**WDNR ID No.**
Area B Probes					
G-5 [26']	S Area B	0	22.0	-0.03	710
G-6 [30']	W Area B	0	22.1	-0.02	712
G-7 [20']	N Area B	0	22.3	-0.01	714
G-8 [15']	E Area B	0	22.4	-0.03	716

Third Quarter Probe Data (Sept 4, 2019):

Gas Probe [Depth in feet]	Location	Methane (%CH4 by Vol.)	Oxygen (%O2 by Vol.)	Pressure (inch W.C.)	Notes:
Lic. 3338	**WDNR Parm #**	**85547**	**85550**	**46389**	**WDNR ID No.**
Area B Probes					
G-5 [26']	S Area B	0	21.8	-0.5	710
G-6 [30']	W Area B	0	21.7	-0,12	712
G-7 [20']	N Area B	0	21.7	-0.03	714
G-8 [15']	E Area B	0	19.8	0.01	716

Fourth Quarter Probe Data (October 14, 2019):

Gas Probe [Depth in feet]	Location	Methane (%CH4 by Vol.)	Oxygen (%O2 by Vol.)	Pressure (inch W.C.)	Notes:
Lic. 3338	**WDNR Parm #**	**85547**	**85550**	**46389**	**WDNR ID No.**
Area B Probes					
G-5 [26']	S Area B	0	20.3	-0.02	710
G-6 [30']	W Area B	0	18.8	-0.01	712
G-7 [20']	N Area B	0	20.2	-0.01	714
G-8 [15']	E Area B	0	16.3	0.0	716

Gas Condensate Sampling Data

In accordance with the monitoring plan, gas condensate was sampled and analyzed in April and October 2019. A summary of the tested analytes are provided in the table below and include inorganic constituents and detected volatile organic compounds (VOC's).

2019 Gas Condensate Detection Results			
Parameter	**Units**	**April**	**October**
Conductivity	umho/cm @25C	576	990
pH	S.U.	7.87	8.11
TSS	mg/L	3.0	ND
COD	mg/L	30	28
VOCs			
Acetone	ug/L	ND	ND
Ethylbenzene	ug/L	ND	ND
Methyl Ethyl Ketone	ug/L	ND	ND
Naphthalene	ug/L	ND	ND
Tetrahydrofuran	ug/L	ND	ND
Toluene	ug/L	ND	ND
Xylene, o-	ug/L	ND	ND
Xylene, m- & p-	ug/L	ND	ND

Gas Condensate Volumes

Gas condensate volumes were monitored and tabulated on a monthly basis. The 2019 gas condensate volumes are summarized below:

2019 Area B Condensate Volume Pumped (Gallons)					
Month	**CKO-1 gallons**	**CKO-2 gallons**	**GC-Manhole gallons**	**GC-1 gallons**	**CS-1 gallons**
Jan	2016	1932	504	0	3192
Feb	2604	2016	672	0	2940
Mar	2520	1932	7224	0	2772
Apr	2352	1596	1512	0	3360
May	3108	1260	1176	0	9912
Jun	3444	1596	756	0	3864
Jul	2772	1428	840	0	3780
Aug	3864	1428	2940	0	6804
Sep	1764	1176	756	0	3696
Oct	1764	1176	504	0	3864
Nov	2940	1176	588	0	4032
Dec	1848	1512	1008	0	3864
TOTALS	**30996**	**18228**	**18480**	**0**	**52080**

Gas Sampling Data

On October 9, 2019 MCSWD's environmental technician with the assistance from Tetra Tech, used a summa canister to collect a sample of landfill gas for VOC analysis. The full canister was shipped via express mail services to Air Technology Labs, Inc. (ATL) in City of Industry, California for analyses of volatile organic compounds. The test method used was United States Environmental Protection Agency (EPA) test method TO-15, Determination of Volatile Organic Compounds (VOCs) In Air Collected In Specially-Prepared Canisters and Analyzed by Gas Chromatography/ Mass Spectrometry (GC/MS). Results of the testing performed by ATL is provided as Attachment C to this report.

Leachate System Information

Leachate is collected throughout the Area B landfill with a leachate collection system at the base of the landfill. This includes an aggregate leachate drainage layer and a series of leachate collection trenches and pipes that drain to leachate collection sumps. Leachate gathers in the sumps and is pumped out of the landfill through a side slope riser forcemain to storage tanks. There are five (5) sumps, 5 riser pipes and 3 storage tanks associated with Area B. Pumping from the side slope risers stops when a sensor system inside the storage tank indicates the liquid has reached a certain level. The contracted leachate hauler pumps the stored leachate into a 6,600 gallon tanker truck and delivers the material to one of three waste water treatment facilities (WWTF) for disposal.

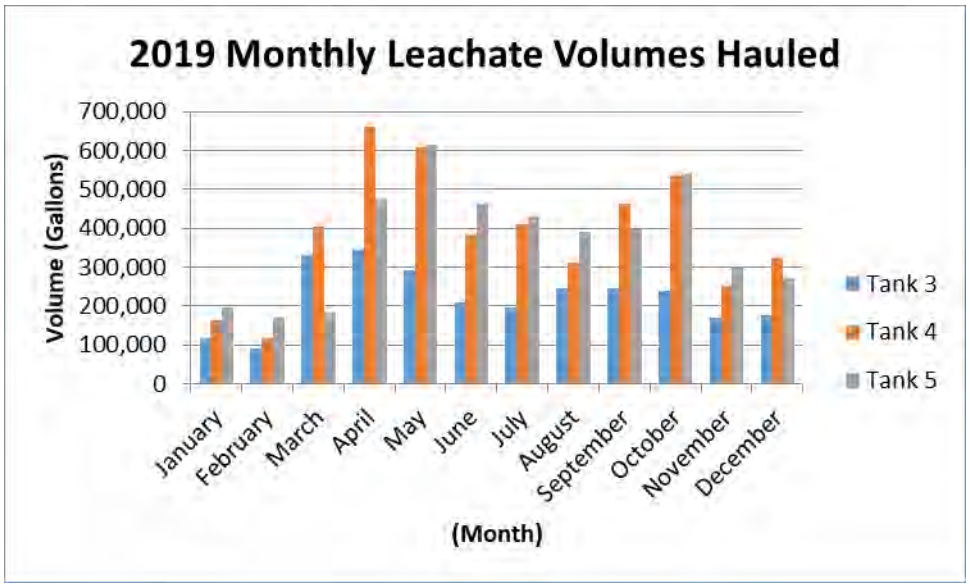
Leachate collected in 2019 was transported to either the Domtar, Inc. WWTF in Rothschild, Wisconsin, Wausau Wastewater Treatment, or the Stevens Point Wastewater Utility in Stevens

Point, Wisconsin. Leachate is pumped into the WWTF and treated to ensure all effluent meets Wisconsin Pollutant Discharge Elimination System (WPDES) standards.

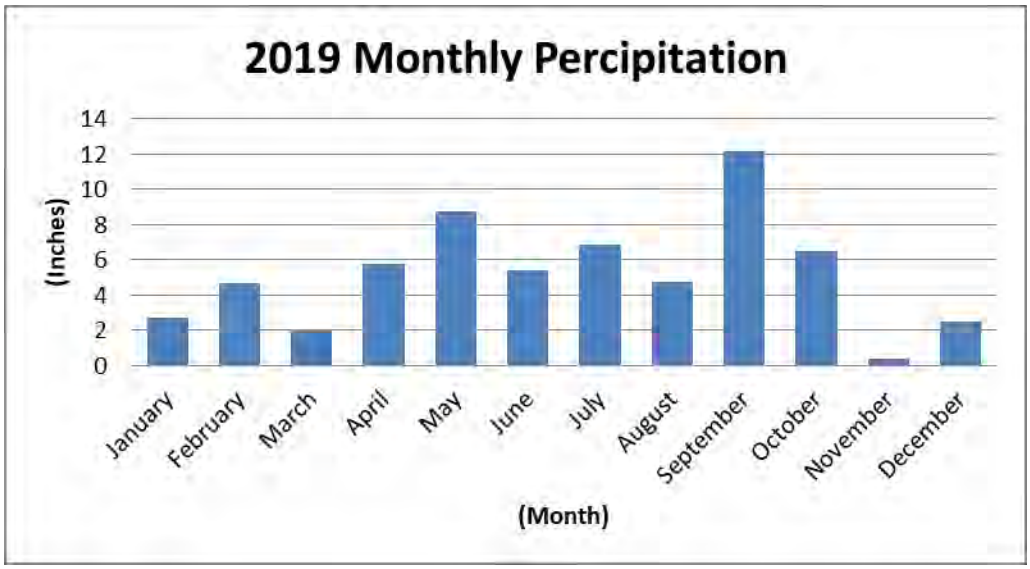
Preventative maintenance of the leachate storage and pumping system was conducted, as needed, by on-site operations or other tank and pump specialists when required.

Total volume (gallons) of leachate collected/transported/treated in 2019 is as follows:

2019	Tank 3	Tank 4	Tank 5
January	118,800	165,000	198,000
February	92,400	118,800	171,600
March	330,000	402,600	184,800
April	343,200	660,000	475,200
May	290,400	607,200	613,800
June	211,200	382,800	462,000
July	198,000	409,200	429,000
August	244,200	310,200	389,400
September	244,200	462,000	396,000
October	237,600	534,600	541,200
November	171,600	250,800	297,000
December	178,200	323,400	270,600
Total	2,659,800	4,626,600	4,428,600



2019 Precipitation (inches)	
January	2.7
February	4.7
March	2
April	5.8
May	8.75
June	5.4
July	6.9
August	4.75
September	12.2
October	6.5
November	0.4
December	2.47
Total	62.57



Leachate Line Jetting

On June 10 and June 11, 2019 Northern Pipe, Inc. of Green Bay, Wisconsin, water jetted the leachate lines of Area B. Jetting was accomplished by accessing each pipe at one end and jetting the full length of pipe. Each line was then televised in 2018. No issues were reported with this jetting event. The jetting required the use of 5,500 gallons of water. The report for Area B jetting is provided as Attachment D.

Leachate Sampling

Leachate sampling and analytical analysis Area B Tanks 3, 4 and 5 was conducted in April and October 2019 by Northern Lakes Services (NLS). VOCs and metals were sampled semi-annually and semi-volatile organics were sampled and tested in October only. Sampling results show a variety of compounds present that are consistent with previous sampling results. Full results are available on the WDNR Groundwater and Environmental Monitoring System (GEMS) database and are maintained in site files. Conductivity and pH values reported in 2019 are summarized below.

Leachate	2019	Conductivity umho/cm	pH S.U.
Tank 3	April	4630	6.9
	October	8,300	7.12
Tank 4	April	6380	6.84
	October	7,250	6.97
Tank 5	April	9530	7.48
	October	9940	7.44

Leachate Level Monitoring

Leachate level monitors were evaluated on a monthly basis by the MCSWD's environmental technician. Data from those monitoring events is as follows: Please note that data before September was not included. The previous MCSWD Environmental Technician left employment with Marathon County mid-year. The data before September 2019 was misplaced during the transition period.

Marathon County Solid Waste

Area B Leachate Head Well Monitoring

Area B		LLM 2	LLM 3	LLM 4	LLM 5	LLM 6	LLM 7	LLM 8
Pipe Length to Elbow (ft)		100	102	95	100	119	115.9	116.8
Jan-19	Depth to Liquid	NA	NA	NA	NA	NA	NA	NA
	Leachate Head	NA	NA	NA	NA	NA	NA	NA
Feb-19	Depth to Liquid	NA	NA	NA	NA	NA	NA	NA
	Leachate Head	NA	NA	NA	NA	NA	NA	NA
Mar-19	Depth to Liquid	NA	NA	NA	NA	NA	NA	NA
	Leachate Head	NA	NA	NA	NA	NA	NA	NA
Apr-19	Depth to Liquid	NA	NA	NA	NA	NA	NA	NA
	Leachate Head	NA	NA	NA	NA	NA	NA	NA
May-19	Depth to Liquid	NA	NA	NA	NA	NA	NA	NA
	Leachate Head	NA	NA	NA	NA	NA	NA	NA
Jun-19	Depth to Liquid	NA	NA	NA	NA	NA	NA	NA
	Leachate Head	NA	NA	NA	NA	NA	NA	NA
Jul-19	Depth to Liquid	NA	NA	NA	NA	NA	NA	NA
	Leachate Head	NA	NA	NA	NA	NA	NA	NA
Aug-19	Depth to Liquid	NA	NA	NA	NA	NA	NA	NA
	Leachate Head	NA	NA	NA	NA	NA	NA	NA
Sep-19	Depth to Liquid	Dry	Dry	Dry	99	Dry	Dry	Dry
	Leachate Head	0	0	0	1	0	0	0
Oct-19	Depth to Liquid	Dry	Dry	Dry	Dry	Dry	Dry	Dry
	Leachate Head	0	0	0	0	0	0	0
Nov-19	Depth to Liquid	Dry	Dry	Dry	Dry	Dry	Dry	Dry
	Leachate Head	0	0	0	0	0	0	0
Dec-19	Depth to Liquid	Dry	Dry	Dry	Dry	Dry	Dry	Dry
	Leachate Head	0	0	0	0	0	0	0

LLM - Leachate Level Monitor - If dry at landfill base, reported as dry with 0 feet of head.

Lysimeters

Northern Lakes Services, Inc. monitored Lysimeter 7 in April and October 2019 with additional monitoring for VOCs in October. There were no VOC detections; therefore, no VOCs results are shown. Sampling results were submitted electronically to the WDNR GEMS database and are consistent with previous sampling results. A summary table of inorganic constituents from the lysimeter sampling event is provided below:

2019 Lysimeter Detection Results			
		Lysimeter 7	
Parameter	Units	April	October
Conductivity	umho/cm @25C	257	616
pH	S.U.	7.15	7.03
Alkalinity	mg/L	30	290
Boron	mg/L	ND	93
COD	mg/L	9.7	13
Chloride (as Cl)	mg/L	34	7.1
Hardness	mg/L	71	330
Nitrite + Nitrate	mg/L	0.56	1.0
Sodium (as Na)	mg/L	23	23
Sulfate (as SO4)	mg/L	43	34

Final Cover

There are approximately 5 acres of final cover constructed at the Area B Landfill. The existing final cover areas remain in excellent condition. As required by the site's plan of operation, and to ensure the investment in final cover is not compromised, the following activities are conducted throughout the year:

- Monthly visual inspections of the final cap surface
- Inspections of storm water management pathways
- Removal of obstructions or repair to storm water pathways
- Mowing pathways for surface emission monitoring work
- General mowing to control for woody herbaceous growth
- Snow plowing of access roads
- Grading and dust management of access roads
- Preventative maintenance of gas system and leachate pumping system

Storm Water Management

There are four storm water management diversion and collection areas associated with Area B. Storm water is channeled away from the closed and intermediate cover areas of the landfill and away from exterior roads and flows to one of the sedimentation and retention ponds identified as SR-1 through SR-4. Storm water and retention pond SR-3 is used as a source of water for operational dust control; a tanker truck is filled with water and then applied to the various roadways. An annual storm water inspection was performed on June 12, 2019. This included the general inspection of ditches associated with Area B. This inspection is provided as Attachment E.

The basins are observed as a general course of site inspections by MCSWD. Water height, clarity, and turbidity are noted. There has been no need to conduct maintenance on the basins. Storm water grates are also observed with this routine and cleared of materials that may impede the proper flow of storm water.

Groundwater Monitoring & Analysis

Please refer to the 2016 – 2019 three year groundwater assessment for more detailed information about site groundwater conditions and status. At the beginning of 2019, MCSWD had a total of 91 groundwater monitoring wells, with 25 designated for Area B. The groundwater monitoring regimen was conducted according to the February 7, 2013 approved modification to the groundwater and leachate monitoring plan.

Per the approved monitoring plan, the groundwater wells within the plan were sampled semi-annually in April and October. Sampling and laboratory analysis was conducted by qualified personnel from Northern Lake Service (NLS) of Crandon, Wisconsin. The groundwater samples were analyzed to very low chemical concentrations with many found to be below the laboratory's limit of quantification (LOQ). The groundwater quality measurements were compared to NR 140 Groundwater Preventive Action Limits (PALs) and Enforcement Standards (ESs) and site specific indicator PALs and Alternate Concentration Limits (ACLs) provided in the approved monitoring plan. Results revealed that most of the monitoring wells do not exceed these limits and even meet safe drinking water standards.

Reporting values higher than these limits are reported as exceedances. As in past monitoring events at the Area B site, results at some wells exceeded the PAL and ES standards. The exceedances noted in the tables below include nitrate + nitrite as nitrogen at two downgradient wells which may be attributable to area agricultural practices or runoff from erosion control efforts that include seeding, fertilizing and mulching at and near the Area B landfill. No corrective action is planned or required at this time. Groundwater monitoring results and any exceedances were submitted electronically by NLS to the WDNR's GEMS database. Below is a summary of the exceedances from each semi-annual monitoring period. The exceedance reports submitted to the WDNR for the April and October 2019 monitoring event are provided in Attachment F.

N+N exceedances of NR 140 Groundwater Quality Standards at two Area B Landfill downgradient wells have continued during the three year period from 2017 to 2019. Upgradient wells R20AR and R30 have reported historical N+N concentrations below 1.0 mg/L. The upgradient well R20AR has exhibited an increasing trend in N+N concentrations but the concentrations are still below the downgradient well concentrations and the NR 140 PAL. As a result, the elevated N+N downgradient of the Area B Landfill appears to be attributable to the Area B Landfill. The N+N concentrations downgradient of the Area B Landfill will continue to be monitored to further assess the current trends.

Area B Groundwater Well Exceedance Table April 2019

Marathon County Solid Waste: Area B Groundwater Monitoring Wells									
	Area B	Facility #3338	Exceedances						
Project #	Date	Well #	Parameter	Units	Result	PAL	ES	ACL	Comments
318722	April 2 & 3 2019	Dup 040319	Nitrate+Nitrite	mg/L	2.20	2.00	10.00		NR140.10
318722	April 2 & 3 2019	R45	Nitrate+Nitrite	mg/L	2.20	2.00	10.00		NR140.10

Area B Groundwater Well Exceedance Table October 2019

Marathon County Solid Waste: Area B Groundwater Monitoring Wells									
	Area B	Facility #3338	Exceedances						
Project #	Date	Well #	Parameter	Units	Result	PAL	ES	ACL	Comments
332917	October 14 & 15	Dup 10151901	Nitrate+Nitrite	mg/L	2.10	2.00	10.00		NR140.10
332917	October 14 & 15	R27	Nitrate+Nitrite	mg/L	4.80	2.00	10.00		NR140.10
332917	October 14 & 16	R45	Nitrate+Nitrite	mg/L	2.10	2.00	10.00		NR140.11

Private Well Water Sampling

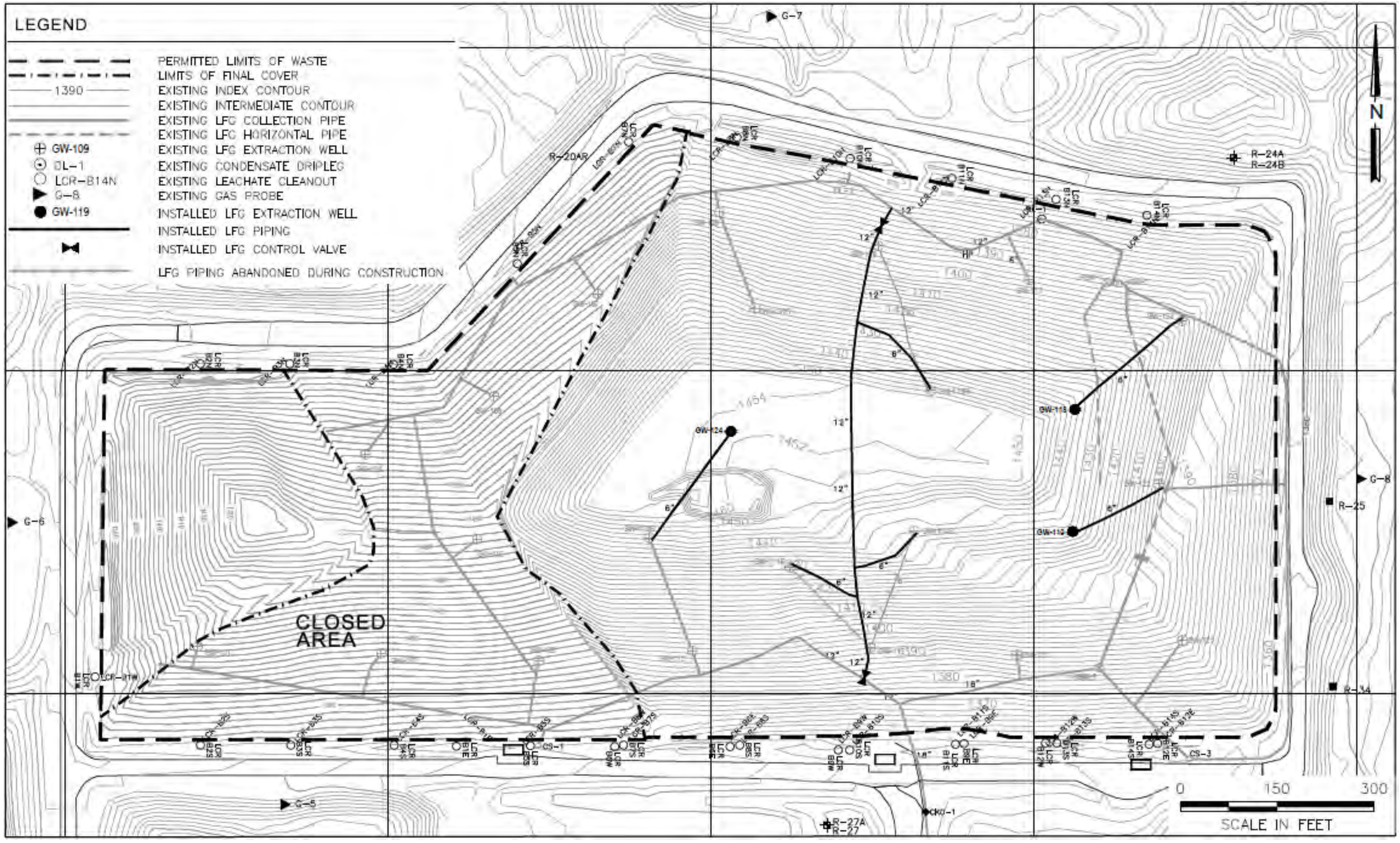
There are no private wells monitored as part of Area B landfill environmental monitoring.

Landfill Gas Monitoring

Landfill Gas monitoring was conducted on a monthly basis in accordance with the sites Air Pollution Control Operation Permit 737092730-P20. The results of each monthly monitoring event are provided to both the solid waste and air departments of the WDNR on a monthly basis.

ATTACHMENT A

AREA B GAS COLLECTION AND CONTROL SYSTEM MAP


LEGEND
PERMITTED LIMITS OF WASTE
LIMITS OF FINAL COVER
1390
EXISTING INDEX CONTOUR
EXISTING INTERMEDIATE CONTOUR
EXISTING LFG COLLECTION PIPE
EXISTING LFG HORIZONTAL PIPE
GW-109
EXISTING LFG EXTRACTION WELL
DL-1
EXISTING CONDENSATE DRIPLEG
LCR-B14N
EXISTING LEACHATE CLEANOUT
G-8
EXISTING GAS PROBE
GW-119
INSTALLED LFG EXTRACTION WELL
INSTALLED LFG PIPING
INSTALLED LFG CONTROL VALVE
LFG PIPING ABANDONED DURING CONSTRUCTION
N
CLOSED AREA
G-7
G-6
G-5
G-8
R-20AR
R-24A
R-24B
R-25
R-34
R-27A
R-27
GW-124
GW-115
GW-113
CS-1
CS-3
0
150
300
SCALE IN FEET

ATTACHMENT B

2019 AREA B QUARTERLY SURFACE EMISSION MONITORING REPORTS

1st Qtr 2019

Marathon County Solid Waste

Surface Emissions Monitoring

Calibration Procedure and Background Determination Report

Landfill name: Marathon County Landfill

Instrument make: Thermo Fisher Scientific, Model: TVA1000B,

S/N: 0115248137

Calibration Procedure

1. **Install filled hydrogen tank, attach probe/readout device; turn on analyzer and hydrogen supply valve.**
2. **Wait 4-5 minutes for proper hydrogen flow, then press; 1 = run. The unit will ignite and display readings. If flame out message appears, clear the message, (press exit) wait another minute and repeat step 2. If unit has not been properly calibrated a bad calibration parameter appears – go to step 3 below.**
3. **Press (exit) until the main menu appears. Calibration can now be performed. For best results, allow unit to warm up for 20 minutes, then press (2=setup).**
4. **Press (1=calibration), choose manual mode.**
5. **Press (2=span concentration) Select the FID detector that the span concentration is for, then press the up or down arrows to select the correct unit of measure for the span gas. Enter the span calibration value; 500%CH, and press the enter key.**
6. **Next Zero the instrument. Press (3=zero) to start this process. Press enter for single detector units. Zero the instrument by using; Air Zero grade. Introduce zero gas into the analyzer through the probe, utilize plastic T bypass pressure valve. Press (enter) to start.**
7. **Wait for minimal change in values (about 15 seconds). Typically, the sample is stable when the first two digits of the reading do not change for 4-5 seconds. Press (enter) to except, press (1) to save.**

8. **Next calibrate with span gas. Press (4=span) Select the detector to be calibrated and press (enter) to start. Follow screen prompts. Wait for readings to stabilize (typically 10-15 seconds). Enter (1) to save.**

9. **Press (5=RF) to verify proper response factor. Confirm that response factor says RFO: default if not set to this value.**

10. **Press (EXIT) twice to return to main menu**

11. **Press (1= Run)**

Area B

Background Determination Procedure

1. **Upwind Reading (highest in 30 seconds):** 1.81 **ppm (1)**

2. **Downwind Reading (highest in 30 seconds):** 4.68 **ppm (2)**

Calculate Background Value: **(1)+(2)** = 3.24

2

Performed By: Ron Smith **Time:** 0800 **Date:** 3/28/19

8. Next calibrate with span gas. Press (4=span) Select the detector to be calibrated and press (enter) to start. Follow screen prompts. Wait for readings to stabilize (typically 10-15 seconds). Enter (1) to save.

9. Press (5=RF) to verify proper response factor. Confirm that response factor says RFO: default if not set to this value.

10. Press (EXIT) twice to return to main menu

11. Press (1= Run)

BBR

Background Determination Procedure

1. Upwind Reading (highest in 30 seconds): 1.63 ppm (1)

2. Downwind Reading (highest in 30 seconds): 23.13 ppm (2)

Calculate Background Value: (1)+(2) = 12.38

2

Performed By: Ron Smith Time: 0800 Date: 3/28/14

Marathon County Solid Waste

Daily Surface Monitoring Log

Landfill Name: Marathon County Landfill BBR

Performed By: Ron S **Date:** 3/28/19 **Time:** 0800

Temperature: 38 **Sky:** Sunny **Ground:** damp

Barometric Pressure: 29.98 **Barometric Pressure end:** 30.04

Barometric Trend: rising **Wind:** 7 NNW

Location of Leak: No Detects

Garbage Odor

Time: _____ **Concentration of leak:** _____ **(ppm)**

Location of leak:

Time: _____ **Concentration of leak:** _____ **(ppm)**

Location of leak:

Time: _____ **Concentration of leak:** _____ **(ppm)**

Marathon County Solid Waste

Daily Surface Monitoring Log

Landfill Name: Marathon County Landfill Area B

Performed By: Ron S **Date:** 3/28/19 **Time:** 0800

Temperature: 38 **Sky:** Sunny **Ground:** damp

Barometric Pressure: 29.98 **Barometric Pressure end:** 30.04

Barometric Trend: rising **Wind:** 7 NNW

Location of Leak: No Detects

Time: _____ **Concentration of leak:** _____ **(ppm)**

Location of leak:

Time: _____ **Concentration of leak:** _____ **(ppm)**

Location of leak:

Time: _____ **Concentration of leak:** _____ **(ppm)**

1st Qtr. 2019

Marathon County Solid Waste

SEM Calibration Precision Test Record

Landfill Name: Marathon County LF

Monitoring Date: 3/28/19 Performed By Ron Smith

Expiration Date: June 2019 Time 0800

Instrument Make: Thermo Fisher Scientific Model: TVA1000B

S/N: 0115248137

Measurement #1:

Meter Reading for Zero Air: -0.14 ppm(1)

Meter Reading for Calibration Gas: 494 pmm (2)

Measurement #2:

Meter Reading for Zero Air: -0.10 ppm (3)

Meter Reading for Calibration Gas: 495 ppm (4)

Measurement #3:

Meter Reading for Zero Air: -0.9 ppm (5)

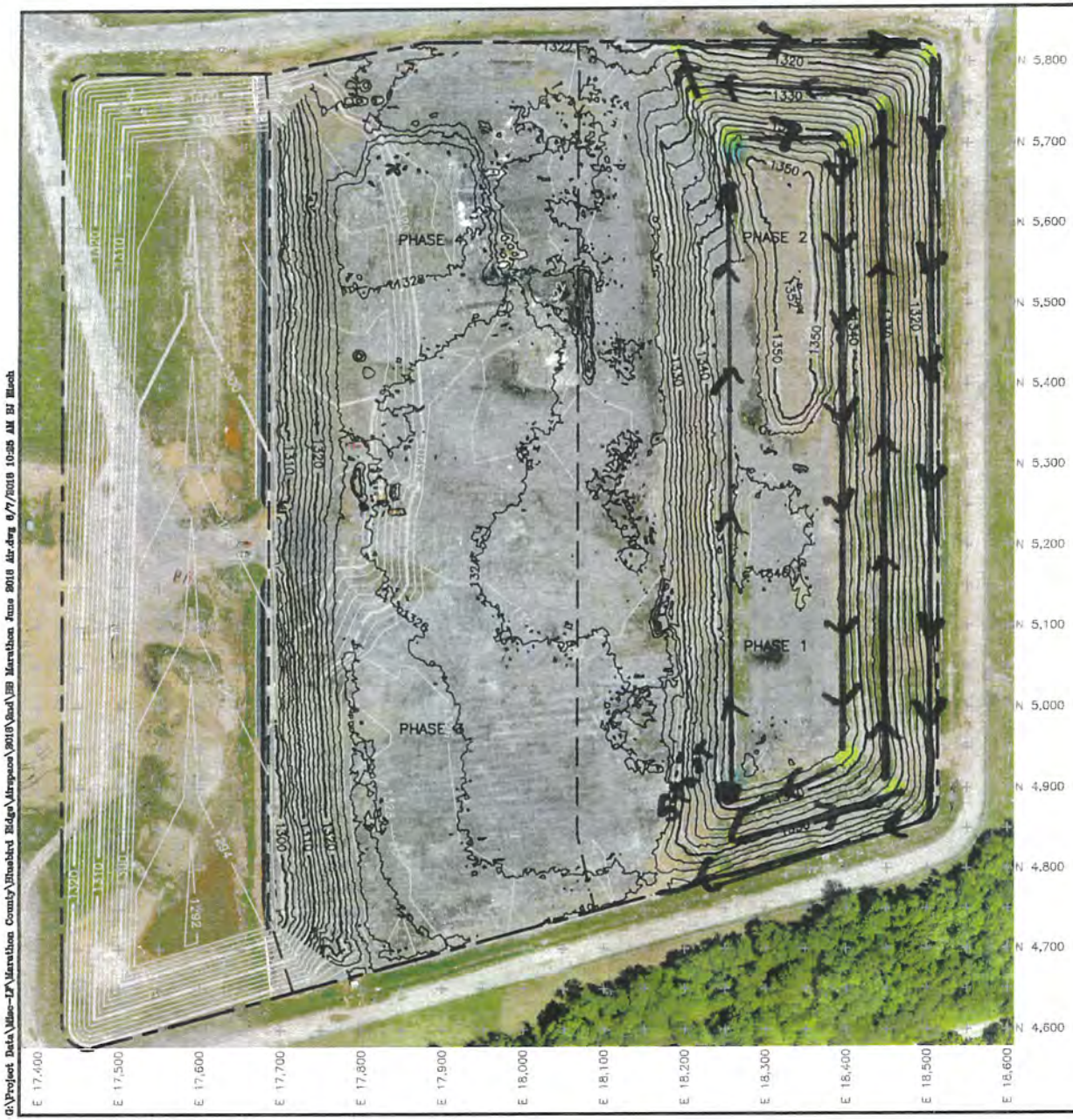
Meter Reading for Calibration Gas: 496 ppm (6)

Calculate Precision:

$$\frac{[500-(2)]+[500-(4)]+[500-(6)]}{3} \times \frac{1}{500} \times \frac{100}{1} \quad (.002)$$

= 1 % (must be less than 10%)

3/28/19 No Detects BBR SEM Trail Garbage odor



2017 QUARTERLY AIRSPACE SURVEY RESULTS	
FIRST QUARTER	SECOND QUARTER
Original Surface Model: 12–19–16 Final Surface Model: 3–21–17 Total Cut Volume: 5,282 C.Y. Total Fill Volume: 74,276 C.Y.	Original Surface Model: 3–21–17 Final Surface Model: 6–19–17 Total Cut Volume: 6,918 C.Y. Total Fill Volume: 62,183 C.Y.
THIRD QUARTER	FOURTH QUARTER
Original Surface Model: 6–19–17 Final Surface Model: 9–14–17 Total Cut Volume: 6,697 C.Y. Total Fill Volume: 58,516 C.Y.	Original Surface Model: 9–14–17 Final Surface Model: 12–14–17 Total Cut Volume: 11,395 C.Y. Total Fill Volume: 52,884 C.Y.

2018 QUARTERLY AIRSPACE SURVEY RESULTS	
FIRST QUARTER	SECOND QUARTER
Original Surface Model: 12–14–17 Final Surface Model: 3–21–18 Total Cut Volume: 6,191 C.Y. Total Fill Volume: 56,905 C.Y.	Original Surface Model: 3–21–18 Final Surface Model: 6–5–18 Total Cut Volume: 4,071 C.Y. Total Fill Volume: 60,357 C.Y.
THIRD QUARTER	FOURTH QUARTER
Original Surface Model: Final Surface Model: Total Cut Volume: Total Fill Volume:	Original Surface Model: Final Surface Model: Total Cut Volume: Total Fill Volume:

LEGEND

N

710 — FINAL SURFACE CONTOURS (6–5–18)

ORIGINAL SURFACE CONTOURS (3–21–18)

LIMIT OF WASTE

PHASE LIMITS

NOTES:

1. ORIGINAL SURFACE SURVEY PERFORMED BY CQM, INC. ON MARCH 21, 2018.
2. FINAL SURFACE SURVEY PERFORMED BY CQM, INC. ON JUNE 5, 2018.

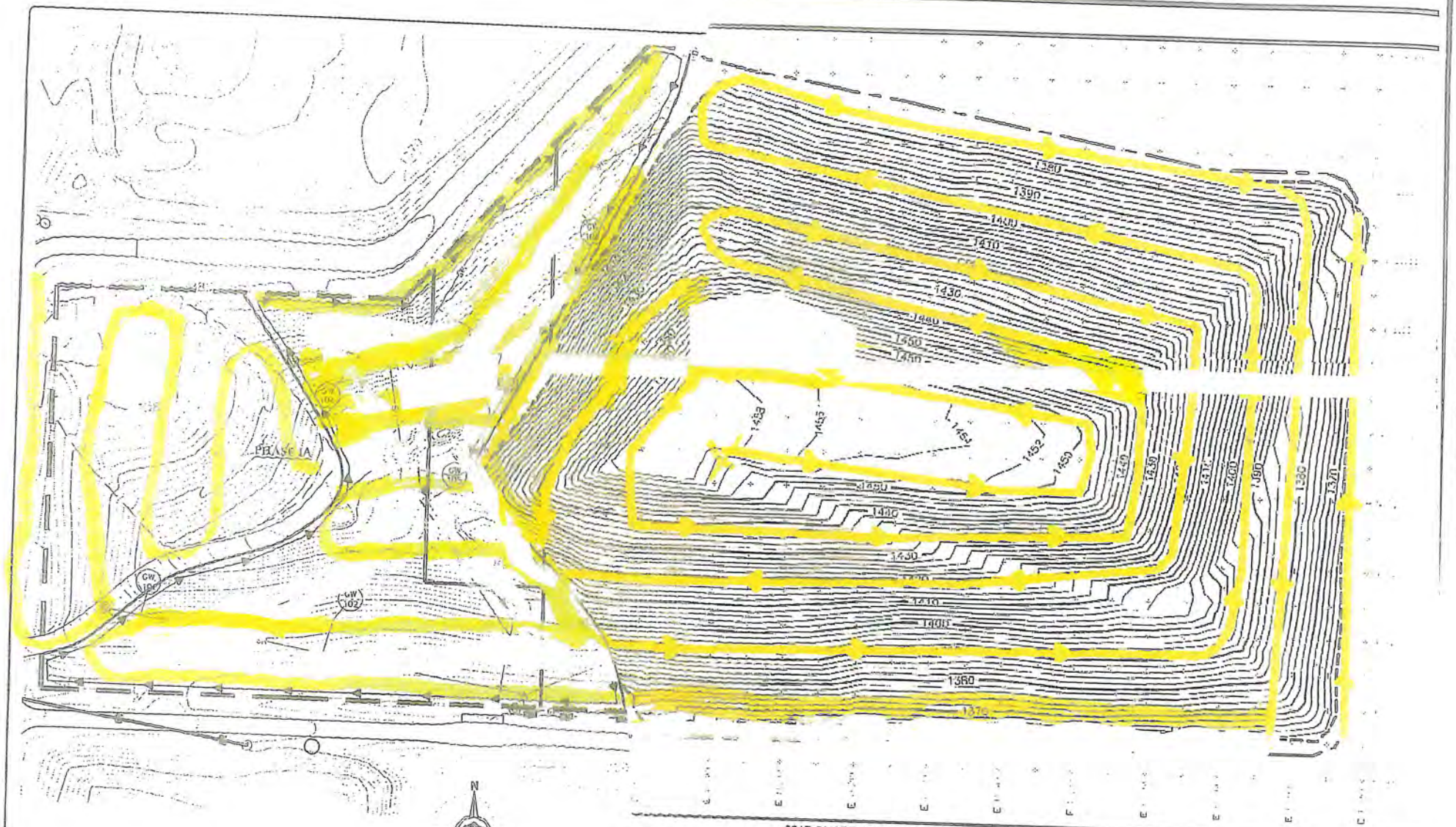
EXISTING CONDITIONS		
SCALE: 1"=130'	APPROVED BY: APS	DRAWN BY: WBE
DATE: JUNE 2018		REVISED:
MARATHON COUNTY LANDFILL – BLUEBIRD RINGLE, WISCONSIN		
CQM, INC.		FIGURE: 1

G:\Project Data\Misc-D\Marathon County\Bluebird Ridge\Mrpsco\2018\Bud\BB Marathon June 2018 Air.dwg 8/7/2018 10:25 AM BY Mach

h 2017 Air.pdf - Adobe Reader

No Detects 3/28/19

r-1 (1 of 4) 36%

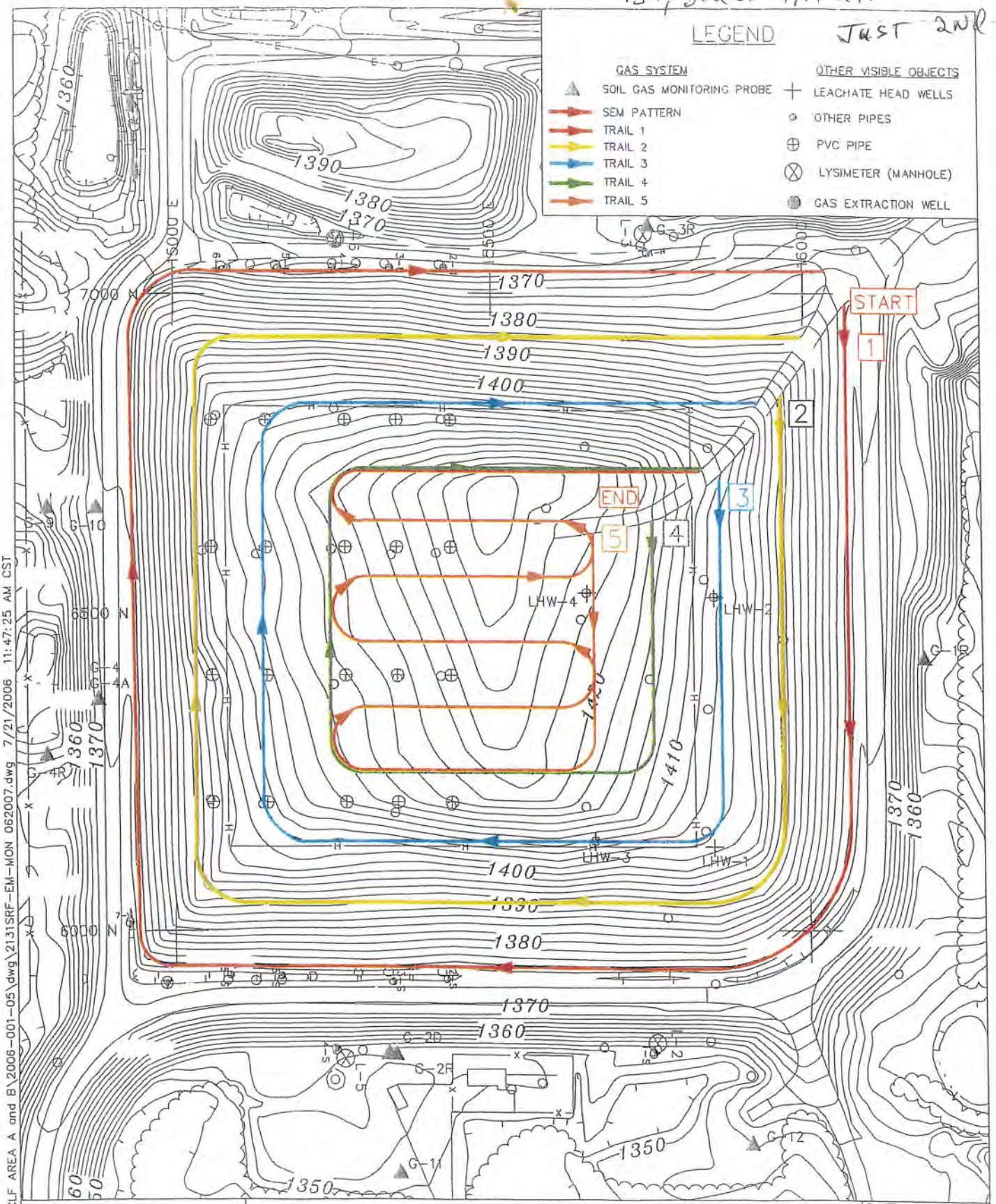


2017 QUARTERLY AIRSPACE SURVEY RESULTS

SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER
Original Surface Model: Final Surface Model: Total Cut Volume:	Original Surface Model: Final Surface Model: Total Cut Volume:	Original Surface Model: Final Surface Model: Total Cut Volume:
Total Fill Volume:	Total Fill Volume:	Total Fill Volume:

Not monitored during 1st, 3rd or 4th Qtr

Just 2nd Qtr



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ENGINEERS ARCHITECTS SCIENTISTS
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Tel 715-845-8000 · Fax 715-845-6008 · www.bhassoc.com

AREA A LANDFILL
SURFACE EMISSION MONITORING

MARATHON COUNTY
SOLID WASTE DEPARTMENT

DATE	JULY 2006
SCALE	1"= 200'
SHEET	1
INITIALS	KRS
PROJECT	2006.001.05

P:\BHA Projects\MCLF AREA A and B\2006-001-05\dwg\2131SRF-EM-MON 062007.dwg 7/21/2006 11:47:25 AM CST

1st Qtr 2019

Marathon County Solid Waste

Instrument Response Time Test Record

Landfill Name: Marathon County LF **Monitoring Date:** 3/28/19

Time: 0800 **Instrument Make:** Thermo Fisher Scientific

Model: TVA1000B **S/N:** 0115248137

Measurement #1:

Stabilize Reading Using Calibration Gas: 494 **ppm**

90% of the Stabilized Reading = 444.6 **ppm**

Time to reach 90% of stabilized reading after switching from zero air to calibration gas: 4 **seconds (1)**

Measurement #2:

Stabilize Reading Using Calibration Gas: 495 **ppm**

90% of the Stabilized Reading = 445.5 **ppm**

Time to reach 90% of stabilized reading after switching from zero air to calibration gas: 3 **seconds (2)**

Measurement #3:

Stabilize Reading Using Calibration Gas: 496 **ppm**

90% of the Stabilized Reading = 446.4 **ppm**

Time to reach 90% of stabilized reading after switching from zero air to calibration gas: 4 **seconds (3)**

Calculate Response Time:

(1)+ (2) + (3) = 3.66 **seconds (must be less than 30 sec)**

3

Performed By: Ron Smith

Marathon County Solid Waste

Surface Emissions Monitoring

Calibration Procedure and Background Determination Report

Landfill name: Marathon County Landfill

Instrument make: Thermo Fisher Scientific, Model: TVA1000B,

S/N: 0115248137

Calibration Procedure

1. **Install filled hydrogen tank, attach probe/readout device; turn on analyzer and hydrogen supply valve.**
2. **Wait 4-5 minutes for proper hydrogen flow, then press; 1 = run. The unit will ignite and display readings. If flame out message appears, clear the message, (press exit) wait another minute and repeat step 2. If unit has not been properly calibrated a bad calibration parameter appears – go to step 3 below.**
3. **Press (exit) until the main menu appears. Calibration can now be performed. For best results, allow unit to warm up for 20 minutes, then press (2=setup).**
4. **Press (1=calibration), choose manual mode.**
5. **Press (2=span concentration) Select the FID detector that the span concentration is for, then press the up or down arrows to select the correct unit of measure for the span gas. Enter the span calibration value; 500%CH, and press the enter key.**
6. **Next Zero the instrument. Press (3=zero) to start this process. Press enter for single detector units. Zero the instrument by using; Air Zero grade. Introduce zero gas into the analyzer through the probe, utilize plastic T bypass pressure valve. Press (enter) to start.**
7. **Wait for minimal change in values (about 15 seconds). Typically, the sample is stable when the first two digits of the reading do not change for 4-5 seconds. Press (enter) to except, press (1) to save.**

8. **Next calibrate with span gas. Press (4=span) Select the detector to be calibrated and press (enter) to start. Follow screen prompts. Wait for readings to stabilize (typically 10-15 seconds). Enter (1) to save.**

9. **Press (5=RF) to verify proper response factor. Confirm that response factor says RFO: default if not set to this value.**

10. **Press (EXIT) twice to return to main menu**

11. **Press (1= Run)**

Background Determination Procedure

ATB

1. **Upwind Reading (highest in 30 seconds):** 1.65 **ppm (1)**

2. **Downwind Reading (highest in 30 seconds):** 4.83 **ppm (2)**

Calculate Background Value: **(1)+(2)** = 3.24

2

Performed By: RoNS **Time:** 0800 **Date:** 5/20/19

BBR (1.) Up wind Reading 0.94 ppm (1)

(2.) Down wind Reading 7.33 ppm (2)

Calculate Background Value $\frac{1+2}{2} = 4.24$

Marathon County Solid Waste

SEM Calibration Precision Test Record

Landfill Name: Marathon County LF

Monitoring Date: 5/20/19 Performed By Ron Smith

Expiration Date: 9/19 Time 0800

Instrument Make: Thermo Fisher Scientific Model: TVA1000B

S/N: 0115248137

Measurement #1:

Meter Reading for Zero Air: 0.25 ppm(1)

Meter Reading for Calibration Gas: 495 pmm (2)

Measurement #2:

Meter Reading for Zero Air: 0.55 ppm (3)

Meter Reading for Calibration Gas: 494 ppm (4)

Measurement #3:

Meter Reading for Zero Air: 0.63 ppm (5)

Meter Reading for Calibration Gas: ~~495~~ RS 494 ppm (6)

Calculate Precision:

$$\frac{[500-(2)]+[500-(4)]+[500-(6)]}{3} \times \frac{1}{500} \times \frac{100}{1}$$

(.002)

= 1.12 % (must be less than 10%)

Marathon County Solid Waste

Instrument Response Time Test Record

Landfill Name: Marathon County LF **Monitoring Date:** 5/20/19

Time: 0800 **Instrument Make:** Thermo Fisher Scientific

Model: TVA1000B **S/N:** 0115248137

Measurement #1:

Stabilize Reading Using Calibration Gas: 495 **ppm**

90% of the Stabilized Reading = 445.50 **ppm**

Time to reach 90% of stabilized reading after switching from zero air to calibration gas: 3 **seconds (1)**

Measurement #2:

Stabilize Reading Using Calibration Gas: 494 **ppm**

90% of the Stabilized Reading = 444.60 **ppm**

Time to reach 90% of stabilized reading after switching from zero air to calibration gas: 4 **seconds (2)**

Measurement #3:

Stabilize Reading Using Calibration Gas: 494 **ppm**

90% of the Stabilized Reading = 444.60 **ppm**

Time to reach 90% of stabilized reading after switching from zero air to calibration gas: 3 **seconds (3)**

Calculate Response Time:

$\frac{(1)+(2)+(3)}{3}$ = 3.33 **seconds (must be less than 30 sec)**

Performed By: Ron Smith

Marathon County Solid Waste

Daily Surface Monitoring Log

Area A

Landfill Name: Marathon County Landfill

Performed By: Ron S **Date:** 5/20/19 **Time:** 0800

Temperature: 46 **Sky:** Partly Cldy **Ground:** damp

Barometric Pressure: 30.18 **Barometric Pressure end:** 30.16

Barometric Trend: ↓ **Wind:** E 5mph

Location of Leak: No Detect

Time: _____ **Concentration of leak:** _____ **(ppm)**

Location of leak:

Time: _____ **Concentration of leak:** _____ **(ppm)**

Location of leak:

Time: _____ **Concentration of leak:** _____ **(ppm)**

Marathon County Solid Waste

Daily Surface Monitoring Log

Area B

Landfill Name: Marathon County Landfill

Performed By: Ron S **Date:** 5/20/19 **Time:** 0800

Temperature: 46 **Sky:** Partly Cldy **Ground:** Damp

Barometric Pressure: 30.18 **Barometric Pressure end:** 30.16

Barometric Trend: ↓ **Wind:** E 5mph

Location of Leak: No Detects

Time: _____ **Concentration of leak:** _____ **(ppm)**

Location of leak:

Time: _____ **Concentration of leak:** _____ **(ppm)**

Location of leak:

Time: _____ **Concentration of leak:** _____ **(ppm)**

Marathon County Solid Waste

BBR

Daily Surface Monitoring Log

Landfill Name: Marathon County Landfill

Performed By: Ron S **Date:** 5/20/19 **Time:** 0800

Temperature: 46 **Sky:** Partly Cldy **Ground:** Damp

Barometric Pressure: 30.18 **Barometric Pressure end:** 30.16

Barometric Trend: ↓ **Wind:** E 5mph

Location of Leak: No Detects

Time: _____ **Concentration of leak:** _____ **(ppm)**

Location of leak:

Time: _____ **Concentration of leak:** _____ **(ppm)**

Location of leak:

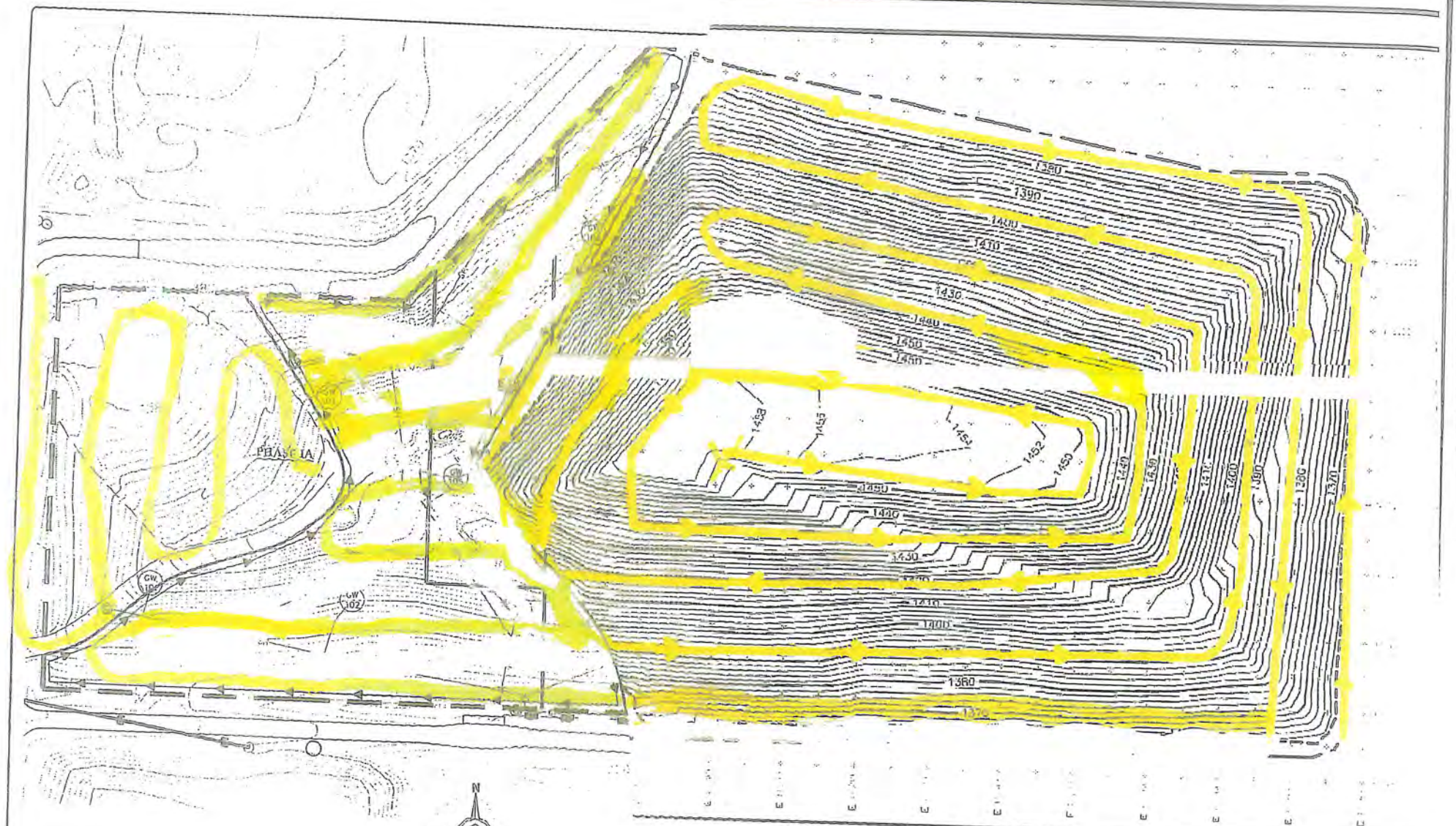
Time: _____ **Concentration of leak:** _____ **(ppm)**

h 2017 Air.pdf - Adobe Reader

5/20/19

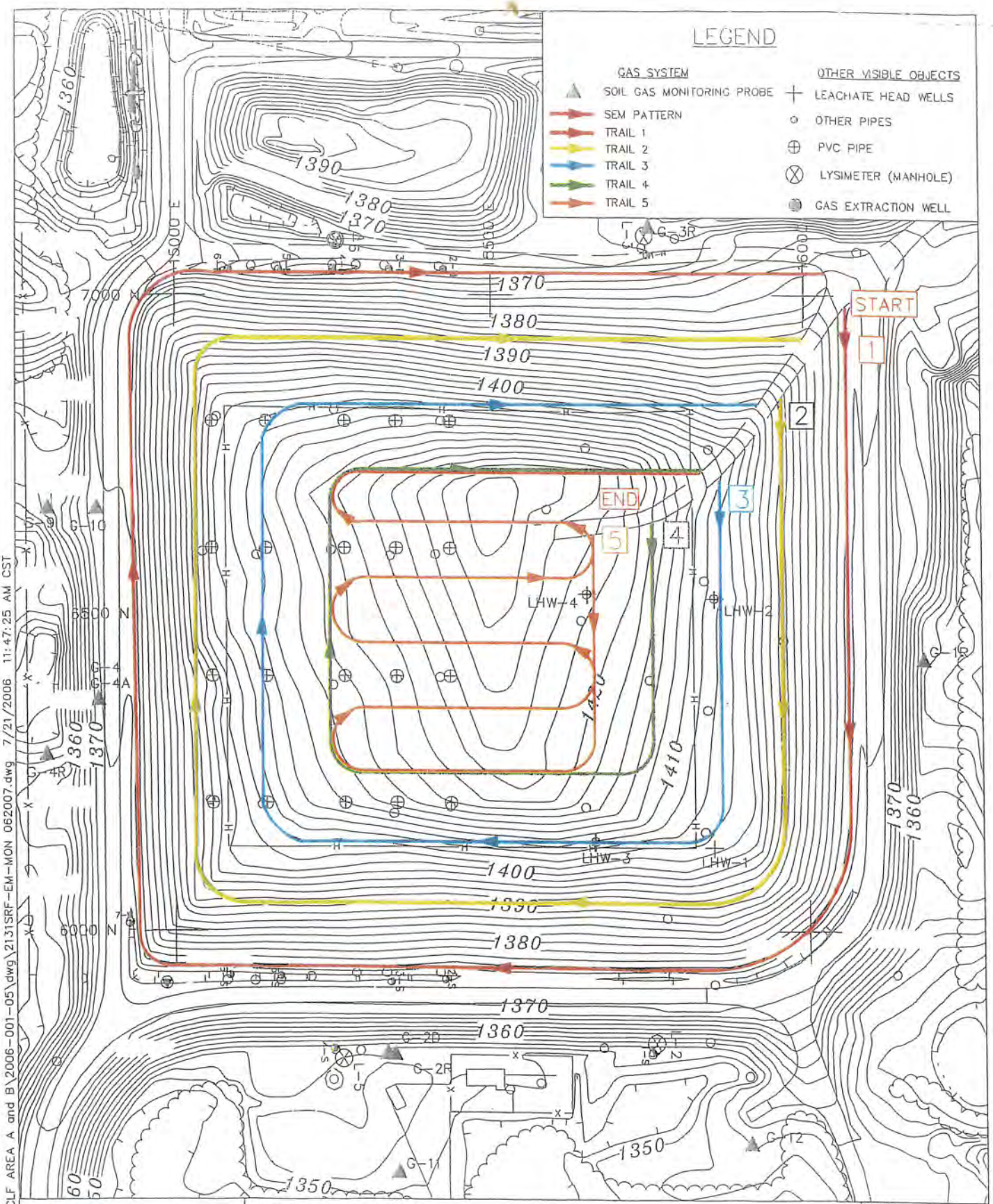
No Detects

r-1 (1 of 4) 36%



2017 QUARTERLY AIRSPACE SURVEY RESULTS

SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER
Original Surface Model: Final Surface Model: Total Cut Volume: Total Fill Volume:	Original Surface Model: Final Surface Model: Total Cut Volume: Total Fill Volume:	Original Surface Model: Final Surface Model: Total Cut Volume: Total Fill Volume:



P:\BHA Projects\MCLF AREA A and B\2006-001-05\dwg\2131SRF-EM-MON 062007.dwg 7/21/2006 11:47:25 AM CST

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Tel 715-845-8000 · Fax 715-845-8008 · www.bhassoc.com

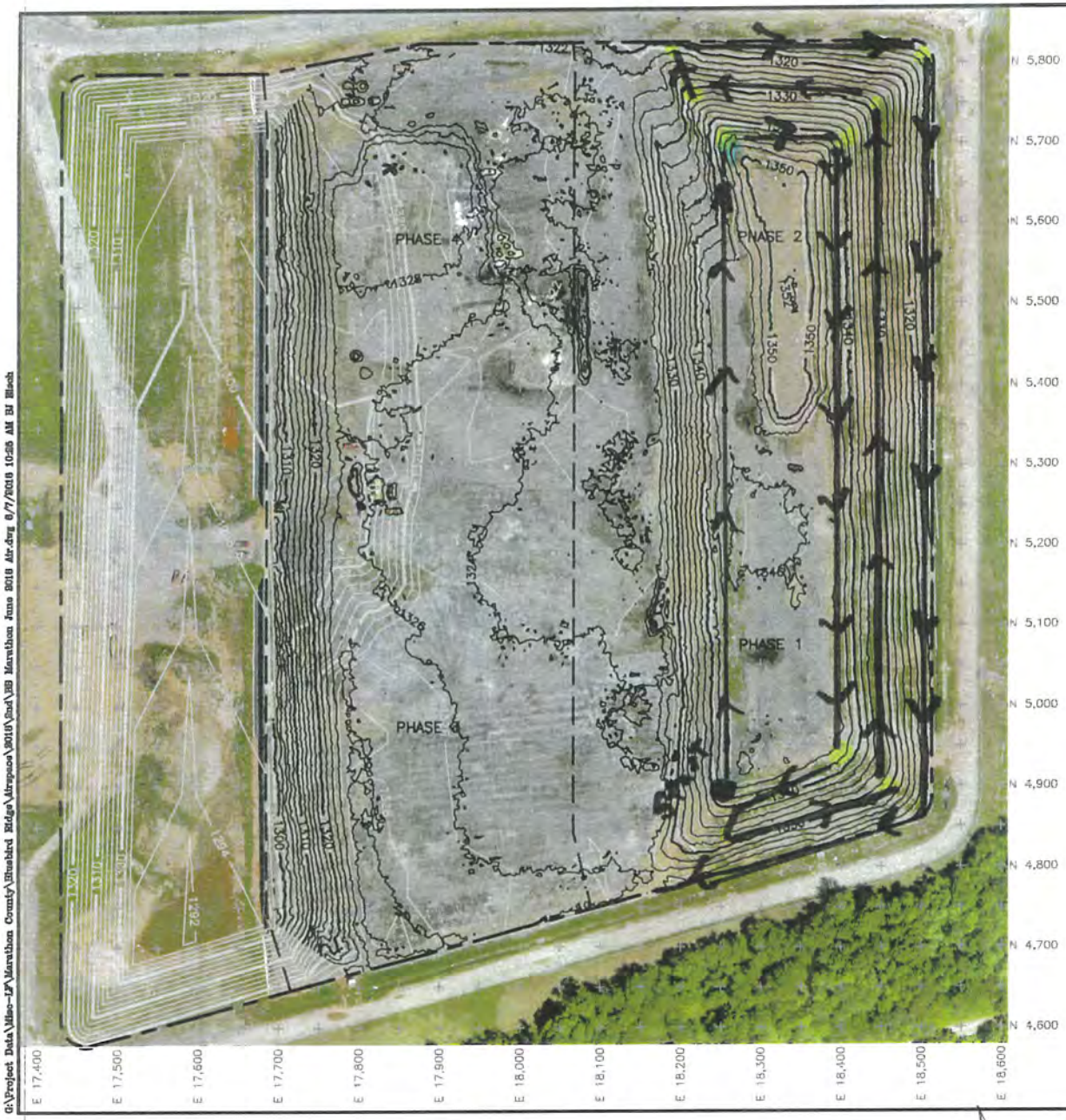
AREA A LANDFILL
SURFACE EMISSION MONITORING

MARATHON COUNTY
SOLID WASTE DEPARTMENT

5/20/19
No Detects

DATE	JULY 2006
SCALE	1"= 200'
SHEET	1
INITIALS	KRS
PROJECT	2006.001.05

BBR SEM Trail



2017 QUARTERLY AIRSPACE SURVEY RESULTS	
FIRST QUARTER	**SECOND QUARTER**
Original Surface Model: 12–19–16 Final Surface Model: 3–21–17 Total Cut Volume: 5,282 C.Y. Total Fill Volume: 74,276 C.Y.	Original Surface Model: 3–21–17 Final Surface Model: 6–19–17 Total Cut Volume: 6,918 C.Y. Total Fill Volume: 62,183 C.Y.
THIRD QUARTER	**FOURTH QUARTER**
Original Surface Model: 6–19–17 Final Surface Model: 9–14–17 Total Cut Volume: 6,697 C.Y. Total Fill Volume: 58,516 C.Y.	Original Surface Model: 9–14–17 Final Surface Model: 12–14–17 Total Cut Volume: 11,395 C.Y. Total Fill Volume: 52,884 C.Y.

2018 QUARTERLY AIRSPACE SURVEY RESULTS	
FIRST QUARTER	**SECOND QUARTER**
Original Surface Model: 12–14–17 Final Surface Model: 3–21–18 Total Cut Volume: 6,191 C.Y. Total Fill Volume: 56,905 C.Y.	Original Surface Model: 3–21–18 Final Surface Model: 6–5–18 Total Cut Volume: 4,071 C.Y. Total Fill Volume: 60,357 C.Y.
THIRD QUARTER	**FOURTH QUARTER**
Original Surface Model: Final Surface Model: Total Cut Volume: Total Fill Volume:	Original Surface Model: Final Surface Model: Total Cut Volume: Total Fill Volume:

LEGEND

N

710 — FINAL SURFACE CONTOURS (6–5–18)

ORIGINAL SURFACE CONTOURS (3–21–18)

LIMIT OF WASTE

PHASE LIMITS

NOTES:

1. ORIGINAL SURFACE SURVEY PERFORMED BY CQM, INC. ON MARCH 21, 2018.
2. FINAL SURFACE SURVEY PERFORMED BY CQM, INC. ON JUNE 5, 2018.

EXISTING CONDITIONS		
SCALE: 1"=130'	APPROVED BY: APS	DRAWN BY: WBE
DATE: JUNE 2018		REVISED:
MARATHON COUNTY LANDFILL – BLUEBIRD RINGLE, WISCONSIN		
CQM, INC.		FIGURE: 1

No Detects
5/20/19

G:\Project Data\Wisc-LF\Marathon County\Bluebird Ridge\Airspace\2018\Dwg\MB Marathon June 2018 Air.dwg 6/7/2018 10:25 AM BY Black

CALIBRATION PROCEDURE AND BACKGROUND DETERMINATION REPORT

LANDFILL NAME: Marathon County Landfill - Area A

INSTRUMENT MAKE: Thermo Fisher MODEL: TVA100B-81020 S/N: 0115238137

Calibration Procedure

1. **Allow instrument to internally zero itself while introducing zero air.**

2. **Introduce the calibration gas into the probe.**
Stable reading = 500 ppm

3. **Adjust meter to read 500 ppm.**

Background Determination Procedure

1. **Upwind Reading (highest in 30 seconds): 0.0 ppm (1)**

2. **Downwind Reading (highest in 30 seconds): 0.0 ppm (2)**

Calculate Background Value:

$$\frac{(1) + (2)}{2}$$

Background = 0.0 ppm

PERFORMED BY: Jalen Thomas TIME: 10:00 AM DATE: 9/4/2019

CALIBRATION PRECISION TEST RECORD

LANDFILL NAME: Marathon County Landfill - Area A

INSTRUMENT MAKE: Thermo Fisher **MODEL:** TVA100B-81020 **S/N:** 0115238137

MEASUREMENT #1:

Meter Reading for Zero Air: 0.0 ppm (1)

Meter Reading for Calibration Gas: 490 ppm (2)

MEASUREMENT #2:

Meter Reading for Zero Air: 0.0 ppm (3)

Meter Reading for Calibration Gas: 488 ppm (4)

MEASUREMENT #3:

Meter Reading for Zero Air: 0.0 ppm (5)

Meter Reading for Calibration Gas: 489 ppm (6)

CALCULATE PRECISION:

$$\frac{[500 - (2)] + [500 - (4)] + [500 - (6)]}{3} \times \frac{1}{500} \times \frac{100}{1}$$

= 2.2 % (must be less than 10%)

PERFORMED BY: Jalen Thomas **TIME:** 10:00 AM **DATE:** 9/4/2019

INSTRUMENT RESPONSE TIME TEST RECORD

LANDFILL NAME: Marathon County Landfill - Area A

INSTRUMENT MAKE: Thermo Fisher **MODEL:** TVA100B-81020 **S/N:** 0115238137

MEASUREMENT #1:

Stabilized Reading Using Calibration Gas: 483 ppm

90% of the Stabilized Reading: 434.7 ppm

Time to Reach 90% of Stabilized reading After switching from Zero Air to Calibration Gas 3.8 seconds (1)

MEASUREMENT #2:

Stabilized Reading Using Calibration Gas: 484 ppm

90% of the Stabilized Reading: 435.9 ppm

Time Reach 90% of Stabilized Reading After switching from Zero Air to Calibration Gas 3 seconds (2)

MEASUREMENT #3:

Stabilized Reading Using Calibration Gas: 480 ppm

90% of the Stabilized Reading: 432 ppm

Time to Reach 90% of Stabilized Reading After switching from Zero Air to Calibration Gas 3.5 seconds (3)

CALCULATE RESPONSE TIME:

$$\frac{(1) + (2) + (3)}{3}$$

= 3.43 SECONDS (MUST BE LESS THAN 30 SECONDS)

PERFORMED BY: Jalen Thomas **TIME:** 10:00 AM **DATE:** 9/4/2019

DAILY SURFACE MONITORING LOG

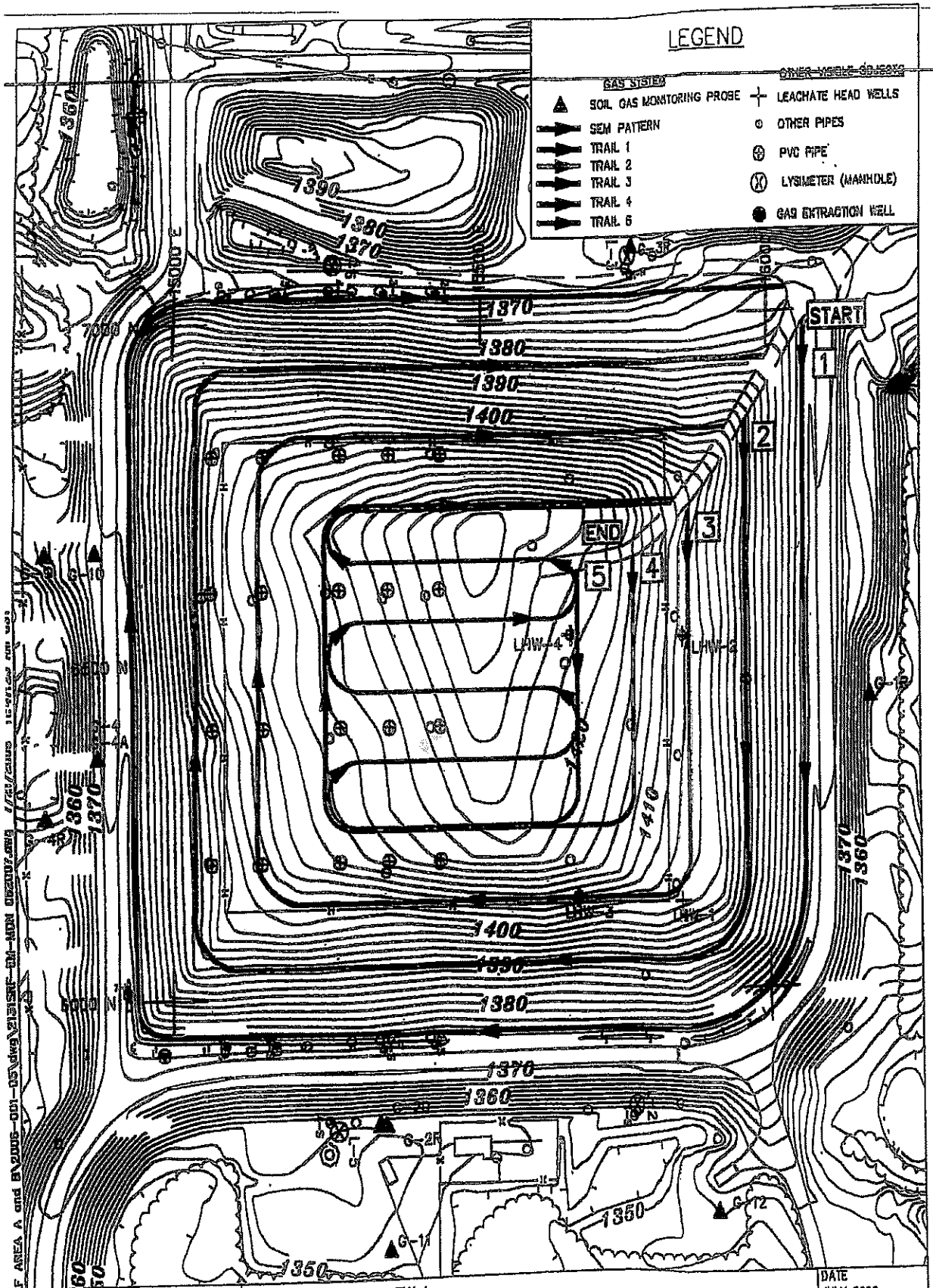
PERFORMED BY: Jalen Thomas

START TIME: 10:00 AM

DATE: 9/4/2019_

LANDFILL NAME: Marathon County Landfill - Area A

Location Identifier of Leak	Location and Time	Concentration of Leak (ppm)
No detections on site		



BECHER-HOPPE ASSOCIATES INC.
ENGINEERS ARCHITECTS SCIENTISTS

AREA A LANDFILL
SURFACE EMISSION MONITORING

MARATHON COUNTY

DATE	JULY 2006
SCALE	1"= 200'
SHEET	1
INITIALS	KRS
PROJECT	

6/1/18
No Detects

CALIBRATION PROCEDURE AND BACKGROUND DETERMINATION REPORT

LANDFILL NAME: Marathon County Landfill - Area B & Blue Bird Ridge

INSTRUMENT MAKE: Thermo Fisher MODEL: TVA100B-81020 S/N: 0115238137

Calibration Procedure

1. **Allow instrument to internally zero itself while introducing zero air.**

2. **Introduce the calibration gas into the probe.**
Stable reading = 500 ppm

3. **Adjust meter to read 500 ppm.**

Background Determination Procedure

1. **Upwind Reading (highest in 30 seconds): 0.0 ppm (1)**

2. **Downwind Reading (highest in 30 seconds): 2.5 ppm (2)**

Calculate Background Value:

$$\frac{(1) + (2)}{2}$$

Background = 1.25 ppm

PERFORMED BY: Jalen Thomas TIME: 11:00 AM DATE: 9/25/2019

CALIBRATION PRECISION TEST RECORD

LANDFILL NAME: Marathon County Landfill - Area B & Blue Bird Ridge

INSTRUMENT MAKE: Thermo Fisher **MODEL:** TVA100B-81020 **S/N:** 0115238137

MEASUREMENT #1:

Meter Reading for Zero Air: 0.0 ppm (1)

Meter Reading for Calibration Gas: 488 ppm (2)

MEASUREMENT #2:

Meter Reading for Zero Air: 0.0 ppm (3)

Meter Reading for Calibration Gas: 490 ppm (4)

MEASUREMENT #3:

Meter Reading for Zero Air: 0.0 ppm (5)

Meter Reading for Calibration Gas: 490 ppm (6)

CALCULATE PRECISION:

$$\frac{[500 - (2)] + [500 - (4)] + [500 - (6)]}{3} \times \frac{1}{500} \times \frac{100}{1}$$

= 2.1 % (must be less than 10%)

PERFORMED BY: Jalen Thomas **TIME:** 11:00 AM **DATE:** 9/25/2019

INSTRUMENT RESPONSE TIME TEST RECORD

LANDFILL NAME: Marathon County Landfill - Area B & Blue Bird Ridge

INSTRUMENT MAKE: Thermo Fisher MODEL: TVA100B-81020 S/N: 0115238137

MEASUREMENT #1:

Stabilized Reading Using Calibration Gas: 480 ppm

90% of the Stabilized Reading: 432 ppm

Time to Reach 90% of Stabilized reading After switching from Zero Air to Calibration Gas 3.5 seconds (1)

MEASUREMENT #2:

Stabilized Reading Using Calibration Gas: 480 ppm

90% of the Stabilized Reading: 432 ppm

Time Reach 90% of Stabilized Reading After switching from Zero Air to Calibration Gas 3.5 seconds (2)

MEASUREMENT #3:

Stabilized Reading Using Calibration Gas: 482 ppm

90% of the Stabilized Reading: 433.8 ppm

Time to Reach 90% of Stabilized Reading After switching from Zero Air to Calibration Gas 3.5 seconds (3)

CALCULATE RESPONSE TIME:

$$\frac{(1) + (2) + (3)}{3}$$

= 3.5 SECONDS (MUST BE LESS THAN 30 SECONDS)

PERFORMED BY: Jalen Thomas TIME: 11:00 AM DATE: 9/25/2019

DAILY SURFACE MONITORING LOG

PERFORMED BY: Jalen Thomas

START TIME: 11:00 AM

DATE: 9/25/2019_

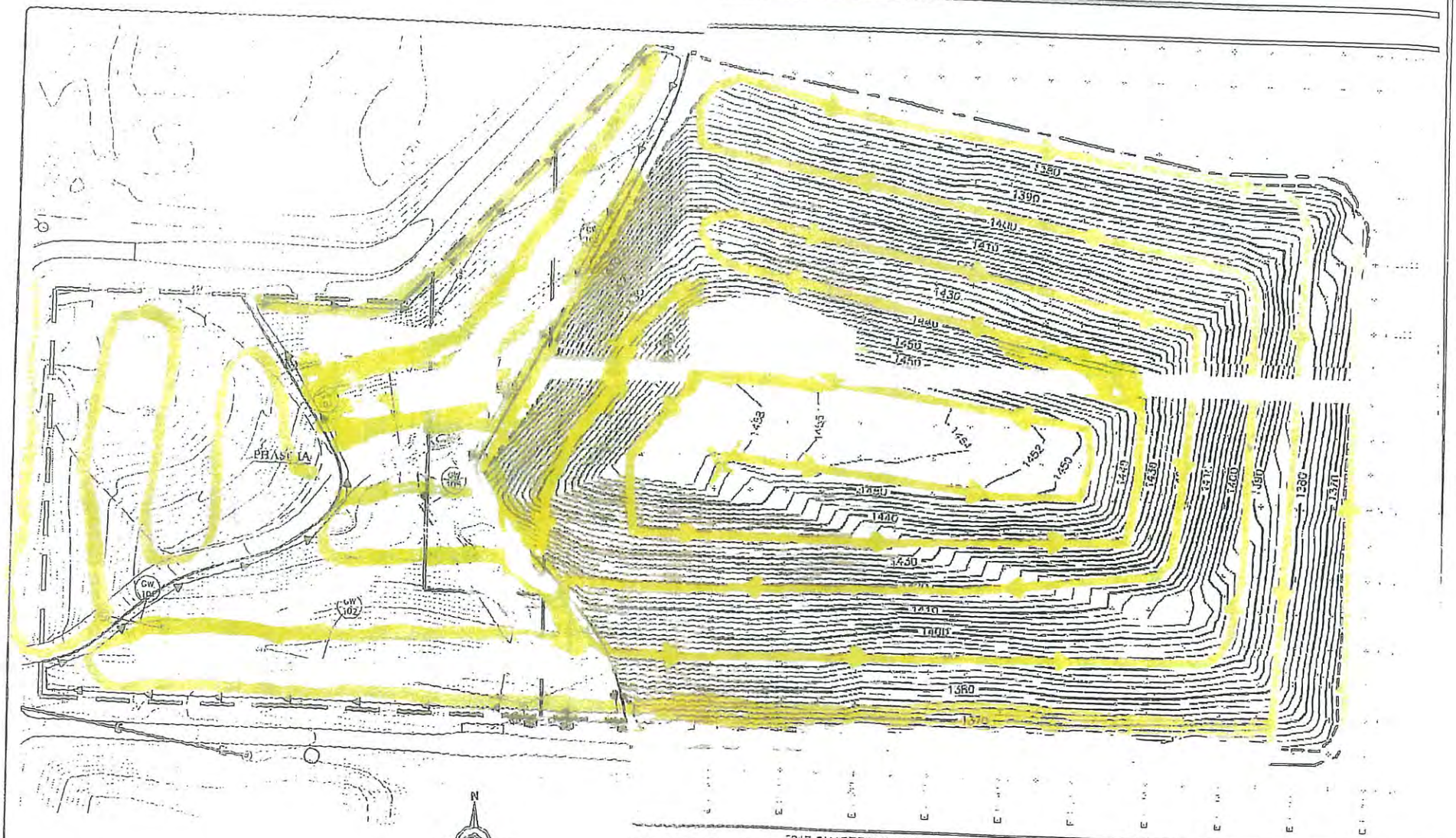
LANDFILL NAME: Marathon County Landfill - Area B & Blue Bird Ridge

Location Identifier of Leak	Location and Time	Concentration of Leak (ppm)
No detections on site		

n 2017 Airpdf - Adobe Reader

No Detec
8/8/18

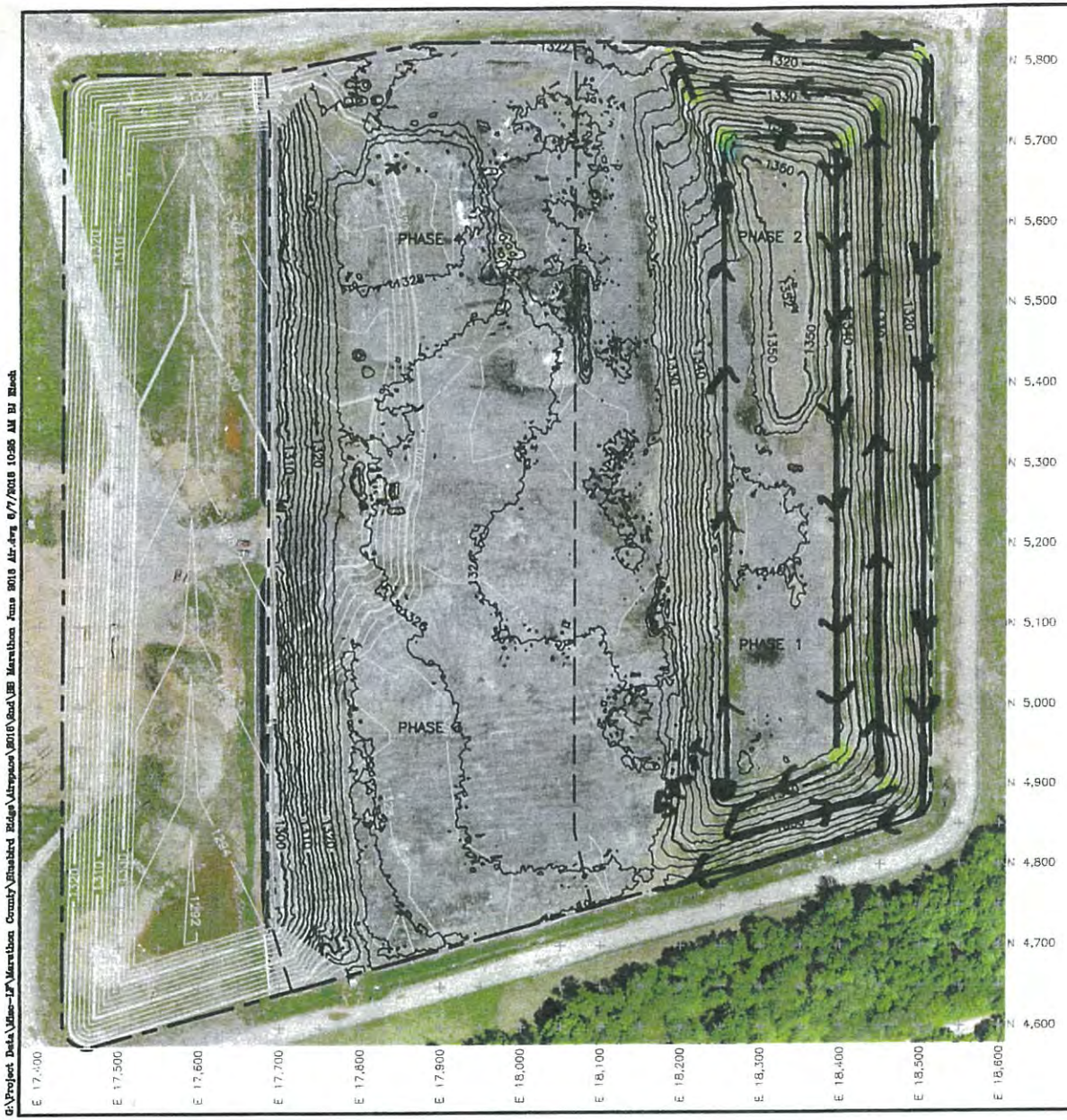
r-1 (1 of 4) 36%



2017 QUARTERLY AIRSPACE SURVEY RESULTS

SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER
Original Surface Model: Final Surface Model: Total Cut Volume: Total Fill Volume:	Original Surface Model: Final Surface Model: Total Cut Volume: Total Fill Volume:	Original Surface Model: Final Surface Model: Total Cut Volume: Total Fill Volume:

BBR SEM Trail - No Detects 8/8/18



2017 QUARTERLY AIRSPACE SURVEY RESULTS	
FIRST QUARTER	SECOND QUARTER
Original Surface Model: 12–19–16 Final Surface Model: 3–21–17 Total Cut Volume: 5,282 C.Y. Total Fill Volume: 74,276 C.Y.	Original Surface Model: 3–21–17 Final Surface Model: 6–19–17 Total Cut Volume: 6,918 C.Y. Total Fill Volume: 62,183 C.Y.
THIRD QUARTER	FOURTH QUARTER
Original Surface Model: 6–19–17 Final Surface Model: 9–14–17 Total Cut Volume: 6,697 C.Y. Total Fill Volume: 58,516 C.Y.	Original Surface Model: 9–14–17 Final Surface Model: 12–14–17 Total Cut Volume: 11,395 C.Y. Total Fill Volume: 52,884 C.Y.

2018 QUARTERLY AIRSPACE SURVEY RESULTS	
FIRST QUARTER	SECOND QUARTER
Original Surface Model: 12–14–17 Final Surface Model: 3–21–18 Total Cut Volume: 6,191 C.Y. Total Fill Volume: 56,905 C.Y.	Original Surface Model: 3–21–18 Final Surface Model: 6–5–18 Total Cut Volume: 4,071 C.Y. Total Fill Volume: 60,357 C.Y.
THIRD QUARTER	FOURTH QUARTER
Original Surface Model: Final Surface Model: Total Cut Volume: Total Fill Volume:	Original Surface Model: Final Surface Model: Total Cut Volume: Total Fill Volume:

LEGEND

N

710 — FINAL SURFACE CONTOURS (6–5–18)

ORIGINAL SURFACE CONTOURS (3–21–18)

LIMIT OF WASTE

PHASE LIMITS

NOTES:

1. ORIGINAL SURFACE SURVEY PERFORMED BY CQM, INC. ON MARCH 21, 2018.
2. FINAL SURFACE SURVEY PERFORMED BY CQM, INC. ON JUNE 5, 2018.

EXISTING CONDITIONS		
SCALE: 1"=130'	APPROVED BY: APS	DRAWN BY: WBE
DATE: JUNE 2018		REVISED:
MARATHON COUNTY LANDFILL – BLUEBIRD RINGLE, WISCONSIN		
CQM, INC.		FIGURE: 1

G:\Project Data\Misc-LF\Marathon County\Bluebird Ridge\Airspace\2018\Dwg\BB Marathon June 2018 Air.dwg 6/7/2018 10:25 AM BJ Hoch

CALIBRATION PROCEDURE AND BACKGROUND DETERMINATION REPORT

LANDFILL NAME: Marathon County Landfill - Area B & Blue Bird Ridge

INSTRUMENT MAKE: Thermo Fisher MODEL: TVA100B-81020 S/N: 0115238137

Calibration Procedure

1. **Allow instrument to internally zero itself while introducing zero air.**

2. **Introduce the calibration gas into the probe.**
Stable reading = 500 ppm

3. **Adjust meter to read 500 ppm.**

Background Determination Procedure

1. **Upwind Reading (highest in 30 seconds): 0.0 ppm (1)**

2. **Downwind Reading (highest in 30 seconds): 15 ppm (2)**

Calculate Background Value:

$$\frac{(1) + (2)}{2}$$

Background = 7.5 ppm

PERFORMED BY: Jalen Thomas TIME: 8:00 AM DATE: 12/24/2019

CALIBRATION PRECISION TEST RECORD

LANDFILL NAME: Marathon County Landfill - Area B & Blue Bird Ridge

INSTRUMENT MAKE: Thermo Fisher **MODEL:** TVA100B-81020 **S/N:** 0115238137

MEASUREMENT #1:

Meter Reading for Zero Air: 0.0 ppm (1)

Meter Reading for Calibration Gas: 485 ppm (2)

MEASUREMENT #2:

Meter Reading for Zero Air: 0.0 ppm (3)

Meter Reading for Calibration Gas: 487 ppm (4)

MEASUREMENT #3:

Meter Reading for Zero Air: 0.0 ppm (5)

Meter Reading for Calibration Gas: 486 ppm (6)

CALCULATE PRECISION:

$$\frac{[500 - (2)] + [500 - (4)] + [500 - (6)]}{3} \times \frac{1}{500} \times \frac{100}{1}$$

= 2.8 % (must be less than 10%)

PERFORMED BY: Jalen Thomas **TIME:** 8:00 AM **DATE:** 12/24/2019

INSTRUMENT RESPONSE TIME TEST RECORD

LANDFILL NAME: Marathon County Landfill - Area B & Blue Bird Ridge

INSTRUMENT MAKE: Thermo Fisher MODEL: TVA100B-81020 S/N: 0115238137

MEASUREMENT #1:

Stabilized Reading Using Calibration Gas: 484 ppm

90% of the Stabilized Reading: 435.6 ppm

Time to Reach 90% of Stabilized reading After switching from Zero Air to Calibration Gas 3.5 seconds (1)

MEASUREMENT #2:

Stabilized Reading Using Calibration Gas: 485 ppm

90% of the Stabilized Reading: 436.5 ppm

Time Reach 90% of Stabilized Reading After switching from Zero Air to Calibration Gas 4.0 seconds (2)

MEASUREMENT #3:

Stabilized Reading Using Calibration Gas: 485 ppm

90% of the Stabilized Reading: 436.5 ppm

Time to Reach 90% of Stabilized Reading After switching from Zero Air to Calibration Gas 4.0 seconds (3)

CALCULATE RESPONSE TIME:

$$\frac{(1) + (2) + (3)}{3}$$

= 3.83 SECONDS (MUST BE LESS THAN 30 SECONDS)

PERFORMED BY: Jalen Thomas TIME: 8:00 AM DATE: 12/24/2019

–

DAILY SURFACE MONITORING LOG

PERFORMED BY: Jalen Thomas

START TIME: 8:00 AM

DATE: 12/24/2019

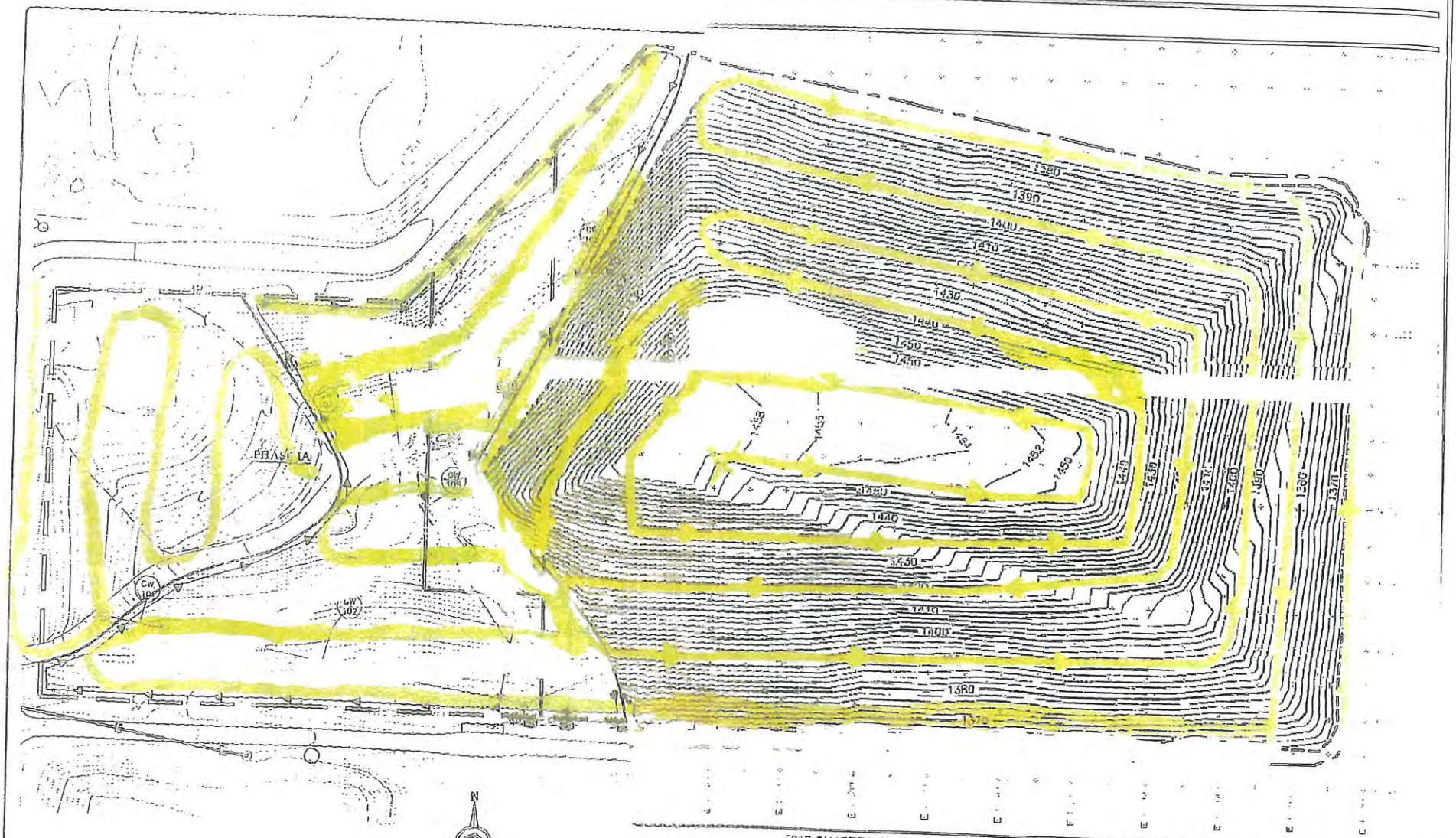
LANDFILL NAME: Marathon County Landfill - Area B & Blue Bird Ridge

Location Identifier of Leak	Location and Time	Concentration of Leak (ppm)
	N/a	

n 2017 Airpdf - Adobe Reader

No Detec
8/8/18

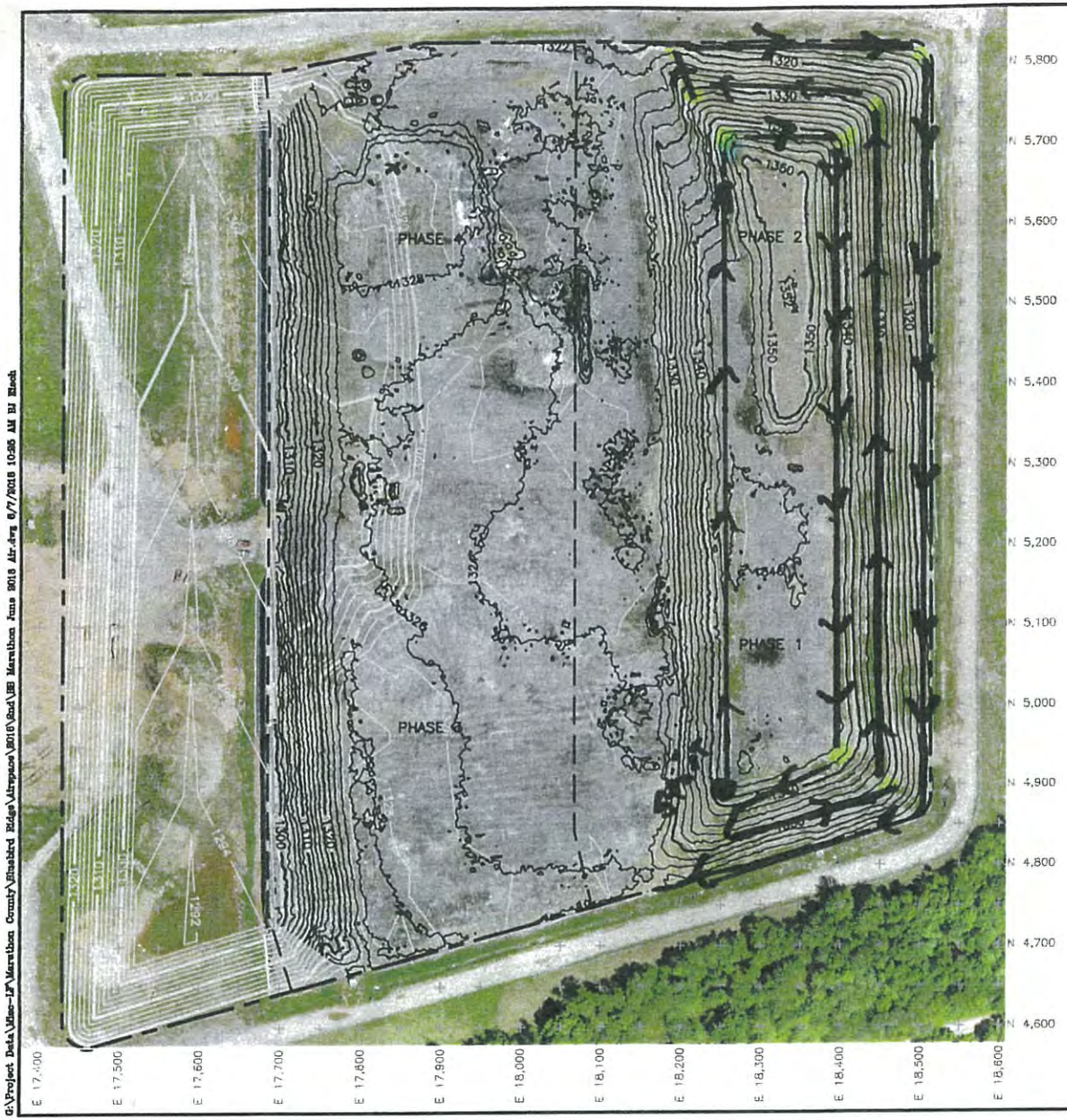
r-1 (1 of 4) 36%



2017 QUARTERLY AIRSPACE SURVEY RESULTS

SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER
Original Surface Model: Final Surface Model: Total Cut Volume: Total Fill Volume:	Original Surface Model: Final Surface Model: Total Cut Volume: Total Fill Volume:	Original Surface Model: Final Surface Model: Total Cut Volume: Total Fill Volume:

BBR SEM Trail - No Detects 8/8/18



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THIRD QUARTER	FOURTH QUARTER
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2018 QUARTERLY AIRSPACE SURVEY RESULTS	
FIRST QUARTER	SECOND QUARTER
Original Surface Model: 12–14–17 Final Surface Model: 3–21–18 Total Cut Volume: 6,191 C.Y. Total Fill Volume: 56,905 C.Y.	Original Surface Model: 3–21–18 Final Surface Model: 6–5–18 Total Cut Volume: 4,071 C.Y. Total Fill Volume: 60,357 C.Y.
THIRD QUARTER	FOURTH QUARTER
Original Surface Model: Final Surface Model: Total Cut Volume: Total Fill Volume:	Original Surface Model: Final Surface Model: Total Cut Volume: Total Fill Volume:

LEGEND

N

710 — FINAL SURFACE CONTOURS (6–5–18)

ORIGINAL SURFACE CONTOURS (3–21–18)

LIMIT OF WASTE

PHASE LIMITS

NOTES:

1. ORIGINAL SURFACE SURVEY PERFORMED BY CQM, INC. ON MARCH 21, 2018.
2. FINAL SURFACE SURVEY PERFORMED BY CQM, INC. ON JUNE 5, 2018.

EXISTING CONDITIONS		
SCALE: 1"=130'	APPROVED BY: APS	DRAWN BY: WBE
DATE: JUNE 2018		REVISED:
MARATHON COUNTY LANDFILL – BLUEBIRD RINGLE, WISCONSIN		
CQM, INC.		FIGURE: 1

G:\Project Data\Misc-LF\Marathon County\Bluebird Ridge\Airspace\2018\Dwg\BB Marathon June 2018 Air.dwg 6/7/2018 10:25 AM BJ Hoch

ATTACHMENT C

2019 LANDFILL GAS MAINLINE TO-15 LAB REPORT

AirTECHNOLOGY
Laboratories, Inc.

November 4, 2019

LA Cert #04140
EPA Methods TO3, TO14A, TO15, 25C/3C, RSK-175

TX Cert T104704450-14-6
EPA Methods TO14A, TO15

UT Cert CA0133332015-3
EPA Methods TO3, TO14A, TO15, RSK-175

Tetra Tech
ATTN: Lee Daigle
8413 Excelsior Dr., Suite 160
Madison, WI 53717

LABORATORY TEST RESULTS

Project Reference: Marathon County VOC
Project Number: MCLF-2019-VOC
Lab Number: K101506-01/02

Enclosed are results for sample(s) received 10/15/19 by Air Technology Laboratories. Samples were received intact. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

Report Narrative:

- Unless otherwise noted in the report, sample analyses were performed within method performance criteria and meet all requirements of the TNI Standards.
- The enclosed results relate only to the sample(s).

Preliminary results were e-mailed to Lee Daigle on 11/01/19.

ATL appreciates the opportunity to provide testing services to your company. If you have any questions regarding these results, please call me at (626) 964-4032.

Sincerely,

Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

Note: The cover letter is an integral part of this analytical report.

AirTECHNOLOGY Laboratories, Inc.
18501 E. Gale Ave., Suite 130
City of Industry, CA 91748
Ph: 626-964-4032
Fx: 626-964-5832

CHAIN OF CUSTODY RECORD

TURNAROUND TIME				DELIVERABLES		PAGE: OF
Standard	☒	48 hours	☐	EDD	☒	Condition upon receipt:
Same Day	☐	72 hours	☐	EDF	☐	Sealed Yes ☐ No ☐
24 hours	☐	96 hours	☐	LEVEL 3	☐	Intact Yes ☐ No ☐
Other:				LEVEL 4	☐	Chilled _____ deg C

Project No.: MCLF - 2019 - VOC
Project Name: MARATHON CO VOC
Report To: LEE DAIGLE
Company: TETRA TECH
Street: 8413 EXCELSIOR DR SUITE 160
City/State/Zip: MADISON WI 53717
Phone& Fax: 951-236-2526
e-mail: LEE.DAIGLE@TETRATECH.COM

BILLING
P.O. No.: 10201901 PD10125716
Bill to: Marathon Co. Solid Waste
172900 State Highway 29
Ringle WI

ANALYSIS REQUEST

LAB USE ONLY	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	MATRIX	CONTAINER TYPE	EPA TO-15	3C + CO				
K101506-01	MAINLINE VOC #1 (N4127)	10/9/19	11:25AM	LFG	C	X	X				
↓ -02	" " #2 (1378)	"	10:00	"	"	X	X				

AUTHORIZATION TO PERFORM WORK	COMPANY	DATE/TIME
DAVE HAGENBUCHER	MARATHON CO.	10/9/19
SAMPLED BY	**COMPANY**	**DATE/TIME**
JALEN THOMAS	TETRA TECH	10/9/19

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
KAY TURGESON	10/10/19	FED EX	
UPS	10/15/19 11:40	Kathy Cameron	10/15/19 1140

COMMENTS
TO 15 in ug/L

METHOD OF TRANSPORT (circle one): Walk-In FedEx UPS Courier ATLI Other _____

DISTRIBUTION: White & Yellow - Lab Copies / Pink - Customer Copy

Preservation: **H**=HCL **N**=None / Container: **B**=Bag **C**=Can **V**=VOA **O**=Other *Rev. 03 - 5/7/09*

Client: Tetra Tech
Attn: Lee Daigle
Project Name: Marathon County VOC
Project No.: MCLF-2019-VOC
Date Received: 10/15/2019
Matrix: Air

Fixed Gases by EPA METHOD 3C

Lab No.:	K101506-01		K101506-02					
Client Sample I.D.:	Mainline VOC #1		Mainline VOC #2					
Date/Time Sampled:	10/9/19 11:25		10/9/19 11:08					
Date/Time Analyzed:	10/17/19 11:57		10/17/19 12:11					
QC Batch No.:	191017GC8A1		191017GC8A1					
Analyst Initials:	CM		CM					
Dilution Factor:	4.4		4.2					
ANALYTE (Units)	**Result**	**RL**	**Result**	**RL**				
Nitrogen (% v/v)	12	4.4	12	4.2				
Oxygen/Argon (% v/v)	ND	2.2	ND	2.1				
Carbon Dioxide (% v/v)	37	0.044	37	0.042				
Methane (% v/v)	54	0.0044	55	0.0042				
Carbon Monoxide (% v/v)	ND	0.0044	ND	0.0042				

RL = Reporting Limit
ND = Not detected at or above the RL.

Reviewed/Approved By: _____ Date 10-31-19
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

Client: Tetra Tech
Attn: Lee Daigle
Project Name: Marathon County VOC
Project No.: MCLF-2019-VOC
Date Received: 10/15/19
Matrix: Air
Reporting Units: ug/L

EPA Method TO15

Lab No.:	K101506-01		K101506-02					
Client Sample I.D.:	Mainline VOC #1		Mainline VOC #2					
Date/Time Sampled:	10/9/19 11:25		10/9/19 11:08					
Date/Time Analyzed:	10/25/19 14:12		10/25/19 14:47					
QC Batch No.:	191025MS2A1		191025MS2A1					
Analyst Initials:	AS		AS					
Dilution Factor:	44		42					
ANALYTE	**Result ug/L**	**RL ug/L**	**Result ug/L**	**RL ug/L**				
Dichlorodifluoromethane (12)	1.0	0.22	1.1	0.21				
Chloromethane	ND	0.18	ND	0.17				
1,2-Cl-1,1,2,2-F ethane (114)	ND	0.31	0.30	0.29				
Vinyl Chloride	2.4	0.11	3.2	0.11				
Bromomethane	ND	0.17	ND	0.16				
Chloroethane	ND	0.12	0.17	0.11				
Trichlorofluoromethane (11)	0.70	0.25	0.79	0.24				
1,1-Dichloroethene	ND	0.17	ND	0.17				
Carbon Disulfide	0.92	0.68	1.4	0.66				
1,1,2-Cl 1,2,2-F ethane (113)	ND	0.34	ND	0.32				
Acetone	4.1	0.52	4.9	0.50				
Methylene Chloride	0.26	0.15	ND	0.15				
t-1,2-Dichloroethene	ND	0.17	0.17	0.17				
1,1-Dichloroethane	0.23	0.18	0.29	0.17				
Vinyl Acetate	ND	0.77	ND	0.74				
c-1,2-Dichloroethene	0.90	0.17	1.2	0.17				
2-Butanone	4.1	0.13	5.3	0.12				
t-Butyl Methyl Ether (MTBE)	ND	0.16	ND	0.15				
Chloroform	ND	0.21	ND	0.21				
1,1,1-Trichloroethane	ND	0.24	ND	0.23				
Carbon Tetrachloride	ND	0.28	ND	0.26				
Benzene	2.0	0.14	2.6	0.13				
1,2-Dichloroethane	0.34	0.18	0.50	0.17				
Trichloroethene	0.43	0.24	0.46	0.23				
1,2-Dichloropropane	ND	0.20	ND	0.19				
Bromodichloromethane	ND	0.29	ND	0.28				
c-1,3-Dichloropropene	ND	0.20	ND	0.19				
4-Methyl-2-Pentanone	1.5	0.18	1.6	0.17				
Toluene	23	0.17	31	0.16				
t-1,3-Dichloropropene	ND	0.20	ND	0.19				

Client: Tetra Tech
Attn: Lee Daigle
Project Name: Marathon County VOC
Project No.: MCLF-2019-VOC
Date Received: 10/15/19
Matrix: Air
Reporting Units: ug/L

EPA Method TO15

Lab No.:	K101506-01		K101506-02					
Client Sample I.D.:	Mainline VOC #1		Mainline VOC #2					
Date/Time Sampled:	10/9/19 11:25		10/9/19 11:08					
Date/Time Analyzed:	10/25/19 14:12		10/25/19 14:47					
QC Batch No.:	191025MS2A1		191025MS2A1					
Analyst Initials:	AS		AS					
Dilution Factor:	44		42					
ANALYTE	**Result ug/L**	**RL ug/L**	**Result ug/L**	**RL ug/L**				
1,1,2-Trichloroethane	ND	0.24	ND	0.23				
Tetrachloroethene	0.82	0.30	1.00	0.29				
2-Hexanone	ND	0.18	ND	0.17				
Dibromochloromethane	ND	0.37	ND	0.36				
1,2-Dibromoethane	ND	0.34	ND	0.32				
Chlorobenzene	ND	0.20	ND	0.19				
Ethylbenzene	5.5	0.19	7.9	0.18				
p,&m-Xylene	9.1	0.19	14	0.18				
o-Xylene	3.1	0.19	4.5	0.18				
Styrene	0.22	0.19	0.33	0.18				
Bromoform	ND	0.45	ND	0.44				
1,1,2,2-Tetrachloroethane	ND	0.60	ND	0.58				
Benzyl Chloride	ND	0.23	ND	0.22				
4-Ethyl Toluene	0.75	0.22	1.1	0.21				
1,3,5-Trimethylbenzene	ND	0.43	0.43	0.41				
1,2,4-Trimethylbenzene	ND	0.43	0.58	0.41				
1,3-Dichlorobenzene	ND	0.26	ND	0.25				
1,4-Dichlorobenzene	ND	0.26	ND	0.25				
1,2-Dichlorobenzene	ND	0.26	ND	0.25				
1,2,4-Trichlorobenzene	ND	0.65	ND	0.63				
Hexachlorobutadiene	ND	0.47	ND	0.45				

ND = Not Detected (below RL)
RL = Reporting Limit

Reviewed/Approved By: _____ Date 10-31-19
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

Client: Tetra Tech
Attn: Lee Daigle
Project Name: Marathon County VOC
Project No.: MCLF-2019-VOC
Date Received: 10/15/19
Matrix: Air
Reporting Units: ug/L

EPA Method TO15

Lab No.:	METHOD BLANK							
Client Sample I.D.:	-							
Date/Time Sampled:	-							
Date/Time Analyzed:	10/25/19 9:31							
QC Batch No.:	191025MS2A1							
Analyst Initials:	AS							
Dilution Factor:	0.20							
ANALYTE	**Result ug/L**	**RL ug/L**						
Dichlorodifluoromethane (12)	ND	0.00099						
Chloromethane	ND	0.00083						
1,2-Cl-1,1,2,2-F ethane (114)	ND	0.0014						
Vinyl Chloride	ND	0.00051						
Bromomethane	ND	0.00078						
Chloroethane	ND	0.00053						
Trichlorofluoromethane (11)	ND	0.0011						
1,1-Dichloroethene	ND	0.00079						
Carbon Disulfide	ND	0.0031						
1,1,2-Cl 1,2,2-F ethane (113)	ND	0.0015						
Acetone	ND	0.0024						
Methylene Chloride	ND	0.00069						
t-1,2-Dichloroethene	ND	0.00079						
1,1-Dichloroethane	ND	0.00081						
Vinyl Acetate	ND	0.0035						
c-1,2-Dichloroethene	ND	0.00079						
2-Butanone	ND	0.00059						
t-Butyl Methyl Ether (MTBE)	ND	0.00072						
Chloroform	ND	0.00098						
1,1,1-Trichloroethane	ND	0.0011						
Carbon Tetrachloride	ND	0.0013						
Benzene	ND	0.00064						
1,2-Dichloroethane	ND	0.00081						
Trichloroethene	ND	0.0011						
1,2-Dichloropropane	ND	0.00092						
Bromodichloromethane	ND	0.0013						
c-1,3-Dichloropropene	ND	0.00091						
4-Methyl-2-Pentanone	ND	0.00082						
Toluene	ND	0.00075						
t-1,3-Dichloropropene	ND	0.00091						

Client: Tetra Tech
Attn: Lee Daigle
Project Name: Marathon County VOC
Project No.: MCLF-2019-VOC
Date Received: 10/15/19
Matrix: Air
Reporting Units: ug/L

EPA Method TO15

Lab No.:	METHOD BLANK							
Client Sample I.D.:	-							
Date/Time Sampled:	-							
Date/Time Analyzed:	10/25/19 9:31							
QC Batch No.:	191025MS2A1							
Analyst Initials:	AS							
Dilution Factor:	0.20							
ANALYTE	**Result ug/L**	**RL ug/L**						
1,1,2-Trichloroethane	ND	0.0011						
Tetrachloroethene	ND	0.0014						
2-Hexanone	ND	0.00082						
Dibromochloromethane	ND	0.0017						
1,2-Dibromoethane	ND	0.0015						
Chlorobenzene	ND	0.00092						
Ethylbenzene	ND	0.00087						
p,&m-Xylene	ND	0.00087						
o-Xylene	ND	0.00087						
Styrene	ND	0.00085						
Bromoform	ND	0.0021						
1,1,2,2-Tetrachloroethane	ND	0.0027						
Benzyl Chloride	ND	0.0010						
4-Ethyl Toluene	ND	0.00098						
1,3,5-Trimethylbenzene	ND	0.0020						
1,2,4-Trimethylbenzene	ND	0.0020						
1,3-Dichlorobenzene	ND	0.0012						
1,4-Dichlorobenzene	ND	0.0012						
1,2-Dichlorobenzene	ND	0.0012						
1,2,4-Trichlorobenzene	ND	0.0030						
Hexachlorobutadiene	ND	0.0021						

ND = Not Detected (below RL)
RL = Reporting Limit

Reviewed/Approved By: _____ Date 10-31-19
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

LCS/LCSD Recovery and RPD Summary Report

QC Batch #: 191025MS2A1

Matrix: Air

EPA Method TO-14/TO-15

Lab No:	Method Blank		LCS		LCSD						
Date/Time Analyzed:	10/25/19 9:31		10/25/19 8:19		10/25/19 8:54						
Data File ID:	25OCT015.D		25OCT013.D		25OCT014.D						
Analyst Initials:	VM		VM		VM						
Dilution Factor:	0.2		1.0		1.0			Limits			
ANALYTE	Result ppbv	Spike Amount	Result ppbv	% Rec	Result ppbv	% Rec	RPD	Low %Rec	High %Rec	Max. RPD	Pass/ Fail
1,1-Dichloroethene	0.0	10.0	9.5	95	9.6	96	1.1	70	130	30	Pass
Methylene Chloride	0.0	10.0	10.3	103	10.5	105	1.9	70	130	30	Pass
Trichloroethene	0.0	10.0	9.9	99	9.4	94	5.4	70	130	30	Pass
Toluene	0.0	10.0	9.8	98	9.4	94	3.5	70	130	30	Pass
1,1,2,2-Tetrachloroethane	0.0	10.0	9.8	98	9.3	93	5.2	70	130	30	Pass

RPD = Relative Percent Difference

Reviewed/Approved By: _____ Date: 10-31-19

Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

ATTACHMENT D

2019 AREA B LEACHATE LINE JETTING AND TELEVISING REPORT

NORTHERN PIPE, INC.
CLEAN - INSPECT - REPAIR
1772 S Vandenberg Road
Green Bay, Wisconsin 54311
920-468-7074 | info@northernpipeinc.com

Marathon County Landfill
Leachate Cleaning
6/10/2019 - 6/12/2019
Vactor w/ 1,200' of 3/4'' hose

AREA A

CLEANOUT ACCESS POINT	PIPE SIZE	TOTAL LENGTH (FT)	FT JETTED (S)	FT JETTED (N)	TOTAL JETTED	COMMENTS
1	8	1,180	285	540	825	Stops at 285' from South and 540' from North
2	6	1,040	750	340	1,090	Overlap achieved - line is good
3	6	1,040	1,040	-	1,040	Jetted from south, line is good
4	8	1,180	170	1,100	1,270	Stops at 170' from South, overlap achieved from North
5	6	1,040	825	315	1,140	Overlap achieved - line is good
6	6	1,040	600	540	1,140	Overlap achieved - line is good
7	8	460	330	-	330	Stops at 330' from West
Gas Condensate Line		280	-	-	280	Line is good
		7,260			7,115	

3,000 gallons of water used

AREA B

CLEANOUT ACCESS POINT	PIPE SIZE	TOTAL LENGTH (FT)	FT JETTED (E/S)	FT JETTED (W/N)	TOTAL JETTED	COMMENTS
1	12	660	660	-	660	From B1E - line is good
2	12	500	500	-	500	From B2S - line is good
3	12	505	505	-	505	From B3S - line is good
4	12	510	510	-	510	From B4S - line is good
5	12	660	660	-	660	From B5S - line is good
6	12	280	280	-	280	From B6E - line is good
7	12	850	850	-	850	From B7S - line is good
8	12	875	875	-	875	From B8S - line is good
9	12	305	305	-	305	From B9E - line is good
10	12	840	840	-	840	From B10S - line is good
11	12	795	795	-	795	From B11S - line is good
12	12	270	270	-	270	From B12E - line is good
13	12	750	750	-	750	From B13S - line is good
14	12	725	725	-	725	From B14S - line is good
		8,525			8,525	

5,500 gallons of water used

BLUE BIRD RIDGE

CLEANOUT ACCESS POINT	PIPE SIZE	TOTAL LENGTH (FT)	FT JETTED (N)	FT JETTED (S)	TOTAL JETTED	COMMENTS
LCR 12 TO LCR 11	6	1,180	600	600	1,200	Overlap achieved - line is good
LCR 8 TO LCR 9	6	1,144	600	600	1,200	Overlap achieved - line is good
LCR 10 TO LOOP 7	6	650	404	276	680	Overlap achieved - line is good
LCR 4 TO LCR 6	6	1,070	600	600	1,200	Overlap achieved - line is good
LCR 2 TO LCR 3	6	1,020	600	600	1,200	Overlap achieved - line is good
LCR 5 TO LOOP 1	6	395	395	-	395	Overlap achieved - line is good
		5,459			5,875	

2,500 gallons of water used

ATTACHMENT E

2019 AREA B STORM WATER INSPECTION REPORT

State of Wisconsin
Department of Natural Resources
dnr.wi.gov

Annual Facility Site Compliance Inspection Report (AFSCI)

For Storm Water Discharges Associated With Industrial Activity Under Wisconsin Pollutant Discharge Elimination System (WPDES) Permit

Form 3400-176 (R 5/14)

Notice: This form is authorized by s. NR 216.29(2), Wis. Adm. Code. Submittal of a completed form to the Department is mandatory for industrial facilities covered under a Tier 1 storm water general permit. Facilities covered under a Tier 1 permit are not required to submit AFSCI reports after submittal of the second AFSCI report, unless so directed by the Department. However, these inspections and quarterly visual inspections shall still be conducted and results shall be kept on site for Department inspection. Facilities covered under a Tier 2 storm water general, industry-specific general or individual permit shall keep the results of their AFSCI and quarterly visual inspections on site for Department inspection. Failure to comply with these regulations may result in fines up to $25,000 per day pursuant to s. 283.91, Wis. Stats.

Personally identifiable information on this form may be used for other water quality program purposes.

Please type or clearly print your answers to all questions.

Section I: Facility/Site Information

Facility/Site Name (As Appears on Permit Authorization)	County	
AREA B LANDFILL 3338	Marathon	
Location Address/Description (if different from mailing address below)	State	ZIP Code
172900 State Highway 29	WI	54471
○ City ◉ Township ○ Village of Ringle	Facility Identification Number (FID) and/or FIN Number if known: FID 337005680 FIN	

Section II: Facility/Site Contact Person

Local Contact Person	Mailing Address (if different than site location address)	
Meleesa Johnson		
Title	Municipality (if different than above)	
Director		
Telephone (include area code)	State	ZIP Code (if different from above)
(715) 446-3101	WI	
E-mail address or Website (if applicable)	Fax (include area code)	
Meleesa.Johnson@co.marathon.wi.us	(715) 446-2906	

Section III: Certification & Signature

(Person attesting to the accuracy and completeness of Annual Facility Site Compliance Inspection Report.)

This form must be signed by an official representative of the permitted facility in accordance with s. NR 216.22(7), Wis. Adm. Code. See instructions on page 4. If this form is not signed, or is found to be incomplete, it will be returned.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature of Authorized Representative	Telephone Number (include area code)		
David Hagenbucher	(715) 446-3101		
Type or Print Name	Company Name		
David Hagenbucher	Marathon County Solid Waste		
Position Title	Mailing Address		
Manager	172900 East Highway 29		
Date Signed	Municipality	State	ZIP Code
12/09/19	Ringle	WI	54471

How to Use this Form:

The first level of storm water monitoring consists of a comprehensive annual facility site compliance inspection (AFSCI) to determine if your facility is operating in compliance with your Storm Water Pollution Prevention Plan (SWPPP). You should use the results of this inspection to determine the extent to which your SWPPP needs to be updated to prevent pollution from new source areas, as well as to correct any inadequacies that the plan may have in handling existing source areas. This first level of monitoring is addressed in Section IV of this Annual Report on page 2.

The second level of storm water monitoring consists of quarterly visual observations of storm water leaving the site during runoff events caused by snow-melt or rainfall. This is a practical, low cost tool for identifying obvious contamination of storm water discharges, and can also help identify which practices are ineffective. The goal of quarterly inspections is to obtain results from a set of four inspections that are distributed as evenly as possible throughout the year and which depict runoff quality during each of the four seasons. This second level of monitoring is addressed in Section V of this Annual Report on page 3.

Section IV: Annual Facility Site Compliance Inspection

The Annual Facility Site Compliance Inspection shall be adequate to verify that: your Storm Water Pollution Prevention Plan (SWPPP) remains current; potential pollution sources at your facility are identified; the facility site map and drainage map remain accurate; and that the Best Management Practices prescribed in your SWPPP are being implemented, properly operated, and adequately maintained.

Name of Person Conducting Inspection	Inspection Date
David Hagenbucher	06/12/2019
Employer	**Telephone Number**
Marathon County Solid Waste	(715) 446-3101

Your inspection should start with a review of your written SWPPP kept at your facility. The SWPPP should be amended if, through these inspections, you find that the provisions in your SWPPP are ineffective in controlling contaminated storm water from being discharged from your facility.

1. Has your SWPPP been updated to include current Non-Storm Water Discharge Evaluation results?	○ Yes	○ No	◉ N/A
2. Has your SWPPP been amended for any new construction that would affect the site map or drainage conditions at the facility?	○ Yes	◉ No	○ N/A
3. Has your SWPPP been amended for any changes in facility operations that could be identified as new source areas for contamination of storm water?	○ Yes	◉ No	○ N/A
4. Are there any materials at the facility that are handled, stored, or disposed in a manner to allow exposure to storm water that are not currently addressed in your SWPPP?	○ Yes	◉ No	○ N/A
5. Are there any maintenance or material handling activities conducted outdoors that have not been addressed in your SWPPP?	○ Yes	◉ No	○ N/A
6. Are outside areas kept in a neat and orderly condition?	◉ Yes	○ No	○ N/A
7. Are regular housekeeping inspections made?	◉ Yes	○ No	○ N/A
8. Do you see spots, pools, puddles, or other traces of oils, grease, or other chemicals on the ground?	○ Yes	◉ No	○ N/A
9. Are particulates on the ground from industrial operations or processes being controlled?	◉ Yes	○ No	○ N/A
10. Do you see leaking equipment, pipes or containers?	○ Yes	◉ No	○ N/A
11. Do drips, spills, or leaks occur when materials are being transferred from one source to another?	○ Yes	◉ No	○ N/A
12. Are drips or leaks from equipment or machinery being controlled?	◉ Yes	○ No	○ N/A
13. Are cleanup procedures used for spilled solids?	◉ Yes	○ No	○ N/A
14. Are absorbent materials (floor dry, kitty litter, etc.) regularly used in certain areas to absorb spills?	◉ Yes	○ No	○ N/A
15. Can you find discoloration, residue, or corrosion on the roof or around vents or pipes that ventilate or drain work areas?	○ Yes	◉ No	○ N/A
16. Are Best Management Practices implemented to reduce or eliminate contamination of storm water from source areas at the facility?	◉ Yes	○ No	○ N/A
17. Are Best Management Practices adequately maintained?	◉ Yes	○ No	○ N/A
18. Are there significant changes to your SWPPP needed to correct plan inadequacies to effectively control a discharge of contaminated storm water from your facility?	○ Yes	◉ No	○ N/A

Comments:

A storm water inspection was conduction on June 12 2019. This particular rain event had 1.25" within a 24 hour period. Area B has four storm water retention/sedimentation basins and multiple culverts and drainage ditches. The storm water infrastructure handled the precipitation without any issues. The culverts were jetted this year as preventative maintenance. The jetting process consisted of a high pressure water forcing a hose through each pipe to clear out any blockages. Ditches, sediment fences, culverts, and sedimentation ponds all functioned as intended. The water flowing into the sediment ponds contained little to no soil since all intermediate slopes have been vegetated. Therefore, water was not contaminated in any way by waste or loose soil. The infiltration ponds allowed quick infiltration into the groundwater, and they did not experience any overflow. Most ponds around Area B had already been full from the significant amount of snow melt that occurred in March and April. Even with the elevated levels, there was no overflow on any of the ponds.

An on site inspection with WDNR was also completed in 2019. WDNR staff provided valuable information on keeping our storm water infrastructure functioning as intended, and also provided information on area where there could be some improvement. All information was beneficial and Marathon County worked to establish Best Management Practices whenever and wherever possible.

Section V: Quarterly Visual Inspection Reports

Quarterly Visual Inspections at each storm water discharge outfall on your site can be a valuable assessment tool and are required by the Tier 1, Tier 2, and Nonmetallic Mining Industrial Storm Water General Permits. These inspections should be performed when sufficient runoff occurs during daylight hours. Try to make observations within the first 30 minutes after runoff begins discharging from the outfall or soon thereafter as practical, but no later than 60 minutes. If you find visible pollution, note the probable source and list any possible Best Management Practices that could be used to reduce or eliminate the problem. Make any necessary changes to your Storm Water Pollution Prevention Plan as needed. If you were unable to evaluate an outfall during a specific quarter, this should be indicated along with a reason as to why this could not be done.

	Date of Inspection			
Outfall Number	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Area B SR-1	03/13/2019	06/12/2019	09/11/2019	12/09/2019
Area B SR-2	03/13/2019	06/12/2019	09/11/2019	12/09/2019
Area B SR-3	03/13/2019	06/12/2019	09/11/2019	12/09/2019
Area B SR-4	03/13/2019	06/12/2019	09/11/2019	12/09/2019

Briefly summarize what you found when conducting your Quarterly Visual Inspections. (Include any observations of color, odor, turbidity, floating solids, foam, oil sheen, or any other indications of storm water pollution and the probable sources of any observed storm water contamination.)

March - Water was frozen, but a 1" rainfall did not impact the storm water ponds or ditches.

June - A storm water inspection was conduction on June 12 2019. This particular rain event had 1.25" within a 24 hour period. Area B has four storm water retention/sedimentation basins and multiple culverts and drainage ditches. The storm water infrastructure handled the precipitation without any issues. The culverts were jetted this year as preventative maintenance. The jetting process consisted of a high pressure water forcing a hose through each pipe to clear out any blockages. Ditches, sediment fences, culverts, and sedimentation ponds all functioned as intended. The water flowing into the sediment ponds contained little to no soil since all intermediate slopes have been vegetated. Therefore, water was not contaminated in any way by waste or loose soil. The infiltration ponds allowed quick infiltration into the groundwater, and they did not experience any overflow. Most ponds around Area B had already been full from the significant amount of snow melt that occurred in March and April. Even with the elevated levels, there was no overflow on any of the ponds.

September - A storm water inspection was conducted during a significant rain event in which 2.5" of rain fell. All of Area B is vegetated, so there was no significant erosion or sediment runoff with the storm water.

December- Water was frozen, and all precipitation was snow.

Instructions

Section I: Facility/Site Information

Provide the name of the facility as it appears on the permit application or permit cover letter and location address. If known, provide the Facility Identification (FID) and/or FIN Number assigned by the WDNR.

Section II: Facility/Site Contact Person

Provide the local contact person information for the facility. The mailing address should be given for the facility contact person if it is different from the facility site location address information.

Section III: Certification & Signature

State Statutes provide for severe penalties for submitting false information on this AFSCI form. State regulations require this form be signed as follows:

1. For a corporation, by a principal executive officer of at least the level of Vice President, or a duly authorized representative having overall responsibility for the operation covered by this permit.
2. For a unit of government, a principal executive officer, a ranking elected official, or other duly authorized representative.
3. For a partnership, by a general partner; for a sole proprietorship, by the proprietor.
4. For a limited liability company, by member or manager.

Section IV: Annual Facility Site Compliance Inspection

Provide the name of the person conducting the inspection, inspection date, name of employer, and telephone number. Check the appropriate box for each of the listed questions and provide explanations in the comment box as needed.

Section V: Quarterly Visual Inspection Reports

Provide the outfall number in the table and the dates of each quarterly visual inspection. Summarize the findings of your visual inspections below the table. Attach additional sheets if needed.

Mailing Address

Unless otherwise directed, mail this completed form to the Wisconsin Department of Natural Resources (WDNR) office associated with the county of the facility site location as follows:

NORTHERN REGION (NOR)			
Ashland Barron Bayfield Burnett Douglas Florence	Forest Iron Langlade Lincoln Oneida Polk	Price Rusk Sawyer Taylor Vilas Washburn	WDNR Baldwin Service Center 890 Spruce Street Baldwin, WI 54002 715-684-2914 ext. 109
NORTHEAST REGION (NER)			
Brown Calumet Door Fond du Lac Green Lake Kewaunee	Manitowoc Marinette Marquette Menominee Oconto Outagamie	Shawano Waupaca Waushara Winnebago	WDNR Northeast Regional Headquarters 2984 Shawano Avenue Green Bay, WI 54313-6727 (920) 662-5100
WEST CENTRAL REGION (WCR)			
Adams Buffalo Chippewa Clark Crawford Dunn Eau Claire	Jackson Juneau La Crosse Marathon Monroe Pepin	Pierce Portage St. Croix Trempealeau Vernon Wood	WDNR Baldwin Service Center 890 Spruce Street Baldwin, WI 54002 715-684-2914 ext. 109
SOUTH CENTRAL REGION (SCR)			
Columbia Dane Dodge Grant	Green Iowa Jefferson LaFayette	Richland Rock Sauk	WDNR South Central Regional Headquarters 3911 Fish Hatchery Road Fitchburg, WI 53711 (608) 275-3266
SOUTHEAST REGION (SER)			
Kenosha Milwaukee Ozaukee	Racine Sheboygan Walworth	Washington Waukesha	WDNR Waukesha Service Center 141 N.W. Barstow Street, Room 180 Waukesha, WI 53188 (262) 574-2100

ATTACHMENT F

EXCEEDANCE REPORTS FOR AREA B GROUNDWATER MONITORING APRIL AND OCTOBER 2019

Marathon County Solid Waste Department

172900 E. Hwy 29
Ringle, WI 54471

Director:	715-446-3101 X104
Site Supervisor:	715-446-3101 X102
Administrative Office:	715-446-3101 X100
Scale Master	715-446-3101 X103
Solid Waste & Recycling Info Line	877-270-3989 toll-free

marathoncountysolidwaste.org
marathoncountysolidwaste

May 22, 2019

Wisconsin Department of Natural Resources
Bureau of Solid Waste Management
GEMS Data Submittal Contact, WA/3
P.O. Box 7921
Madison, WI 53707-7921

RE: Exceedance of Groundwater Standards for Marathon County Landfill: License No. 2892 Area A

In accordance with NR 140, please accept this notification of groundwater monitoring results for the reporting period of April 2019. An exceedance table has been attached for the Area A landfill and can be found on the following page.

If you have any questions, please contact me.

Thank you,

David Hagenbucher
Operations Manager
Marathon County Solid Waste

C.c: Nathan Coller, Amanda Dehmlow, Sally Hronek, Meleesa Johnson, Lee Daigle, Mark Torresani.

Area A Groundwater Well Exceedance Table April 2019

Marathon County Solid Waste: Area A Groundwater Monitoring Wells									
	Area A	Facility #2892	Exceedances						
Project #	Date	Well #	Parameter	Units	Result	PAL	ES	ACL	Comments
318721	April 2 & 3 2019	Dup 040319	Tetrachloroethylene	ug/L	3.90	0.50	5.00		NR140.10
318721	April 2 & 3 2019	Dup 040319	Trichloroethylene	ug/L	3.80	0.50	5.00		NR140.10
318721	April 2 & 3 2019	R12R	Tetrachloroethylene	ug/L	0.71	0.50	5.00		NR140.10
318721	April 2 & 3 2019	R12R	Trichloroethylene	ug/L	0.63	0.50	5.00		NR140.10
318721	April 2 & 3 2019	R13R	Tetrachloroethylene	ug/L	3.50	0.50	5.00		NR140.10
318721	April 2 & 3 2019	R13R	Trichloroethylene	ug/L	3.40	0.50	5.00		NR140.10
318721	April 2 & 3 2019	R38	Tetrachloroethylene	ug/L	1.20	0.50	5.00		NR140.10
318721	April 2 & 3 2019	R38	Trichloroethylene	ug/L	1.20	0.50	5.00		NR140.10
318721	April 2 & 3 2019	R50P	Tetrachloroethylene	ug/L	0.64	0.50	5.00		NR140.10
318721	April 2 & 3 2019	R35	Conductivity	umho@25C	770.00	510.00			Well

The Area A exceedances that were detected during the April 2019 sampling event are consistent with the exceedances that were detected in previous sampling events.

Groundwater contamination was detected southeast of Area A during the late 1980s. By May of 1993, Marathon County completed a groundwater quality investigation and submitted a report to WDNR titled "Marathon County, Area A Landfill – Environmental Contamination Assessment (ECA) report". The ECA report suggested that contaminants may have been released to the environment from one or more of the leachate collection basins and other source locations. Consequently, several improvements were made and both leachate collection basins were removed in 1995. The identified groundwater contaminants of primary concern at this facility are VOCs, specifically the chlorinated aliphatic hydrocarbons (CAHs) and vinyl chloride. Since the remedial work from 1993 to 1996, significant reductions of CAH concentration have been measured near the suspected source zone.

It is the opinion of Marathon County that the exceedances are related to the leachate basins that were removed in 1995. The overall general concentrations reported at wells within the core of the plume are stable to decreasing. Marathon County will continue to monitor these wells for exceedances as required, and report any anomalies to the WDNR. Marathon County has installed groundwater monitoring wells along State Highway 29, just southeast of the site. If these particular wells begin showing signs of contamination, the County has a contingency plan in place and will respond to protect residents.

State of Wisconsin
Department of Natural Resources

ENVIRONMENTAL MONITORING DATA CERTIFICATION

Form 4400-231(R 1/04)

Notice: Personally identifiable information collected will be used for program administration and enforcement purposes. The department may also provide this information to requesters as required under Wisconsin's Open Records law, ss. 19.31 to 19.39, Wis. Stats.
When submitting monitoring data, the owner or operator of the facility, practice or activity is required to notify the Department in writing that a groundwater standard or an explosive gas level has been attained or exceeded, as specified in ss. NR 140.24(1)(a); NR 140.26(1)(a); NR 507.30; NR635.14(9)(a); NR 635.18(20) and NR 507.30, Wis. Adm. Code. Failure to report may result in fines, forfeitures or other penalties resulting from enforcement under ss. 289.97, 291.97 or 299.95, Wis. Stats.

Instructions:

* **Prepare one form for each license or monitoring ID.**
* **Please type or print legibly.**
* Attach a notification of any values that attain or exceed groundwater standards (that is, preventive action limits, enforcement standards or alternative concentration limits). The notification must include a preliminary analysis of the cause and significance of each value.
* Attach a notification of any gas values that attain or exceed explosive gas levels.
* Send the original signed form, any notification, and Electronic Data Deliverable [EDD] to: GEMS Data Submittal Contact - WA/5
  Wisconsin Department of Natural Resources
  P.O. Box 7921
  Madison, WI 53707 - 7921

Monitoring Data Submittal Information

Name of entity submitting data (laboratory, consultant, facility owner):
Northern Lake Service, Inc.

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:

Name: Chris Geske Phone: 715-478-2777
E-mail: lims@nlslab.com

Facility Name	License No. / Monitoring ID	Facility ID [FID]	Actual sampling dates (e.g., July 2-6, 2003
Marathon County Landfill - Area A	02892	737054890	APRIL -02-2019 through APRIL -03-2019
Some Area A wells are linked to BRRDF site (Lic. 04228) but reported here.			

The enclosed results are for sampling required in the month(s) of: (e.g., June 2003)
APRIL -2019

Type of Data Submitted (Check all that apply)

- [x] Groundwater monitoring data from monitoring wells
- [ ] Groundwater monitoring data from private water supply wells
- [ ] Leachate monitoring data
- [ ] Gas monitoring data
- [ ] Air monitoring data
- [ ] Other (specify) _____

Notification attached?

- [ ] No. No groundwater standards or explosive gas limits were exceeded.
- [x] Yes, a notification of values exceeding a groundwater standard is attached. It includes a list of monitoring points, dates, sample values, groundwater standard and preliminary analysis of the cause and significance of any concentration.
- [ ] Yes, a notification of values exceeding an explosive gas limit is attached. It includes the monitoring points, dates, sample values and explosive gas limits.

Certification

To the best of my knowledge, the information reported and statements made on this data submittal and attachements are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significant of concentrations exceeding groundwater standards.

David Hagenbucher	Solid Waste Manager	715-551-5864
Facility Representative Name (Print)	Title	(Area Code) Telephone No.
David Hagenbucher	05/22/19	
Signature	Date	

FOR DNR USE ONLY. Check action taken, and record date and your initials. Describe on back side if necessary.

- [ ] **Found uploading problems on** _____ **Initials** _____
- [ ] **Notified contact of problems on** _____ **Uploaded data successfully on** _____

EDD format(s): [ ] **Diskette** [ ] **CD (initial submittal and follow-up)** [E] **-mail (follow-up only)** **Other** _____

Marathon County Solid Waste Mgmnt Dept
Marathon County Landfill - Area A
04-01-2019

Lab ID: 721026460
NLS Project: 318721
Collected: 04-01-2019
License: 02892
FID: 737054890

EXCEEDANCES:

Well Desc (Point ID)	Parameter	Units	Result	PAL / ACL	ES	Comments
Dup-040319 (074)	Tetrachloroethylene	ug/L	3.9	.5	5	NR140.10
Dup-040319 (074)	Trichloroethylene	ug/L	3.8	.5	5	NR140.10
R12R (049)	Tetrachloroethylene	ug/L	0.71	.5	5	NR140.10
R12R (049)	Trichloroethylene	ug/L	0.63	.5	5	NR140.10
R13R (074)	Tetrachloroethylene	ug/L	3.5	.5	5	NR140.10
R13R (074)	Trichloroethylene	ug/L	3.4	.5	5	NR140.10
R38 (053)	Tetrachloroethylene	ug/L	1.2	.5	5	NR140.10
R38 (053)	Trichloroethylene	ug/L	1.2	.5	5	NR140.10
R50P (068)	Tetrachloroethylene	ug/L	0.64	.5	5	NR140.10
R35 (050)	Conductivity	umho@25C	770	510		well

Notes: site = site assigned PAL/ES : well = well assigned PAL/ES : NR140.10 = NR140 Public Health PAL/ES : NR140.12 = NR140 Public Welfare PAL/ES

Marathon County Solid Waste Department

172900 E. Hwy 29
Ringle, WI 54471

Director:	715-446-3101 X104
Site Supervisor:	715-446-3101 X102
Administrative Office:	715-446-3101 X100
Scale Master	715-446-3101 X103
Solid Waste & Recycling Info Line	877-270-3989 toll-free

marathoncountysolidwaste.org
marathoncountysolidwaste

May 22, 2019

Wisconsin Department of Natural Resources
Bureau of Solid Waste Management
GEMS Data Submittal Contact, WA/3
P.O. Box 7921
Madison, WI 53707-7921

RE: Exceedance of Groundwater Standards for Marathon County Landfill, License No. 3338 Area B.

In accordance with NR 140, please accept this notification of groundwater monitoring results for the reporting period of April 2019. An exceedance table has been attached for the Area B landfill and can be found on the following page.

If you have any questions, please contact me.

Thank you,

David Hagenbucher
Operations Manager
Marathon County Solid Waste

C.c: Nathan Coller, Amanda Dehmlow, Sally Hronek, Meleesa Johnson, Lee Daigle, Mark Torresani.

Area B Groundwater Well Exceedance Table April 2019

Marathon County Solid Waste: Area B Groundwater Monitoring Wells									
	Area B	Facility #3338	Exceedances						
Project #	Date	Well #	Parameter	Units	Result	PAL	ES	ACL	Comments
318722	April 2 & 3 2019	Dup 040319	Nitrate+Nitrite	mg/L	2.20	2.00	10.00		NR140.10
318722	April 2 & 3 2019	R45	Nitrate+Nitrite	mg/L	2.20	2.00	10.00		NR140.10

The Area B Nitrate/Nitrite levels at well R45 can be a result of improper farming practices. Throughout the past few years, Area B has had ongoing vegetation management to establish growth on slopes. Seed, fertilizer, and mulch have all been applied in an effort to control erosion. Well R45 has indicated a very slight increase in concentration since the previous sampling event in October. The well will continue to be monitored closely to ensure that levels decrease. In effort to ensure that levels decrease, Marathon County will evaluate their erosion control methods in addition to continued observation of well R45. Current site plans include the installation of a final cap on the Area B landfill within the next few years; this will also control erosion and potential runoff issues at the wells around the landfill.

State of Wisconsin
Department of Natural Resources

ENVIRONMENTAL MONITORING DATA CERTIFICATION

Form 4400-231(R 1/04)

Notice: Personally identifiable information collected will be used for program administration and enforcement purposes. The department may also provide this information to requesters as required under Wisconsin's Open Records law, ss. 19.31 to 19.39, Wis. Stats. When submitting monitoring data, the owner or operator of the facility, practice or activity is required to notify the Department in writing that a groundwater standard or an explosive gas level has been attained or exceeded, as specified in ss. NR 140.24(1)(a); NR 140.26(1)(a); NR 507.30; NR635.14(9)(a); NR 635.18(20) and NR 507.30, Wis. Adm. Code. Failure to report may result in fines, forfeitures or other penalties resulting from enforcement under ss. 289.97, 291.97 or 299.95, Wis. Stats.

Instructions:

* **Prepare one form for each license or monitoring ID.**
* **Please type or print legibly.**
* Attach a notification of any values that attain or exceed groundwater standards (that is, preventive action limits, enforcement standards or alternative concentration limits). The notification must include a preliminary analysis of the cause and significance of each value.
* Attach a notification of any gas values that attain or exceed explosive gas levels.
* Send the original signed form, any notification, and Electronic Data Deliverable [EDD] to: GEMS Data Submittal Contact - WA/5
  Wisconsin Department of Natural Resources
  P.O. Box 7921
  Madison, WI 53707 - 7921

Monitoring Data Submittal Information

Name of entity submitting data (laboratory, consultant, facility owner):
Northern Lake Service, Inc.

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:

Name: Chris Geske Phone: 715-478-2777
E-mail: lims@nlslab.com

Facility Name	License No. / Monitoring ID	Facility ID [FID]	Actual sampling dates (e.g., July 2-6, 2003
Marathon County Landfill - Area B	03338	737092730	APRIL -02-2019 through APRIL -03-2019

The enclosed results are for sampling required in the month(s) of: (e.g., June 2003)
APRIL -2019

Type of Data Submitted (Check all that apply)

- [x] Groundwater monitoring data from monitoring wells
- [ ] Groundwater monitoring data from private water supply wells
- [ ] Leachate monitoring data
- [ ] Gas monitoring data
- [ ] Air monitoring data
- [ ] Other (specify) _____

Notification attached?

- [ ] No. No groundwater standards or explosive gas limits were exceeded.
- [x] Yes, a notification of values exceeding a groundwater standard is attached. It includes a list of monitoring points, dates, sample values, groundwater standard and preliminary analysis of the cause and significance of any concentration.
- [ ] Yes, a notification of values exceeding an explosive gas limit is attached. It includes the monitoring points, dates, sample values and explosive gas limits.

Certification

To the best of my knowledge, the information reported and statements made on this data submittal and attachements are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significant of concentrations exceeding groundwater standards.

David Hagenbucher	Solid Waste Manager	715-551-5864
Facility Representative Name (Print)	Title	(Area Code) Telephone No.
Dave Hagenbucher	05/22/19	
Signature	Date	

FOR DNR USE ONLY. Check action taken, and record date and your initials. Describe on back side if necessary.

- [ ] Found uploading problems on _____ Initials _____
- [ ] Notified contact of problems on _____ Uploaded data successfully on _____

EDD format(s): [ ] Diskette [ ] CD (initial submittal and follow-up) [ ] E-mail (follow-up only) Other _____

Marathon County Solid Waste Mgmnt Dept
Marathon County Landfill - Area B
04-01-2019

Lab ID: 721026460
NLS Project: 318722
Collected: 04-01-2019
License: 03338
FID: 737092730

EXCEEDANCES:

Well Desc (Point ID)	Parameter	Units	Result	PAL / ACL	ES	Comments
Dup-040319 (208)	Nitrate+Nitrite, dis.	mg/L	2.2	2	10	NR140.10
R45 (208)	Nitrate+Nitrite, dis.	mg/L	2.2	2	10	NR140.10

Notes: site = site assigned PAL/ES : well = well assigned PAL/ES : NR140.10 = NR140 Public Health PAL/ES : NR140.12 = NR140 Public Welfare PAL/ES

Marathon County Solid Waste Department

172900 E. Hwy 29
Ringle, WI 54471

Director:	715-446-3101 X104
Site Supervisor:	715-446-3101 X102
Administrative Office:	715-446-3101 X100
Scale Master	715-446-3101 X103
Solid Waste & Recycling Info Line	877-270-3989 toll-free

marathoncountysolidwaste.org
marathoncountysolidwaste

May 22, 2019

Wisconsin Department of Natural Resources
Bureau of Solid Waste Management
GEMS Data Submittal Contact, WA/3
P.O. Box 7921
Madison, WI 53707-7921

RE: Exceedance of Groundwater Standards for Marathon County Landfill, License No.4228 BRRDF.

In accordance with NR 140, please accept this notification of groundwater monitoring results for the reporting period of April 2019. An exceedance table has been attached for the Bluebird Ridge Landfill and can be found on the following page.

If you have any questions, please contact me.

Thank you,

David Hagenbucher
Operations Manager
Marathon County Solid Waste

C.c: Nathan Coller, Amanda Dehmlow, Sally Hronek, Meleesa Johnson, Lee Daigle, Mark Torresani.

Bluebird Ridge Recycling and Disposal Facility Groundwater Well Exceedance Table April 2019

Marathon County Solid Waste: Bluebird Ridge Groundwater Monitoring Wells									
	BRRDF	Facility #4228	Exceedances						
Project #	Date	Well #	Parameter	Units	Result	PAL	ES	ACL	Comments
318859	April 3 & 4 2019	R59P	Alkalinity	mg/L	330.00	230.00			well
318859	April 3 & 4 2019	R59P	Conductivity	umhos@25C	590.00	470.00			well
318859	April 3 & 4 2019	R59P	Hardness	mg/L	360.00	230.00			well
318859	April 3 & 4 2019	R59WT	Alkalinity	mg/L	420.00	230.00			well
318859	April 3 & 4 2019	R59WT	Conductivity	umhos@25C	680.00	470.00			well
318859	April 3 & 4 2019	R59WT	Hardness	mg/L	420.00	230.00			well

Groundwater hardness can exhibit natural fluctuation over time. In addition, a typical indicator of hard water can be increased levels of calcium. Over the past few years, Marathon County has utilized liquid Calcium Chloride solution for dust control on main haul roads. It is a possibility that small amounts of Calcium Chloride may have leached into groundwater due to runoff from haul roads. This solution may be contributing to slight increases in conductivity. In addition to the Calcium Chloride application, this particular well is located within 50 feet of a major soil stockpile. During 2016, this stockpile received over 250,000 cubic yards of soil from the 10 acre cell expansion of the Bluebird Ridge Landfill. R59WT and R59P are directly at the toe of the slope of a 500,000+ cubic yard soil stockpile. The stockpile has been properly vegetated; however, the construction activity may be a contributing factor. The levels have not changed significantly since the last monitoring event, but this well will continue to be monitored to evaluate the source of the exceedances.

State of Wisconsin
Department of Natural Resources

ENVIRONMENTAL MONITORING DATA CERTIFICATION
Form 4400-231(R 1/04)

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When submitting monitoring data, the owner or operator of the facility, practice or activity is required to notify the Department in writing that a groundwater standard or an explosive gas level has been attained or exceeded, as specified in ss. NR 140.24(1)(a); NR 140.26(1)(a); NR 507.30; NR635.14(9)(a); NR 635.18(20) and NR 507.30, Wis. Adm. Code. Failure to report may result in fines, forfeitures or other penalties resulting from enforcement under ss. 289.97, 291.97 or 299.95, Wis. Stats.

Instructions:

* **Prepare one form for each license or monitoring ID.**
* **Please type or print legibly.**
* Attach a notification of any values that attain or exceed groundwater standards (that is, preventive action limits, enforcement standards or alternative concentration limits). The notification must include a preliminary analysis of the cause and significance of each value.
* Attach a notification of any gas values that attain or exceed explosive gas levels.
* Send the original signed form, any notification, and Electronic Data Deliverable [EDD] to: GEMS Data Submittal Contact - WA/5
  Wisconsin Department of Natural Resources
  P.O. Box 7921
  Madison, WI 53707 - 7921

Monitoring Data Submittal Information

Name of entity submitting data (laboratory, consultant, facility owner):
Northern Lake Service, Inc.

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:

Name: Chris Geske Phone: 715-478-2777
E-mail: lims@nlslab.com

Facility Name	License No. / Monitoring ID	Facility ID [FID]	Actual sampling dates (e.g., July 2-6, 2003
Marathon County - BRRDF	04228	337005680	APRIL -03-2019 through APRIL -04-2019

The enclosed results are for sampling required in the month(s) of: (e.g., June 2003)
APRIL -2019

Type of Data Submitted (Check all that apply)

- [x] Groundwater monitoring data from monitoring wells
- [ ] Groundwater monitoring data from private water supply wells
- [ ] Leachate monitoring data
- [ ] Gas monitoring data
- [ ] Air monitoring data
- [ ] Other (specify) _____

Notification attached?

- [ ] No. No groundwater standards or explosive gas limits were exceeded.
- [x] Yes, a notification of values exceeding a groundwater standard is attached. It includes a list of monitoring points, dates, sample values, groundwater standard and preliminary analysis of the cause and significance of any concentration.
- [ ] Yes, a notification of values exceeding an explosive gas limit is attached. It includes the monitoring points, dates, sample values and explosive gas limits.

Certification

To the best of my knowledge, the information reported and statements made on this data submittal and attachements are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significant of concentrations exceeding groundwater standards.

David Hagenbucher	Solid Waste Manager	715-551-5864
Facility Representative Name (Print)	Title	(Area Code) Telephone No.
David Hagenbucher	05/22/19	
Signature	Date	

FOR DNR USE ONLY. Check action taken, and record date and your initials. Describe on back side if necessary.
Found uploading problems on _____ Initials _____
Notified contact of problems on _____ Uploaded data successfully on _____
EDD format(s): Diskette CD (initial submittal and follow-up) E-mail (follow-up only) Other _____

Marathon County Solid Waste Mgmnt Dept
Marathon County - BRRDF
04-01-2019

Lab ID: 721026460
NLS Project: 318859
Collected: 04-01-2019
License: 04228
FID: 337005680

EXCEEDANCES:

Well Desc (Point ID)	Parameter	Units	Result	PAL / ACL	ES	Comments
R59P (237)	Alkalinity	mg/L	330	230		well
R59P (237)	Conductivity	umhos@25C	590	470		well
R59P (237)	Hardness	mg/L	360	230		well
R59WT (234)	Alkalinity	mg/L	420	230		well
R59WT (234)	Conductivity	umhos@25C	680	470		well
R59WT (234)	Hardness	mg/L	420	230		well

Notes: site = site assigned PAL/ES : well = well assigned PAL/ES : NR140.10 = NR140 Public Health PAL/ES : NR140.12 = NR140 Public Welfare PAL/ES

Marathon County Solid Waste Department

172900 E. Hwy 29
Ringle, WI 54471

Director:	715-446-3101 X104
Site Supervisor:	715-446-3101 X102
Administrative Office:	715-446-3101 X100
Scale Master	715-446-3101 X103
Solid Waste & Recycling Info Line	877-270-3989 toll-free

marathoncountysolidwaste.org
marathoncountysolidwaste

May 22, 2019

Wisconsin Department of Natural Resources
Bureau of Solid Waste Management
GEMS Data Submittal Contact, WA/3
P.O. Box 7921
Madison, WI 53707-7921

RE: Exceedance of Groundwater Standards for Marathon County Landfill, License No. 2892, 3338 & 4228 (Private Wells)

In accordance with NR 140, please accept this notification of groundwater monitoring results for the reporting period of April 2019. There were no exceedances in the private groundwater wells, and therefore an exceedance table has not been provided.

If you have any questions, please contact me.

Thank you,

David Hagenbucher
Operations Manager
Marathon County Solid Waste

C.c: Nathan Coller, Amanda Dehmlow, Sally Hronek, Meleesa Johnson, Lee Daigle, Mark Torresani.

State of Wisconsin
Department of Natural Resources

ENVIRONMENTAL MONITORING DATA CERTIFICATION

Form 4400-231(R 1/04)

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Instructions:

* **Prepare one form for each license or monitoring ID.**
* **Please type or print legibly.**
* Attach a notification of any values that attain or exceed groundwater standards (that is, preventive action limits, enforcement standards or alternative concentration limits). The notification must include a preliminary analysis of the cause and significance of each value.
* Attach a notification of any gas values that attain or exceed explosive gas levels.
* Send the original signed form, any notification, and Electronic Data Deliverable [EDD] to: GEMS Data Submittal Contact - WA/5
  Wisconsin Department of Natural Resources
  P.O. Box 7921
  Madison, WI 53707 - 7921

Monitoring Data Submittal Information

Name of entity submitting data (laboratory, consultant, facility owner):
Northern Lake Service, Inc.

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:

Name: Chris Geske Phone: 715-478-2777
E-mail: lims@nlslab.com

Facility Name	License No. / Monitoring ID	Facility ID [FID]	Actual sampling dates (e.g., July 2-6, 2003
Marathon County Area A Private Wells (Semi-annual)	02892		APRIL -04-2019

The enclosed results are for sampling required in the month(s) of: (e.g., June 2003)
APRIL -2019

Type of Data Submitted (Check all that apply)

- ☐ Groundwater monitoring data from monitoring wells
- ☒ Groundwater monitoring data from private water supply wells
- ☐ Leachate monitoring data
- ☐ Gas monitoring data
- ☐ Air monitoring data
- ☐ Other (specify) _____

Notification attached?

- ☒ No. No groundwater standards or explosive gas limits were exceeded.
- ☐ Yes, a notification of values exceeding a groundwater standard is attached. It includes a list of monitoring points, dates, sample values, groundwater standard and preliminary analysis of the cause and significance of any concentration.
- ☐ Yes, a notification of values exceeding an explosive gas limit is attached. It includes the monitoring points, dates, sample values and explosive gas limits.

Certification

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David Hagenbucher	Solid Waste Manager	715-551-5864
Facility Representative Name (Print)	Title	(Area Code) Telephone No.
David Hagenbucher	05/22/19	
Signature	Date	

FOR DNR USE ONLY. Check action taken, and record date and your initials. Describe on back side if necessary.

☐ Found uploading problems on _____ Initials _____
☐ Notified contact of problems on _____ Uploaded data successfully on _____
EDD format(s): ☐ Diskette ☐ CD (initial submittal and follow-up) ☐ E-mail (follow-up only) Other _____

Marathon County Solid Waste Mgmnt Dept
Marathon County Area A Private Wells
04-01-2019

Lab ID: 721026460
NLS Project: 318858
Collected: 04-01-2019
License: 02892
FID:

EXCEEDANCES:

Well Desc (Point ID)	Parameter	Units	Result	PAL / ACL	ES	Comments

Notes: site = site assigned PAL/ES ; well = well assigned PAL/ES : NR140.10 = NR140 Public Health PAL/ES : NR140.12 = NR140 Public Welfare PAL/ES

State of Wisconsin
Department of Natural Resources

ENVIRONMENTAL MONITORING DATA CERTIFICATION
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* Attach a notification of any gas values that attain or exceed explosive gas levels.
* Send the original signed form, any notification, and Electronic Data Deliverable [EDD] to: GEMS Data Submittal Contact - WA/5
  Wisconsin Department of Natural Resources
  P.O. Box 7921
  Madison, WI 53707 - 7921

Monitoring Data Submittal Information

Name of entity submitting data (laboratory, consultant, facility owner):
Northern Lake Service, Inc.

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:

Name: Chris Geske Phone: 715-478-2777
E-mail: lims@nlslab.com

Facility Name	License No. / Monitoring ID	Facility ID [FID]	Actual sampling dates (e.g., July 2-6, 2003
Marathon County BRRDF Private Wells	04228	337005680	APRIL -04-2019

The enclosed results are for sampling required in the month(s) of: (e.g., June 2003)
APRIL -2019

Type of Data Submitted (Check all that apply)

- ☐ Groundwater monitoring data from monitoring wells
- ☒ Groundwater monitoring data from private water supply wells
- ☐ Leachate monitoring data
- ☐ Gas monitoring data
- ☐ Air monitoring data
- ☐ Other (specify) _____

Notification attached?

- ☒ No. No groundwater standards or explosive gas limits were exceeded.
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Certification

To the best of my knowledge, the information reported and statements made on this data submittal and attachements are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significant of concentrations exceeding groundwater standards.

David Hagenbucher	Solid Waste Manager	715 551 5864
Facility Representative Name (Print)	Title	(Area Code) Telephone No.
David Hagenbucher	05/22/19	
Signature	Date	

FOR DNR USE ONLY. Check action taken, and record date and your initials. Describe on back side if necessary.

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EDD format(s): ☐ Diskette ☐ CD (initial submittal and follow-up) ☐ E-mail (follow-up only) Other _____

Marathon County Solid Waste Mgmnt Dept
Marathon County BRRDF Private Wells
04-01-2019

Lab ID: 721026460
NLS Project: 318857
Collected: 04-01-2019
License: 04228
FID: 337005680

EXCEEDANCES:

Well Desc (Point ID)	Parameter	Units	Result	PAL / ACL	ES	Comments

Notes: site = site assigned PAL/ES : well = well assigned PAL/ES : NR140.10 = NR140 Public Health PAL/ES : NR140.12 = NR140 Public Welfare PAL/ES

NORTHERN LAKE SERVICE, INC.
Analytical Laboratory and Environmental Services
400 North Lake Avenue - Crandon, WI 54520
Ph: (715)-478-2777 Fax: (715)-478-3060

ANALYTICAL REPORT

WDNR Laboratory ID No. 721026460
WDATCP Laboratory Certification No. 105-330
EPA Laboratory ID No. WI00034

NLS Project: 318857
NLS Customer: 20080

Fax: 715 446 2906 Phone: 715 446 3339

Client: Marathon County Solid Waste Mgmnt Dept
Attn: Dave Hagenbucher
Marathon County Landfill
R18500 East Highway 29
Ringle, WI 54471 9754

Project: Marathon County BRRDF Private Wells April 2019

PW11 NLS ID: 1113402
Matrix: GW
Collected: 04/04/19 09:32 Received: 04/05/19

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
Field depth to water	4.86	ft.	1			04/04/19	NA	721026460
Field depth to bottom	5.85	ft.	1			04/04/19	NA	721026460

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dlution and/or solids content.

ND = Not Detected (< LOD) LOD = Limit of Detection LOQ = Limit of Quantitation NA = Not Applicable
DWB = Dry Weight Basis %DWB = (mg/kg DWB) / 10000 1000 ug/L = 1 mg/L
MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

Reviewed by:

Authorized by:
R. T. Krueger
President

NORTHERN LAKE SERVICE, INC.
Analytical Laboratory and Environmental Services
400 North Lake Avenue - Crandon, WI 54520
Ph: (715)-478-2777 Fax: (715)-478-3060

ANALYTICAL REPORT

WDNR Laboratory ID No. 721026460
WDATCP Laboratory Certification No. 105-330
EPA Laboratory ID No. WI00034

NLS Project: 318857
NLS Customer: 20080

Fax: 715 446 2906 Phone: 715 446 3339

Client: Marathon County Solid Waste Mgmnt Dept
Attn: Dave Hagenbucher
Marathon County Landfill
R18500 East Highway 29
Ringle, WI 54471 9754

Project: Marathon County BRRDF Private Wells April 2019

PW26 NLS ID: 1113403
Matrix: GW
Collected: 04/04/19 09:43 Received: 04/05/19

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
Field color	none detected					04/04/19	NA	721026460
Field odor	none detected					04/04/19	NA	721026460
Field turbidity	none detected					04/04/19	NA	721026460
VOCs (water) by GC/MS	see attached					04/12/19	SW846 8260C	721026460

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dlution and/or solids content.

ND = Not Detected (< LOD) LOD = Limit of Detection LOQ = Limit of Quantitation NA = Not Applicable
DWB = Dry Weight Basis %DWB = (mg/kg DWB) / 10000 1000 ug/L = 1 mg/L
MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

Reviewed by:

Authorized by:
R. T. Krueger
President

NORTHERN LAKE SERVICE, INC.
Analytical Laboratory and Environmental Services
400 North Lake Avenue - Crandon, WI 54520
Ph: (715)-478-2777 Fax: (715)-478-3060

ANALYTICAL REPORT

WDNR Laboratory ID No. 721026460
WDATCP Laboratory Certification No. 105-330
EPA Laboratory ID No. WI00034

NLS Project: 318857
NLS Customer: 20080

Fax: 715 446 2906 Phone: 715 446 3339

Client: Marathon County Solid Waste Mgmnt Dept
Attn: Dave Hagenbucher
Marathon County Landfill
R18500 East Highway 29
Ringle, WI 54471 9754

Project: Marathon County BRRDF Private Wells April 2019

PW8575 NLS ID: 1113404
Matrix: GW
Collected: 04/04/19 10:00 Received: 04/05/19

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
Field color	none detected					04/04/19	NA	721026460
Field odor	none detected					04/04/19	NA	721026460
Field turbidity	none detected					04/04/19	NA	721026460
VOCs (water) by GC/MS	see attached					04/12/19	SW846 8260C	721026460

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dlution and/or solids content.

ND = Not Detected (< LOD) LOD = Limit of Detection LOQ = Limit of Quantitation NA = Not Applicable
DWB = Dry Weight Basis %DWB = (mg/kg DWB) / 10000 1000 ug/L = 1 mg/L
MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

Reviewed by:

Authorized by:
R. T. Krueger
President

ANALYTICAL RESULTS: VOC's by P&T/GCMS - Water - (VarSat3)

Customer: Marathon County Solid Waste Mgmnt Dept **NLS Project: 318857**
Project Description: Marathon County BRRDF Private Wells
Project Title: April 2019 **Template: SAT3APP3** **Printed: 05/01/2019 04:22**

Sample: 1113403 PW26 Collected: 04/04/19 Analyzed: 04/12/19 - Analytes: 43

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.19	0.69	5	
Bromodichloromethane	ND	ug/L	1	0.19	0.68	80	
Bromoform	ND	ug/L	1	0.16	0.56	80	
Bromomethane	ND	ug/L	1	0.22	0.79		
Carbon Tetrachloride	ND	ug/L	1	0.19	0.66	5	
Chlorobenzene	ND	ug/L	1	0.16	0.56	100	
Chloroethane	ND	ug/L	1	1.5	5.4		
Chloroform	ND	ug/L	1	0.17	0.60	80	
Chloromethane	ND	ug/L	1	0.19	0.68		
Dibromochloromethane	ND	ug/L	1	0.17	0.61	80	
1,2-Dibromo-3-Chloropropane	ND	ug/L	1	0.21	0.73		
1,2-Dibromoethane	ND	ug/L	1	0.12	0.43		
Dibromomethane	ND	ug/L	1	0.21	0.73		
1,2-Dichlorobenzene	ND	ug/L	1	0.22	0.76	600	
1,3-Dichlorobenzene	ND	ug/L	1	0.20	0.72		
1,4-Dichlorobenzene	ND	ug/L	1	0.21	0.76	75	
Dichlorodifluoromethane	ND	ug/L	1	0.14	0.49		
1,1-Dichloroethane	ND	ug/L	1	0.18	0.64		
1,2-Dichloroethane	ND	ug/L	1	0.19	0.69	5	
1,1-Dichloroethene	ND	ug/L	1	0.16	0.57	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.18	0.62	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.15	0.51	100	
1,2-Dichloropropane	ND	ug/L	1	0.24	0.84	5	
cis-1,3-Dichloropropene	ND	ug/L	1	0.19	0.68		
trans-1,3-Dichloropropene	ND	ug/L	1	0.14	0.51		
Ethylbenzene	ND	ug/L	1	0.30	1.1	700	
Methylene chloride	ND	ug/L	1	0.20	0.70	5	
Naphthalene	ND	ug/L	1	0.29	1.0		
Styrene	ND	ug/L	1	0.16	0.56	100	
ortho-Xylene	ND	ug/L	1	0.16	0.56		
Tetrachloroethene	ND	ug/L	1	0.17	0.58	5	
Toluene	ND	ug/L	1	0.19	0.68	1000	
1,1,1-Trichloroethane	ND	ug/L	1	0.17	0.61	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.17	0.59	5	
Trichloroethene	ND	ug/L	1	0.24	0.84	5	
Trichlorofluoromethane	ND	ug/L	1	0.17	0.60		
Vinyl chloride	ND	ug/L	1	0.16	0.57	.2	
meta,para-Xylene	ND	ug/L	1	0.32	1.1	10000	
MTBE	ND	ug/L	1	0.22	0.76		
Acetone	ND	ug/L	1	4.2	12		
Carbon Disulfide	ND	ug/L	1	0.16	0.58		
Methyl Ethyl Ketone	ND	ug/L	1	0.50	1.8		
Tetrahydrofuran	ND	ug/L	1	0.97	3.5		
Dibromofluoromethane (SURR)	112%		1				S
Toluene-d8 (SURR)	108%		1				S
1-Bromo-4-Fluorobenzene (SURR)	104%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

ANALYTICAL RESULTS: VOC's by P&T/GCMS - Water - (VarSat3)

Customer: Marathon County Solid Waste Mgmnt Dept **NLS Project: 318857**
Project Description: Marathon County BRRDF Private Wells
Project Title: April 2019 **Template: SAT3APP3** **Printed: 05/01/2019 04:22**

Sample: 1113404 PW8575 Collected: 04/04/19 Analyzed: 04/12/19 - Analytes: 43

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.19	0.69	5	
Bromodichloromethane	ND	ug/L	1	0.19	0.68	80	
Bromoform	ND	ug/L	1	0.16	0.56	80	
Bromomethane	ND	ug/L	1	0.22	0.79		
Carbon Tetrachloride	ND	ug/L	1	0.19	0.66	5	
Chlorobenzene	ND	ug/L	1	0.16	0.56	100	
Chloroethane	ND	ug/L	1	1.5	5.4		
Chloroform	ND	ug/L	1	0.17	0.60	80	
Chloromethane	ND	ug/L	1	0.19	0.68		
Dibromochloromethane	ND	ug/L	1	0.17	0.61	80	
1,2-Dibromo-3-Chloropropane	ND	ug/L	1	0.21	0.73		
1,2-Dibromoethane	ND	ug/L	1	0.12	0.43		
Dibromomethane	ND	ug/L	1	0.21	0.73		
1,2-Dichlorobenzene	ND	ug/L	1	0.22	0.76	600	
1,3-Dichlorobenzene	ND	ug/L	1	0.20	0.72		
1,4-Dichlorobenzene	ND	ug/L	1	0.21	0.76	75	
Dichlorodifluoromethane	ND	ug/L	1	0.14	0.49		
1,1-Dichloroethane	ND	ug/L	1	0.18	0.64		
1,2-Dichloroethane	ND	ug/L	1	0.19	0.69	5	
1,1-Dichloroethene	ND	ug/L	1	0.16	0.57	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.18	0.62	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.15	0.51	100	
1,2-Dichloropropane	ND	ug/L	1	0.24	0.84	5	
cis-1,3-Dichloropropene	ND	ug/L	1	0.19	0.68		
trans-1,3-Dichloropropene	ND	ug/L	1	0.14	0.51		
Ethylbenzene	ND	ug/L	1	0.30	1.1	700	
Methylene chloride	ND	ug/L	1	0.20	0.70	5	
Naphthalene	ND	ug/L	1	0.29	1.0		
Styrene	ND	ug/L	1	0.16	0.56	100	
ortho-Xylene	ND	ug/L	1	0.16	0.56		
Tetrachloroethene	ND	ug/L	1	0.17	0.58	5	
Toluene	ND	ug/L	1	0.19	0.68	1000	
1,1,1-Trichloroethane	ND	ug/L	1	0.17	0.61	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.17	0.59	5	
Trichloroethene	ND	ug/L	1	0.24	0.84	5	
Trichlorofluoromethane	ND	ug/L	1	0.17	0.60		
Vinyl chloride	ND	ug/L	1	0.16	0.57	2	
meta,para-Xylene	ND	ug/L	1	0.32	1.1	10000	
MTBE	ND	ug/L	1	0.22	0.76		
Acetone	ND	ug/L	1	4.2	12		
Carbon Disulfide	ND	ug/L	1	0.16	0.58		
Methyl Ethyl Ketone	ND	ug/L	1	0.50	1.8		
Tetrahydrofuran	ND	ug/L	1	0.97	3.5		
Dibromofluoromethane (SURR)	114%		1				S
Toluene-d8 (SURR)	111%		1				S
1-Bromo-4-Fluorobenzene (SURR)	106%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

NLS Private Well Sampling Form and Chain Of Custody

SITE: Marathon Co. Solid Waste Management Dept. / BRRDF – Private Wells 1A

NLS Lab #:	Point Name / Homeowner:	DNR ID #:	Time Purged:	Color:	Odor:	Turbidity (quant,text,color):
1113-402	PW11 William Kasten R222780 Duncan Road, Hatley	027	X	X	X	X

Date Sampled:	Time Sampled:	Sample Location:	Treated (Y/N):
4.4.19	0932	North of House well.	X

Comments:

DEPTH OF WATER 4.86

DEPTH OF BOTTOM 5.85

4/13: South house faucet

NLS Lab #:	Point Name / Homeowner:	DNR ID #:	Time Purged:	Color:	Odor:	Turbidity (quant,text,color):
403	PW26 James Glodowski R222470 Duncan Road, Hatley	029	2 min	CLEAR	ND	ND

Date Sampled:	Time Sampled:	Sample Location:	Treated (Y/N):
4.4.19	0943	Kitchen Sink	N

Comments:

As of 11/06: Kitchen Sink (hand dug well, owner may want us to purge little or no water before sampling)

NLS Lab #:	Point Name / Homeowner:	DNR ID #:	Time Purged:	Color:	Odor:	Turbidity (quant,text,color):
404	PW8575 Jerry and Krista Bates R221615 Silk, Ringle	367	5 min	CLEAR	ND	ND

Date Sampled:	Time Sampled:	Sample Location:	Treated (Y/N):
4.4.19	1000	Outside faucet side of house	N

Comments:

Outside faucet side of house

NLS Lab #:	Point Name / Homeowner:	DNR ID #:	Time Purged:	Color:	Odor:	Turbidity (quant,text,color):
~~405~~	Trip Blank	999				

Date Sampled:	Time Sampled:	Sample Location:	

Comments:

Rev 10/18

See reverse side for sample custody information

NORTHERN LAKE SERVICE, INC.
Analytical Laboratory and Environmental Services
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Ph: (715)-478-2777 Fax: (715)-478-3060

ANALYTICAL REPORT

WDNR Laboratory ID No. 721026460
WDATCP Laboratory Certification No. 105-330
EPA Laboratory ID No. WI00034

NLS Project: 318858
NLS Customer: 20080

Client: Marathon County Solid Waste Mgmnt Dept
Attn: Dave Hagenbucher
Marathon County Landfill
R18500 East Highway 29
Ringle, WI 54471 9754

Fax: 715 446 2906 Phone: 715 446 3339

Project: Marathon County Area A Private Wells April 2019

PW25 NLS ID: 1113406
Matrix: GW
Collected: 04/04/19 08:35 Received: 04/04/19

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
Field color	none detected					04/04/19	NA	721026460
Field odor	none detected					04/04/19	NA	721026460
Field turbidity	none detected					04/04/19	NA	721026460
VOCs (water) by GC/MS	see attached					04/12/19	SW846 8260C	721026460

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dlution and/or solids content.

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DWB = Dry Weight Basis %DWB = (mg/kg DWB) / 10000 1000 ug/L = 1 mg/L
MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

Reviewed by:

Authorized by:
R. T. Krueger
President

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ANALYTICAL REPORT

WDNR Laboratory ID No. 721026460
WDATCP Laboratory Certification No. 105-330
EPA Laboratory ID No. WI00034

NLS Project: 318858
NLS Customer: 20080

Client: Marathon County Solid Waste Mgmnt Dept
Attn: Dave Hagenbucher
Marathon County Landfill
R18500 East Highway 29
Ringle, WI 54471 9754

Fax: 715 446 2906 Phone: 715 446 3339

Project: Marathon County Area A Private Wells April 2019

PW68 NLS ID: 1113407
Matrix: GW
Collected: 04/04/19 08:08 Received: 04/04/19

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
Field color	none detected					04/04/19	NA	721026460
Field odor	none detected					04/04/19	NA	721026460
Field turbidity	none detected					04/04/19	NA	721026460
VOCs (water) by GC/MS	see attached					04/12/19	SW846 8260C	721026460

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dlution and/or solids content.

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ANALYTICAL REPORT

WDNR Laboratory ID No. 721026460
WDATCP Laboratory Certification No. 105-330
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NLS Project: 318858
NLS Customer: 20080

Fax: 715 446 2906 Phone: 715 446 3339

Client: Marathon County Solid Waste Mgmnt Dept
Attn: Dave Hagenbucher
Marathon County Landfill
R18500 East Highway 29
Ringle, WI 54471 9754

Project: Marathon County Area A Private Wells April 2019

PW18 NLS ID: 1113408
Matrix: GW
Collected: 04/04/19 08:24 Received: 04/04/19

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
Field color	none detected					04/04/19	NA	721026460
Field odor	none detected					04/04/19	NA	721026460
Field turbidity	none detected					04/04/19	NA	721026460
VOCs (water) by GC/MS	see attached					04/12/19	SW846 8260C	721026460

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dlution and/or solids content.

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ANALYTICAL REPORT

WDNR Laboratory ID No. 721026460
WDATCP Laboratory Certification No. 105-330
EPA Laboratory ID No. WI00034

NLS Project: 318858
NLS Customer: 20080

Client: Marathon County Solid Waste Mgmnt Dept
Attn: Dave Hagenbucher
Marathon County Landfill
R18500 East Highway 29
Ringle, WI 54471 9754

Fax: 715 446 2906 Phone: 715 446 3339

Project: Marathon County Area A Private Wells April 2019

PW19 NLS ID: 1113409
Matrix: GW
Collected: 04/04/19 07:52 Received: 04/04/19

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
Field color	none detected					04/04/19	NA	721026460
Field odor	none detected					04/04/19	NA	721026460
Field turbidity	none detected					04/04/19	NA	721026460
VOCs (water) by GC/MS	see attached					04/12/19	SW846 8260C	721026460

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dlution and/or solids content.

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ANALYTICAL REPORT

WDNR Laboratory ID No. 721026460
WDATCP Laboratory Certification No. 105-330
EPA Laboratory ID No. WI00034

NLS Project: 318858
NLS Customer: 20080

Fax: 715 446 2906 Phone: 715 446 3339

Client: Marathon County Solid Waste Mgmnt Dept
Attn: Dave Hagenbucher
Marathon County Landfill
R18500 East Highway 29
Ringle, WI 54471 9754

Project: Marathon County Area A Private Wells April 2019

PW24 NLS ID: 1113410
Matrix: GW
Collected: 04/04/19 08:44 Received: 04/04/19

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
Field color	none detected					04/04/19	NA	721026460
Field odor	none detected					04/04/19	NA	721026460
Field turbidity	none detected					04/04/19	NA	721026460
VOCs (water) by GC/MS	see attached					04/12/19	SW846 8260C	721026460

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dlution and/or solids content.

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DWB = Dry Weight Basis %DWB = (mg/kg DWB) / 10000 1000 ug/L = 1 mg/L
MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

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ANALYTICAL REPORT

WDNR Laboratory ID No. 721026460
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NLS Project: 318858
NLS Customer: 20080

Fax: 715 446 2906 Phone: 715 446 3339

Client: Marathon County Solid Waste Mgmnt Dept
Attn: Dave Hagenbucher
Marathon County Landfill
R18500 East Highway 29
Ringle, WI 54471 9754

Project: Marathon County Area A Private Wells April 2019

PW17 NLS ID: 1113411
Matrix: GW
Collected: 04/04/19 09:18 Received: 04/04/19

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
Field color	none detected					04/04/19	NA	721026460
Field odor	none detected					04/04/19	NA	721026460
Field turbidity	none detected					04/04/19	NA	721026460
VOCs (water) by GC/MS	see attached					04/12/19	SW846 8260C	721026460

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dlution and/or solids content.

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DWB = Dry Weight Basis %DWB = (mg/kg DWB) / 10000 1000 ug/L = 1 mg/L
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ANALYTICAL REPORT

WDNR Laboratory ID No. 721026460
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NLS Project: 318858
NLS Customer: 20080

Client: Marathon County Solid Waste Mgmnt Dept
Attn: Dave Hagenbucher
Marathon County Landfill
R18500 East Highway 29
Ringle, WI 54471 9754

Fax: 715 446 2906 Phone: 715 446 3339

Project: Marathon County Area A Private Wells April 2019

PW64 NLS ID: 1113412
Matrix: GW
Collected: 04/04/19 09:05 Received: 04/04/19

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
Field color	none detected					04/04/19	NA	721026460
Field odor	none detected					04/04/19	NA	721026460
Field turbidity	none detected					04/04/19	NA	721026460
VOCs (water) by GC/MS	see attached					04/12/19	SW846 8260C	721026460

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dlution and/or solids content.

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DWB = Dry Weight Basis %DWB = (mg/kg DWB) / 10000 1000 ug/L = 1 mg/L
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ANALYTICAL REPORT

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NLS Project: 318858
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Client: Marathon County Solid Waste Mgmnt Dept
Attn: Dave Hagenbucher
Marathon County Landfill
R18500 East Highway 29
Ringle, WI 54471 9754

Project: Marathon County Area A Private Wells April 2019

PW88 NLS ID: 1113413
Matrix: GW
Collected: 04/04/19 08:52 Received: 04/04/19

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
Field color	none detected					04/04/19	NA	721026460
Field odor	none detected					04/04/19	NA	721026460
Field turbidity	none detected					04/04/19	NA	721026460
VOCs (water) by GC/MS	see attached					04/12/19	SW846 8260C	721026460

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dlution and/or solids content.

ND = Not Detected (< LOD) LOD = Limit of Detection LOQ = Limit of Quantitation NA = Not Applicable
DWB = Dry Weight Basis %DWB = (mg/kg DWB) / 10000 1000 ug/L = 1 mg/L
MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

Reviewed by:

Authorized by:
R. T. Krueger
President

NORTHERN LAKE SERVICE, INC.
Analytical Laboratory and Environmental Services
400 North Lake Avenue - Crandon, WI 54520
Ph: (715)-478-2777 Fax: (715)-478-3060

ANALYTICAL REPORT

WDNR Laboratory ID No. 721026460
WDATCP Laboratory Certification No. 105-330
EPA Laboratory ID No. WI00034

NLS Project: 318858
NLS Customer: 20080

Client: Marathon County Solid Waste Mgmnt Dept
Attn: Dave Hagenbucher
Marathon County Landfill
R18500 East Highway 29
Ringle, WI 54471 9754

Fax: 715 446 2906 Phone: 715 446 3339

Project: Marathon County Area A Private Wells April 2019

PW48 NLS ID: 1113414
Matrix: GW
Collected: 04/04/19 07:10 Received: 04/04/19

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
Field color	none detected					04/04/19	NA	721026460
Field odor	none detected					04/04/19	NA	721026460
Field turbidity	none detected					04/04/19	NA	721026460
VOCs (water) by GC/MS	see attached					04/12/19	SW846 8260C	721026460

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dlution and/or solids content.

ND = Not Detected (< LOD) LOD = Limit of Detection LOQ = Limit of Quantitation NA = Not Applicable
DWB = Dry Weight Basis %DWB = (mg/kg DWB) / 10000 1000 ug/L = 1 mg/L
MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

Reviewed by:

Authorized by:
R. T. Krueger
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NORTHERN LAKE SERVICE, INC.
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400 North Lake Avenue - Crandon, WI 54520
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ANALYTICAL REPORT

WDNR Laboratory ID No. 721026460
WDATCP Laboratory Certification No. 105-330
EPA Laboratory ID No. WI00034

NLS Project: 318858
NLS Customer: 20080

Fax: 715 446 2906 Phone: 715 446 3339

Client: Marathon County Solid Waste Mgmnt Dept
Attn: Dave Hagenbucher
Marathon County Landfill
R18500 East Highway 29
Ringle, WI 54471 9754

Project: Marathon County Area A Private Wells April 2019

Trip Blank NLS ID: 1113415
Matrix: TB
Collected: 04/04/19 00:00 Received: 04/04/19

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
VOCs (water) by GC/MS	see attached					04/12/19	NA	721026460

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dlution and/or solids content.

ND = Not Detected (< LOD) LOD = Limit of Detection LOQ = Limit of Quantitation NA = Not Applicable
DWB = Dry Weight Basis %DWB = (mg/kg DWB) / 10000 1000 ug/L = 1 mg/L
MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

Reviewed by:

Authorized by:
R. T. Krueger
President

ANALYTICAL RESULTS: VOC's by P&T/GCMS - Water - (VarSat3)

Customer: Marathon County Solid Waste Mgmnt Dept **NLS Project: 318858**
Project Description: Marathon County Area A Private Wells
Project Title: April 2019 **Template: SAT3APP3** **Printed: 05/01/2019 03:51**

Sample: 1113406 PW25 Collected: 04/04/19 Analyzed: 04/12/19 - Analytes: 43

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.19	0.69	5	
Bromodichloromethane	ND	ug/L	1	0.19	0.68	80	
Bromoform	ND	ug/L	1	0.16	0.56	80	
Bromomethane	ND	ug/L	1	0.22	0.79	-	
Carbon Tetrachloride	ND	ug/L	1	0.19	0.66	5	
Chlorobenzene	ND	ug/L	1	0.16	0.56	100	
Chloroethane	ND	ug/L	1	1.5	5.4		
Chloroform	ND	ug/L	1	0.17	0.60	80	
Chloromethane	ND	ug/L	1	0.19	0.68		
Dibromochloromethane	ND	ug/L	1	0.17	0.61	80	
1,2-Dibromo-3-Chloropropane	ND	ug/L	1	0.21	0.73		
1,2-Dibromoethane	ND	ug/L	1	0.12	0.43		
Dibromomethane	ND	ug/L	1	0.21	0.73		
1,2-Dichlorobenzene	ND	ug/L	1	0.22	0.76	600	
1,3-Dichlorobenzene	ND	ug/L	1	0.20	0.72		
1,4-Dichlorobenzene	ND	ug/L	1	0.21	0.76	75	
Dichlorodifluoromethane	ND	ug/L	1	0.14	0.49		
1,1-Dichloroethane	ND	ug/L	1	0.18	0.64		
1,2-Dichloroethane	ND	ug/L	1	0.19	0.69	5	
1,1-Dichloroethene	ND	ug/L	1	0.16	0.57	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.18	0.62	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.15	0.51	100	
1,2-Dichloropropane	ND	ug/L	1	0.24	0.84	5	
cis-1,3-Dichloropropene	ND	ug/L	1	0.19	0.68		
trans-1,3-Dichloropropene	ND	ug/L	1	0.14	0.51		
Ethylbenzene	ND	ug/L	1	0.30	1.1	700	
Methylene chloride	ND	ug/L	1	0.20	0.70	5	
Naphthalene	ND	ug/L	1	0.29	1.0		
Styrene	ND	ug/L	1	0.16	0.56	100	
ortho-Xylene	ND	ug/L	1	0.16	0.56		
Tetrachloroethene	ND	ug/L	1	0.17	0.58	5	
Toluene	ND	ug/L	1	0.19	0.68	1000	
1,1,1-Trichloroethane	ND	ug/L	1	0.17	0.61	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.17	0.59	5	
Trichloroethene	ND	ug/L	1	0.24	0.84	5	
Trichlorofluoromethane	ND	ug/L	1	0.17	0.60		
Vinyl chloride	ND	ug/L	1	0.16	0.57	2	
meta,para-Xylene	ND	ug/L	1	0.32	1.1	10000	
MTBE	ND	ug/L	1	0.22	0.76	-	
Acetone	ND	ug/L	1	4.2	12		
Carbon Disulfide	ND	ug/L	1	0.16	0.58		
Methyl Ethyl Ketone	ND	ug/L	1	0.50	1.8		
Tetrahydrofuran	ND	ug/L	1	0.97	3.5		
Dibromofluoromethane (SURR)	113%		1				S
Toluene-d8 (SURR)	110%		1				S
1-Bromo-4-Fluorobenzene (SURR)	104%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

ANALYTICAL RESULTS: VOC's by P&T/GCMS - Water - (VarSat3)

Customer: Marathon County Solid Waste Mgmnt Dept **NLS Project: 318858**
Project Description: Marathon County Area A Private Wells
Project Title: April 2019 **Template: SAT3APP3** **Printed: 05/01/2019 03:51**

Sample: 1113407 PW68 Collected: 04/04/19 Analyzed: 04/12/19 - Analytes: 43

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.19	0.69	5	
Bromodichloromethane	ND	ug/L	1	0.19	0.68	80	
Bromoform	ND	ug/L	1	0.16	0.56	80	
Bromomethane	ND	ug/L	1	0.22	0.79		
Carbon Tetrachloride	ND	ug/L	1	0.19	0.66	5	
Chlorobenzene	ND	ug/L	1	0.16	0.56	100	
Chloroethane	ND	ug/L	1	1.5	5.4		
Chloroform	ND	ug/L	1	0.17	0.60	80	
Chloromethane	ND	ug/L	1	0.19	0.68		
Dibromochloromethane	ND	ug/L	1	0.17	0.61	80	
1,2-Dibromo-3-Chloropropane	ND	ug/L	1	0.21	0.73		
1,2-Dibromoethane	ND	ug/L	1	0.12	0.43		
Dibromomethane	ND	ug/L	1	0.21	0.73		
1,2-Dichlorobenzene	ND	ug/L	1	0.22	0.76	600	
1,3-Dichlorobenzene	ND	ug/L	1	0.20	0.72		
1,4-Dichlorobenzene	ND	ug/L	1	0.21	0.76	75	
Dichlorodifluoromethane	ND	ug/L	1	0.14	0.49		
1,1-Dichloroethane	ND	ug/L	1	0.18	0.64		
1,2-Dichloroethane	ND	ug/L	1	0.19	0.69	5	
1,1-Dichloroethene	ND	ug/L	1	0.16	0.57	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.18	0.62	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.15	0.51	100	
1,2-Dichloropropane	ND	ug/L	1	0.24	0.84	5	
cis-1,3-Dichloropropene	ND	ug/L	1	0.19	0.68		
trans-1,3-Dichloropropene	ND	ug/L	1	0.14	0.51		
Ethylbenzene	ND	ug/L	1	0.30	1.1	700	
Methylene chloride	ND	ug/L	1	0.20	0.70	5	
Naphthalene	ND	ug/L	1	0.29	1.0		
Styrene	ND	ug/L	1	0.16	0.56	100	
ortho-Xylene	ND	ug/L	1	0.16	0.56		
Tetrachloroethene	[0.18]	ug/L	1	0.17	0.58	5	J
Toluene	ND	ug/L	1	0.19	0.68	1000	
1,1,1-Trichloroethane	ND	ug/L	1	0.17	0.61	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.17	0.59	5	
Trichloroethene	ND	ug/L	1	0.24	0.84	5	
Trichlorofluoromethane	ND	ug/L	1	0.17	0.60		
Vinyl chloride	ND	ug/L	1	0.16	0.57	.2	
meta,para-Xylene	ND	ug/L	1	0.32	1.1	10000	
MTBE	ND	ug/L	1	0.22	0.76		
Acetone	[4.5]	ug/L	1	4.2	12		J
Carbon Disulfide	ND	ug/L	1	0.16	0.58		
Methyl Ethyl Ketone	ND	ug/L	1	0.50	1.8		
Tetrahydrofuran	ND	ug/L	1	0.97	3.5		
Dibromofluoromethane (SURR)	116%		1				S
Toluene-d8 (SURR)	112%		1				S
1-Bromo-4-Fluorobenzene (SURR)	106%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:

J = Result enclosed in brackets is between LOD and LOQ, a region of less certain quantitation.
S = This compound is a surrogate used to evaluate the quality control of a method.

ANALYTICAL RESULTS: VOC's by P&T/GCMS - Water - (VarSat3)
Customer: Marathon County Solid Waste Mgmnt Dept NLS Project: 318858
Project Description: Marathon County Area A Private Wells
Project Title: April 2019 Template: SAT3APP3 Printed: 05/01/2019 03:51

Sample: 1113408 PW18 Collected: 04/04/19 Analyzed: 04/12/19 - Analytes: 43

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.19	0.69	5	
Bromodichloromethane	ND	ug/L	1	0.19	0.68	80	
Bromoform	ND	ug/L	1	0.16	0.56	80	
Bromomethane	ND	ug/L	1	0.22	0.79		
Carbon Tetrachloride	ND	ug/L	1	0.19	0.66	5	
Chlorobenzene	ND	ug/L	1	0.16	0.56	100	
Chloroethane	ND	ug/L	1	1.5	5.4		
Chloroform	ND	ug/L	1	0.17	0.60	80	
Chloromethane	ND	ug/L	1	0.19	0.68		
Dibromochloromethane	ND	ug/L	1	0.17	0.61	80	
1,2-Dibromo-3-Chloropropane	ND	ug/L	1	0.21	0.73		
1,2-Dibromoethane	ND	ug/L	1	0.12	0.43		
Dibromomethane	ND	ug/L	1	0.21	0.73		
1,2-Dichlorobenzene	ND	ug/L	1	0.22	0.76	600	
1,3-Dichlorobenzene	ND	ug/L	1	0.20	0.72		
1,4-Dichlorobenzene	ND	ug/L	1	0.21	0.76	75	
Dichlorodifluoromethane	ND	ug/L	1	0.14	0.49		
1,1-Dichloroethane	ND	ug/L	1	0.18	0.64		
1,2-Dichloroethane	ND	ug/L	1	0.19	0.69	5	
1,1-Dichloroethene	ND	ug/L	1	0.16	0.57	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.18	0.62	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.15	0.51	100	
1,2-Dichloropropane	ND	ug/L	1	0.24	0.84	5	
cis-1,3-Dichloropropene	ND	ug/L	1	0.19	0.68		
trans-1,3-Dichloropropene	ND	ug/L	1	0.14	0.51		
Ethylbenzene	ND	ug/L	1	0.30	1.1	700	
Methylene chloride	ND	ug/L	1	0.20	0.70	5	
Naphthalene	ND	ug/L	1	0.29	1.0		
Styrene	ND	ug/L	1	0.16	0.56	100	
ortho-Xylene	ND	ug/L	1	0.16	0.56		
Tetrachloroethene	ND	ug/L	1	0.17	0.58	5	
Toluene	ND	ug/L	1	0.19	0.68	1000	
1,1,1-Trichloroethane	ND	ug/L	1	0.17	0.61	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.17	0.59	5	
Trichloroethene	ND	ug/L	1	0.24	0.84	5	
Trichlorofluoromethane	ND	ug/L	1	0.17	0.60		
Vinyl chloride	ND	ug/L	1	0.16	0.57	.2	
meta,para-Xylene	ND	ug/L	1	0.32	1.1	10000	
MTBE	ND	ug/L	1	0.22	0.76		
Acetone	ND	ug/L	1	4.2	12		
Carbon Disulfide	ND	ug/L	1	0.16	0.58		
Methyl Ethyl Ketone	ND	ug/L	1	0.50	1.8		
Tetrahydrofuran	ND	ug/L	1	0.97	3.5		
Dibromofluoromethane (SURR)	119%		1				S
Toluene-d8 (SURR)	108%		1				S
1-Bromo-4-Fluorobenzene (SURR)	108%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:
S = This compound is a surrogate used to evaluate the quality control of a method.

ANALYTICAL RESULTS: VOC's by P&T/GCMS - Water - (VarSat3)
Customer: Marathon County Solid Waste Mgmnt Dept NLS Project: 318858
Project Description: Marathon County Area A Private Wells
Project Title: April 2019 Template: SAT3APP3 Printed: 05/01/2019 03:51

Sample: 1113409 PW19 Collected: 04/04/19 Analyzed: 04/12/19 - Analytes: 43

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.19	0.69	5	
Bromodichloromethane	ND	ug/L	1	0.19	0.68	80	
Bromoform	ND	ug/L	1	0.16	0.56	80	
Bromomethane	ND	ug/L	1	0.22	0.79		
Carbon Tetrachloride	ND	ug/L	1	0.19	0.66	5	
Chlorobenzene	ND	ug/L	1	0.16	0.56	100	
Chloroethane	ND	ug/L	1	1.5	5.4		
Chloroform	ND	ug/L	1	0.17	0.60	80	
Chloromethane	ND	ug/L	1	0.19	0.68		
Dibromochloromethane	ND	ug/L	1	0.17	0.61	80	
1,2-Dibromo-3-Chloropropane	ND	ug/L	1	0.21	0.73		
1,2-Dibromoethane	ND	ug/L	1	0.12	0.43		
Dibromomethane	ND	ug/L	1	0.21	0.73		
1,2-Dichlorobenzene	ND	ug/L	1	0.22	0.76	600	
1,3-Dichlorobenzene	ND	ug/L	1	0.20	0.72		
1,4-Dichlorobenzene	ND	ug/L	1	0.21	0.76	75	
Dichlorodifluoromethane	ND	ug/L	1	0.14	0.49		
1,1-Dichloroethane	ND	ug/L	1	0.18	0.64		
1,2-Dichloroethane	ND	ug/L	1	0.19	0.69	5	
1,1-Dichloroethene	ND	ug/L	1	0.16	0.57	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.18	0.62	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.15	0.51	100	
1,2-Dichloropropane	ND	ug/L	1	0.24	0.84	5	
cis-1,3-Dichloropropene	ND	ug/L	1	0.19	0.68		
trans-1,3-Dichloropropene	ND	ug/L	1	0.14	0.51		
Ethylbenzene	ND	ug/L	1	0.30	1.1	700	
Methylene chloride	ND	ug/L	1	0.20	0.70	5	
Naphthalene	ND	ug/L	1	0.29	1.0		
Styrene	ND	ug/L	1	0.16	0.56	100	
ortho-Xylene	ND	ug/L	1	0.16	0.56		
Tetrachloroethene	ND	ug/L	1	0.17	0.58	5	
Toluene	ND	ug/L	1	0.19	0.68	1000	
1,1,1-Trichloroethane	ND	ug/L	1	0.17	0.61	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.17	0.59	5	
Trichloroethene	ND	ug/L	1	0.24	0.84	5	
Trichlorofluoromethane	ND	ug/L	1	0.17	0.60		
Vinyl chloride	ND	ug/L	1	0.16	0.57	.2	
meta,para-Xylene	ND	ug/L	1	0.32	1.1	10000	
MTBE	ND	ug/L	1	0.22	0.76		
Acetone	ND	ug/L	1	4.2	12		
Carbon Disulfide	ND	ug/L	1	0.16	0.58		
Methyl Ethyl Ketone	ND	ug/L	1	0.50	1.8		
Tetrahydrofuran	ND	ug/L	1	0.97	3.5		
Dibromofluoromethane (SURR)	113%		1				S
Toluene-d8 (SURR)	111%		1				S
1-Bromo-4-Fluorobenzene (SURR)	106%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:
S = This compound is a surrogate used to evaluate the quality control of a method.

ANALYTICAL RESULTS: VOC's by P&T/GCMS - Water - (VarSat3)
Customer: Marathon County Solid Waste Mgmnt Dept NLS Project: 318858
Project Description: Marathon County Area A Private Wells
Project Title: April 2019 Template: SAT3APP3 Printed: 05/01/2019 03:51

Sample: 1113410 PW24 Collected: 04/04/19 Analyzed: 04/12/19 - Analytes: 43

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.19	0.69	5	
Bromodichloromethane	ND	ug/L	1	0.19	0.68	80	
Bromoform	ND	ug/L	1	0.16	0.56	80	
Bromomethane	ND	ug/L	1	0.22	0.79		
Carbon Tetrachloride	ND	ug/L	1	0.19	0.66	5	
Chlorobenzene	ND	ug/L	1	0.16	0.56	100	
Chloroethane	ND	ug/L	1	1.5	5.4		
Chloroform	ND	ug/L	1	0.17	0.60	80	
Chloromethane	ND	ug/L	1	0.19	0.68		
Dibromochloromethane	ND	ug/L	1	0.17	0.61	80	
1,2-Dibromo-3-Chloropropane	ND	ug/L	1	0.21	0.73		
1,2-Dibromoethane	ND	ug/L	1	0.12	0.43		
Dibromomethane	ND	ug/L	1	0.21	0.73		
1,2-Dichlorobenzene	ND	ug/L	1	0.22	0.76	600	
1,3-Dichlorobenzene	ND	ug/L	1	0.20	0.72		
1,4-Dichlorobenzene	ND	ug/L	1	0.21	0.76	75	
Dichlorodifluoromethane	ND	ug/L	1	0.14	0.49		
1,1-Dichloroethane	ND	ug/L	1	0.18	0.64		
1,2-Dichloroethane	ND	ug/L	1	0.19	0.69	5	
1,1-Dichloroethene	ND	ug/L	1	0.16	0.57	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.18	0.62	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.15	0.51	100	
1,2-Dichloropropane	ND	ug/L	1	0.24	0.84	5	
cis-1,3-Dichloropropene	ND	ug/L	1	0.19	0.68		
trans-1,3-Dichloropropene	ND	ug/L	1	0.14	0.51		
Ethylbenzene	ND	ug/L	1	0.30	1.1	700	
Methylene chloride	ND	ug/L	1	0.20	0.70	5	
Naphthalene	ND	ug/L	1	0.29	1.0		
Styrene	ND	ug/L	1	0.16	0.56	100	
ortho-Xylene	ND	ug/L	1	0.16	0.56		
Tetrachloroethene	ND	ug/L	1	0.17	0.58	5	
Toluene	ND	ug/L	1	0.19	0.68	1000	
1,1,1-Trichloroethane	ND	ug/L	1	0.17	0.61	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.17	0.59	5	
Trichloroethene	ND	ug/L	1	0.24	0.84	5	
Trichlorofluoromethane	ND	ug/L	1	0.17	0.60		
Vinyl chloride	ND	ug/L	1	0.16	0.57	.2	
meta,para-Xylene	ND	ug/L	1	0.32	1.1	10000	
MTBE	ND	ug/L	1	0.22	0.76		
Acetone	ND	ug/L	1	4.2	12		
Carbon Disulfide	ND	ug/L	1	0.16	0.58		
Methyl Ethyl Ketone	ND	ug/L	1	0.50	1.8		
Tetrahydrofuran	ND	ug/L	1	0.97	3.5		
Dibromofluoromethane (SURR)	120%		1				S
Toluene-d8 (SURR)	106%		1				S
1-Bromo-4-Fluorobenzene (SURR)	109%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:
S = This compound is a surrogate used to evaluate the quality control of a method.

ANALYTICAL RESULTS: VOC's by P&T/GCMS - Water - (VarSat3)

Customer: Marathon County Solid Waste Mgmnt Dept **NLS Project: 318858**
Project Description: Marathon County Area A Private Wells
Project Title: April 2019 **Template: SAT3APP3** **Printed: 05/01/2019 03:51**

Sample: 1113411 PW17 Collected: 04/04/19 Analyzed: 04/12/19 - Analytes: 43

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.19	0.69	5	
Bromodichloromethane	ND	ug/L	1	0.19	0.68	80	
Bromoform	ND	ug/L	1	0.16	0.56	80	
Bromomethane	ND	ug/L	1	0.22	0.79		
Carbon Tetrachloride	ND	ug/L	1	0.19	0.66	5	
Chlorobenzene	ND	ug/L	1	0.16	0.56	100	
Chloroethane	ND	ug/L	1	1.5	5.4		
Chloroform	ND	ug/L	1	0.17	0.60	80	
Chloromethane	ND	ug/L	1	0.19	0.68		
Dibromochloromethane	ND	ug/L	1	0.17	0.61	80	
1,2-Dibromo-3-Chloropropane	ND	ug/L	1	0.21	0.73		
1,2-Dibromoethane	ND	ug/L	1	0.12	0.43		
Dibromomethane	ND	ug/L	1	0.21	0.73		
1,2-Dichlorobenzene	ND	ug/L	1	0.22	0.76	600	
1,3-Dichlorobenzene	ND	ug/L	1	0.20	0.72		
1,4-Dichlorobenzene	ND	ug/L	1	0.21	0.76	75	
Dichlorodifluoromethane	ND	ug/L	1	0.14	0.49		
1,1-Dichloroethane	ND	ug/L	1	0.18	0.64		
1,2-Dichloroethane	ND	ug/L	1	0.19	0.69	5	
1,1-Dichloroethene	ND	ug/L	1	0.16	0.57	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.18	0.62	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.15	0.51	100	
1,2-Dichloropropane	ND	ug/L	1	0.24	0.84	5	
cis-1,3-Dichloropropene	ND	ug/L	1	0.19	0.68		
trans-1,3-Dichloropropene	ND	ug/L	1	0.14	0.51		
Ethylbenzene	ND	ug/L	1	0.30	1.1	700	
Methylene chloride	ND	ug/L	1	0.20	0.70	5	
Naphthalene	ND	ug/L	1	0.29	1.0		
Styrene	ND	ug/L	1	0.16	0.56	100	
ortho-Xylene	ND	ug/L	1	0.16	0.56		
Tetrachloroethene	ND	ug/L	1	0.17	0.58	5	
Toluene	ND	ug/L	1	0.19	0.68	1000	
1,1,1-Trichloroethane	ND	ug/L	1	0.17	0.61	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.17	0.59	5	
Trichloroethene	ND	ug/L	1	0.24	0.84	5	
Trichlorofluoromethane	ND	ug/L	1	0.17	0.60		
Vinyl chloride	ND	ug/L	1	0.16	0.57	.2	
meta,para-Xylene	ND	ug/L	1	0.32	1.1	10000	
MTBE	ND	ug/L	1	0.22	0.76		
Acetone	ND	ug/L	1	4.2	12		
Carbon Disulfide	ND	ug/L	1	0.16	0.58		
Methyl Ethyl Ketone	ND	ug/L	1	0.50	1.8		
Tetrahydrofuran	ND	ug/L	1	0.97	3.5		
Dibromofluoromethane (SURR)	120%		1				S
Toluene-d8 (SURR)	110%		1				S
1-Bromo-4-Fluorobenzene (SURR)	107%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

ANALYTICAL RESULTS: VOC's by P&T/GCMS - Water - (VarSat3)

Customer: Marathon County Solid Waste Mgmnt Dept **NLS Project: 318858**
Project Description: Marathon County Area A Private Wells
Project Title: April 2019 **Template: SAT3APP3** **Printed: 05/01/2019 03:51**

Sample: 1113412 PW64 Collected: 04/04/19 Analyzed: 04/12/19 - Analytes: 43

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.19	0.69	5	
Bromodichloromethane	ND	ug/L	1	0.19	0.68	80	
Bromoform	ND	ug/L	1	0.16	0.56	80	
Bromomethane	ND	ug/L	1	0.22	0.79		
Carbon Tetrachloride	ND	ug/L	1	0.19	0.66	5	
Chlorobenzene	ND	ug/L	1	0.16	0.56	100	
Chloroethane	ND	ug/L	1	1.5	5.4		
Chloroform	ND	ug/L	1	0.17	0.60	80	
Chloromethane	ND	ug/L	1	0.19	0.68		
Dibromochloromethane	ND	ug/L	1	0.17	0.61	80	
1,2-Dibromo-3-Chloropropane	ND	ug/L	1	0.21	0.73		
1,2-Dibromoethane	ND	ug/L	1	0.12	0.43		
Dibromomethane	ND	ug/L	1	0.21	0.73		
1,2-Dichlorobenzene	ND	ug/L	1	0.22	0.76	600	
1,3-Dichlorobenzene	ND	ug/L	1	0.20	0.72		
1,4-Dichlorobenzene	ND	ug/L	1	0.21	0.76	75	
Dichlorodifluoromethane	ND	ug/L	1	0.14	0.49		
1,1-Dichloroethane	ND	ug/L	1	0.18	0.64		
1,2-Dichloroethane	ND	ug/L	1	0.19	0.69	5	
1,1-Dichloroethene	ND	ug/L	1	0.16	0.57	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.18	0.62	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.15	0.51	100	
1,2-Dichloropropane	ND	ug/L	1	0.24	0.84	5	
cis-1,3-Dichloropropene	ND	ug/L	1	0.19	0.68		
trans-1,3-Dichloropropene	ND	ug/L	1	0.14	0.51		
Ethylbenzene	ND	ug/L	1	0.30	1.1	700	
Methylene chloride	ND	ug/L	1	0.20	0.70	5	
Naphthalene	ND	ug/L	1	0.29	1.0		
Styrene	ND	ug/L	1	0.16	0.56	100	
ortho-Xylene	ND	ug/L	1	0.16	0.56		
Tetrachloroethene	ND	ug/L	1	0.17	0.58	5	
Toluene	ND	ug/L	1	0.19	0.68	1000	
1,1,1-Trichloroethane	ND	ug/L	1	0.17	0.61	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.17	0.59	5	
Trichloroethene	ND	ug/L	1	0.24	0.84	5	
Trichlorofluoromethane	ND	ug/L	1	0.17	0.60		
Vinyl chloride	ND	ug/L	1	0.16	0.57	.2	
meta,para-Xylene	ND	ug/L	1	0.32	1.1	10000	
MTBE	ND	ug/L	1	0.22	0.76		
Acetone	[5.3]	ug/L	1	4.2	12		J MD
Carbon Disulfide	ND	ug/L	1	0.16	0.58		
Methyl Ethyl Ketone	ND	ug/L	1	0.50	1.8		
Tetrahydrofuran	ND	ug/L	1	0.97	3.5		
Dibromofluoromethane (SURR)	116%		1				S
Toluene-d8 (SURR)	105%		1				S
1-Bromo-4-Fluorobenzene (SURR)	106%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:

J = Result enclosed in brackets is between LOD and LOQ, a region of less certain quantitation.
S = This compound is a surrogate used to evaluate the quality control of a method.
MD = Matrix spike and matrix spike duplicate relative percent difference exceeded QC limits.

ANALYTICAL RESULTS: VOC's by P&T/GCMS - Water - (VarSat2000)

Customer: Marathon County Solid Waste Mgmnt Dept **NLS Project: 318858**
Project Description: Marathon County Area A Private Wells
Project Title: April 2019 **Template: SATAPP3** **Printed: 05/01/2019 03:53**

Sample: 1113413 PW88 Collected: 04/04/19 Analyzed: 04/12/19 - Analytes: 43

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.24	0.84	5	
Bromodichloromethane	ND	ug/L	1	0.27	0.94	80	
Bromoform	ND	ug/L	1	0.21	0.73	80	
Bromomethane	ND	ug/L	1	0.27	0.96		CC
Carbon Tetrachloride	ND	ug/L	1	0.16	0.55	5	
Chlorobenzene	ND	ug/L	1	0.25	0.87	100	
Chloroethane	ND	ug/L	1	0.93	3.3		
Chloroform	ND	ug/L	1	0.22	0.78	80	
Chloromethane	ND	ug/L	1	0.22	0.78		
Dibromochloromethane	ND	ug/L	1	0.16	0.56	80	
1,2-Dibromo-3-Chloropropane	ND	ug/L	1	0.18	0.63		
1,2-Dibromoethane	ND	ug/L	1	0.23	0.81		
Dibromomethane	ND	ug/L	1	0.22	0.78		
1,2-Dichlorobenzene	ND	ug/L	1	0.21	0.73	600	
1,3-Dichlorobenzene	ND	ug/L	1	0.20	0.70		
1,4-Dichlorobenzene	ND	ug/L	1	0.27	0.95	75	
Dichlorodifluoromethane	ND	ug/L	1	0.17	0.58		
1,1-Dichloroethane	ND	ug/L	1	0.19	0.67		
1,2-Dichloroethane	ND	ug/L	1	0.22	0.78	5	
1,1-Dichloroethene	ND	ug/L	1	0.20	0.69	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.24	0.84	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.17	0.60	100	
1,2-Dichloropropane	ND	ug/L	1	0.28	0.98	5	
cis-1,3-Dichloropropene	ND	ug/L	1	0.26	0.91		
trans-1,3-Dichloropropene	ND	ug/L	1	0.19	0.69		
Ethylbenzene	ND	ug/L	1	0.19	0.69	700	
Methylene chloride	ND	ug/L	1	0.24	0.84	5	
Naphthalene	ND	ug/L	1	0.43	1.5		
Styrene	ND	ug/L	1	0.19	0.66	100	
ortho-Xylene	ND	ug/L	1	0.19	0.66		
Tetrachloroethene	ND	ug/L	1	0.22	0.78	5	
Toluene	ND	ug/L	1	0.21	0.74	1000	
1,1,1-Trichloroethane	ND	ug/L	1	0.20	0.69	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.20	0.69	5	
Trichloroethene	ND	ug/L	1	0.32	1.1	5	
Trichlorofluoromethane	ND	ug/L	1	0.20	0.71		
Vinyl chloride	ND	ug/L	1	0.17	0.60	.2	
meta,para-Xylene	ND	ug/L	1	0.37	1.3	10000	
MTBE	ND	ug/L	1	0.21	0.73		
Acetone	ND	ug/L	1	4.2	12		
Carbon Disulfide	ND	ug/L	1	0.17	0.59		
Methyl Ethyl Ketone	ND	ug/L	1	0.57	2.0		
Tetrahydrofuran	ND	ug/L	1	0.58	2.0		
Dibromofluoromethane (SURR)	116%		1				S
Toluene-d8 (SURR)	100%		1				S
1-Bromo-4-Fluorobenzene (SURR)	109%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.
CC = Continuing calibration verification standard recovery was outside QC limits.
Bromomethane recovery 74%

ANALYTICAL RESULTS: VOC's by P&T/GCMS - Water - (VarSat2000)

Customer: Marathon County Solid Waste Mgmnt Dept **NLS Project: 318858**
Project Description: Marathon County Area A Private Wells
Project Title: April 2019 **Template: SATAPP3** **Printed: 05/01/2019 03:53**

Sample: 1113414 PW48 Collected: 04/04/19 Analyzed: 04/12/19 - Analytes: 43

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.24	0.84	5	
Bromodichloromethane	ND	ug/L	1	0.27	0.94	80	
Bromoform	ND	ug/L	1	0.21	0.73	80	
Bromomethane	ND	ug/L	1	0.27	0.96		CC
Carbon Tetrachloride	ND	ug/L	1	0.16	0.55	5	
Chlorobenzene	ND	ug/L	1	0.25	0.87	100	
Chloroethane	ND	ug/L	1	0.93	3.3		
Chloroform	ND	ug/L	1	0.22	0.78	80	
Chloromethane	ND	ug/L	1	0.22	0.78		
Dibromochloromethane	ND	ug/L	1	0.16	0.56	80	
1,2-Dibromo-3-Chloropropane	ND	ug/L	1	0.18	0.63		
1,2-Dibromoethane	ND	ug/L	1	0.23	0.81		
Dibromomethane	ND	ug/L	1	0.22	0.78		
1,2-Dichlorobenzene	ND	ug/L	1	0.21	0.73	600	
1,3-Dichlorobenzene	ND	ug/L	1	0.20	0.70		
1,4-Dichlorobenzene	ND	ug/L	1	0.27	0.95	75	
Dichlorodifluoromethane	ND	ug/L	1	0.17	0.58		
1,1-Dichloroethane	ND	ug/L	1	0.19	0.67		
1,2-Dichloroethane	ND	ug/L	1	0.22	0.78	5	
1,1-Dichloroethene	ND	ug/L	1	0.20	0.69	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.24	0.84	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.17	0.60	100	
1,2-Dichloropropane	ND	ug/L	1	0.28	0.98	5	
cis-1,3-Dichloropropene	ND	ug/L	1	0.26	0.91		
trans-1,3-Dichloropropene	ND	ug/L	1	0.19	0.69		
Ethylbenzene	ND	ug/L	1	0.19	0.69	700	
Methylene chloride	ND	ug/L	1	0.24	0.84	5	
Naphthalene	ND	ug/L	1	0.43	1.5		
Styrene	ND	ug/L	1	0.19	0.66	100	
ortho-Xylene	ND	ug/L	1	0.19	0.66		
Tetrachloroethene	ND	ug/L	1	0.22	0.78	5	
Toluene	ND	ug/L	1	0.21	0.74	1000	
1,1,1-Trichloroethane	ND	ug/L	1	0.20	0.69	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.20	0.69	5	
Trichloroethene	ND	ug/L	1	0.32	1.1	5	
Trichlorofluoromethane	ND	ug/L	1	0.20	0.71		
Vinyl chloride	ND	ug/L	1	0.17	0.60	.2	
meta,para-Xylene	ND	ug/L	1	0.37	1.3	10000	
MTBE	ND	ug/L	1	0.21	0.73		
Acetone	ND	ug/L	1	4.2	12		
Carbon Disulfide	ND	ug/L	1	0.17	0.59		
Methyl Ethyl Ketone	ND	ug/L	1	0.57	2.0		
Tetrahydrofuran	ND	ug/L	1	0.58	2.0		
Dibromofluoromethane (SURR)	101%		1				S
Toluene-d8 (SURR)	113%		1				S
1-Bromo-4-Fluorobenzene (SURR)	106%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.
CC = Continuing calibration verification standard recovery was outside QC limits.
Bromomethane recovery 74%

ANALYTICAL RESULTS: VOC's by P&T/GCMS - Water - (VarSat2000)
Customer: Marathon County Solid Waste Mgmnt Dept NLS Project: 318858
Project Description: Marathon County Area A Private Wells
Project Title: April 2019 Template: SATAPP3 Printed: 05/01/2019 03:53

Sample: 1113415 Trip Blank Collected: 04/04/19 Analyzed: 04/12/19 - Analytes: 43

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.24	0.84	5	
Bromodichloromethane	ND	ug/L	1	0.27	0.94	80	
Bromoform	ND	ug/L	1	0.21	0.73	80	
Bromomethane	ND	ug/L	1	0.27	0.96		CC
Carbon Tetrachloride	ND	ug/L	1	0.16	0.55	5	
Chlorobenzene	ND	ug/L	1	0.25	0.87	100	
Chloroethane	ND	ug/L	1	0.93	3.3		
Chloroform	ND	ug/L	1	0.22	0.78	80	
Chloromethane	ND	ug/L	1	0.22	0.78		
Dibromochloromethane	ND	ug/L	1	0.16	0.56	80	
1,2-Dibromo-3-Chloropropane	ND	ug/L	1	0.18	0.63		
1,2-Dibromoethane	ND	ug/L	1	0.23	0.81		
Dibromomethane	ND	ug/L	1	0.22	0.78		
1,2-Dichlorobenzene	ND	ug/L	1	0.21	0.73	600	
1,3-Dichlorobenzene	ND	ug/L	1	0.20	0.70		
1,4-Dichlorobenzene	ND	ug/L	1	0.27	0.95	75	
Dichlorodifluoromethane	ND	ug/L	1	0.17	0.58		
1,1-Dichloroethane	ND	ug/L	1	0.19	0.67		
1,2-Dichloroethane	ND	ug/L	1	0.22	0.78	5	
1,1-Dichloroethene	ND	ug/L	1	0.20	0.69	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.24	0.84	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.17	0.60	100	
1,2-Dichloropropane	ND	ug/L	1	0.28	0.98	5	
cis-1,3-Dichloropropene	ND	ug/L	1	0.26	0.91		
trans-1,3-Dichloropropene	ND	ug/L	1	0.19	0.69		
Ethylbenzene	ND	ug/L	1	0.19	0.69	700	
Methylene chloride	ND	ug/L	1	0.24	0.84	5	
Naphthalene	ND	ug/L	1	0.43	1.5		
Styrene	ND	ug/L	1	0.19	0.66	100	
ortho-Xylene	ND	ug/L	1	0.19	0.66		
Tetrachloroethene	ND	ug/L	1	0.22	0.78	5	
Toluene	ND	ug/L	1	0.21	0.74	1000	
1,1,1-Trichloroethane	ND	ug/L	1	0.20	0.69	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.20	0.69	5	
Trichloroethene	ND	ug/L	1	0.32	1.1	5	
Trichlorofluoromethane	ND	ug/L	1	0.20	0.71		
Vinyl chloride	ND	ug/L	1	0.17	0.60	.2	
meta,para-Xylene	ND	ug/L	1	0.37	1.3	10000	
MTBE	ND	ug/L	1	0.21	0.73		
Acetone	ND	ug/L	1	4.2	12		
Carbon Disulfide	ND	ug/L	1	0.17	0.59		
Methyl Ethyl Ketone	ND	ug/L	1	0.57	2.0		
Tetrahydrofuran	ND	ug/L	1	0.58	2.0		
Dibromofluoromethane (SURR)	105%		1				S
Toluene-d8 (SURR)	113%		1				S
1-Bromo-4-Fluorobenzene (SURR)	104%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

CC = Continuing calibration verification standard recovery was outside QC limits.
Bromomethane recovery 74%

NLS Private Well Sampling Form and Chain Of Custody (pg 1 of 3)

SITE: Marathon Co. Solid Waste Management Dept. / Area A – Private Wells

1A

NLS Lab #:	Point Name / Homeowner:	DNR ID #:	Time Purged:	Color:	Odor:	Turbidity (quant,text,color):
1113-406	PW25 Levandoski, Mike R221828 Duncan Road, Hatley	353	5 MIN	CLEAR	ND	ND.

Date Sampled:	Time Sampled:	Sample Location:	Treated (Y/N)
4.4.19	0835	FAUCET NORTH SIDE of HOUSE.	N

Comments:

Softener - no Collect from - outside faucet, north side of house

NLS Lab #:	Point Name / Homeowner:	DNR ID #:	Time Purged:	Color:	Odor:	Turbidity (quant,text,color):
407	PW68 Andraschko, Anthony R221630 Duncan Road, Hatley	361	5 MIN	CLEAR	ND	ND

Date Sampled:	Time Sampled:	Sample Location:	Treated (Y/N)
4.4.19	0808	NORT OUT SIDE FAUCET.	N

Comments: NEW OWNER DEREK PIONKE

Softener – yes but not in use Collect from – kitchen sink or North outside faucet

NLS Lab #:	Point Name / Homeowner:	DNR ID #:	Time Purged:	Color:	Odor:	Turbidity (quant,text,color):
408	PW18 Falkowski, Janet R221765 Duncan Road, Hatley	350	5 MIN	CLEAR	ND	ND

Date Sampled:	Time Sampled:	Sample Location:	Treated (Y/N)
4.4.19	0824	EAST OUT SIDE FAUCET BACK of HOUSE	N

Comments:

Softener – no Collect from - kitchen sink or outside back faucet

NLS Lab #:	Point Name / Homeowner:	DNR ID #:	Time Purged:	Color:	Odor:	Turbidity (quant,text,color):
409	PW19 Jozwiak-Popp, Rose R221561 Duncan Road, Hatley	351	5 MIN	CLEAR	ND.	ND

Date Sampled:	Time Sampled:	Sample Location:	Treated (Y/N)
4-4-19	0752	OUT SIDE FAUCET ACROSS DRIVEWAY.	N.

Comments:

Softerer – Yes. Collect from – outside faucet across driveway from house (not softened – should be on year round)

Rev 3/19

See reverse side for sample custody information

NLS Private Well Sampling Form and Chain Of Custody (pg 2 of 3)

SITE: Marathon Co. Solid Waste Management Dept. / Area A – Private Wells

2A

NLS Lab #:	Point Name / Homeowner:	DNR ID #:	Time Purged:	Color:	Odor:	Turbidity (quant,text,color):
410	PW24 Kluck, Mark R221950 Duncan Road, Hatley	352	5 MIN	CLEAR	ND	ND

Date Sampled:	Time Sampled:	Sample Location:	Treated (Y/N)
4.4.19	0844	FRONT of HOUSE OUTSIDE FAUCET	N

Comments:

Softener – no Collect from – front outside faucet (4/21/10 – owner said front faucet now works and is closer to the well)

NLS Lab #:	Point Name / Homeowner:	DNR ID #:	Time Purged:	Color:	Odor:	Turbidity (quant,text,color):
411	PW17 Liebe, Neal R174825 Willow Lane, Hatley	028	5 MIN	CLEAR	ND	ND

Date Sampled:	Time Sampled:	Sample Location:	Treated (Y/N)
4.4.19	0918	FRONT of HOUSE EAST SIDE By DRIVEWAY	N

Comments:

Softener – no Collect from – East side of house near driveway

NLS Lab #:	Point Name / Homeowner:	DNR ID #:	Time Purged:	Color:	Odor:	Turbidity (quant,text,color):
412	PW64 Sheehan, Carol R221524 Duncan Road, Hatley	359	5 MIN	CLEAR	ND	ND

Date Sampled:	Time Sampled:	Sample Location:	Treated (Y/N)
4.4.19	0905	BASEMENT BEFORE SOFTENER	N

Comments:

Softener – yes Collect from – faucet in basement before softener

NLS Lab #:	Point Name / Homeowner:	DNR ID #:	Time Purged:	Color:	Odor:	Turbidity (quant,text,color):
413	PW88 Zogata, Aaron R222036 Duncan Road, Hatley	365	5 MIN	ND CLEAR	ND	ND

Date Sampled:	Time Sampled:	Sample Location:	Treated (Y/N)
4.4.19	0852	OUTSIDE FAUCET FRONT of HOUSE	N

Comments:

Softener – yes Collect from – outside faucet, front of house

See reverse side for sample custody information

NLS Private Well Sampling Form and Chain Of Custody (pg 3 of 3)

SITE: Marathon Co. Solid Waste Management Dept. / Area A – Private Wells

3A

NLS Lab #:	Point Name / Homeowner:	DNR ID #:	Time Purged:	Color:	Odor:	Turbidity (quant,text,color):
414	PW48 Marathon Co. Hwy Dept. R222005 Duncan Road, Hatley	356	5 MIN	CLEAR	ND	ND

Date Sampled:	Time Sampled:	Sample Location:	Treated (Y/N)
4·4·19	0710	BATHROOM LOCKER ROOM SINK	N

X Comments:

Softener – No. Collect from – bathroom/locker room sink

NLS Lab #:	Point Name / Homeowner:	DNR ID #:	Time Purged:	Color:	Odor:	Turbidity (quant,text,color):
415	Trip Blank	999	N/A	N/A	N/A	N/A

Date Sampled:	Time Sampled:	Sample Location:	Treated (Y/N)
	N/A	N/A	N/A

Comments:

NLS Lab #:	Point Name / Homeowner:	DNR ID #:	Time Purged:	Color:	Odor:	Turbidity (quant,text,color):

Date Sampled:	Time Sampled:	Sample Location:	Treated (Y/N)

Comments:

NLS Lab #:	Point Name / Homeowner:	DNR ID #:	Time Purged:	Color:	Odor:	Turbidity (quant,text,color):

Date Sampled:	Time Sampled:	Sample Location:	Treated (Y/N)

Comments:

See reverse side for sample custody information

Marathon County Solid Waste Department

172900 E. Hwy 29
Ringle, WI 54471

Director:	715-446-3101 X104
Site Supervisor:	715-446-3101 X102
Administrative Office:	715-446-3101 X100
Scale Master	715-446-3101 X103
Solid Waste & Recycling Info Line	877-270-3989 toll-free

marathoncountysolidwaste.org
marathoncountysolidwaste

Dec 6, 2019

Wisconsin Department of Natural Resources
Bureau of Solid Waste Management
GEMS Data Submittal Contact, WA/3
P.O. Box 7921
Madison, WI 53707-7921

RE: Exceedance of Groundwater Standards for Marathon County Landfill: License No. 2892 Area A

In accordance with NR 140, please accept this notification of groundwater monitoring results for the reporting period of October 2019. An exceedance table has been attached for the Area A landfill and can be found on the following page.

If you have any questions, please contact me.

Thank you,

David Hagenbucher
Operations Manager
Marathon County Solid Waste

C.c: Nathan Coller, Megan Ballweg, Sally Hronek, Meleesa Johnson, Lee Daigle, Mark Torresani.

Area A Groundwater Well Exceedance Table October 2019

Marathon County Solid Waste: Area A Groundwater Monitoring Wells									
	Area A	Facility #2892	Exceedances						
Project #	Date	Well #	Parameter	Units	Result	PAL	ES	ACL	Comments
333080	October 14 & 15	Dup 101519	Tetrachloroethylene	ug/L	0.63	0.50	5.00		NR140.10
333080	October 14 & 15	Dup 101519	Trichloroethylene	ug/L	7.20	0.50	5.00		NR140.10
333080	October 14 & 15	Dup 101519	Vinyl Chloride	ug/L	0.50	0.02	0.20		NR140.10
333080	October 14 & 15	R13R	Tetrachloroethylene	ug/L	0.74	0.50	5.00		NR140.10
333080	October 14 & 15	R13R	Trichloroethylene	ug/L	7.20	0.50	5.00		NR140.10
333080	October 14 & 15	R13R	Vinyl Chloride	ug/L	0.49	0.02	0.20		NR140.10
333080	October 14 & 15	R38	Tetrachloroethylene	ug/L	0.88	0.50	5.00		NR140.10
333080	October 14 & 15	R38	Trichloroethylene	ug/L	1.30	0.50	5.00		NR140.10
333080	October 14 & 15	R47	Trichloroethylene	ug/L	0.63	0.50	5.00		NR140.10
333080	October 14 & 15	R50P	Tetrachloroethylene	ug/L	0.57	0.50	5.00		NR140.10
333080	October 14 & 15	R35	Conductivity	umho@25C	770.00	510.00			well

The Area A exceedances that were detected during the October 2019 sampling event are consistent with the exceedances that were detected in previous sampling events.

Groundwater contamination was detected southeast of Area A during the late 1980s. By May of 1993, Marathon County completed a groundwater quality investigation and submitted a report to WDNR titled "Marathon County, Area A Landfill – Environmental Contamination Assessment (ECA) report". The ECA report suggested that contaminants may have been released to the environment from one or more of the leachate collection basins and other source locations. Consequently, several improvements were made and both leachate collection basins were removed in 1995. The identified groundwater contaminants of primary concern at this facility are VOCs, specifically the chlorinated aliphatic hydrocarbons (CAHs) and vinyl chloride. Since the remedial work from 1993 to 1996, significant reductions of CAH concentration have been measured near the suspected source zone.

It is the opinion of Marathon County that the exceedances are related to the leachate basins that were removed in 1995. The overall general concentrations reported at wells within the core of the plume are stable to decreasing. Marathon County will continue to monitor these wells for exceedances as required, and report any anomalies to the WDNR. Marathon County has installed groundwater monitoring wells along State Highway 29, just southeast of the site. If these particular wells begin showing signs of contamination, the County has a contingency plan in place and will respond to protect residents.

State of Wisconsin
Department of Natural Resources

ENVIRONMENTAL MONITORING DATA CERTIFICATION

Form 4400-231(R 1/04)

Notice: Personally identifiable information collected will be used for program administration and enforcement purposes. The department may also provide this information to requesters as required under Wisconsin's Open Records law, ss. 19.31 to 19.39, Wis. Stats.
When submitting monitoring data, the owner or operator of the facility, practice or activity is required to notify the Department in writing that a groundwater standard or an explosive gas level has been attained or exceeded, as specified in ss. NR 140.24(1)(a); NR 140.26(1)(a); NR 507.30; NR635.14(9)(a); NR 635.18(20) and NR 507.30, Wis. Adm. Code. Failure to report may result in fines, forfeitures or other penalties resulting from enforcement under ss. 289.97, 291.97 or 299.95, Wis. Stats.

Instructions:

* **Prepare one form for each license or monitoring ID.**
* **Please type or print legibly.**
* Attach a notification of any values that attain or exceed groundwater standards (that is, preventive action limits, enforcement standards or alternative concentration limits). The notification must include a preliminary analysis of the cause and significance of each value.
* Attach a notification of any gas values that attain or exceed explosive gas levels.
* Send the original signed form, any notification, and Electronic Data Deliverable [EDD] to: GEMS Data Submittal Contact - WA/5
  Wisconsin Department of Natural Resources
  P.O. Box 7921
  Madison, WI 53707 - 7921

Monitoring Data Submittal Information

Name of entity submitting data (laboratory, consultant, facility owner):
Northern Lake Service, Inc.

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:

Name: Chris Geske Phone: 715-478-2777
E-mail: lims@nlslab.com

Facility Name	License No. / Monitoring ID	Facility ID [FID]	Actual sampling dates (e.g., July 2-6, 2003
Marathon County Landfill - Area A	02892	737054890	OCTOBER -14-2019 through OCTOBER -16-2019
Some Area A wells are linked to BRRDF site (Lic. 04228) but reported here.			

The enclosed results are for sampling required in the month(s) of: (e.g., June 2003)
OCTOBER -2019

Type of Data Submitted (Check all that apply)

- [x] Groundwater monitoring data from monitoring wells
- [ ] Groundwater monitoring data from private water supply wells
- [ ] Leachate monitoring data
- [ ] Gas monitoring data
- [ ] Air monitoring data
- [ ] Other (specify) _____

Notification attached?

- [ ] No. No groundwater standards or explosive gas limits were exceeded.
- [x] Yes, a notification of values exceeding a groundwater standard is attached. It includes a list of monitoring points, dates, sample values, groundwater standard and preliminary analysis of the cause and significance of any concentration.
- [ ] Yes, a notification of values exceeding an explosive gas limit is attached. It includes the monitoring points, dates, sample values and explosive gas limits.

Certification

To the best of my knowledge, the information reported and statements made on this data submittal and attachements are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significant of concentrations exceeding groundwater standards.

David Hagenbucher	Operations Manager	715 551 5864
Facility Representative Name (Print)	Title	(Area Code) Telephone No.
David Hagenbucher	12/06/19	
Signature	Date	

FOR DNR USE ONLY: Check action taken, and record date and your initials. Describe on back side if necessary.

- [ ] Found uploading problems on _____ Initials _____
- [ ] Notified contact of problems on _____ Uploaded data successfully on _____

EDD format(s): [ ] Diskette [ ] CD (initial submittal and follow-up) [ ] E-mail (follow-up only) Other _____

Marathon County Solid Waste Mgmnt Dept
Marathon County Landfill - Area A
10-01-2019

Lab ID: 721026460
NLS Project: 333080
Collected: 10-01-2019
License: 02892
FID: 737054890

EXCEEDANCES:

Well Desc (Point ID)	Parameter	Units	Result	PAL / ACL	ES	Comments
Dup-101519 (074)	Tetrachloroethylene	ug/L	0.63	.5	5	NR140.10
Dup-101519 (074)	Trichloroethylene	ug/L	7.2	.5	5	NR140.10
Dup-101519 (074)	Vinyl Chloride	ug/L	0.50	.02	.2	NR140.10
R13R (074)	Tetrachloroethylene	ug/L	0.74	.5	5	NR140.10
R13R (074)	Trichloroethylene	ug/L	7.2	.5	5	NR140.10
R13R (074)	Vinyl Chloride	ug/L	0.49	.02	.2	NR140.10
R38 (053)	Tetrachloroethylene	ug/L	0.88	.5	5	NR140.10
R38 (053)	Trichloroethylene	ug/L	1.3	.5	5	NR140.10
R47 (062)	Trichloroethylene	ug/L	0.63	.5	5	NR140.10
R50P (068)	Tetrachloroethylene	ug/L	0.57	.5	5	NR140.10
R35 (050)	Conductivity	umho@25C	770	510		well

Notes: site = site assigned PAL/ES : well = well assigned PAL/ES : NR140.10 = NR140 Public Health PAL/ES : NR140.12 = NR140 Public Welfare PAL/ES

Marathon County Solid Waste Department

172900 E. Hwy 29
Ringle, WI 54471

Director:	715-446-3101 X104
Site Supervisor:	715-446-3101 X102
Administrative Office:	715-446-3101 X100
Scale Master	715-446-3101 X103
Solid Waste & Recycling Info Line	877-270-3989 toll-free

marathoncountysolidwaste.org
marathoncountysolidwaste

Dec 6, 2019

Wisconsin Department of Natural Resources
Bureau of Solid Waste Management
GEMS Data Submittal Contact, WA/3
P.O. Box 7921
Madison, WI 53707-7921

RE: Exceedance of Groundwater Standards for Marathon County Landfill, License No. 3338 Area B.

In accordance with NR 140, please accept this notification of groundwater monitoring results for the reporting period of October 2019. An exceedance table has been attached for the Area B landfill and can be found on the following page.

If you have any questions, please contact me.

Thank you,

David Hagenbucher
Operations Manager
Marathon County Solid Waste

C.c: Nathan Coller, Megan Ballweg, Sally Hronek, Meleesa Johnson, Lee Daigle, Mark Torresani.

Area B Groundwater Well Exceedance Table October 2019

Marathon County Solid Waste: Area B Groundwater Monitoring Wells									
	Area B	Facility #3338	Exceedances						
Project #	Date	Well #	Parameter	Units	Result	PAL	ES	ACL	Comments
332917	October 14 & 15	Dup 10151901	Nitrate+Nitrite	mg/L	2.10	2.00	10.00		NR140.10
332917	October 14 & 15	R27	Nitrate+Nitrite	mg/L	4.80	2.00	10.00		NR140.10
332917	October 14 & 16	R45	Nitrate+Nitrite	mg/L	2.10	2.00	10.00		NR140.11

The Area B Nitrate/Nitrite levels at wells R45 and R27 can be a result of improper farming practices. Throughout the past few years, Area B has had ongoing vegetation management to establish growth on slopes. Seed, fertilizer, and mulch have all been applied in an effort to control erosion. Well R45 has indicated a slight decrease in concentration since the previous sampling event in April 2019. R27 has indicated a slight increase since sampling in October of 2018. Significant precipitation and historic rainfalls also contributed to erosion around Area B, and may be a contributing factor to these exceedances. The wells will continue to be monitored closely to ensure that levels decrease. In an effort to ensure that levels decrease, Marathon County will evaluate their erosion control methods in addition to continued observation of well R45 and well R27. Current site plans include the installation of a final cap on the Area B landfill within the next few years; this will also control erosion and potential runoff issues at the wells around the landfill.

State of Wisconsin
Department of Natural Resources

ENVIRONMENTAL MONITORING DATA CERTIFICATION

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When submitting monitoring data, the owner or operator of the facility, practice or activity is required to notify the Department in writing that a groundwater standard or an explosive gas level has been attained or exceeded, as specified in ss. NR 140.24(1)(a); NR 140.26(1)(a); NR 507.30; NR635.14(9)(a); NR 635.18(20) and NR 507.30, Wis. Adm. Code. Failure to report may result in fines, forfeitures or other penalties resulting from enforcement under ss. 289.97, 291.97 or 299.95, Wis. Stats.

Instructions:

* **Prepare one form for each license or monitoring ID.**
* **Please type or print legibly.**
* Attach a notification of any values that attain or exceed groundwater standards (that is, preventive action limits, enforcement standards or alternative concentration limits). The notification must include a preliminary analysis of the cause and significance of each value.
* Attach a notification of any gas values that attain or exceed explosive gas levels.
* Send the original signed form, any notification, and Electronic Data Deliverable [EDD] to: GEMS Data Submittal Contact - WA/5
  Wisconsin Department of Natural Resources
  P.O. Box 7921
  Madison, WI 53707 - 7921

Monitoring Data Submittal Information

Name of entity submitting data (laboratory, consultant, facility owner):
Northern Lake Service, Inc.

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:

Name: Chris Geske Phone: 715-478-2777
E-mail: lims@nlslab.com

Facility Name	License No. / Monitoring ID	Facility ID [FID]	Actual sampling dates (e.g., July 2-6, 2003
Marathon County Landfill - Area B	03338	737092730	OCTOBER -14-2019 through OCTOBER -15-2019

The enclosed results are for sampling required in the month(s) of: (e.g., June 2003)
OCTOBER -2019

Type of Data Submitted (Check all that apply)

- [x] Groundwater monitoring data from monitoring wells
- [ ] Groundwater monitoring data from private water supply wells
- [ ] Leachate monitoring data
- [ ] Gas monitoring data
- [ ] Air monitoring data
- [ ] Other (specify) _____

Notification attached?

- [ ] No. No groundwater standards or explosive gas limits were exceeded.
- [x] Yes, a notification of values exceeding a groundwater standard is attached. It includes a list of monitoring points, dates, sample values, groundwater standard and preliminary analysis of the cause and significance of any concentration.
- [ ] Yes, a notification of values exceeding an explosive gas limit is attached. It includes the monitoring points, dates, sample values and explosive gas limits.

Certification

To the best of my knowledge, the information reported and statements made on this data submittal and attachements are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significant of concentrations exceeding groundwater standards.

David Hagenbucher — Manager — 715 551 5864
Facility Representative Name (Print) — Title — (Area Code) Telephone No.

David Hagenbucher — 12/06/19
Signature — Date

FOR DNR USE ONLY. Check action taken, and record date and your initials. Describe on back side if necessary.

- [ ] Found uploading problems on _____ Initials _____
- [ ] Notified contact of problems on _____ Uploaded data successfully on _____

EDD format(s): [ ] Diskette [ ] CD (initial submittal and follow-up) [ ] E-mail (follow-up only) Other _____

Marathon County Solid Waste Mgmnt Dept
Marathon County Landfill - Area B
10-01-2019

Lab ID: 721026460
NLS Project: 332917
Collected: 10-01-2019
License: 03338
FID: 737092730

EXCEEDANCES:

Well Desc (Point ID)	Parameter	Units	Result	PAL / ACL	ES	Comments
Dup- 10151901 (208)	Nitrate+Nitrite, dis.	mg/L	2.1	2	10	NR140.10
R27 (156)	Nitrate+Nitrite, dis.	mg/L	4.8	2	10	NR140.10
R45 (208)	Nitrate+Nitrite, dis.	mg/L	2.1	2	10	NR140.10

Notes: site = site assigned PAL/ES : well = well assigned PAL/ES : NR140.10 = NR140 Public Health PAL/ES : NR140.12 = NR140 Public Welfare PAL/ES

Marathon County Solid Waste Department

172900 E. Hwy 29
Ringle, WI 54471

Director:	715-446-3101 X104
Site Supervisor:	715-446-3101 X102
Administrative Office:	715-446-3101 X100
Scale Master	715-446-3101 X103
Solid Waste & Recycling Info Line	877-270-3989 toll-free

marathoncountysolidwaste.org
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Dec 6th, 2019

Wisconsin Department of Natural Resources
Bureau of Solid Waste Management
GEMS Data Submittal Contact, WA/3
P.O. Box 7921
Madison, WI 53707-7921

RE: Exceedance of Groundwater Standards for Marathon County Landfill, License No.4228 BRRDF.

In accordance with NR 140, please accept this notification of groundwater monitoring results for the reporting period of October 2019. An exceedance table has been attached for the Bluebird Ridge Landfill and can be found on the following page.

If you have any questions, please contact me.

Thank you,

David Hagenbucher
Operations Manager
Marathon County Solid Waste

C.c: Nathan Coller, Megan Ballweg, Sally Hronek, Meleesa Johnson, Lee Daigle, Mark Torresani.

Bluebird Ridge Recycling and Disposal Facility Groundwater Well Exceedance Table October 2019

Marathon County Solid Waste: Bluebird Ridge Groundwater Monitoring Wells									
	BRRDF	Facility #4228	Exceedances						
Project #	Date	Well #	Parameter	Units	Result	PAL	ES	ACL	Comments
333066	October 14 & 15	R59P	Alkalinity	mg/L	380.00	230.00			well
333066	October 14 & 15	R59P	Conductivity	umhos@25C	670.00	470.00			well
333066	October 14 & 15	R59P	Hardness	mg/L	430.00	230.00			well
333066	October 14 & 15	R59WT	Alkalinity	mg/L	420.00	230.00			well
333066	October 14 & 15	R59WT	Conductivity	umhos@25C	710.00	470.00			well
333066	October 14 & 15	R59WT	Hardness	mg/L	470.00	230.00			well

Groundwater hardness can exhibit natural fluctuation over time. In addition, a typical indicator of hard water can be increased levels of calcium. Over the past few years, Marathon County has utilized liquid Calcium Chloride solution for dust control on main haul roads. It is a possibility that small amounts of Calcium Chloride may have leached into groundwater due to runoff from haul roads. This solution may be contributing to slight increases in conductivity. In addition to the Calcium Chloride application, this particular well is located within 50 feet of a major soil stockpile. During 2016, this stockpile received over 250,000 cubic yards of soil from the 10 acre cell expansion of the Bluebird Ridge Landfill. R59WT and R59P are directly at the toe of the slope of a 500,000+ cubic yard soil stockpile. The stockpile has been properly vegetated; however, the construction activity may be a contributing factor. The levels have not changed significantly since the last monitoring event, but this well will continue to be monitored to evaluate the source of the exceedances.

State of Wisconsin
Department of Natural Resources

ENVIRONMENTAL MONITORING DATA CERTIFICATION

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When submitting monitoring data, the owner or operator of the facility, practice or activity is required to notify the Department in writing that a groundwater standard or an explosive gas level has been attained or exceeded, as specified in ss. NR 140.24(1)(a); NR 140.26(1)(a); NR 507.30; NR635.14(9)(a); NR 635.18(20) and NR 507.30, Wis. Adm. Code. Failure to report may result in fines, forfeitures or other penalties resulting from enforcement under ss. 289.97, 291.97 or 299.95, Wis. Stats.

Instructions:

* **Prepare one form for each license or monitoring ID.**
* **Please type or print legibly.**
* Attach a notification of any values that attain or exceed groundwater standards (that is, preventive action limits, enforcement standards or alternative concentration limits). The notification must include a preliminary analysis of the cause and significance of each value.
* Attach a notification of any gas values that attain or exceed explosive gas levels.
* Send the original signed form, any notification, and Electronic Data Deliverable [EDD] to: GEMS Data Submittal Contact - WA/5
  Wisconsin Department of Natural Resources
  P.O. Box 7921
  Madison, WI 53707 - 7921

Monitoring Data Submittal Information

Name of entity submitting data (laboratory, consultant, facility owner):
Northern Lake Service, Inc.

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:
Name: Chris Geske Phone: 715-478-2777
E-mail: lims@nlslab.com

Facility Name	License No. / Monitoring ID	Facility ID [FID]	Actual sampling dates (e.g., July 2-6, 2003
Marathon County - BRRDF	04228	337005680	OCTOBER -15-2019 through OCTOBER -16-2019

The enclosed results are for sampling required in the month(s) of: (e.g., June 2003)
OCTOBER -2019

Type of Data Submitted (Check all that apply)

- [x] Groundwater monitoring data from monitoring wells
- [ ] Groundwater monitoring data from private water supply wells
- [ ] Leachate monitoring data
- [ ] Gas monitoring data
- [ ] Air monitoring data
- [ ] Other (specify) _____

Notification attached?

- [ ] No. No groundwater standards or explosive gas limits were exceeded.
- [x] Yes, a notification of values exceeding a groundwater standard is attached. It includes a list of monitoring points, dates, sample values, groundwater standard and preliminary analysis of the cause and significance of any concentration.
- [ ] Yes, a notification of values exceeding an explosive gas limit is attached. It includes the monitoring points, dates, sample values and explosive gas limits.

Certification

To the best of my knowledge, the information reported and statements made on this data submittal and attachements are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significant of concentrations exceeding groundwater standards.

David Hagenbucher — Facility Representative Name (Print)
Operations Manager — Title
715 551 5864 — (Area Code) Telephone No.
David Hagenbucher — Signature
12/06/19 — Date

FOR DNR USE ONLY: Check action taken, and record date and your initials. Describe on back side if necessary.

- [ ] Found uploading problems on _____ Initials _____
- [ ] Notified contact of problems on _____ Uploaded data successfully on _____

EDD format(s): [ ] Diskette [ ] CD (initial submittal and follow-up) [ ] E-mail (follow-up only) Other _____

Marathon County Solid Waste Mgmnt Dept
Marathon County - BRRDF
10-01-2019

Lab ID: 721026460
NLS Project: 333066
Collected: 10-01-2019
License: 04228
FID: 337005680

EXCEEDANCES:

Well Desc (Point ID)	Parameter	Units	Result	PAL / ACL	ES	Comments
R59P (237)	Alkalinity	mg/L	380	230		well
R59P (237)	Conductivity	umhos@25C	670	470		well
R59P (237)	Hardness	mg/L	430	230		well
R59WT (234)	Alkalinity	mg/L	420	230		well
R59WT (234)	Conductivity	umhos@25C	710	470		well
R59WT (234)	Hardness	mg/L	470	230		well

Notes: site = site assigned PAL/ES : well = well assigned PAL/ES : NR140.10 = NR140 Public Health PAL/ES : NR140.12 = NR140 Public Welfare PAL/ES

Marathon County Solid Waste Department

172900 E. Hwy 29
Ringle, WI 54471

Director:	715-446-3101 X104
Site Supervisor:	715-446-3101 X102
Administrative Office:	715-446-3101 X100
Scale Master	715-446-3101 X103
Solid Waste & Recycling Info Line	877-270-3989 toll-free

marathoncountysolidwaste.org
marathoncountysolidwaste

Dec 6, 2019

Wisconsin Department of Natural Resources
Bureau of Solid Waste Management
GEMS Data Submittal Contact, WA/3
P.O. Box 7921
Madison, WI 53707-7921

RE: Exceedance of Groundwater Standards for Marathon County Landfill, License No. 2892, 3338 & 4228 (Private Wells)

In accordance with NR 140, please accept this notification of groundwater monitoring results for the reporting period of October 2019. There were no exceedances in the private groundwater wells, and therefore an exceedance table has not been provided.

If you have any questions, please contact me.

Thank you,

David Hagenbucher
Operations Manager
Marathon County Solid Waste

C.c: Nathan Coller, Megan Ballweg, Sally Hronek, Meleesa Johnson, Lee Daigle, Mark Torresani.

State of Wisconsin
Department of Natural Resources

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Notice: Personally identifiable information collected will be used for program administration and enforcement purposes. The department may also provide this information to requesters as required under Wisconsin's Open Records law, ss. 19.31 to 19.39, Wis. Stats.
When submitting monitoring data, the owner or operator of the facility, practice or activity is required to notify the Department in writing that a groundwater standard or an explosive gas level has been attained or exceeded, as specified in ss. NR 140.24(1)(a); NR 140.26(1)(a); NR 507.30; NR635.14(9)(a); NR 635.18(20) and NR 507.30, Wis. Adm. Code. Failure to report may result in fines, forfeitures or other penalties resulting from enforcement under ss. 289.97, 291.97 or 299.95, Wis. Stats.

Instructions:

* **Prepare one form for each license or monitoring ID.**
* **Please type or print legibly.**
* Attach a notification of any values that attain or exceed groundwater standards (that is, preventive action limits, enforcement standards or alternative concentration limits). The notification must include a preliminary analysis of the cause and significance of each value.
* Attach a notification of any gas values that attain or exceed explosive gas levels.
* Send the original signed form, any notification, and Electronic Data Deliverable [EDD] to: GEMS Data Submittal Contact - WA/5
  Wisconsin Department of Natural Resources
  P.O. Box 7921
  Madison, WI 53707 - 7921

Monitoring Data Submittal Information

Name of entity submitting data (laboratory, consultant, facility owner):
Northern Lake Service, Inc.

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:

Name: Chris Geske Phone: 715-478-2777
E-mail: lims@nlslab.com

Facility Name	License No. / Monitoring ID	Facility ID [FID]	Actual sampling dates (e.g., July 2-6, 2003
Marathon County Area A Private Wells	02892		OCTOBER -16-2019

The enclosed results are for sampling required in the month(s) of: (e.g., June 2003)
OCTOBER -2019

Type of Data Submitted (Check all that apply)

- ☐ Groundwater monitoring data from monitoring wells
- ☒ Groundwater monitoring data from private water supply wells
- ☐ Leachate monitoring data
- ☐ Gas monitoring data
- ☐ Air monitoring data
- ☐ Other (specify) _____

Notification attached?

- ☒ No. No groundwater standards or explosive gas limits were exceeded.
- ☐ Yes, a notification of values exceeding a groundwater standard is attached. It includes a list of monitoring points, dates, sample values, groundwater standard and preliminary analysis of the cause and significance of any concentration.
- ☐ Yes, a notification of values exceeding an explosive gas limit is attached. It includes the monitoring points, dates, sample values and explosive gas limits.

Certification

To the best of my knowledge, the information reported and statements made on this data submittal and attachements are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significant of concentrations exceeding groundwater standards.

David Hagenbucker	Operations Manager	715 551 5864
Facility Representative Name (Print)	Title	(Area Code) Telephone No.
David Hagenbucker	12/06/19	
Signature	Date	

FOR DNR USE ONLY. Check action taken, and record date and your initials. Describe on back side if necessary.

☐ Found uploading problems on _____ Initials _____
☐ Notified contact of problems on _____ Uploaded data successfully on _____
EDD format(s): ☐ Diskette ☐ CD (initial submittal and follow-up) ☐ E-mail (follow-up only) Other _____

Marathon County Solid Waste Mgmnt Dept
Marathon County Area A Private Wells
10-01-2019

Lab ID: 721026460
NLS Project: 333074
Collected: 10-01-2019
License: 02892
FID:

EXCEEDANCES:

Well Desc (Point ID)	Parameter	Units	Result	PAL / ACL	ES	Comments

Notes: site = site assigned PAL/ES : well = well assigned PAL/ES : NR140.10 = NR140 Public Health PAL/ES : NR140.12 = NR140 Public Welfare PAL/ES

State of Wisconsin
Department of Natural Resources

ENVIRONMENTAL MONITORING DATA CERTIFICATION

Form 4400-231(R 1/04)

Notice: Personally identifiable information collected will be used for program administration and enforcement purposes. The department may also provide this information to requesters as required under Wisconsin's Open Records law, ss. 19.31 to 19.39, Wis. Stats.
When submitting monitoring data, the owner or operator of the facility, practice or activity is required to notify the Department in writing that a groundwater standard or an explosive gas level has been attained or exceeded, as specified in ss. NR 140.24(1)(a); NR 140.26(1)(a); NR 507.30; NR635.14(9)(a); NR 635.18(20) and NR 507.30, Wis. Adm. Code. Failure to report may result in fines, forfeitures or other penalties resulting from enforcement under ss. 289.97, 291.97 or 299.95, Wis. Stats.

Instructions:

* **Prepare one form for each license or monitoring ID.**
* **Please type or print legibly.**
* Attach a notification of any values that attain or exceed groundwater standards (that is, preventive action limits, enforcement standards or alternative concentration limits). The notification must include a preliminary analysis of the cause and significance of each value.
* Attach a notification of any gas values that attain or exceed explosive gas levels.
* Send the original signed form, any notification, and Electronic Data Deliverable [EDD] to: GEMS Data Submittal Contact - WA/5
  Wisconsin Department of Natural Resources
  P.O. Box 7921
  Madison, WI 53707 - 7921

Monitoring Data Submittal Information

Name of entity submitting data (laboratory, consultant, facility owner):
Northern Lake Service, Inc.

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:

Name: Chris Geske Phone: 715-478-2777
E-mail: lims@nlslab.com

Facility Name	License No. / Monitoring ID	Facility ID [FID]	Actual sampling dates (e.g., July 2-6, 2003
Marathon County BRRDF Private Wells	04228	337005680	OCTOBER -16-2019

The enclosed results are for sampling required in the month(s) of: (e.g., June 2003)
OCTOBER -2019

Type of Data Submitted (Check all that apply)

- ☐ Groundwater monitoring data from monitoring wells
- ☒ Groundwater monitoring data from private water supply wells
- ☐ Leachate monitoring data
- ☐ Gas monitoring data
- ☐ Air monitoring data
- ☐ Other (specify) _____

Notification attached?

- ☒ No. No groundwater standards or explosive gas limits were exceeded.
- ☐ Yes, a notification of values exceeding a groundwater standard is attached. It includes a list of monitoring points, dates, sample values, groundwater standard and preliminary analysis of the cause and significance of any concentration.
- ☐ Yes, a notification of values exceeding an explosive gas limit is attached. It includes the monitoring points, dates, sample values and explosive gas limits.

Certification

To the best of my knowledge, the information reported and statements made on this data submittal and attachements are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significant of concentrations exceeding groundwater standards.

David Hagenbucher — Facility Representative Name (Print)
Operations Manager — Title
715 551 5864 — (Area Code) Telephone No.

David Hagenbucher — Signature
12/06/19 — Date

FOR DNR USE ONLY. Check action taken, and record date and your initials. Describe on back side if necessary.

☐ Found uploading problems on _____ Initials _____
☐ Notified contact of problems on _____ Uploaded data successfully on _____
EDD format(s): ☐ Diskette ☐ CD (initial submittal and follow-up) ☐ E-mail (follow-up only) Other _____

Marathon County Solid Waste Mgmnt Dept
Marathon County BRRDF Private Wells
10-01-2019

Lab ID: 721026460
NLS Project: 333072
Collected: 10-01-2019
License: 04228
FID: 337005680

EXCEEDANCES:

Well Desc (Point ID)	Parameter	Units	Result	PAL / ACL	ES	Comments

Notes: site = site assigned PAL/ES : well = well assigned PAL/ES : NR140.10 = NR140 Public Health PAL/ES : NR140.12 = NR140 Public Welfare PAL/ES

NORTHERN LAKE SERVICE, INC.
Analytical Laboratory and Environmental Services
400 North Lake Avenue - Crandon, WI 54520
Ph: (715)-478-2777 Fax: (715)-478-3060

ANALYTICAL REPORT

WDNR Laboratory ID No. 721026460
WDATCP Laboratory Certification No. 105-330
EPA Laboratory ID No. WI00034

NLS Project: 333072
NLS Customer: 20080

Fax: 715 446 2906 Phone: 715 446 3339

Client: Marathon County Solid Waste Mgmnt Dept
Attn: Dave Hagenbucher
Marathon County Landfill
R18500 East Highway 29
Ringle, WI 54471 9754

Project: Marathon County BRRDF Private Wells October 2019

PW11 NLS ID: 1155378
Matrix: GW
Collected: 10/16/19 14:12 Received: 10/16/19

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
Field depth to water	4.85	ft.	1			10/16/19	NA	721026460
Field depth to bottom	6.82	ft.	1			10/16/19	NA	721026460

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dlution and/or solids content.

ND = Not Detected (< LOD) LOD = Limit of Detection LOQ = Limit of Quantitation NA = Not Applicable
DWB = Dry Weight Basis %DWB = (mg/kg DWB) / 10000 1000 ug/L = 1 mg/L
MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

Reviewed by:

Authorized by:
R. T. Krueger
President

NORTHERN LAKE SERVICE, INC.
Analytical Laboratory and Environmental Services
400 North Lake Avenue - Crandon, WI 54520
Ph: (715)-478-2777 Fax: (715)-478-3060

ANALYTICAL REPORT

WDNR Laboratory ID No. 721026460
WDATCP Laboratory Certification No. 105-330
EPA Laboratory ID No. WI00034

NLS Project: 333072
NLS Customer: 20080

Client: Marathon County Solid Waste Mgmnt Dept
Attn: Dave Hagenbucher
Marathon County Landfill
R18500 East Highway 29
Ringle, WI 54471 9754

Fax: 715 446 2906 Phone: 715 446 3339

Project: Marathon County BRRDF Private Wells October 2019

PW26 NLS ID: 1155379
Matrix: GW
Collected: 10/16/19 13:52 Received: 10/16/19

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
Field color	none detected					10/16/19	NA	721026460
Field odor	none detected					10/16/19	NA	721026460
Field turbidity	none detected					10/16/19	NA	721026460
VOCs (water) by GC/MS	see attached					10/22/19	SW846 8260C	721026460

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dlution and/or solids content.

ND = Not Detected (< LOD) LOD = Limit of Detection LOQ = Limit of Quantitation NA = Not Applicable
DWB = Dry Weight Basis %DWB = (mg/kg DWB) / 10000 1000 ug/L = 1 mg/L
MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

Reviewed by:

Authorized by:
R. T. Krueger
President

NORTHERN LAKE SERVICE, INC.
Analytical Laboratory and Environmental Services
400 North Lake Avenue - Crandon, WI 54520
Ph: (715)-478-2777 Fax: (715)-478-3060

ANALYTICAL REPORT

WDNR Laboratory ID No. 721026460
WDATCP Laboratory Certification No. 105-330
EPA Laboratory ID No. WI00034

NLS Project: 333072
NLS Customer: 20080

Client: Marathon County Solid Waste Mgmnt Dept
Attn: Dave Hagenbucher
Marathon County Landfill
R18500 East Highway 29
Ringle, WI 54471 9754

Fax: 715 446 2906 Phone: 715 446 3339

Project: Marathon County BRRDF Private Wells October 2019

PW8575 NLS ID: 1155380
Matrix: GW
Collected: 10/16/19 12:25 Received: 10/16/19

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
Field color	none detected					10/16/19	NA	721026460
Field odor	none detected					10/16/19	NA	721026460
Field turbidity	none detected					10/16/19	NA	721026460
VOCs (water) by GC/MS	see attached					10/22/19	SW846 8260C	721026460

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dlution and/or solids content.

ND = Not Detected (< LOD) LOD = Limit of Detection LOQ = Limit of Quantitation NA = Not Applicable
DWB = Dry Weight Basis %DWB = (mg/kg DWB) / 10000 1000 ug/L = 1 mg/L
MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

Reviewed by:

Authorized by:
R. T. Krueger
President

NORTHERN LAKE SERVICE, INC.
Analytical Laboratory and Environmental Services
400 North Lake Avenue - Crandon, WI 54520
Ph: (715)-478-2777 Fax: (715)-478-3060

ANALYTICAL REPORT

WDNR Laboratory ID No. 721026460
WDATCP Laboratory Certification No. 105-330
EPA Laboratory ID No. WI00034

NLS Project: 333072
NLS Customer: 20080

Client: Marathon County Solid Waste Mgmnt Dept
Attn: Dave Hagenbucher
Marathon County Landfill
R18500 East Highway 29
Ringle, WI 54471 9754

Fax: 715 446 2906 Phone: 715 446 3339

Project: Marathon County BRRDF Private Wells October 2019

Trip Blank NLS ID: 1155381
Matrix: TB
Collected: 10/16/19 00:00 Received: 10/16/19

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
VOCs (water) by GC/MS	see attached					10/22/19	EPA 624	721026460

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dlution and/or solids content.

ND = Not Detected (< LOD) LOD = Limit of Detection LOQ = Limit of Quantitation NA = Not Applicable
DWB = Dry Weight Basis %DWB = (mg/kg DWB) / 10000 1000 ug/L = 1 mg/L
MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

Reviewed by:

Authorized by:
R. T. Krueger
President

ANALYTICAL RESULTS: VOC's by P&T/GCMS - Water - (VarSat3)
Customer: Marathon County Solid Waste Mgmnt Dept NLS Project: 333072
Project Description: Marathon County BRRDF Private Wells
Project Title: October 2019 Template: SAT3APP3 Printed: 11/14/2019 07:19

Sample: 1155379 PW26 Collected: 10/16/19 Analyzed: 10/22/19 - Analytes: 43

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.19	0.69	5	
Bromodichloromethane	ND	ug/L	1	0.19	0.68	80	
Bromoform	ND	ug/L	1	0.16	0.56	80	
Bromomethane	ND	ug/L	1	0.22	0.79		
Carbon Tetrachloride	ND	ug/L	1	0.19	0.66	5	
Chlorobenzene	ND	ug/L	1	0.16	0.56	100	
Chloroethane	ND	ug/L	1	1.5	5.4		
Chloroform	ND	ug/L	1	0.17	0.60	80	
Chloromethane	ND	ug/L	1	0.19	0.68		
Dibromochloromethane	ND	ug/L	1	0.17	0.61	80	
1,2-Dibromo-3-Chloropropane	ND	ug/L	1	0.21	0.73		
1,2-Dibromoethane	ND	ug/L	1	0.12	0.43		
Dibromomethane	ND	ug/L	1	0.21	0.73		
1,2-Dichlorobenzene	ND	ug/L	1	0.22	0.76	600	
1,3-Dichlorobenzene	ND	ug/L	1	0.20	0.72		
1,4-Dichlorobenzene	ND	ug/L	1	0.21	0.76	75	
Dichlorodifluoromethane	ND	ug/L	1	0.14	0.49		
1,1-Dichloroethane	ND	ug/L	1	0.18	0.64		
1,2-Dichloroethane	ND	ug/L	1	0.19	0.69	5	
1,1-Dichloroethene	ND	ug/L	1	0.16	0.57	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.18	0.62	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.15	0.51	100	
1,2-Dichloropropane	ND	ug/L	1	0.24	0.84	5	
cis-1,3-Dichloropropene	ND	ug/L	1	0.19	0.68		
trans-1,3-Dichloropropene	ND	ug/L	1	0.14	0.51		
Ethylbenzene	ND	ug/L	1	0.30	1.1	700	
Methylene chloride	ND	ug/L	1	0.20	0.70	5	
Naphthalene	ND	ug/L	1	0.29	1.0		
Styrene	ND	ug/L	1	0.16	0.56	100	
ortho-Xylene	ND	ug/L	1	0.16	0.56		
Tetrachloroethene	ND	ug/L	1	0.17	0.58	5	
Toluene	ND	ug/L	1	0.19	0.68	1000	
1,1,1-Trichloroethane	ND	ug/L	1	0.17	0.61	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.17	0.59	5	
Trichloroethene	ND	ug/L	1	0.24	0.84	5	
Trichlorofluoromethane	ND	ug/L	1	0.17	0.60		
Vinyl chloride	ND	ug/L	1	0.16	0.57	.2	
meta,para-Xylene	ND	ug/L	1	0.32	1.1	10000	
MTBE	ND	ug/L	1	0.22	0.76		
Acetone	ND	ug/L	1	4.2	12		
Carbon Disulfide	ND	ug/L	1	0.16	0.58		
Methyl Ethyl Ketone	ND	ug/L	1	0.50	1.8		
Tetrahydrofuran	ND	ug/L	1	0.97	3.5		
Dibromofluoromethane (SURR)	122%		1				S
Toluene-d8 (SURR)	116%		1				S
1-Bromo-4-Fluorobenzene (SURR)	109%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:
S = This compound is a surrogate used to evaluate the quality control of a method.

ANALYTICAL RESULTS: VOC's by P&T/GCMS - Water - (VarSat3)
Customer: Marathon County Solid Waste Mgmnt Dept NLS Project: 333072
Project Description: Marathon County BRRDF Private Wells
Project Title: October 2019 Template: SAT3APP3 Printed: 11/14/2019 07:19

Sample: 1155380 PW8575 Collected: 10/16/19 Analyzed: 10/22/19 - Analytes: 43

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.19	0.69	5	
Bromodichloromethane	ND	ug/L	1	0.19	0.68	80	
Bromoform	ND	ug/L	1	0.16	0.56	80	
Bromomethane	ND	ug/L	1	0.22	0.79		
Carbon Tetrachloride	ND	ug/L	1	0.19	0.66	5	
Chlorobenzene	ND	ug/L	1	0.16	0.56	100	
Chloroethane	ND	ug/L	1	1.5	5.4		
Chloroform	ND	ug/L	1	0.17	0.60	80	
Chloromethane	ND	ug/L	1	0.19	0.68		
Dibromochloromethane	ND	ug/L	1	0.17	0.61	80	
1,2-Dibromo-3-Chloropropane	ND	ug/L	1	0.21	0.73		
1,2-Dibromoethane	ND	ug/L	1	0.12	0.43		
Dibromomethane	ND	ug/L	1	0.21	0.73		
1,2-Dichlorobenzene	ND	ug/L	1	0.22	0.76	600	
1,3-Dichlorobenzene	ND	ug/L	1	0.20	0.72		
1,4-Dichlorobenzene	ND	ug/L	1	0.21	0.76	75	
Dichlorodifluoromethane	ND	ug/L	1	0.14	0.49		
1,1-Dichloroethane	ND	ug/L	1	0.18	0.64		
1,2-Dichloroethane	ND	ug/L	1	0.19	0.69	5	
1,1-Dichloroethene	ND	ug/L	1	0.16	0.57	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.18	0.62	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.15	0.51	100	
1,2-Dichloropropane	ND	ug/L	1	0.24	0.84	5	
cis-1,3-Dichloropropene	ND	ug/L	1	0.19	0.68		
trans-1,3-Dichloropropene	ND	ug/L	1	0.14	0.51		
Ethylbenzene	ND	ug/L	1	0.30	1.1	700	
Methylene chloride	ND	ug/L	1	0.20	0.70	5	
Naphthalene	ND	ug/L	1	0.29	1.0		
Styrene	ND	ug/L	1	0.16	0.56	100	
ortho-Xylene	ND	ug/L	1	0.16	0.56		
Tetrachloroethene	ND	ug/L	1	0.17	0.58	5	
Toluene	ND	ug/L	1	0.19	0.68	1000	
1,1,1-Trichloroethane	ND	ug/L	1	0.17	0.61	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.17	0.59	5	
Trichloroethene	ND	ug/L	1	0.24	0.84	5	
Trichlorofluoromethane	ND	ug/L	1	0.17	0.60		
Vinyl chloride	ND	ug/L	1	0.16	0.57	.2	
meta,para-Xylene	ND	ug/L	1	0.32	1.1	10000	
MTBE	ND	ug/L	1	0.22	0.76		
Acetone	ND	ug/L	1	4.2	12		
Carbon Disulfide	ND	ug/L	1	0.16	0.58		
Methyl Ethyl Ketone	ND	ug/L	1	0.50	1.8		
Tetrahydrofuran	ND	ug/L	1	0.97	3.5		
Dibromofluoromethane (SURR)	120%		1				S
Toluene-d8 (SURR)	110%		1				S
1-Bromo-4-Fluorobenzene (SURR)	107%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:
S = This compound is a surrogate used to evaluate the quality control of a method.

ANALYTICAL RESULTS: VOC's by P&T/GCMS - Water - (VarSat3)
Customer: Marathon County Solid Waste Mgmnt Dept NLS Project: 333072
Project Description: Marathon County BRRDF Private Wells
Project Title: October 2019 Template: SAT3APP3 Printed: 11/14/2019 07:19

Sample: 1155381 Trip Blank Collected: 10/16/19 Analyzed: 10/22/19 - Analytes: 43

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.19	0.69	5	
Bromodichloromethane	ND	ug/L	1	0.19	0.68	80	
Bromoform	ND	ug/L	1	0.16	0.56	80	
Bromomethane	ND	ug/L	1	0.22	0.79		
Carbon Tetrachloride	ND	ug/L	1	0.19	0.66	5	
Chlorobenzene	ND	ug/L	1	0.16	0.56	100	
Chloroethane	ND	ug/L	1	1.5	5.4		
Chloroform	ND	ug/L	1	0.17	0.60	80	
Chloromethane	ND	ug/L	1	0.19	0.68		
Dibromochloromethane	ND	ug/L	1	0.17	0.61	80	
1,2-Dibromo-3-Chloropropane	ND	ug/L	1	0.21	0.73		
1,2-Dibromoethane	ND	ug/L	1	0.12	0.43		
Dibromomethane	ND	ug/L	1	0.21	0.73		
1,2-Dichlorobenzene	ND	ug/L	1	0.22	0.76	600	
1,3-Dichlorobenzene	ND	ug/L	1	0.20	0.72		
1,4-Dichlorobenzene	ND	ug/L	1	0.21	0.76	75	
Dichlorodifluoromethane	ND	ug/L	1	0.14	0.49		
1,1-Dichloroethane	ND	ug/L	1	0.18	0.64		
1,2-Dichloroethane	ND	ug/L	1	0.19	0.69	5	
1,1-Dichloroethene	ND	ug/L	1	0.16	0.57	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.18	0.62	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.15	0.51	100	
1,2-Dichloropropane	ND	ug/L	1	0.24	0.84	5	
cis-1,3-Dichloropropene	ND	ug/L	1	0.19	0.68		
trans-1,3-Dichloropropene	ND	ug/L	1	0.14	0.51		
Ethylbenzene	ND	ug/L	1	0.30	1.1	700	
Methylene chloride	[0.29]	ug/L	1	0.20	0.70	5	J LB
Naphthalene	ND	ug/L	1	0.29	1.0		
Styrene	ND	ug/L	1	0.16	0.56	100	
ortho-Xylene	ND	ug/L	1	0.16	0.56		
Tetrachloroethene	ND	ug/L	1	0.17	0.58	5	
Toluene	ND	ug/L	1	0.19	0.68	1000	
1,1,1-Trichloroethane	ND	ug/L	1	0.17	0.61	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.17	0.59	5	
Trichloroethene	ND	ug/L	1	0.24	0.84	5	
Trichlorofluoromethane	ND	ug/L	1	0.17	0.60		
Vinyl chloride	ND	ug/L	1	0.16	0.57	.2	
meta,para-Xylene	ND	ug/L	1	0.32	1.1	10000	
MTBE	ND	ug/L	1	0.22	0.76		
Acetone	ND	ug/L	1	4.2	12		
Carbon Disulfide	ND	ug/L	1	0.16	0.58		
Methyl Ethyl Ketone	ND	ug/L	1	0.50	1.8		
Tetrahydrofuran	ND	ug/L	1	0.97	3.5		
Dibromofluoromethane (SURR)	104%		1				S
Toluene-d8 (SURR)	122%		1				S
1-Bromo-4-Fluorobenzene (SURR)	113%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:
J = Result enclosed in brackets is between LOD and LOQ, a region of less certain quantitation.
S = This compound is a surrogate used to evaluate the quality control of a method.
LB = Compound is suspected of being a laboratory contaminant.

NLS Private Well Sampling Form and Chain Of Custody

SITE: Marathon Co. Solid Waste Management Dept. / BRRDF – Private Wells 1A

NLS Lab #:	Point Name / Homeowner:	DNR ID #:	Time Purged:	Color:	Odor:	Turbidity (quant,text,color):
55378	PW11 William Kasten R222780 Duncan Road, Hatley	027	—	—	—	—
Date Sampled:	Time Sampled:	Sample Location:				Treated (Y/N):
10-16-19	1412					—

Comments: Depth of WATER 04.85
Depth of BOTTOM 06.82

4/13: South house faucet

NLS Lab #:	Point Name / Homeowner:	DNR ID #:	Time Purged:	Color:	Odor:	Turbidity (quant,text,color):
379	PW26 James Glodowski R222470 Duncan Road, Hatley	029	5min	NO	NO	NO
Date Sampled:	Time Sampled:	Sample Location:				Treated (Y/N):
10-16-19	1352	FAUCET SIDE of HOUSE				N.

Comments:

"Russ" FAUCET WEST SIDE of HOUSE

~~As of 11/06: Kitchen Sink (hand dug well, owner may want us to purge little or no water before sampling)~~

NLS Lab #:	Point Name / Homeowner:	DNR ID #:	Time Purged:	Color:	Odor:	Turbidity (quant,text,color):
380	PW8575 Jerry and Krista Bates R221615 Silk, Ringle	367	5min	ND.	ND	ND
Date Sampled:	Time Sampled:	Sample Location:				Treated (Y/N):
10-16-19	1225	FRONT of HOUSE				N.

Comments:

Outside faucet side of house

NLS Lab #:	Point Name / Homeowner:	DNR ID #:	Time Purged:	Color:	Odor:	Turbidity (quant,text,color):
	Trip Blank	999				
Date Sampled:	Time Sampled:	Sample Location:				

Comments:

See reverse side for sample custody information

NLS FIELD QUALITY ASSURANCE RECORD

CLIENT / SITE: Marathon County Solid Waste Management Department / Annual Private Well Monitoring

Date(s): 10·16·19

Initials / Signature: VAC / [signature] & ____ / ____

Bottles Prepared By: VAC

Instruments Checked By: VAC

STDs & Buffers, Date Made: —

Reagent Grade Water, Jug #: —

Reagent Water Date Filled: —

Thermometer – NLS #: —

Geotech .45 micron filter lot #: —

QED .45 Dispo Filter model #: —

GWV 1.0 Dispo Filter lot #: —

Bracket test samples using the appropriate pH buffers. Use pH buffer 4.01 with pH buffer 7.00 for low pH samples and pH buffer 10.01 with pH buffer 7.00 for samples having a high pH. On a routine basis use pH buffers 4.01 and 7.00.

pH METER NUMBER —

DATE:									
TIME:									
STD BY:									
SLOPE:									
BUFFER 4.01 (R/S)									
BUFFER 7.00 (R/S)									
BUFFER 10.01 (R/S)									

CONDUCTIVITY METER NUMBER —

DATE:									
TIME:									
STD BY:									
718 umho @ 25° C (R/S)									

R = Initial Reading; S = Standardized Reading

Comments:

NORTHERN LAKE SERVICE, INC.
Analytical Laboratory and Environmental Services
400 North Lake Avenue - Crandon, WI 54520
Ph: (715)-478-2777 Fax: (715)-478-3060

ANALYTICAL REPORT

WDNR Laboratory ID No. 721026460
WDATCP Laboratory Certification No. 105-330
EPA Laboratory ID No. WI00034

NLS Project: 333074
NLS Customer: 20080

Fax: 715 446 2906 Phone: 715 446 3339

Client: Marathon County Solid Waste Mgmnt Dept
Attn: Dave Hagenbucher
Marathon County Landfill
R18500 East Highway 29
Ringle, WI 54471 9754

Project: Marathon County Area A Private Wells October 2019

PW48 NLS ID: 1155386
Matrix: GW
Collected: 10/16/19 10:55 Received: 10/16/19

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
Field color	none detected					10/16/19	NA	721026460
Field odor	none detected					10/16/19	NA	721026460
Field turbidity	none detected					10/16/19	NA	721026460
VOCs (water) by GC/MS	see attached					10/22/19	SW846 8260C	721026460

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dlution and/or solids content.

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MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

Reviewed by:

Authorized by:
R. T. Krueger
President

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R18500 East Highway 29
Ringle, WI 54471 9754

Fax: 715 446 2906 Phone: 715 446 3339

Project: Marathon County Area A Private Wells October 2019

PW88 NLS ID: 1155387
Matrix: GW
Collected: 10/16/19 12:17 Received: 10/16/19

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
Field color	none detected					10/16/19	NA	721026460
Field odor	none detected					10/16/19	NA	721026460
Field turbidity	none detected					10/16/19	NA	721026460
VOCs (water) by GC/MS	see attached					10/22/19	SW846 8260C	721026460

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Fax: 715 446 2906 Phone: 715 446 3339

Project: Marathon County Area A Private Wells October 2019

PW24 NLS ID: 1155388
Matrix: GW
Collected: 10/16/19 12:09 Received: 10/16/19

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
Field color	none detected					10/16/19	NA	721026460
Field odor	none detected					10/16/19	NA	721026460
Field turbidity	none detected					10/16/19	NA	721026460
VOCs (water) by GC/MS	see attached					10/22/19	SW846 8260C	721026460

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Marathon County Landfill
R18500 East Highway 29
Ringle, WI 54471 9754

Fax: 715 446 2906 Phone: 715 446 3339

Project: Marathon County Area A Private Wells October 2019

PW25 NLS ID: 1155389
Matrix: GW
Collected: 10/16/19 12:00 Received: 10/16/19

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
Field color	none detected					10/16/19	NA	721026460
Field odor	none detected					10/16/19	NA	721026460
Field turbidity	none detected					10/16/19	NA	721026460
VOCs (water) by GC/MS	see attached					10/22/19	SW846 8260C	721026460

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NLS Project: 333074
NLS Customer: 20080

Fax: 715 446 2906 Phone: 715 446 3339

Client: Marathon County Solid Waste Mgmnt Dept
Attn: Dave Hagenbucher
Marathon County Landfill
R18500 East Highway 29
Ringle, WI 54471 9754

Project: Marathon County Area A Private Wells October 2019

PW18 NLS ID: 1155390
Matrix: GW
Collected: 10/16/19 11:40 Received: 10/16/19

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
Field color	none detected					10/16/19	NA	721026460
Field odor	none detected					10/16/19	NA	721026460
Field turbidity	none detected					10/16/19	NA	721026460
VOCs (water) by GC/MS	see attached					10/22/19	SW846 8260C	721026460

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NLS Customer: 20080

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Client: Marathon County Solid Waste Mgmnt Dept
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R18500 East Highway 29
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Project: Marathon County Area A Private Wells October 2019

PW68 NLS ID: 1155391
Matrix: GW
Collected: 10/16/19 11:28 Received: 10/16/19

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
Field color	none detected					10/16/19	NA	721026460
Field odor	none detected					10/16/19	NA	721026460
Field turbidity	none detected					10/16/19	NA	721026460
VOCs (water) by GC/MS	see attached					10/22/19	SW846 8260C	721026460

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Fax: 715 446 2906 Phone: 715 446 3339

Project: Marathon County Area A Private Wells October 2019

PW19 NLS ID: 1155392
Matrix: GW
Collected: 10/16/19 11:20 Received: 10/16/19

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
Field color	none detected					10/16/19	NA	721026460
Field odor	none detected					10/16/19	NA	721026460
Field turbidity	none detected					10/16/19	NA	721026460
VOCs (water) by GC/MS	see attached					10/28/19	SW846 8260C	721026460

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Project: Marathon County Area A Private Wells October 2019

PW64 NLS ID: 1155393
Matrix: GW
Collected: 10/16/19 11:10 Received: 10/16/19

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
Field color	none detected					10/16/19	NA	721026460
Field odor	none detected					10/16/19	NA	721026460
Field turbidity	none detected					10/16/19	NA	721026460
VOCs (water) by GC/MS	see attached					10/28/19	SW846 8260C	721026460

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WDATCP Laboratory Certification No. 105-330
EPA Laboratory ID No. WI00034

NLS Project: 333074
NLS Customer: 20080

Fax: 715 446 2906 Phone: 715 446 3339

Client: Marathon County Solid Waste Mgmnt Dept
Attn: Dave Hagenbucher
Marathon County Landfill
R18500 East Highway 29
Ringle, WI 54471 9754

Project: Marathon County Area A Private Wells October 2019

PW27 NLS ID: 1155394
Matrix: GW
Collected: 10/16/19 13:40 Received: 10/16/19

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
Field color	none detected					10/16/19	NA	721026460
Field odor	none detected					10/16/19	NA	721026460
Field turbidity	none detected					10/16/19	NA	721026460
VOCs (water) by GC/MS	see attached					10/28/19	SW846 8260C	721026460

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Fax: 715 446 2906 Phone: 715 446 3339

Project: Marathon County Area A Private Wells October 2019

PW65 NLS ID: 1155395
Matrix: GW
Collected: 10/16/19 13:30 Received: 10/16/19

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
Field color	none detected					10/16/19	NA	721026460
Field odor	none detected					10/16/19	NA	721026460
Field turbidity	none detected					10/16/19	NA	721026460
VOCs (water) by GC/MS	see attached					10/28/19	SW846 8260C	721026460

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Fax: 715 446 2906 Phone: 715 446 3339

Project: Marathon County Area A Private Wells October 2019

PW100 NLS ID: 1155396
Matrix: GW
Collected: 10/16/19 13:20 Received: 10/16/19

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
Field color	none detected					10/16/19	NA	721026460
Field odor	none detected					10/16/19	NA	721026460
Field turbidity	none detected					10/16/19	NA	721026460
VOCs (water) by GC/MS	see attached					10/28/19	SW846 8260C	721026460

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Project: Marathon County Area A Private Wells October 2019

PW80 NLS ID: 1155397
Matrix: GW
Collected: 10/16/19 12:57 Received: 10/16/19

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
Field color	none detected					10/16/19	NA	721026460
Field odor	none detected					10/16/19	NA	721026460
Field turbidity	none detected					10/16/19	NA	721026460
VOCs (water) by GC/MS	see attached					10/28/19	SW846 8260C	721026460

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Fax: 715 446 2906 Phone: 715 446 3339

Project: Marathon County Area A Private Wells October 2019

PW53 NLS ID: 1155398
Matrix: GW
Collected: 10/16/19 13:06 Received: 10/16/19

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
Field color	none detected					10/16/19	NA	721026460
Field odor	none detected					10/16/19	NA	721026460
Field turbidity	none detected					10/16/19	NA	721026460
VOCs (water) by GC/MS	see attached					10/28/19	SW846 8260C	721026460

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dlution and/or solids content.

ND = Not Detected (< LOD) LOD = Limit of Detection LOQ = Limit of Quantitation NA = Not Applicable
DWB = Dry Weight Basis %DWB = (mg/kg DWB) / 10000 1000 ug/L = 1 mg/L
MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

Reviewed by:

Authorized by:
R. T. Krueger
President

NORTHERN LAKE SERVICE, INC.
Analytical Laboratory and Environmental Services
400 North Lake Avenue - Crandon, WI 54520
Ph: (715)-478-2777 Fax: (715)-478-3060

ANALYTICAL REPORT

WDNR Laboratory ID No. 721026460
WDATCP Laboratory Certification No. 105-330
EPA Laboratory ID No. WI00034

NLS Project: 333074
NLS Customer: 20080

Client: Marathon County Solid Waste Mgmnt Dept
Attn: Dave Hagenbucher
Marathon County Landfill
R18500 East Highway 29
Ringle, WI 54471 9754

Fax: 715 446 2906 Phone: 715 446 3339

Project: Marathon County Area A Private Wells October 2019

PW29 NLS ID: 1155399
Matrix: GW
Collected: 10/16/19 12:45 Received: 10/16/19

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
Field color	none detected					10/16/19	NA	721026460
Field odor	none detected					10/16/19	NA	721026460
Field turbidity	none detected					10/16/19	NA	721026460
VOCs (water) by GC/MS	see attached					10/28/19	SW846 8260C	721026460

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dlution and/or solids content.

ND = Not Detected (< LOD) LOD = Limit of Detection LOQ = Limit of Quantitation NA = Not Applicable
DWB = Dry Weight Basis %DWB = (mg/kg DWB) / 10000 1000 ug/L = 1 mg/L
MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

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ANALYTICAL REPORT

WDNR Laboratory ID No. 721026460
WDATCP Laboratory Certification No. 105-330
EPA Laboratory ID No. WI00034

NLS Project: 333074
NLS Customer: 20080

Client: Marathon County Solid Waste Mgmnt Dept
Attn: Dave Hagenbucher
Marathon County Landfill
R18500 East Highway 29
Ringle, WI 54471 9754

Fax: 715 446 2906 Phone: 715 446 3339

Project: Marathon County Area A Private Wells October 2019

PW54 NLS ID: 1155400
Matrix: GW
Collected: 10/16/19 12:35 Received: 10/16/19

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
Field color	none detected					10/16/19	NA	721026460
Field odor	none detected					10/16/19	NA	721026460
Field turbidity	none detected					10/16/19	NA	721026460
VOCs (water) by GC/MS	see attached					10/28/19	SW846 8260C	721026460

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dlution and/or solids content.

ND = Not Detected (< LOD) LOD = Limit of Detection LOQ = Limit of Quantitation NA = Not Applicable
DWB = Dry Weight Basis %DWB = (mg/kg DWB) / 10000 1000 ug/L = 1 mg/L
MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

Reviewed by:

Authorized by:
R. T. Krueger
President

NORTHERN LAKE SERVICE, INC.
Analytical Laboratory and Environmental Services
400 North Lake Avenue - Crandon, WI 54520
Ph: (715)-478-2777 Fax: (715)-478-3060

ANALYTICAL REPORT

WDNR Laboratory ID No. 721026460
WDATCP Laboratory Certification No. 105-330
EPA Laboratory ID No. WI00034

NLS Project: 333074
NLS Customer: 20080

Fax: 715 446 2906 Phone: 715 446 3339

Client: Marathon County Solid Waste Mgmnt Dept
Attn: Dave Hagenbucher
Marathon County Landfill
R18500 East Highway 29
Ringle, WI 54471 9754

Project: Marathon County Area A Private Wells October 2019

PW17 NLS ID: 1155401
Matrix: GW
Collected: 10/16/19 14:05 Received: 10/16/19

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
Field color	none detected					10/16/19	NA	721026460
Field odor	none detected					10/16/19	NA	721026460
Field turbidity	none detected					10/16/19	NA	721026460
VOCs (water) by GC/MS	see attached					10/28/19	SW846 8260C	721026460

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dlution and/or solids content.

ND = Not Detected (< LOD) LOD = Limit of Detection LOQ = Limit of Quantitation NA = Not Applicable
DWB = Dry Weight Basis %DWB = (mg/kg DWB) / 10000 1000 ug/L = 1 mg/L
MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

Reviewed by:

Authorized by:
R. T. Krueger
President

NORTHERN LAKE SERVICE, INC.
Analytical Laboratory and Environmental Services
400 North Lake Avenue - Crandon, WI 54520
Ph: (715)-478-2777 Fax: (715)-478-3060

ANALYTICAL REPORT

WDNR Laboratory ID No. 721026460
WDATCP Laboratory Certification No. 105-330
EPA Laboratory ID No. WI00034

NLS Project: 333074
NLS Customer: 20080

Client: Marathon County Solid Waste Mgmnt Dept
Attn: Dave Hagenbucher
Marathon County Landfill
R18500 East Highway 29
Ringle, WI 54471 9754

Fax: 715 446 2906 Phone: 715 446 3339

Project: Marathon County Area A Private Wells October 2019

Trip Blank NLS ID: 1155402
Matrix: TB
Collected: 10/16/19 00:00 Received: 10/16/19

Parameter	Result	Units	Dilution	LOD	LOQ/MCL	Analyzed	Method	Lab
VOCs (water) by GC/MS	see attached					10/28/19	NA	721026460

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dlution and/or solids content.

ND = Not Detected (< LOD) LOD = Limit of Detection LOQ = Limit of Quantitation NA = Not Applicable
DWB = Dry Weight Basis %DWB = (mg/kg DWB) / 10000 1000 ug/L = 1 mg/L
MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

Reviewed by:

Authorized by:
R. T. Krueger
President

ANALYTICAL RESULTS: VOC's by P&T/GCMS - Water - (VarSat3)
Customer: Marathon County Solid Waste Mgmnt Dept NLS Project: 333074
Project Description: Marathon County Area A Private Wells
Project Title: October 2019 Template: SAT3APP3 Printed: 11/13/2019 09:36

Sample: 1155386 PW48 Collected: 10/16/19 Analyzed: 10/22/19 - Analytes: 43

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.19	0.69	5	
Bromodichloromethane	ND	ug/L	1	0.19	0.68	80	
Bromoform	ND	ug/L	1	0.16	0.56	80	
Bromomethane	ND	ug/L	1	0.22	0.79		
Carbon Tetrachloride	ND	ug/L	1	0.19	0.66	5	
Chlorobenzene	ND	ug/L	1	0.16	0.56	100	
Chloroethane	ND	ug/L	1	1.5	5.4		
Chloroform	ND	ug/L	1	0.17	0.60	80	
Chloromethane	ND	ug/L	1	0.19	0.68		
Dibromochloromethane	ND	ug/L	1	0.17	0.61	80	
1,2-Dibromo-3-Chloropropane	ND	ug/L	1	0.21	0.73		
1,2-Dibromoethane	ND	ug/L	1	0.12	0.43		
Dibromomethane	ND	ug/L	1	0.21	0.73		
1,2-Dichlorobenzene	ND	ug/L	1	0.22	0.76	600	
1,3-Dichlorobenzene	ND	ug/L	1	0.20	0.72		
1,4-Dichlorobenzene	ND	ug/L	1	0.21	0.76	75	
Dichlorodifluoromethane	ND	ug/L	1	0.14	0.49		
1,1-Dichloroethane	ND	ug/L	1	0.18	0.64		
1,2-Dichloroethane	ND	ug/L	1	0.19	0.69	5	
1,1-Dichloroethene	ND	ug/L	1	0.16	0.57	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.18	0.62	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.15	0.51	100	
1,2-Dichloropropane	ND	ug/L	1	0.24	0.84	5	
cis-1,3-Dichloropropene	ND	ug/L	1	0.19	0.68		
trans-1,3-Dichloropropene	ND	ug/L	1	0.14	0.51		
Ethylbenzene	ND	ug/L	1	0.30	1.1	700	
Methylene chloride	ND	ug/L	1	0.20	0.70	5	
Naphthalene	ND	ug/L	1	0.29	1.0		
Styrene	ND	ug/L	1	0.16	0.56	100	
ortho-Xylene	ND	ug/L	1	0.16	0.56		
Tetrachloroethene	ND	ug/L	1	0.17	0.58	5	
Toluene	ND	ug/L	1	0.19	0.68	1000	
1,1,1-Trichloroethane	ND	ug/L	1	0.17	0.61	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.17	0.59	5	
Trichloroethene	ND	ug/L	1	0.24	0.84	5	
Trichlorofluoromethane	ND	ug/L	1	0.17	0.60		
Vinyl chloride	ND	ug/L	1	0.16	0.57	.2	
meta,para-Xylene	ND	ug/L	1	0.32	1.1	10000	
MTBE	ND	ug/L	1	0.22	0.76		
Acetone	ND	ug/L	1	4.2	12		
Carbon Disulfide	ND	ug/L	1	0.16	0.58		
Methyl Ethyl Ketone	ND	ug/L	1	0.50	1.8		
Tetrahydrofuran	ND	ug/L	1	0.97	3.5		
Dibromofluoromethane (SURR)	109%		1				S
Toluene-d8 (SURR)	116%		1				S
1-Bromo-4-Fluorobenzene (SURR)	117%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

ANALYTICAL RESULTS: VOC's by P&T/GCMS - Water - (VarSat3)
Customer: Marathon County Solid Waste Mgmnt Dept NLS Project: 333074
Project Description: Marathon County Area A Private Wells
Project Title: October 2019 Template: SAT3APP3 Printed: 11/13/2019 09:36

Sample: 1155387 PW88 Collected: 10/16/19 Analyzed: 10/22/19 - Analytes: 43

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.19	0.69	5	
Bromodichloromethane	ND	ug/L	1	0.19	0.68	80	
Bromoform	ND	ug/L	1	0.16	0.56	80	
Bromomethane	ND	ug/L	1	0.22	0.79		
Carbon Tetrachloride	ND	ug/L	1	0.19	0.66	5	
Chlorobenzene	ND	ug/L	1	0.16	0.56	100	
Chloroethane	ND	ug/L	1	1.5	5.4		
Chloroform	ND	ug/L	1	0.17	0.60	80	
Chloromethane	ND	ug/L	1	0.19	0.68		
Dibromochloromethane	ND	ug/L	1	0.17	0.61	80	
1,2-Dibromo-3-Chloropropane	ND	ug/L	1	0.21	0.73		
1,2-Dibromoethane	ND	ug/L	1	0.12	0.43		
Dibromomethane	ND	ug/L	1	0.21	0.73		
1,2-Dichlorobenzene	ND	ug/L	1	0.22	0.76	600	
1,3-Dichlorobenzene	ND	ug/L	1	0.20	0.72		
1,4-Dichlorobenzene	ND	ug/L	1	0.21	0.76	75	
Dichlorodifluoromethane	ND	ug/L	1	0.14	0.49		
1,1-Dichloroethane	ND	ug/L	1	0.18	0.64		
1,2-Dichloroethane	ND	ug/L	1	0.19	0.69	5	
1,1-Dichloroethene	ND	ug/L	1	0.16	0.57	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.18	0.62	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.15	0.51	100	
1,2-Dichloropropane	ND	ug/L	1	0.24	0.84	5	
cis-1,3-Dichloropropene	ND	ug/L	1	0.19	0.68		
trans-1,3-Dichloropropene	ND	ug/L	1	0.14	0.51		
Ethylbenzene	ND	ug/L	1	0.30	1.1	700	
Methylene chloride	ND	ug/L	1	0.20	0.70	5	
Naphthalene	ND	ug/L	1	0.29	1.0		
Styrene	ND	ug/L	1	0.16	0.56	100	
ortho-Xylene	ND	ug/L	1	0.16	0.56		
Tetrachloroethene	ND	ug/L	1	0.17	0.58	5	
Toluene	ND	ug/L	1	0.19	0.68	1000	
1,1,1-Trichloroethane	ND	ug/L	1	0.17	0.61	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.17	0.59	5	
Trichloroethene	ND	ug/L	1	0.24	0.84	5	
Trichlorofluoromethane	ND	ug/L	1	0.17	0.60		
Vinyl chloride	ND	ug/L	1	0.16	0.57	.2	
meta,para-Xylene	ND	ug/L	1	0.32	1.1	10000	
MTBE	ND	ug/L	1	0.22	0.76		
Acetone	ND	ug/L	1	4.2	12		
Carbon Disulfide	ND	ug/L	1	0.16	0.58		
Methyl Ethyl Ketone	ND	ug/L	1	0.50	1.8		
Tetrahydrofuran	ND	ug/L	1	0.97	3.5		
Dibromofluoromethane (SURR)	117%		1				S
Toluene-d8 (SURR)	114%		1				S
1-Bromo-4-Fluorobenzene (SURR)	107%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

ANALYTICAL RESULTS: VOC's by P&T/GCMS - Water - (VarSat3)
Customer: Marathon County Solid Waste Mgmnt Dept NLS Project: 333074
Project Description: Marathon County Area A Private Wells
Project Title: October 2019 Template: SAT3APP3 Printed: 11/13/2019 09:36

Sample: 1155388 PW24 Collected: 10/16/19 Analyzed: 10/22/19 Analytes: 43

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.19	0.69	5	
Bromodichloromethane	ND	ug/L	1	0.19	0.68	80	
Bromoform	ND	ug/L	1	0.16	0.56	80	
Bromomethane	ND	ug/L	1	0.22	0.79		
Carbon Tetrachloride	ND	ug/L	1	0.19	0.66	5	
Chlorobenzene	ND	ug/L	1	0.16	0.56	100	
Chloroethane	ND	ug/L	1	1.5	5.4		
Chloroform	ND	ug/L	1	0.17	0.60	80	
Chloromethane	ND	ug/L	1	0.19	0.68		
Dibromochloromethane	ND	ug/L	1	0.17	0.61	80	
1,2-Dibromo-3-Chloropropane	ND	ug/L	1	0.21	0.73		
1,2-Dibromoethane	ND	ug/L	1	0.12	0.43		
Dibromomethane	ND	ug/L	1	0.21	0.73		
1,2-Dichlorobenzene	ND	ug/L	1	0.22	0.76	600	
1,3-Dichlorobenzene	ND	ug/L	1	0.20	0.72		
1,4-Dichlorobenzene	ND	ug/L	1	0.21	0.76	75	
Dichlorodifluoromethane	ND	ug/L	1	0.14	0.49		
1,1-Dichloroethane	ND	ug/L	1	0.18	0.64		
1,2-Dichloroethane	ND	ug/L	1	0.19	0.69	5	
1,1-Dichloroethene	ND	ug/L	1	0.16	0.57	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.18	0.62	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.15	0.51	100	
1,2-Dichloropropane	ND	ug/L	1	0.24	0.84	5	
cis-1,3-Dichloropropene	ND	ug/L	1	0.19	0.68		
trans-1,3-Dichloropropene	ND	ug/L	1	0.14	0.51		
Ethylbenzene	ND	ug/L	1	0.30	1.1	700	
Methylene chloride	ND	ug/L	1	0.20	0.70	5	
Naphthalene	ND	ug/L	1	0.29	1.0		
Styrene	ND	ug/L	1	0.16	0.56	100	
ortho-Xylene	ND	ug/L	1	0.16	0.56		
Tetrachloroethene	ND	ug/L	1	0.17	0.58	5	
Toluene	ND	ug/L	1	0.19	0.68	1000	
1,1,1-Trichloroethane	ND	ug/L	1	0.17	0.61	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.17	0.59	5	
Trichloroethene	ND	ug/L	1	0.24	0.84	5	
Trichlorofluoromethane	ND	ug/L	1	0.17	0.60		
Vinyl chloride	ND	ug/L	1	0.16	0.57	.2	
meta,para-Xylene	ND	ug/L	1	0.32	1.1	10000	
MTBE	ND	ug/L	1	0.22	0.76		
Acetone	ND	ug/L	1	4.2	12		
Carbon Disulfide	ND	ug/L	1	0.16	0.58		
Methyl Ethyl Ketone	ND	ug/L	1	0.50	1.8		
Tetrahydrofuran	ND	ug/L	1	0.97	3.5		
Dibromofluoromethane (SURR)	123%		1				S
Toluene-d8 (SURR)	110%		1				S
1-Bromo-4-Fluorobenzene (SURR)	109%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

ANALYTICAL RESULTS: VOC's by P&T/GCMS - Water - (VarSat3)
Customer: Marathon County Solid Waste Mgmnt Dept NLS Project: 333074
Project Description: Marathon County Area A Private Wells
Project Title: October 2019 Template: SAT3APP3 Printed: 11/13/2019 09:36

Sample: 1155389 PW25 Collected: 10/16/19 Analyzed: 10/22/19 - Analytes: 43

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.19	0.69	5	
Bromodichloromethane	ND	ug/L	1	0.19	0.68	80	
Bromoform	ND	ug/L	1	0.16	0.56	80	
Bromomethane	ND	ug/L	1	0.22	0.79		
Carbon Tetrachloride	ND	ug/L	1	0.19	0.66	5	
Chlorobenzene	ND	ug/L	1	0.16	0.56	100	
Chloroethane	ND	ug/L	1	1.5	5.4		
Chloroform	ND	ug/L	1	0.17	0.60	80	
Chloromethane	ND	ug/L	1	0.19	0.68		
Dibromochloromethane	ND	ug/L	1	0.17	0.61	80	
1,2-Dibromo-3-Chloropropane	ND	ug/L	1	0.21	0.73		
1,2-Dibromoethane	ND	ug/L	1	0.12	0.43		
Dibromomethane	ND	ug/L	1	0.21	0.73		
1,2-Dichlorobenzene	ND	ug/L	1	0.22	0.76	600	
1,3-Dichlorobenzene	ND	ug/L	1	0.20	0.72		
1,4-Dichlorobenzene	ND	ug/L	1	0.21	0.76	75	
Dichlorodifluoromethane	ND	ug/L	1	0.14	0.49		
1,1-Dichloroethane	ND	ug/L	1	0.18	0.64		
1,2-Dichloroethane	ND	ug/L	1	0.19	0.69	5	
1,1-Dichloroethene	ND	ug/L	1	0.16	0.57	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.18	0.62	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.15	0.51	100	
1,2-Dichloropropane	ND	ug/L	1	0.24	0.84	5	
cis-1,3-Dichloropropene	ND	ug/L	1	0.19	0.68		
trans-1,3-Dichloropropene	ND	ug/L	1	0.14	0.51		
Ethylbenzene	ND	ug/L	1	0.30	1.1	700	
Methylene chloride	ND	ug/L	1	0.20	0.70	5	
Naphthalene	ND	ug/L	1	0.29	1.0		
Styrene	ND	ug/L	1	0.16	0.56	100	
ortho-Xylene	ND	ug/L	1	0.16	0.56		
Tetrachloroethene	ND	ug/L	1	0.17	0.58	5	
Toluene	ND	ug/L	1	0.19	0.68	1000	
1,1,1-Trichloroethane	ND	ug/L	1	0.17	0.61	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.17	0.59	5	
Trichloroethene	ND	ug/L	1	0.24	0.84	5	
Trichlorofluoromethane	ND	ug/L	1	0.17	0.60		
Vinyl chloride	ND	ug/L	1	0.16	0.57	.2	
meta,para-Xylene	ND	ug/L	1	0.32	1.1	10000	
MTBE	ND	ug/L	1	0.22	0.76		
Acetone	ND	ug/L	1	4.2	12		
Carbon Disulfide	ND	ug/L	1	0.16	0.58		
Methyl Ethyl Ketone	ND	ug/L	1	0.50	1.8		
Tetrahydrofuran	ND	ug/L	1	0.97	3.5		
Dibromofluoromethane (SURR)	106%		1				S
Toluene-d8 (SURR)	115%		1				S
1-Bromo-4-Fluorobenzene (SURR)	111%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

ANALYTICAL RESULTS: VOC's by P&T/GCMS - Water - (VarSat3)
Customer: Marathon County Solid Waste Mgmnt Dept NLS Project: 333074
Project Description: Marathon County Area A Private Wells
Project Title: October 2019 Template: SAT3APP3 Printed: 11/13/2019 09:36

Sample: 1155390 PW18 Collected: 10/16/19 Analyzed: 10/22/19 Analytes: 43

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.19	0.69	5	
Bromodichloromethane	ND	ug/L	1	0.19	0.68	80	
Bromoform	ND	ug/L	1	0.16	0.56	80	
Bromomethane	ND	ug/L	1	0.22	0.79		
Carbon Tetrachloride	ND	ug/L	1	0.19	0.66	5	
Chlorobenzene	ND	ug/L	1	0.16	0.56	100	
Chloroethane	ND	ug/L	1	1.5	5.4		
Chloroform	ND	ug/L	1	0.17	0.60	80	
Chloromethane	ND	ug/L	1	0.19	0.68		
Dibromochloromethane	ND	ug/L	1	0.17	0.61	80	
1,2-Dibromo-3-Chloropropane	ND	ug/L	1	0.21	0.73		
1,2-Dibromoethane	ND	ug/L	1	0.12	0.43		
Dibromomethane	ND	ug/L	1	0.21	0.73		
1,2-Dichlorobenzene	ND	ug/L	1	0.22	0.76	600	
1,3-Dichlorobenzene	ND	ug/L	1	0.20	0.72		
1,4-Dichlorobenzene	ND	ug/L	1	0.21	0.76	75	
Dichlorodifluoromethane	ND	ug/L	1	0.14	0.49		
1,1-Dichloroethane	ND	ug/L	1	0.18	0.64		
1,2-Dichloroethane	ND	ug/L	1	0.19	0.69	5	
1,1-Dichloroethene	ND	ug/L	1	0.16	0.57	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.18	0.62	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.15	0.51	100	
1,2-Dichloropropane	ND	ug/L	1	0.24	0.84	5	
cis-1,3-Dichloropropene	ND	ug/L	1	0.19	0.68		
trans-1,3-Dichloropropene	ND	ug/L	1	0.14	0.51		
Ethylbenzene	ND	ug/L	1	0.30	1.1	700	
Methylene chloride	ND	ug/L	1	0.20	0.70	5	
Naphthalene	ND	ug/L	1	0.29	1.0		
Styrene	ND	ug/L	1	0.16	0.56	100	
ortho-Xylene	ND	ug/L	1	0.16	0.56		
Tetrachloroethene	ND	ug/L	1	0.17	0.58	5	
Toluene	ND	ug/L	1	0.19	0.68	1000	
1,1,1-Trichloroethane	ND	ug/L	1	0.17	0.61	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.17	0.59	5	
Trichloroethene	ND	ug/L	1	0.24	0.84	5	
Trichlorofluoromethane	ND	ug/L	1	0.17	0.60		
Vinyl chloride	ND	ug/L	1	0.16	0.57	.2	
meta,para-Xylene	ND	ug/L	1	0.32	1.1	10000	
MTBE	ND	ug/L	1	0.22	0.76		
Acetone	ND	ug/L	1	4.2	12		
Carbon Disulfide	ND	ug/L	1	0.16	0.58		
Methyl Ethyl Ketone	ND	ug/L	1	0.50	1.8		
Tetrahydrofuran	ND	ug/L	1	0.97	3.5		
Dibromofluoromethane (SURR)	101%		1				S
Toluene-d8 (SURR)	114%		1				S
1-Bromo-4-Fluorobenzene (SURR)	110%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

ANALYTICAL RESULTS: VOC's by P&T/GCMS - Water - (VarSat3)
Customer: Marathon County Solid Waste Mgmnt Dept NLS Project: 333074
Project Description: Marathon County Area A Private Wells
Project Title: October 2019 Template: SAT3APP3 Printed: 11/13/2019 09:36

Sample: 1155391 PW68 Collected: 10/16/19 Analyzed: 10/22/19 - Analytes: 43

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.19	0.69	5	
Bromodichloromethane	ND	ug/L	1	0.19	0.68	80	
Bromoform	ND	ug/L	1	0.16	0.56	80	
Bromomethane	ND	ug/L	1	0.22	0.79		
Carbon Tetrachloride	ND	ug/L	1	0.19	0.66	5	
Chlorobenzene	ND	ug/L	1	0.16	0.56	100	
Chloroethane	ND	ug/L	1	1.5	5.4		
Chloroform	ND	ug/L	1	0.17	0.60	80	
Chloromethane	ND	ug/L	1	0.19	0.68		
Dibromochloromethane	ND	ug/L	1	0.17	0.61	80	
1,2-Dibromo-3-Chloropropane	ND	ug/L	1	0.21	0.73		
1,2-Dibromoethane	ND	ug/L	1	0.12	0.43		
Dibromomethane	ND	ug/L	1	0.21	0.73		
1,2-Dichlorobenzene	ND	ug/L	1	0.22	0.76	600	
1,3-Dichlorobenzene	ND	ug/L	1	0.20	0.72		
1,4-Dichlorobenzene	ND	ug/L	1	0.21	0.76	75	
Dichlorodifluoromethane	ND	ug/L	1	0.14	0.49		
1,1-Dichloroethane	ND	ug/L	1	0.18	0.64		
1,2-Dichloroethane	ND	ug/L	1	0.19	0.69	5	
1,1-Dichloroethene	ND	ug/L	1	0.16	0.57	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.18	0.62	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.15	0.51	100	
1,2-Dichloropropane	ND	ug/L	1	0.24	0.84	5	
cis-1,3-Dichloropropene	ND	ug/L	1	0.19	0.68		
trans-1,3-Dichloropropene	ND	ug/L	1	0.14	0.51		
Ethylbenzene	ND	ug/L	1	0.30	1.1	700	
Methylene chloride	ND	ug/L	1	0.20	0.70	5	
Naphthalene	ND	ug/L	1	0.29	1.0		
Styrene	ND	ug/L	1	0.16	0.56	100	
ortho-Xylene	ND	ug/L	1	0.16	0.56		
Tetrachloroethene	ND	ug/L	1	0.17	0.58	5	
Toluene	ND	ug/L	1	0.19	0.68	1000	
1,1,1-Trichloroethane	ND	ug/L	1	0.17	0.61	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.17	0.59	5	
Trichloroethene	ND	ug/L	1	0.24	0.84	5	
Trichlorofluoromethane	ND	ug/L	1	0.17	0.60		
Vinyl chloride	ND	ug/L	1	0.16	0.57	.2	
meta,para-Xylene	ND	ug/L	1	0.32	1.1	10000	
MTBE	ND	ug/L	1	0.22	0.76		
Acetone	ND	ug/L	1	4.2	12		
Carbon Disulfide	ND	ug/L	1	0.16	0.58		
Methyl Ethyl Ketone	ND	ug/L	1	0.50	1.8		
Tetrahydrofuran	ND	ug/L	1	0.97	3.5		
Dibromofluoromethane (SURR)	113%		1				S
Toluene-d8 (SURR)	120%		1				S
1-Bromo-4-Fluorobenzene (SURR)	111%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

ANALYTICAL RESULTS: VOC's by P&T/GC/MS - Appendix III - (VarSat2200)
Customer: Marathon County Solid Waste Mgmnt Dept NLS Project: 333074
Project Description: Marathon County Area A Private Wells
Project Title: October 2019 Template: SATRAPP3 Printed: 11/13/2019 09:38

Sample: 1155392 PW19 Collected: 10/16/19 Analyzed: 10/28/19 - Analytes: 43

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.41	1.3	5	
Bromodichloromethane	ND	ug/L	1	0.45	1.4	80	
Bromoform	ND	ug/L	1	0.36	1.1	80	
Bromomethane	ND	ug/L	1	0.14	0.46		
Carbon Tetrachloride	ND	ug/L	1	0.46	1.5	5	
Chlorobenzene	ND	ug/L	1	0.45	1.4	100	
Chloroethane	ND	ug/L	1	2.1	6.7		CC
Chloroform	ND	ug/L	1	0.42	1.3	80	
Chloromethane	ND	ug/L	1	0.42	1.3		
Dibromochloromethane	ND	ug/L	1	0.40	1.3	80	
1,2-Dibromo-3-Chloropropane	ND	ug/L	1	0.27	0.90		
1,2-Dibromoethane	ND	ug/L	1	0.41	1.3		
Dibromomethane	ND	ug/L	1	0.36	1.1		
1,2-Dichlorobenzene	ND	ug/L	1	0.42	1.3	600	
1,3-Dichlorobenzene	ND	ug/L	1	0.45	1.4		
1,4-Dichlorobenzene	ND	ug/L	1	0.46	1.5	75	
Dichlorodifluoromethane	ND	ug/L	1	0.40	1.3		
1,1-Dichloroethane	ND	ug/L	1	0.47	1.5		
1,2-Dichloroethane	ND	ug/L	1	0.41	1.3	5	
1,1-Dichloroethene	ND	ug/L	1	0.48	1.5	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.41	1.3	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.35	1.1	100	
1,2-Dichloropropane	ND	ug/L	1	0.38	1.2	5	
cis-1,3-Dichloropropene	ND	ug/L	1	0.20	0.66		
trans-1,3-Dichloropropene	ND	ug/L	1	0.22	0.74		
Ethylbenzene	ND	ug/L	1	0.43	1.4	700	
Methylene chloride	ND	ug/L	1	0.44	1.4	5	
Naphthalene	ND	ug/L	1	0.20	0.62		
ortho-Xylene	ND	ug/L	1	0.44	1.4		
Styrene	ND	ug/L	1	0.25	0.79	100	
Tetrachloroethene	ND	ug/L	1	0.43	1.4	5	
Toluene	ND	ug/L	1	0.43	1.4	1000	
1,1,1-Trichloroethane	ND	ug/L	1	0.49	1.6	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.46	1.5	5	
Trichloroethene	ND	ug/L	1	0.50	1.6	5	
Trichlorofluoromethane	ND	ug/L	1	0.45	1.4		
Vinyl chloride	ND	ug/L	1	0.13	0.42	.2	
meta,para-Xylene	ND	ug/L	1	0.89	2.8	10000	
MTBE	ND	ug/L	1	0.44	1.4		
Acetone	ND	ug/L	1	2.1	6.7		
Carbon disulfide	ND	ug/L	1	0.43	1.4		
Methyl ethyl ketone	ND	ug/L	1	0.64	2.0		
Tetrahydrofuran	ND	ug/L	1	0.83	2.7		
Dibromofluoromethane (SURR)	89.13%		1				S
Toluene-d8 (SURR)	97.11%		1				S
1-Bromo-4-Fluorobenzene (SURR)	96.31%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.
CC = Continuing calibration verification standard recovery was outside QC limits.
Chloroethane recovery 77%

ANALYTICAL RESULTS: VOC's by P&T/GC/MS - Appendix III - (VarSat2200)
Customer: Marathon County Solid Waste Mgmnt Dept NLS Project: 333074
Project Description: Marathon County Area A Private Wells
Project Title: October 2019 Template: SATRAPP3 Printed: 11/13/2019 09:38

Sample: 1155393 PW64 Collected: 10/16/19 Analyzed: 10/28/19 - Analytes: 43

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.41	1.3	5	
Bromodichloromethane	ND	ug/L	1	0.45	1.4	80	
Bromoform	ND	ug/L	1	0.36	1.1	80	
Bromomethane	ND	ug/L	1	0.14	0.46		
Carbon Tetrachloride	ND	ug/L	1	0.46	1.5	5	
Chlorobenzene	ND	ug/L	1	0.45	1.4	100	
Chloroethane	ND	ug/L	1	2.1	6.7		CC
Chloroform	ND	ug/L	1	0.42	1.3	80	
Chloromethane	ND	ug/L	1	0.42	1.3		
Dibromochloromethane	ND	ug/L	1	0.40	1.3	80	
1,2-Dibromo-3-Chloropropane	ND	ug/L	1	0.27	0.90		
1,2-Dibromoethane	ND	ug/L	1	0.41	1.3		
Dibromomethane	ND	ug/L	1	0.36	1.1		
1,2-Dichlorobenzene	ND	ug/L	1	0.42	1.3	600	
1,3-Dichlorobenzene	ND	ug/L	1	0.45	1.4		
1,4-Dichlorobenzene	ND	ug/L	1	0.46	1.5	75	
Dichlorodifluoromethane	ND	ug/L	1	0.40	1.3		
1,1-Dichloroethane	ND	ug/L	1	0.47	1.5		
1,2-Dichloroethane	ND	ug/L	1	0.41	1.3	5	
1,1-Dichloroethene	ND	ug/L	1	0.48	1.5	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.41	1.3	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.35	1.1	100	
1,2-Dichloropropane	ND	ug/L	1	0.38	1.2	5	
cis-1,3-Dichloropropene	ND	ug/L	1	0.20	0.66		
trans-1,3-Dichloropropene	ND	ug/L	1	0.22	0.74		
Ethylbenzene	ND	ug/L	1	0.43	1.4	700	
Methylene chloride	ND	ug/L	1	0.44	1.4	5	
Naphthalene	ND	ug/L	1	0.20	0.62		
ortho-Xylene	ND	ug/L	1	0.44	1.4		
Styrene	ND	ug/L	1	0.25	0.79	100	
Tetrachloroethene	ND	ug/L	1	0.43	1.4	5	
Toluene	ND	ug/L	1	0.43	1.4	1000	
1,1,1-Trichloroethane	ND	ug/L	1	0.49	1.6	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.46	1.5	5	
Trichloroethene	ND	ug/L	1	0.50	1.6	5	
Trichlorofluoromethane	ND	ug/L	1	0.45	1.4		
Vinyl chloride	ND	ug/L	1	0.13	0.42	.2	
meta,para-Xylene	ND	ug/L	1	0.89	2.8	10000	
MTBE	ND	ug/L	1	0.44	1.4		
Acetone	ND	ug/L	1	2.1	6.7		
Carbon disulfide	ND	ug/L	1	0.43	1.4		
Methyl ethyl ketone	ND	ug/L	1	0.64	2.0		
Tetrahydrofuran	ND	ug/L	1	0.83	2.7		
Dibromofluoromethane (SURR)	82.8%		1				S
Toluene-d8 (SURR)	92.18%		1				S
1-Bromo-4-Fluorobenzene (SURR)	94.99%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.
CC = Continuing calibration verification standard recovery was outside QC limits.
Chloroethane recovery 77%

ANALYTICAL RESULTS: VOC's by P&T/GC/MS - Appendix III - (VarSat2200)
Customer: Marathon County Solid Waste Mgmnt Dept NLS Project: 333074
Project Description: Marathon County Area A Private Wells
Project Title: October 2019 Template: SATRAPP3 Printed: 11/13/2019 09:38

Sample: 1155394 PW27 Collected: 10/16/19 Analyzed: 10/28/19 - Analytes: 43

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.41	1.3	5	
Bromodichloromethane	ND	ug/L	1	0.45	1.4	80	
Bromoform	ND	ug/L	1	0.36	1.1	80	
Bromomethane	ND	ug/L	1	0.14	0.46		
Carbon Tetrachloride	ND	ug/L	1	0.46	1.5	5	
Chlorobenzene	ND	ug/L	1	0.45	1.4	100	
Chloroethane	ND	ug/L	1	2.1	6.7		CC
Chloroform	ND	ug/L	1	0.42	1.3	80	
Chloromethane	ND	ug/L	1	0.42	1.3		
Dibromochloromethane	ND	ug/L	1	0.40	1.3	80	
1,2-Dibromo-3-Chloropropane	ND	ug/L	1	0.27	0.90		
1,2-Dibromoethane	ND	ug/L	1	0.41	1.3		
Dibromomethane	ND	ug/L	1	0.36	1.1		
1,2-Dichlorobenzene	ND	ug/L	1	0.42	1.3	600	
1,3-Dichlorobenzene	ND	ug/L	1	0.45	1.4		
1,4-Dichlorobenzene	ND	ug/L	1	0.46	1.5	75	
Dichlorodifluoromethane	ND	ug/L	1	0.40	1.3		
1,1-Dichloroethane	ND	ug/L	1	0.47	1.5		
1,2-Dichloroethane	ND	ug/L	1	0.41	1.3	5	
1,1-Dichloroethene	ND	ug/L	1	0.48	1.5	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.41	1.3	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.35	1.1	100	
1,2-Dichloropropane	ND	ug/L	1	0.38	1.2	5	
cis-1,3-Dichloropropene	ND	ug/L	1	0.20	0.66		
trans-1,3-Dichloropropene	ND	ug/L	1	0.22	0.74		
Ethylbenzene	ND	ug/L	1	0.43	1.4	700	
Methylene chloride	ND	ug/L	1	0.44	1.4	5	
Naphthalene	ND	ug/L	1	0.20	0.62		
ortho-Xylene	ND	ug/L	1	0.44	1.4		
Styrene	ND	ug/L	1	0.25	0.79	100	
Tetrachloroethene	ND	ug/L	1	0.43	1.4	5	
Toluene	ND	ug/L	1	0.43	1.4	1000	
1,1,1-Trichloroethane	ND	ug/L	1	0.49	1.6	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.46	1.5	5	
Trichloroethene	ND	ug/L	1	0.50	1.6	5	
Trichlorofluoromethane	ND	ug/L	1	0.45	1.4		
Vinyl chloride	ND	ug/L	1	0.13	0.42	.2	
meta,para-Xylene	ND	ug/L	1	0.89	2.8	10000	
MTBE	ND	ug/L	1	0.44	1.4		
Acetone	ND	ug/L	1	2.1	6.7		
Carbon disulfide	ND	ug/L	1	0.43	1.4		
Methyl ethyl ketone	ND	ug/L	1	0.64	2.0		
Tetrahydrofuran	ND	ug/L	1	0.83	2.7		
Dibromofluoromethane (SURR)	85.04%		1				S
Toluene-d8 (SURR)	89.77%		1				S
1-Bromo-4-Fluorobenzene (SURR)	93.24%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

CC = Continuing calibration verification standard recovery was outside QC limits.
Chloroethane recovery 77%

ANALYTICAL RESULTS: VOC's by P&T/GC/MS - Appendix III - (VarSat2200)
Customer: Marathon County Solid Waste Mgmnt Dept NLS Project: 333074
Project Description: Marathon County Area A Private Wells
Project Title: October 2019 Template: SATRAPP3 Printed: 11/13/2019 09:38

Sample: 1155395 PW65 Collected: 10/16/19 Analyzed: 10/28/19 - Analytes: 43

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.41	1.3	5	
Bromodichloromethane	ND	ug/L	1	0.45	1.4	80	
Bromoform	ND	ug/L	1	0.36	1.1	80	
Bromomethane	ND	ug/L	1	0.14	0.46		
Carbon Tetrachloride	ND	ug/L	1	0.46	1.5	5	
Chlorobenzene	ND	ug/L	1	0.45	1.4	100	
Chloroethane	ND	ug/L	1	2.1	6.7		CC
Chloroform	ND	ug/L	1	0.42	1.3	80	
Chloromethane	ND	ug/L	1	0.42	1.3		
Dibromochloromethane	ND	ug/L	1	0.40	1.3	80	
1,2-Dibromo-3-Chloropropane	ND	ug/L	1	0.27	0.90		
1,2-Dibromoethane	ND	ug/L	1	0.41	1.3		
Dibromomethane	ND	ug/L	1	0.36	1.1		
1,2-Dichlorobenzene	ND	ug/L	1	0.42	1.3	600	
1,3-Dichlorobenzene	ND	ug/L	1	0.45	1.4		
1,4-Dichlorobenzene	ND	ug/L	1	0.46	1.5	75	
Dichlorodifluoromethane	ND	ug/L	1	0.40	1.3		
1,1-Dichloroethane	ND	ug/L	1	0.47	1.5		
1,2-Dichloroethane	ND	ug/L	1	0.41	1.3	5	
1,1-Dichloroethene	ND	ug/L	1	0.48	1.5	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.41	1.3	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.35	1.1	100	
1,2-Dichloropropane	ND	ug/L	1	0.38	1.2	5	
cis-1,3-Dichloropropene	ND	ug/L	1	0.20	0.66		
trans-1,3-Dichloropropene	ND	ug/L	1	0.22	0.74		
Ethylbenzene	ND	ug/L	1	0.43	1.4	700	
Methylene chloride	ND	ug/L	1	0.44	1.4	5	
Naphthalene	ND	ug/L	1	0.20	0.62		
ortho-Xylene	ND	ug/L	1	0.44	1.4		
Styrene	ND	ug/L	1	0.25	0.79	100	
Tetrachloroethene	ND	ug/L	1	0.43	1.4	5	
Toluene	ND	ug/L	1	0.43	1.4	1000	
1,1,1-Trichloroethane	ND	ug/L	1	0.49	1.6	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.46	1.5	5	
Trichloroethene	ND	ug/L	1	0.50	1.6	5	
Trichlorofluoromethane	ND	ug/L	1	0.45	1.4		
Vinyl chloride	ND	ug/L	1	0.13	0.42	.2	
meta,para-Xylene	ND	ug/L	1	0.89	2.8	10000	
MTBE	ND	ug/L	1	0.44	1.4		
Acetone	ND	ug/L	1	2.1	6.7		
Carbon disulfide	ND	ug/L	1	0.43	1.4		
Methyl ethyl ketone	ND	ug/L	1	0.64	2.0		
Tetrahydrofuran	ND	ug/L	1	0.83	2.7		
Dibromofluoromethane (SURR)	82.78%		1				S
Toluene-d8 (SURR)	96.1%		1				S
1-Bromo-4-Fluorobenzene (SURR)	100.15%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:
S = This compound is a surrogate used to evaluate the quality control of a method.
CC = Continuing calibration verification standard recovery was outside QC limits.
Chloroethane recovery 77%

ANALYTICAL RESULTS: VOC's by P&T/GC/MS - Appendix III - (VarSat2200)
Customer: Marathon County Solid Waste Mgmnt Dept NLS Project: 333074
Project Description: Marathon County Area A Private Wells
Project Title: October 2019 Template: SATRAPP3 Printed: 11/13/2019 09:38

Sample: 1155396 PW100 Collected: 10/16/19 Analyzed: 10/28/19 - Analytes: 43

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.41	1.3	5	
Bromodichloromethane	ND	ug/L	1	0.45	1.4	80	
Bromoform	ND	ug/L	1	0.36	1.1	80	
Bromomethane	ND	ug/L	1	0.14	0.46		
Carbon Tetrachloride	ND	ug/L	1	0.46	1.5	5	
Chlorobenzene	ND	ug/L	1	0.45	1.4	100	
Chloroethane	ND	ug/L	1	2.1	6.7		CC
Chloroform	ND	ug/L	1	0.42	1.3	80	
Chloromethane	ND	ug/L	1	0.42	1.3		
Dibromochloromethane	ND	ug/L	1	0.40	1.3	80	
1,2-Dibromo-3-Chloropropane	ND	ug/L	1	0.27	0.90		
1,2-Dibromoethane	ND	ug/L	1	0.41	1.3		
Dibromomethane	ND	ug/L	1	0.36	1.1		
1,2-Dichlorobenzene	ND	ug/L	1	0.42	1.3	600	
1,3-Dichlorobenzene	ND	ug/L	1	0.45	1.4		
1,4-Dichlorobenzene	ND	ug/L	1	0.46	1.5	75	
Dichlorodifluoromethane	ND	ug/L	1	0.40	1.3		
1,1-Dichloroethane	ND	ug/L	1	0.47	1.5		
1,2-Dichloroethane	ND	ug/L	1	0.41	1.3	5	
1,1-Dichloroethene	ND	ug/L	1	0.48	1.5	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.41	1.3	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.35	1.1	100	
1,2-Dichloropropane	ND	ug/L	1	0.38	1.2	5	
cis-1,3-Dichloropropene	ND	ug/L	1	0.20	0.66		
trans-1,3-Dichloropropene	ND	ug/L	1	0.22	0.74		
Ethylbenzene	ND	ug/L	1	0.43	1.4	700	
Methylene chloride	ND	ug/L	1	0.44	1.4	5	
Naphthalene	ND	ug/L	1	0.20	0.62		
ortho-Xylene	ND	ug/L	1	0.44	1.4		
Styrene	ND	ug/L	1	0.25	0.79	100	
Tetrachloroethene	ND	ug/L	1	0.43	1.4	5	
Toluene	ND	ug/L	1	0.43	1.4	1000	
1,1,1-Trichloroethane	ND	ug/L	1	0.49	1.6	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.46	1.5	5	
Trichloroethene	ND	ug/L	1	0.50	1.6	5	
Trichlorofluoromethane	ND	ug/L	1	0.45	1.4		
Vinyl chloride	ND	ug/L	1	0.13	0.42	.2	
meta,para-Xylene	ND	ug/L	1	0.89	2.8	10000	
MTBE	ND	ug/L	1	0.44	1.4		
Acetone	ND	ug/L	1	2.1	6.7		
Carbon disulfide	ND	ug/L	1	0.43	1.4		
Methyl ethyl ketone	ND	ug/L	1	0.64	2.0		
Tetrahydrofuran	ND	ug/L	1	0.83	2.7		
Dibromofluoromethane (SURR)	83.76%		1				S
Toluene-d8 (SURR)	92.36%		1				S
1-Bromo-4-Fluorobenzene (SURR)	96.57%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

CC = Continuing calibration verification standard recovery was outside QC limits.
Chloroethane recovery 77%

ANALYTICAL RESULTS: VOC's by P&T/GC/MS - Appendix III - (VarSat2200)
Customer: Marathon County Solid Waste Mgmnt Dept NLS Project: 333074
Project Description: Marathon County Area A Private Wells
Project Title: October 2019 Template: SATRAPP3 Printed: 11/13/2019 09:38

Sample: 1155397 PW80 Collected: 10/16/19 Analyzed: 10/28/19 - Analytes: 43

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.41	1.3	5	
Bromodichloromethane	ND	ug/L	1	0.45	1.4	80	
Bromoform	ND	ug/L	1	0.36	1.1	80	
Bromomethane	ND	ug/L	1	0.14	0.46		
Carbon Tetrachloride	ND	ug/L	1	0.46	1.5	5	
Chlorobenzene	ND	ug/L	1	0.45	1.4	100	
Chloroethane	ND	ug/L	1	2.1	6.7		CC
Chloroform	ND	ug/L	1	0.42	1.3	80	
Chloromethane	ND	ug/L	1	0.42	1.3		
Dibromochloromethane	ND	ug/L	1	0.40	1.3	80	
1,2-Dibromo-3-Chloropropane	ND	ug/L	1	0.27	0.90		
1,2-Dibromoethane	ND	ug/L	1	0.41	1.3		
Dibromomethane	ND	ug/L	1	0.36	1.1		
1,2-Dichlorobenzene	ND	ug/L	1	0.42	1.3	600	
1,3-Dichlorobenzene	ND	ug/L	1	0.45	1.4		
1,4-Dichlorobenzene	ND	ug/L	1	0.46	1.5	75	
Dichlorodifluoromethane	ND	ug/L	1	0.40	1.3		
1,1-Dichloroethane	ND	ug/L	1	0.47	1.5		
1,2-Dichloroethane	ND	ug/L	1	0.41	1.3	5	
1,1-Dichloroethene	ND	ug/L	1	0.48	1.5	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.41	1.3	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.35	1.1	100	
1,2-Dichloropropane	ND	ug/L	1	0.38	1.2	5	
cis-1,3-Dichloropropene	ND	ug/L	1	0.20	0.66		
trans-1,3-Dichloropropene	ND	ug/L	1	0.22	0.74		
Ethylbenzene	ND	ug/L	1	0.43	1.4	700	
Methylene chloride	ND	ug/L	1	0.44	1.4	5	
Naphthalene	ND	ug/L	1	0.20	0.62		
ortho-Xylene	ND	ug/L	1	0.44	1.4		
Styrene	ND	ug/L	1	0.25	0.79	100	
Tetrachloroethene	ND	ug/L	1	0.43	1.4	5	
Toluene	ND	ug/L	1	0.43	1.4	1000	
1,1,1-Trichloroethane	ND	ug/L	1	0.49	1.6	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.46	1.5	5	
Trichloroethene	ND	ug/L	1	0.50	1.6	5	
Trichlorofluoromethane	ND	ug/L	1	0.45	1.4		
Vinyl chloride	ND	ug/L	1	0.13	0.42	.2	
meta,para-Xylene	ND	ug/L	1	0.89	2.8	10000	
MTBE	ND	ug/L	1	0.44	1.4		
Acetone	ND	ug/L	1	2.1	6.7		
Carbon disulfide	ND	ug/L	1	0.43	1.4		
Methyl ethyl ketone	ND	ug/L	1	0.64	2.0		
Tetrahydrofuran	ND	ug/L	1	0.83	2.7		
Dibromofluoromethane (SURR)	79.22%		1				S
Toluene-d8 (SURR)	90.74%		1				S
1-Bromo-4-Fluorobenzene (SURR)	95.35%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

CC = Continuing calibration verification standard recovery was outside QC limits.
Chloroethane recovery 77%

ANALYTICAL RESULTS: VOC's by P&T/GC/MS - Appendix III - (VarSat2200)
Customer: Marathon County Solid Waste Mgmnt Dept NLS Project: 333074
Project Description: Marathon County Area A Private Wells
Project Title: October 2019 Template: SATRAPP3 Printed: 11/13/2019 09:38

Sample: 1155398 PW53 Collected: 10/16/19 Analyzed: 10/28/19 Analytes: 43

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.41	1.3	5	
Bromodichloromethane	ND	ug/L	1	0.45	1.4	80	
Bromoform	ND	ug/L	1	0.36	1.1	80	
Bromomethane	ND	ug/L	1	0.14	0.46		
Carbon Tetrachloride	ND	ug/L	1	0.46	1.5	5	
Chlorobenzene	ND	ug/L	1	0.45	1.4	100	
Chloroethane	ND	ug/L	1	2.1	6.7		CC
Chloroform	ND	ug/L	1	0.42	1.3	80	
Chloromethane	ND	ug/L	1	0.42	1.3		
Dibromochloromethane	ND	ug/L	1	0.40	1.3	80	
1,2-Dibromo-3-Chloropropane	ND	ug/L	1	0.27	0.90		
1,2-Dibromoethane	ND	ug/L	1	0.41	1.3		
Dibromomethane	ND	ug/L	1	0.36	1.1		
1,2-Dichlorobenzene	ND	ug/L	1	0.42	1.3	600	
1,3-Dichlorobenzene	ND	ug/L	1	0.45	1.4		
1,4-Dichlorobenzene	ND	ug/L	1	0.46	1.5	75	
Dichlorodifluoromethane	ND	ug/L	1	0.40	1.3		
1,1-Dichloroethane	ND	ug/L	1	0.47	1.5		
1,2-Dichloroethane	ND	ug/L	1	0.41	1.3	5	
1,1-Dichloroethene	ND	ug/L	1	0.48	1.5	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.41	1.3	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.35	1.1	100	
1,2-Dichloropropane	ND	ug/L	1	0.38	1.2	5	
cis-1,3-Dichloropropene	ND	ug/L	1	0.20	0.66		
trans-1,3-Dichloropropene	ND	ug/L	1	0.22	0.74		
Ethylbenzene	ND	ug/L	1	0.43	1.4	700	
Methylene chloride	ND	ug/L	1	0.44	1.4	5	
Naphthalene	ND	ug/L	1	0.20	0.62		
ortho-Xylene	ND	ug/L	1	0.44	1.4		
Styrene	ND	ug/L	1	0.25	0.79	100	
Tetrachloroethene	ND	ug/L	1	0.43	1.4	5	
Toluene	ND	ug/L	1	0.43	1.4	1000	
1,1,1-Trichloroethane	ND	ug/L	1	0.49	1.6	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.46	1.5	5	
Trichloroethene	ND	ug/L	1	0.50	1.6	5	
Trichlorofluoromethane	ND	ug/L	1	0.45	1.4		
Vinyl chloride	ND	ug/L	1	0.13	0.42	.2	
meta,para-Xylene	ND	ug/L	1	0.89	2.8	10000	
MTBE	ND	ug/L	1	0.44	1.4		
Acetone	ND	ug/L	1	2.1	6.7		
Carbon disulfide	ND	ug/L	1	0.43	1.4		
Methyl ethyl ketone	ND	ug/L	1	0.64	2.0		
Tetrahydrofuran	ND	ug/L	1	0.83	2.7		
Dibromofluoromethane (SURR)	81.84%		1				S
Toluene-d8 (SURR)	92.55%		1				S
1-Bromo-4-Fluorobenzene (SURR)	94.75%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

CC = Continuing calibration verification standard recovery was outside QC limits.
Chloroethane recovery 77%

ANALYTICAL RESULTS: VOC's by P&T/GC/MS - Appendix III - (VarSat2200)
Customer: Marathon County Solid Waste Mgmnt Dept NLS Project: 333074
Project Description: Marathon County Area A Private Wells
Project Title: October 2019 Template: SATRAPP3 Printed: 11/13/2019 09:38

Sample: 1155399 PW29 Collected: 10/16/19 Analyzed: 10/28/19 - Analytes: 43

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.41	1.3	5	
Bromodichloromethane	ND	ug/L	1	0.45	1.4	80	
Bromoform	ND	ug/L	1	0.36	1.1	80	
Bromomethane	ND	ug/L	1	0.14	0.46		
Carbon Tetrachloride	ND	ug/L	1	0.46	1.5	5	
Chlorobenzene	ND	ug/L	1	0.45	1.4	100	
Chloroethane	ND	ug/L	1	2.1	6.7		CC
Chloroform	ND	ug/L	1	0.42	1.3	80	
Chloromethane	ND	ug/L	1	0.42	1.3		
Dibromochloromethane	ND	ug/L	1	0.40	1.3	80	
1,2-Dibromo-3-Chloropropane	ND	ug/L	1	0.27	0.90		
1,2-Dibromoethane	ND	ug/L	1	0.41	1.3		
Dibromomethane	ND	ug/L	1	0.36	1.1		
1,2-Dichlorobenzene	ND	ug/L	1	0.42	1.3	600	
1,3-Dichlorobenzene	ND	ug/L	1	0.45	1.4		
1,4-Dichlorobenzene	ND	ug/L	1	0.46	1.5	75	
Dichlorodifluoromethane	ND	ug/L	1	0.40	1.3		
1,1-Dichloroethane	ND	ug/L	1	0.47	1.5		
1,2-Dichloroethane	ND	ug/L	1	0.41	1.3	5	
1,1-Dichloroethene	ND	ug/L	1	0.48	1.5	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.41	1.3	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.35	1.1	100	
1,2-Dichloropropane	ND	ug/L	1	0.38	1.2	5	
cis-1,3-Dichloropropene	ND	ug/L	1	0.20	0.66		
trans-1,3-Dichloropropene	ND	ug/L	1	0.22	0.74		
Ethylbenzene	ND	ug/L	1	0.43	1.4	700	
Methylene chloride	ND	ug/L	1	0.44	1.4	5	
Naphthalene	ND	ug/L	1	0.20	0.62		
ortho-Xylene	ND	ug/L	1	0.44	1.4		
Styrene	ND	ug/L	1	0.25	0.79	100	
Tetrachloroethene	ND	ug/L	1	0.43	1.4	5	
Toluene	ND	ug/L	1	0.43	1.4	1000	
1,1,1-Trichloroethane	ND	ug/L	1	0.49	1.6	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.46	1.5	5	
Trichloroethene	ND	ug/L	1	0.50	1.6	5	
Trichlorofluoromethane	ND	ug/L	1	0.45	1.4		
Vinyl chloride	ND	ug/L	1	0.13	0.42	.2	
meta,para-Xylene	ND	ug/L	1	0.89	2.8	10000	
MTBE	ND	ug/L	1	0.44	1.4		
Acetone	ND	ug/L	1	2.1	6.7		
Carbon disulfide	ND	ug/L	1	0.43	1.4		
Methyl ethyl ketone	ND	ug/L	1	0.64	2.0		
Tetrahydrofuran	ND	ug/L	1	0.83	2.7		
Dibromofluoromethane (SURR)	81.74%		1				S
Toluene-d8 (SURR)	90.18%		1				S
1-Bromo-4-Fluorobenzene (SURR)	95.57%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:
S = This compound is a surrogate used to evaluate the quality control of a method.
CC = Continuing calibration verification standard recovery was outside QC limits.
Chloroethane recovery 77%

ANALYTICAL RESULTS: VOC's by P&T/GC/MS - Appendix III - (VarSat2200)
Customer: Marathon County Solid Waste Mgmnt Dept NLS Project: 333074
Project Description: Marathon County Area A Private Wells
Project Title: October 2019 Template: SATRAPP3 Printed: 11/13/2019 09:38

Sample: 1155400 PW54 Collected: 10/16/19 Analyzed: 10/28/19 - Analytes: 43

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.41	1.3	5	
Bromodichloromethane	ND	ug/L	1	0.45	1.4	80	
Bromoform	ND	ug/L	1	0.36	1.1	80	
Bromomethane	ND	ug/L	1	0.14	0.46		
Carbon Tetrachloride	ND	ug/L	1	0.46	1.5	5	
Chlorobenzene	ND	ug/L	1	0.45	1.4	100	
Chloroethane	ND	ug/L	1	2.1	6.7		CC
Chloroform	ND	ug/L	1	0.42	1.3	80	
Chloromethane	ND	ug/L	1	0.42	1.3		
Dibromochloromethane	ND	ug/L	1	0.40	1.3	80	
1,2-Dibromo-3-Chloropropane	ND	ug/L	1	0.27	0.90		
1,2-Dibromoethane	ND	ug/L	1	0.41	1.3		
Dibromomethane	ND	ug/L	1	0.36	1.1		
1,2-Dichlorobenzene	ND	ug/L	1	0.42	1.3	600	
1,3-Dichlorobenzene	ND	ug/L	1	0.45	1.4		
1,4-Dichlorobenzene	ND	ug/L	1	0.46	1.5	75	
Dichlorodifluoromethane	ND	ug/L	1	0.40	1.3		
1,1-Dichloroethane	ND	ug/L	1	0.47	1.5		
1,2-Dichloroethane	ND	ug/L	1	0.41	1.3	5	
1,1-Dichloroethene	ND	ug/L	1	0.48	1.5	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.41	1.3	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.35	1.1	100	
1,2-Dichloropropane	ND	ug/L	1	0.38	1.2	5	
cis-1,3-Dichloropropene	ND	ug/L	1	0.20	0.66		
trans-1,3-Dichloropropene	ND	ug/L	1	0.22	0.74		
Ethylbenzene	ND	ug/L	1	0.43	1.4	700	
Methylene chloride	ND	ug/L	1	0.44	1.4	5	
Naphthalene	ND	ug/L	1	0.20	0.62		
ortho-Xylene	ND	ug/L	1	0.44	1.4		
Styrene	ND	ug/L	1	0.25	0.79	100	
Tetrachloroethene	ND	ug/L	1	0.43	1.4	5	
Toluene	ND	ug/L	1	0.43	1.4	1000	
1,1,1-Trichloroethane	ND	ug/L	1	0.49	1.6	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.46	1.5	5	
Trichloroethene	ND	ug/L	1	0.50	1.6	5	
Trichlorofluoromethane	ND	ug/L	1	0.45	1.4		
Vinyl chloride	ND	ug/L	1	0.13	0.42	.2	
meta,para-Xylene	ND	ug/L	1	0.89	2.8	10000	
MTBE	ND	ug/L	1	0.44	1.4		
Acetone	ND	ug/L	1	2.1	6.7		
Carbon disulfide	ND	ug/L	1	0.43	1.4		
Methyl ethyl ketone	ND	ug/L	1	0.64	2.0		
Tetrahydrofuran	ND	ug/L	1	0.83	2.7		
Dibromofluoromethane (SURR)	83.59%		1				S
Toluene-d8 (SURR)	92.04%		1				S
1-Bromo-4-Fluorobenzene (SURR)	99.18%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.
CC = Continuing calibration verification standard recovery was outside QC limits.
Chloroethane recovery 77%

ANALYTICAL RESULTS: VOC's by P&T/GC/MS - Appendix III - (VarSat2200)
Customer: Marathon County Solid Waste Mgmnt Dept NLS Project: 333074
Project Description: Marathon County Area A Private Wells
Project Title: October 2019 Template: SATRAPP3 Printed: 11/13/2019 09:38

Sample: 1155401 PW17 Collected: 10/16/19 Analyzed: 10/28/19 - Analytes: 43

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.41	1.3	5	
Bromodichloromethane	ND	ug/L	1	0.45	1.4	80	
Bromoform	ND	ug/L	1	0.36	1.1	80	
Bromomethane	ND	ug/L	1	0.14	0.46		
Carbon Tetrachloride	ND	ug/L	1	0.46	1.5	5	
Chlorobenzene	ND	ug/L	1	0.45	1.4	100	
Chloroethane	ND	ug/L	1	2.1	6.7		CC
Chloroform	ND	ug/L	1	0.42	1.3	80	
Chloromethane	ND	ug/L	1	0.42	1.3		
Dibromochloromethane	ND	ug/L	1	0.40	1.3	80	
1,2-Dibromo-3-Chloropropane	ND	ug/L	1	0.27	0.90		
1,2-Dibromoethane	ND	ug/L	1	0.41	1.3		
Dibromomethane	ND	ug/L	1	0.36	1.1		
1,2-Dichlorobenzene	ND	ug/L	1	0.42	1.3	600	
1,3-Dichlorobenzene	ND	ug/L	1	0.45	1.4		
1,4-Dichlorobenzene	ND	ug/L	1	0.46	1.5	75	
Dichlorodifluoromethane	ND	ug/L	1	0.40	1.3		
1,1-Dichloroethane	ND	ug/L	1	0.47	1.5		
1,2-Dichloroethane	ND	ug/L	1	0.41	1.3	5	
1,1-Dichloroethene	ND	ug/L	1	0.48	1.5	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.41	1.3	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.35	1.1	100	
1,2-Dichloropropane	ND	ug/L	1	0.38	1.2	5	
cis-1,3-Dichloropropene	ND	ug/L	1	0.20	0.66		
trans-1,3-Dichloropropene	ND	ug/L	1	0.22	0.74		
Ethylbenzene	ND	ug/L	1	0.43	1.4	700	
Methylene chloride	ND	ug/L	1	0.44	1.4	5	
Naphthalene	ND	ug/L	1	0.20	0.62		
ortho-Xylene	ND	ug/L	1	0.44	1.4		
Styrene	ND	ug/L	1	0.25	0.79	100	
Tetrachloroethene	ND	ug/L	1	0.43	1.4	5	
Toluene	ND	ug/L	1	0.43	1.4	1000	
1,1,1-Trichloroethane	ND	ug/L	1	0.49	1.6	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.46	1.5	5	
Trichloroethene	ND	ug/L	1	0.50	1.6	5	
Trichlorofluoromethane	ND	ug/L	1	0.45	1.4		
Vinyl chloride	ND	ug/L	1	0.13	0.42	.2	
meta,para-Xylene	ND	ug/L	1	0.89	2.8	10000	
MTBE	ND	ug/L	1	0.44	1.4		
Acetone	ND	ug/L	1	2.1	6.7		
Carbon disulfide	ND	ug/L	1	0.43	1.4		
Methyl ethyl ketone	ND	ug/L	1	0.64	2.0		
Tetrahydrofuran	ND	ug/L	1	0.83	2.7		
Dibromofluoromethane (SURR)	80.59%		1				S
Toluene-d8 (SURR)	87.83%		1				SR S
1-Bromo-4-Fluorobenzene (SURR)	96.08%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.
CC = Continuing calibration verification standard recovery was outside QC limits.
Chloroethane recovery 77%
SR = Surrogate recovery was outside QC limits.
Toluene-d8 recovered below QC limits.

ANALYTICAL RESULTS: VOC's by P&T/GCMS - Water - (VarSat2000)
Customer: Marathon County Solid Waste Mgmnt Dept NLS Project: 333074
Project Description: Marathon County Area A Private Wells
Project Title: October 2019 Template: SATAPP3 Printed: 11/13/2019 09:39

Sample: 1155402 Trip Blank Collected: 10/16/19 Analyzed: 10/28/19 - Analytes: 43

ANALYTE NAME	RESULT	UNITS	DIL	LOD	LOQ	MCL	Note
Benzene	ND	ug/L	1	0.24	0.84	5	
Bromodichloromethane	ND	ug/L	1	0.27	0.94	80	
Bromoform	ND	ug/L	1	0.21	0.73	80	
Bromomethane	ND	ug/L	1	0.27	0.96		
Carbon Tetrachloride	ND	ug/L	1	0.16	0.55	5	
Chlorobenzene	ND	ug/L	1	0.25	0.87	100	
Chloroethane	ND	ug/L	1	0.93	3.3		
Chloroform	ND	ug/L	1	0.22	0.78	80	
Chloromethane	ND	ug/L	1	0.22	0.78		
Dibromochloromethane	ND	ug/L	1	0.16	0.56	80	
1,2-Dibromo-3-Chloropropane	ND	ug/L	1	0.18	0.63		
1,2-Dibromoethane	ND	ug/L	1	0.23	0.81		
Dibromomethane	ND	ug/L	1	0.22	0.78		
1,2-Dichlorobenzene	ND	ug/L	1	0.21	0.73	600	
1,3-Dichlorobenzene	ND	ug/L	1	0.20	0.70		
1,4-Dichlorobenzene	ND	ug/L	1	0.27	0.95	75	
Dichlorodifluoromethane	ND	ug/L	1	0.17	0.58		
1,1-Dichloroethane	ND	ug/L	1	0.19	0.67		
1,2-Dichloroethane	ND	ug/L	1	0.22	0.78	5	
1,1-Dichloroethene	ND	ug/L	1	0.20	0.69	7	
cis-1,2-Dichloroethene	ND	ug/L	1	0.24	0.84	70	
trans-1,2-Dichloroethene	ND	ug/L	1	0.17	0.60	100	
1,2-Dichloropropane	ND	ug/L	1	0.28	0.98	5	
cis-1,3-Dichloropropene	ND	ug/L	1	0.26	0.91		
trans-1,3-Dichloropropene	ND	ug/L	1	0.19	0.69		
Ethylbenzene	ND	ug/L	1	0.19	0.69	700	
Methylene chloride	[0.29]	ug/L	1	0.24	0.84	5	J LB
Naphthalene	ND	ug/L	1	0.43	1.5		
Styrene	ND	ug/L	1	0.19	0.66	100	
ortho-Xylene	ND	ug/L	1	0.19	0.66		
Tetrachloroethene	ND	ug/L	1	0.22	0.78	5	
Toluene	ND	ug/L	1	0.21	0.74	1000	
1,1,1-Trichloroethane	ND	ug/L	1	0.20	0.69	200	
1,1,2-Trichloroethane	ND	ug/L	1	0.20	0.69	5	
Trichloroethene	ND	ug/L	1	0.32	1.1	5	
Trichlorofluoromethane	ND	ug/L	1	0.20	0.71		
Vinyl chloride	ND	ug/L	1	0.17	0.60	.2	
meta,para-Xylene	ND	ug/L	1	0.37	1.3	10000	
MTBE	ND	ug/L	1	0.21	0.73		
Acetone	ND	ug/L	1	4.2	12		
Carbon Disulfide	ND	ug/L	1	0.17	0.59		
Methyl Ethyl Ketone	ND	ug/L	1	0.57	2.0		
Tetrahydrofuran	ND	ug/L	1	0.58	2.0		
Dibromofluoromethane (SURR)	112%		1				S
Toluene-d8 (SURR)	121%		1				S
1-Bromo-4-Fluorobenzene (SURR)	98%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:
J = Result enclosed in brackets is between LOD and LOQ, a region of less certain quantitation.
S = This compound is a surrogate used to evaluate the quality control of a method.
LB = Compound is suspected of being a laboratory contaminant.

NLS Private Well Sampling Form and Chain Of Custody

SITE: Marathon Co. Solid Waste Management Dept. / Area A – Private Wells (page 1 of 5)

1A

NLS Lab #:	Point Name / Homeowner:	DNR ID #:	Time Purged:	Color:	Odor:	Turbidity (quant,text,color):
1155386	PW48 Marathon Co. Highway Dept. 222005 Duncan Road, Hayley	356	5-min	CLEAR	ND.	ND

Date Sampled:	Time Sampled:	Sample Location:	Treated (Y/N):
10·16·19	1055	BATH ROOM SINK LOCKER ROOM -	N

Comments:

Softener – no Collect from – bathroom/locker room sink

NLS Lab #:	Point Name / Homeowner:	DNR ID #:	Time Purged:	Color:	Odor:	Turbidity (quant,text,color):
387	PW88 Christensen Troy R222036 Duncan Road, Hatley	365	5min	NO	ND	ND

Date Sampled:	Time Sampled:	Sample Location:	Treated (Y/N):
10·16·19	1217	FRONT OF HOUSE	N

Comments:

Softener – yes Collect from – outside faucet, front of house

NLS Lab #:	Point Name / Homeowner:	DNR ID #:	Time Purged:	Color:	Odor:	Turbidity (quant,text,color):
388	PW24 Kluck, Mark R221950 Duncan Road, Hatley	352	5min.	ND	ND	ND

Date Sampled:	Time Sampled:	Sample Location:	Treated (Y/N):
10·16·19	1209	FRONT FAUCET	N.

Comments:

Softener – no Collect from – front outside faucet (4/21/10 – owner said front faucet now works and is closer to the well)

NLS Lab #:	Point Name / Homeowner:	DNR ID #:	Time Purged:	Color:	Odor:	Turbidity (quant,text,color):
389	PW25 Levandoski, Mike R221828 Duncan Road, Hatley	353	5min	ND	ND.	ND

Date Sampled:	Time Sampled:	Sample Location:	Treated (Y/N):
10·16·19	1200	OUTSIDE FAUCET NO SIDE OF HOUSE	N

Comments:

CODY & KIMBERLY SCHMIDT (NEW OWNER'S)

Softener - no Collect from - outside faucet, north side of house

Rev 10/18

See reverse side for sample custody information

NLS Private Well Sampling Form and Chain Of Custody

SITE: Marathon Co. Solid Waste Management Dept. / Area A – Private Wells (page 2 of 5)

2A

NLS Lab #:	Point Name / Homeowner:	DNR ID #:	Time Purged:	Color:	Odor:	Turbidity (quant,text,color):
390	PW18 Falkowski, Janet R221765 Duncan Road, Hatley	350	5 min	ND	ND	ND

Date Sampled:	Time Sampled:	Sample Location:	Treated (Y/N):
10-16-19	1140	OUTSIDE BACK FAUCET	N

Comments:

Softener – no Collect from - kitchen sink or outside back faucet

NLS Lab #:	Point Name / Homeowner:	DNR ID #:	Time Purged:	Color:	Odor:	Turbidity (quant,text,color):
391	PW68 Andraschko, Anthony R221630 Duncan Road, Hatley	361	5 min	ND	ND	ND

Date Sampled:	Time Sampled:	Sample Location:	Treated (Y/N):
10-16-19	1128	NORTH OUTSIDE FAUCET	N.

Comments:

Softener – yes but not in use Collect from – kitchen sink or North outside faucet

NLS Lab #:	Point Name / Homeowner:	DNR ID #:	Time Purged:	Color:	Odor:	Turbidity (quant,text,color):
392	PW19 Jozwiak-Popp, Rose R221561 Duncan Road, Hatley	351	5 min	CLEAR	ND	ND.

Date Sampled:	Time Sampled:	Sample Location:	Treated (Y/N):
10-16-19.	1120	OUTSIDE FAUCET ACROSS DRIVE WAY	N.

Comments:

Softerer – Yes. Collect from – outside faucet across driveway from house (not softened – should be on year round

NLS Lab #:	Point Name / Homeowner:	DNR ID #:	Time Purged:	Color:	Odor:	Turbidity (quant,text,color):
393	PW64 Sheehan, Carol R221524 Duncan Road, Hatley	359	5 min	ND	ND	ND

Date Sampled:	Time Sampled:	Sample Location:	Treated (Y/N):
10-16-19.	1110	BASEMENT FAUCET	N

Comments:

Softener – yes Collect from – faucet in basement before softener

Rev 10/18

See reverse side for sample custody information

NLS Private Well Sampling Form and Chain Of Custody

SITE: Marathon Co. Solid Waste Management Dept. / Area A – Private Wells (page 3 of 5)

3A

NLS Lab #:	Point Name / Homeowner:	DNR ID #:	Time Purged:	Color:	Odor:	Turbidity (quant,text,color):
394	PW27 Fraaza, Ivan R222050 Silk Road, Ringle	354	5min	ND	ND	ND

Date Sampled:	Time Sampled:	Sample Location:	Treated (Y/N):
10·16·19	1340	OUTSIDE FAUCET · So Side of House	N

Comments:

Softener – no Collect from – outside faucet, south side of house

NLS Lab #:	Point Name / Homeowner:	DNR ID #:	Time Purged:	Color:	Odor:	Turbidity (quant,text,color):
395	PW65 Finlan, Andy R221978 Silk Road, Ringle	360	5min	ND	ND	ND

Date Sampled:	Time Sampled:	Sample Location:	Treated (Y/N):
10·16·19	1330	FRONT of House	N

Comments:

Softener – no Collect from – outside front faucet

NLS Lab #:	Point Name / Homeowner:	DNR ID #:	Time Purged:	Color:	Odor:	Turbidity (quant,text,color):
396	PW100 Fraaza, Brandon R221915 & R221917 Silk Road, Ringle	366	5min	ND	ND	ND

Date Sampled:	Time Sampled:	Sample Location:	Treated (Y/N):
10·16·19	1320	BACK of House.	N.

Comments:

"BEWARE of Dogs"

Softener – No Collect from – outside faucet, back west side of apartments (1 well shared by both apartments in duplex)

NLS Lab #:	Point Name / Homeowner:	DNR ID #:	Time Purged:	Color:	Odor:	Turbidity (quant,text,color):
397	PW80 Gaedtke, Heath R221760 Silk Road, Ringle	364	5MIN	ND	ND	ND

Date Sampled:	Time Sampled:	Sample Location:	Treated (Y/N):
10·16·19	1257	FRONT of House	N

Comments:

Softener – no Collect from – outside faucet, west side of house

See reverse side for sample custody information

NLS Private Well Sampling Form and Chain Of Custody

SITE: Marathon Co. Solid Waste Management Dept. / Area A – Private Wells (page 4 of 5)

4A

NLS Lab #:	Point Name / Homeowner:	DNR ID #:	Time Purged:	Color:	Odor:	Turbidity (quant,text,color):
398	PW53 Buchkowski, Michael R221771 Silk Road, Ringle	357	5 MIN	ND	ND	ND

Date Sampled:	Time Sampled:	Sample Location:	Treated (Y/N):
10·17·19	1306	SIDE of HOUSE FACING ROAD	N

Comments:

Softener – yes ~~Collect from – basement well entry (only unsoftened point)~~ OUTSIDE (NEW FAUCET NOT SOFTENER)

NLS Lab #:	Point Name / Homeowner:	DNR ID #:	Time Purged:	Color:	Odor:	Turbidity (quant,text,color):
399	PW29 Porter, James R221704 Silk Road, Ringle	355	5 MIN	ND.	ND	ND

Date Sampled:	Time Sampled:	Sample Location:	Treated (Y/N):
10·16 19.	1245	OUTSIDE FAUCET So SIDE of HOUSE	~~N~~ ?

Comments: DOES NOT WORK

COLLECTED FROM FAUCET IN BACK of HOUSE

Softener – yes Collect from – outside faucet, south side of house

NLS Lab #:	Point Name / Homeowner:	DNR ID #:	Time Purged:	Color:	Odor:	Turbidity (quant,text,color):
400	PW54 Baur, Daniel R221657 Silk, Ringle	358	5 MIN	ND	ND	ND

Date Sampled:	Time Sampled:	Sample Location:	Treated (Y/N):
10-16-19	1235	BACK of HOUSE So SIDE	N

Comments:

→ LEAVE FAUCET ON A LONG WHILE WATER WILL EVENTUALLY ARRIVE

Softener - no Collect from – faucet in garage, on year round or (outside/south faucet)

NLS Lab #:	Point Name / Homeowner:	DNR ID #:	Time Purged:	Color:	Odor:	Turbidity (quant,text,color):
401	PW17 Liebe, Neal R174825 Willow Lane, Hatley	028	5 MIN -	ND.	ND	ND

Date Sampled:	Time Sampled:	Sample Location:	Treated (Y/N):
10 16 19	1405	FRONT FAUCET IS FINE	N

Comments:

Softener – no Collect from – back outside faucet (front faucet by brick deck broken – per owner 4/21/10)

See reverse side for sample custody information

NLS Private Well Sampling Form and Chain Of Custody

SITE: Marathon Co. Solid Waste Management Dept. / Area A – Private Wells (page 5 od 5)

5A

NLS Lab #:	**Point Name / Homeowner:** Trip Blank	**DNR ID #:** 999	**Time Purged:**	**Color:**	**Odor:**	**Turbidity** (quant,text,color)**:**
Date Sampled:	**Time Sampled:**	**Sample Location:**				**Treated (Y/N):**
Comments:						

NLS Lab #:	**Point Name / Homeowner:**	**DNR ID #:**	**Time Purged:**	**Color:**	**Odor:**	**Turbidity** (quant,text,color)**:**
Date Sampled:	**Time Sampled:**	**Sample Location:**				**Treated (Y/N):**
Comments:						

NLS Lab #:	**Point Name / Homeowner:**	**DNR ID #:**	**Time Purged:**	**Color:**	**Odor:**	**Turbidity** (quant,text,color)**:**
Date Sampled:	**Time Sampled:**	**Sample Location:**				**Treated (Y/N):**
Comments:						

NLS Lab #:	**Point Name / Homeowner:**	**DNR ID #:**	**Time Purged:**	**Color:**	**Odor:**	**Turbidity** (quant,text,color)**:**
Date Sampled:	**Time Sampled:**	**Sample Location:**				**Treated (Y/N):**
Comments:						

Rev 8/06

See reverse side for sample custody information

NLS FIELD QUALITY ASSURANCE RECORD

CLIENT / SITE: Marathon County Solid Waste Management Department / Annual Private Well Monitoring Date(s): 10-16-18

Initials / Signature: VAG / [signature] & ____ / ____

Bottles Prepared By: VAG

Instruments Checked By: —

STDs & Buffers, Date Made: —

Reagent Grade Water, Jug #: —

Reagent Water Date Filled: —

Thermometer – NLS #: —

Geotech .45 micron filter lot #: —

QED .45 Dispo Filter model #: ____

GWV 1.0 Dispo Filter lot #: ____

Bracket test samples using the appropriate pH buffers. Use pH buffer 4.01 with pH buffer 7.00 for low pH samples and pH buffer 10.01 with pH buffer 7.00 for samples having a high pH. On a routine basis use pH buffers 4.01 and 7.00.

pH METER NUMBER ____

DATE:									
TIME:									
STD BY:									
SLOPE:									
BUFFER 4.01 (R/S)									
BUFFER **7.00** (R/S)									
BUFFER **10.01** (R/S)									

CONDUCTIVITY METER NUMBER ____

DATE:									
TIME:									
STD BY:									
718 umho @ 25° C (R/S)									

R = Initial Reading; S = Standardized Reading

Comments: