



Spokane County

Environmental Services
Kevin R. Cooke, P.E., Director

December 12, 2019

Department of Ecology
Attn: Sandra Treccani
4601 N. Monroe St., Suite 202
Spokane, WA 99205-1295

RE: Mica Landfill Annual Progress Report 2019

Dear Sandra,

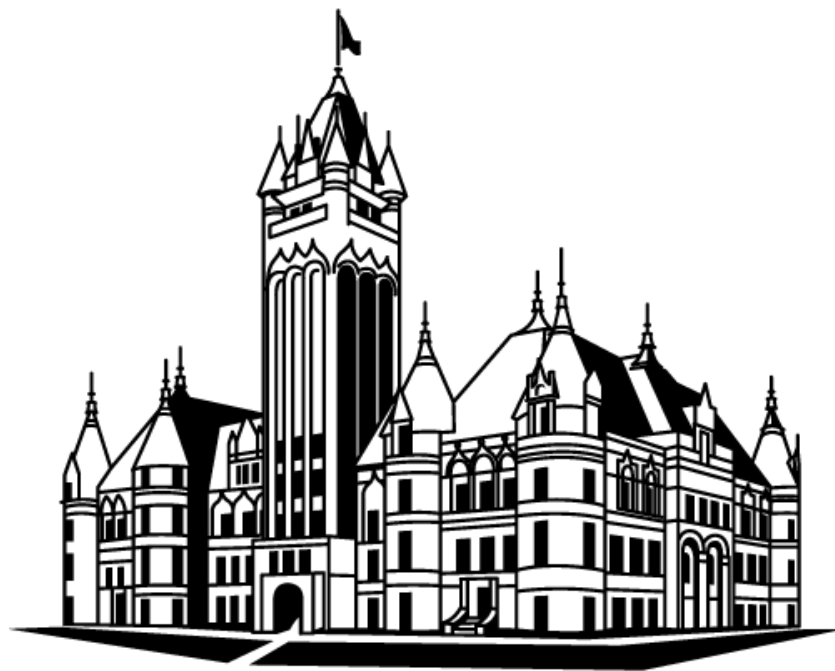
Enclosed you will find one copy of the Mica Landfill September 2019 Annual Progress Report.

If you have any questions, please contact me at (509) 238-6607.

Sincerely,

Austin Stewart
Water Resources Specialist

**MICA LANDFILL ANNUAL REMEDIAL ACTION PERFORMANCE REPORT
SEPTEMBER 2019**



Spokane County
WASHINGTON

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1 INTRODUCTION

1.1 MICA LANDFILL INFORMATION SUMMARY

SITE:	Mica Landfill, Spokane County, WA S.11, 14 & 15 T.24 R.44
REPORTING PERIOD:	October 2018 through September 2019
REGULATORY AUTHORITY:	Washington State Department of Ecology, EPA Scope of work for Remedial Action as stated in the Final Cleanup Action Plan (CAP) 2002.
TECHNOLOGY:	Impermeable cover system with passive landfill gas collection and flare stations. Leachate collection system conveying leachate to local sewer for treatment and disposal.
CRITERIA:	Criteria were established as stated in the Consent Decree and outlined in the Remedial Action Plan (2002). See Table 1-1 for the established cleanup criteria.
SAMPLING PROGRAMS:	<u>Compliance Monitoring Program:</u> Groundwater and leachate sampling done in accordance with Final Cleanup Action Plan (CAP). Landfill gas monitoring done in accordance with the Compliance Monitoring Plan SAP (contained within the Remedial Action Plan, 2002). See Figure 1-1 for site locations. See Table 1-2 for well designations and Table 1-3 for the sampling schedule.

Table 1-1: Mica Landfill Summary of Indicator Analytes and Cleanup Levels

GROUNDWATER			
Indicator Analyte	Method B Cleanup Level, ug/L	Indicator Analyte	Method B Cleanup Level, ug/L
Conventionals		Volatile Organic Compounds	
Alkalinity	N	1,2-Dichloroethane	1.2
Ammonia	272,000	1,2-Dichloropropane	0.643
Chloride	N	Acetone	688
N-Nitrate	800	Benzene	0.795
Sulfate	N	cis-1,2-Dichloroethene	33
Total Dissolved Solids	N	Methylene Chloride (MC)	5
Total Organic Carbon	N	Tetrachloroethene (PCE)	0.858
Inorganics		Toluene	100
Arsenic	5	Trichloroethene (TCE)	3.98
Barium	560	Vinyl Chloride (VC)	0.023
Lead	15	Phthalates	
Manganese	1,926	bis(2- ethylhexyl) Phthalate (BEHP)	6
Mercury	0.4		
Vanadium	112		
Zinc	400		

LEACHATE		
Parameter	Units	Daily Maximum
Benzene	mg/L	Sum total of the four results shall be less than or equal to 1.4
Toluene	mg/L	
Ethylbenzene	mg/L	
Xylene	mg/L	

Mica Landfill Site Map

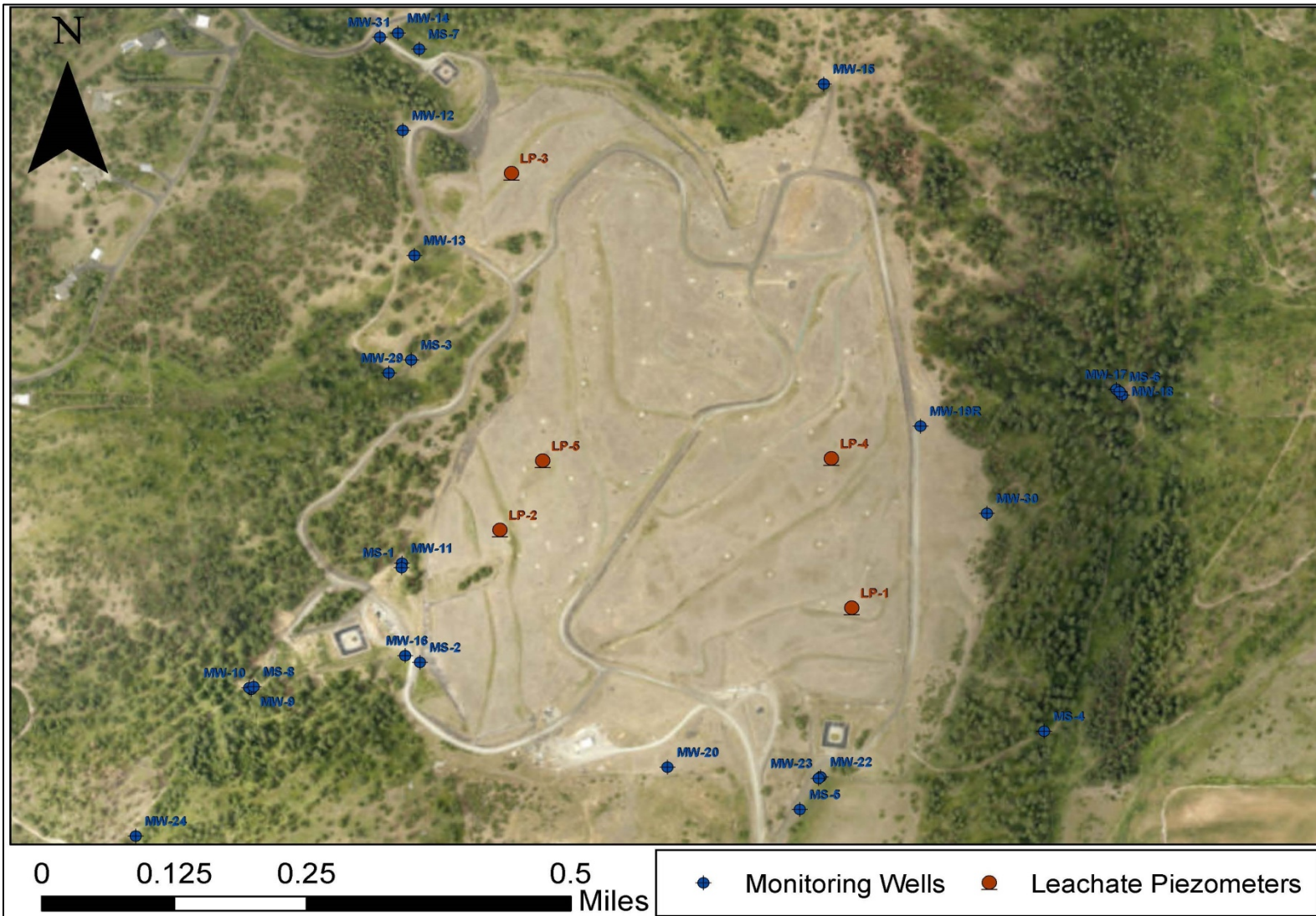


Figure 1-1: Mica Landfill Site Map

Mica Landfill RA Compliance Monitoring Wells

Table 1-2: Mica Landfill Summary of RA Compliance Monitoring Wells

Well ID	Geologic Unit*	Sampling Frequency	Drainage Area
MS-4	WB	Semi-Annual	Southeast
MS-5	WB	Semi-Annual	South
MW-9	WB	Semi-Annual	Southwest
MW-10	FB	Semi-Annual	Southwest
MW-13	FB	Semi-Annual	Northwest
MW-14	FB	Semi-Annual	Northwest
MW-16	FB	Quarterly	Southwest
MW-19R	FB	Semi-Annual	Southeast
MW-20	FB	Semi-Annual	South
MW-23	WB	Semi-Annual	South
MW-29	FB	Semi-Annual	Northwest
MW-31	WB	Semi-Annual	Northwest
DW-001	FB	Semi-Annual	South Pines Estates
DW-002	WB	Semi-Annual	Hidden Hollow
DW-003	FB	Semi-Annual	Miller Well
*WB = weathered (decomposed) bedrock			
*FB = fractured bedrock			

Mica Landfill Sampling Schedule

Table 1-3: Mica Landfill Sampling Schedule

LOCATION	VOLATILES				BEHP				TOC/NH3				Cl/Aik/NO3/SO4/TDS				As/Ba/Hg/Mn/Pb/V/Zn			
	Mar	Jun	Sep	Dec	Mar	Jun	Sep	Dec	Mar	Jun	Sep	Dec	Mar	Jun	Sep	Dec	Mar	Jun	Sep	Dec
Northwest Drainage																				
MW-013	X		X						X		X		X		X		X		X	
MW-014	X		X						X		X		X		X		X		X	
MW-029	X		X		X				X		X		X		X		X		X	
MW-031	X		X						X		X		X		X		X		X	
Southwest Drainage																				
MW-009	X		X		X				X		X		X		X		X		X	
MW-010	X		X						X		X		X		X		X		X	
MW-016	X	X	X	X					X	X	X	X	X		X		X	X	X	X
South Drainage																				
MS-005	X		X		X				X		X		X		X		X		X	
MW-020	X		X						X		X		X		X		X		X	
MW-023	X		X						X		X		X		X		X		X	
Southeast Drainage																				
MS-004	X		X		X		X		X		X		X		X		X		X	
MW-019R	X		X						X		X		X		X		X		X	
Domestic Wells																				
DW-001	X		X		X				X		X		X		X		X		X	
DW-002	X		X		X				X		X		X		X		X		X	
DW-003	X		X		X				X		X		X		X		X		X	

2 GROUNDWATER

2.1 GROUNDWATER DATA/SUMMARIES

PROBLEMS/ DEVIATIONS

Monitoring wells MS-4, MW-13, MW-19R and MW-29 are low producing wells that are purged once and allowed to recharge before obtaining samples. The groundwater level in MW-31 was below the pump intakes during September and a sample was unobtainable in that well.

FIELD DATA

Field parameters for this report are shown in Table 2-1. Hydrographs are presented in Figures 2-1 through 2-5. Water level readings are shown in Table 2-1. Sen's slope trend analysis results for individual well groundwater elevations over time are presented in Table 2-2. Groundwater elevation contours/flow directions are presented in Figure 2-6.

CRITERIA EXCEEDANCES

Detected analyte concentrations and clean-up criteria exceedances for this annual report are presented in Tables 2-3 through 2-7. Clean-up criteria were presented previously in Table 1-1. Cleanup-level exceedance geospatial maps are presented in Figures 2-7 through 2-16.

NORTHWEST DRAINAGE (MW-13, MW-14, MW-29 and MW-31)

Nitrate concentrations in MW-013 and MW-29 exceeded the regulatory criteria during this annual reporting period.

SOUTHWEST DRAINAGE (MW-9, MW-10 and MW-16)

Concentrations in samples collected from monitoring well MW-16 exceeded the criteria for several VOCs, including: 1,2-Dichloroethane (1,2-DCA), 1,2-Dichloropropane, benzene, cis-1,2-Dichloroethene (cis-1,2-DCE), Vinyl chloride, and acetone. MW-16 also exceeded the criteria for arsenic, barium, and nitrate during this annual reporting period.

SOUTH DRAINAGE (MS-5, MW-20 and MW-23)

MW-20 and MS-5 exhibited nitrate concentrations above the cleanup criteria. MW-20 also exhibited exceedances for arsenic, barium, and lead. MW-023 exceeded the criteria for Vinyl chloride.

SOUTHEAST DRAINAGE (MS-4 and MW-19R)

Nitrate concentrations in both southeast area wells were above the cleanup criteria.

DOMESTIC WELLS (DW-1, DW-2 and DW-3)

Nitrate levels at DW-2 and DW-3 exceeded the clean-up criteria for each sample round during this year. Zinc levels were above clean up criteria in DW-2 during the April sampling event, but dropped below the cleanup criteria for the September sampling event.

CHEMICAL DATA AND STATISTICAL TRENDS

All laboratory data collected during this annual reporting period is shown in Appendix A. Volatile organic detections and semi-volatile detections for this reporting period are presented in Table 2-4 and Table 2-5, respectively. Inorganic detections are presented in Table 2-6, and conventional detected concentrations are in Table 2-7. Data summary analyses are presented in Appendix B. Data validation performed for the September 2019 sample round is presented in Appendix C.

STATISTICAL ANALYSIS: Trend analyses were performed on chemical data from 1994 to present date using Sen's non-parametric trend test. Statistically significant trends are included in Table 2-8. Due to the change in filtered versus non-filtered metals analysis (dissolved versus total) after March 2002, statistical analysis for metals was performed only on the unfiltered data

collected after that date. Because of this, the statistical analysis calculated for metals may produce a trend that does not reflect the overall historic changes for that constituent.

NORTHWEST DRAINAGE (MW-13, MW-14, MW-29 and MW-31)

Time series plots for northwest area analyte concentrations are presented in Figures 2-17 through 2-35. Statistically significant trends for the northwest area are presented in Table 2-8. The northwest drainage wells show little to no detections of VOC's. Monitoring well MW-29, located in the southern area of the northwest drainage, indicates increasing trends in a majority of the conventionals, along with barium. MW-31 indicates decreasing trends for alkalinity, chloride, sulfate, and TDS. MW-13 indicates an increasing trend for alkalinity, and decreasing trends for nitrate, sulfate, barium, and PCE.

SOUTHWEST DRAINAGE (MW-9, MW-10 and MW-16)

Time series plots for southwest area monitoring well analyte concentrations are presented in Figures 2-36 through 2-82. Statistically significant trends for the southwest area are shown in Table 2-8. Monitoring wells MW-9 and MW-10 show no detections of VOC's. MW-9 shows decreasing trends for a majority of conventionals, and an increasing trend for barium. MW-10 indicates a decreasing trend for chloride, and increasing trends for alkalinity, nitrate, and barium. Out of all wells monitored at the Mica Landfill, MW-16 typically has the highest concentrations of analytes and statistical analysis shows increasing concentrations for the majority of these. Monitoring well MW-16 exhibits decreasing trends for MC and TCE, and increasing trends for benzene, 1,2-DCP, and cis-1,2-DCE, indicating VOC degradation. MW-16 also indicates increasing trends for the majority of conventionals, along with arsenic.

Because of the high volatile organic concentrations found in MW-16, dilutions for laboratory analysis are necessary. This typically increases the method reporting limit for the analytes, and while most detections are well above these elevated reporting limits, there may be some low level concentrations that will not be represented with these lab results.

SOUTH DRAINAGE (MS-5, MW-20 and MW-23)

Time series plots for the south area monitoring well analyte concentrations are presented in Figures 2-83 through 2-105. Statistically significant trends for the south area are shown in Table 2-8. Decreasing trends for nitrate, PCE, MC, TCE, 1,2-DCA, cis-1,2-DCE, and barium are indicated in MW-23. Monitoring well MS-5 exhibits increasing trends for most conventionals, with the exception of nitrate. Statistical analysis shows decreasing trends for chloride, nitrate, sulfate, and TOC in MW-20.

SOUTHEAST DRAINAGE (MS-4 and MW-19R)

Time series plots for the south area monitoring well analyte concentrations are presented in Figures 2-106 through 2-123. Statistically significant trends are shown in Table 2-8. Monitoring well MS-4 shows increasing trends for alkalinity, nitrate, sulfate, TDS, and barium. Monitoring well MW-19R indicates decreasing trends for most conventionals, with the exception of an increasing trend for nitrate. MW-19R also indicates a decreasing trend for cis-1,2-DCE.

DOMESTIC WELLS (DW-1, DW-2 and DW-3)

Time series plots for the domestic well analyte concentrations are presented in Figures 2-124 through 2-135. Statistically significant trends are shown in Table 2-8. Data from DW-1 shows increasing trends for nitrate, chloride, and barium. DW-3 still indicates an increasing trend for nitrate and sulfate, and barium. DW-2 indicates a decreasing trend for nitrate, and an increasing trend for barium.

CONTINGENCY RESPONSE ACTIONS

Nitrate levels at domestic well DW-2 were over the clean-up criteria for each sampling event during this annual reporting period. The statistical analysis for nitrate at this well indicates a decreasing trend. As stated in previous reports, these levels of nitrate are historically found in this well and further confirmation of the analyte presence is unnecessary. The nitrate concentration in DW-3 exceeded the cleanup criteria for each sampling event during this annual reporting period as well. This well has exhibited an increasing trend for nitrate since 2006.

The zinc concentration found at DW-1 was below the cleanup criteria in both the April and September sampling events. The zinc concentrations in this well continue to exhibit a decreasing trend, and decreased below the cleanup criteria on 10/9/2018. The zinc concentration found at DW-2 was above the cleanup criteria in the April 2019 sampling event, but decreased below the cleanup criteria in the September sampling event. The increase in zinc concentration for DW-2 occurred due to a replacement of 160' of 1-1/4" galvanized pipe on 3/29/2019. The replacement of the galvanized pipe was performed by Fogle Pump, and the replacement was due to a pump failure in the well.

Mica Landfill Field Parameters

Table 2-1: Mica Landfill Field Parameters Summary

StationID	SampleDate	Temp*	PH*	Conductivity*	Turbidity*	WElev*
DW-001	10/9/2018	11.3	6.93	299	0.59	
DW-001	4/10/2019	11.8	6.86	358	5.79	
DW-001	9/10/2019	11.3	6.79	363	5.79	
DW-002	4/10/2019	10.8	7.06	322	0.21	
DW-002	9/10/2019	12.1	6.94	298	0.22	
DW-003	4/10/2019	10.6	7.19	344	0.69	2394.19
DW-003	9/10/2019	12.6	7.56	301	0.73	2395.32
MS-004	4/10/2019	10.5	6.87	257	1.62	2516.15
MS-004	9/10/2019	12.7	7.04	270	1.64	2513.85
MS-005	4/11/2019	11.5	6.67	335	0.4	2565.45
MS-005	9/11/2019	11.7	6.5	357	0.49	2562.32
MW-009	4/10/2019	6.5	6.57	436	1.21	2494.70
MW-009	9/10/2019	10.2	6.91	491	1.28	2488.44
MW-010	4/10/2019	9.1	6.84	180	0.3	2494.82
MW-010	9/10/2019	9.2	7.44	147	0.18	2490.07
MW-013	4/10/2019	10.1	6.88	401	1.13	2674.87
MW-013	9/10/2019	10.8	6.87	420	1.01	2672.82
MW-014	4/10/2019	8.3	7.07	154	2.24	2591.06
MW-014	9/10/2019	10.8	7.04	150	0.9	2585.04
MW-016	12/12/2018	9.2	6.81	2230	0.85	2536.82
MW-016	12/19/2018	10.6	6.84	2650	1.05	2538.32
MW-016	4/11/2019	10	6.89	2180	1.16	2539.12
MW-016	6/12/2019	11.1	6.97	2500	1.54	2539.47
MW-016	9/11/2019	10.7	6.98	2360	0.68	2538.96
MW-019R	4/10/2019	10.7	6.99	265	7.21	2694.72
MW-019R	9/10/2019	11.6	6.96	224	2.63	2685.25
MW-020	4/11/2019	10.5	6.98	512	36.9	2595.53
MW-020	9/10/2019	11.9	7.06	537	89.11	2596.34
MW-023	4/11/2019	10.3	7.06	852	0.11	2572.69
MW-023	9/11/2019	11.8	7.28	713	0.13	2566.42
MW-029	4/10/2019	8.8	6.11	651	0.88	2594.98
MW-029	9/10/2019	9.7	6.45	584	1.07	2597.13
MW-031	4/10/2019	5.6	6.79	92	12.3	2589.96

* Temp: Degrees C, Conductivity: umhos/cm, Turbidity: NTU, Welev: ft above MSL

Hydrographs/Groundwater Flow Contours

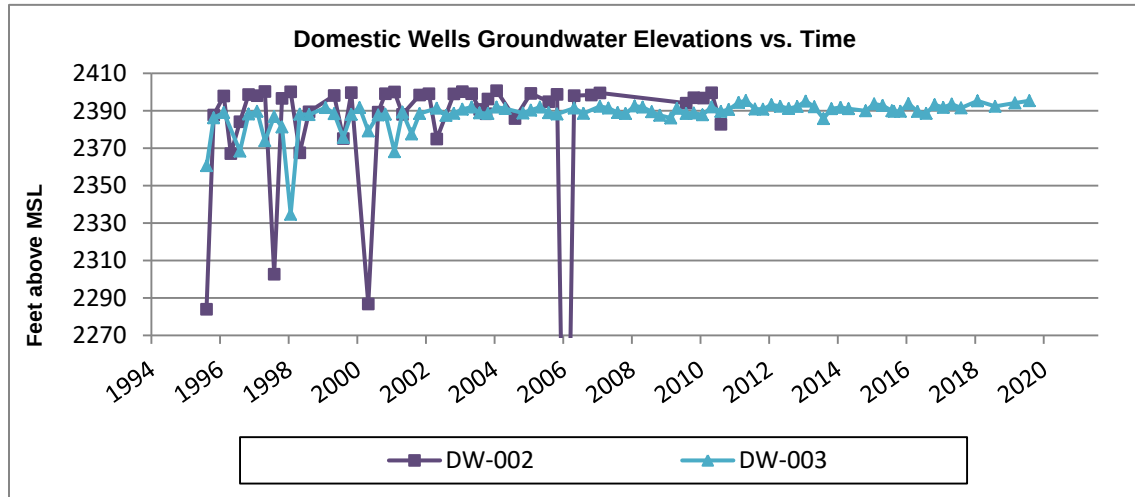


Figure 2-1

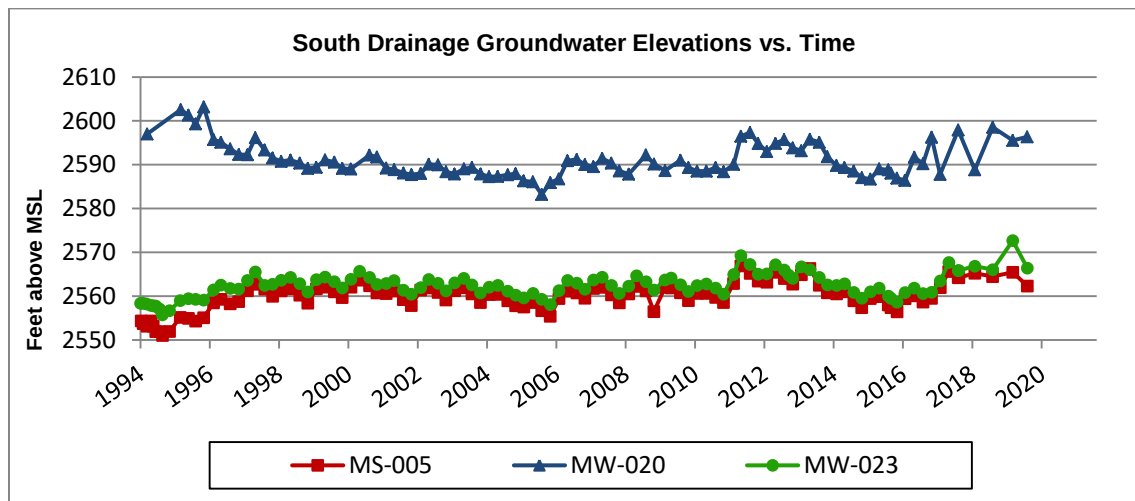


Figure 2-2

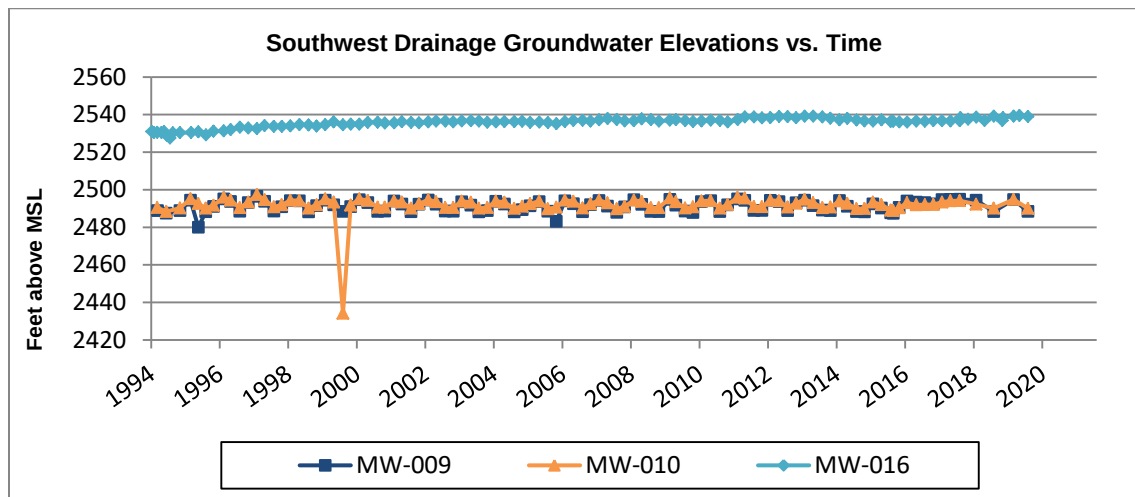


Figure 2-3

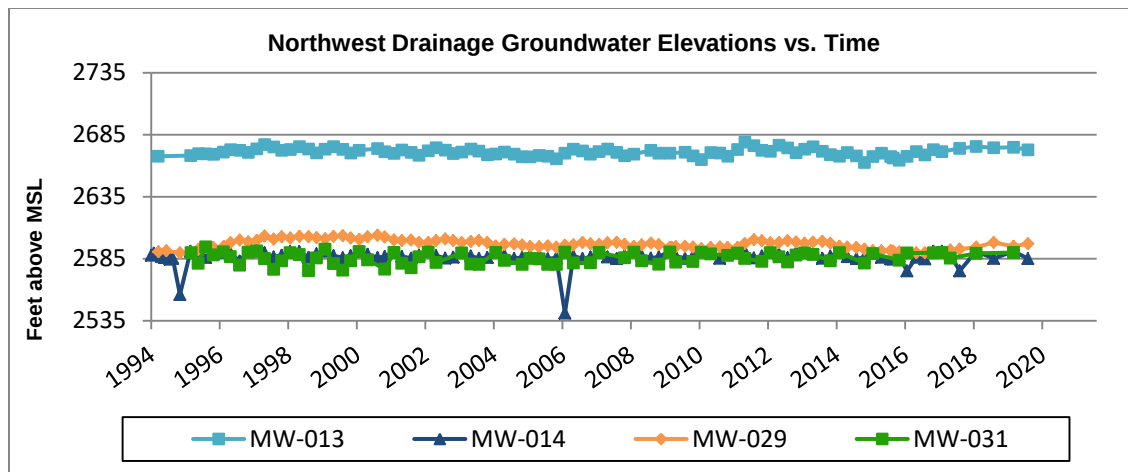


Figure 2-4

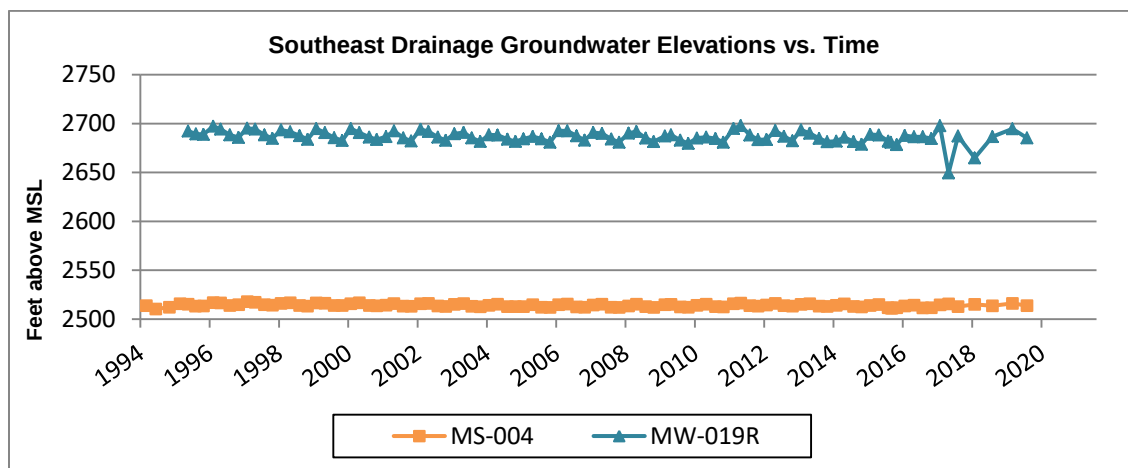


Figure 2-5

Table 2-2: Sen's Slope Trend Analysis – Groundwater Elevations (99% Confidence Level)

Station	Parameter	Slope	Y-Intercept	Lower Limit	Upper Limit	Result
Domestic Wells						
DW-002	GW Elevations	0.00047	2380.3	-0.000505	0.00312	no trend
DW-003	GW Elevations	0.000767	2360.3	0.000491	0.001084	increasing
Southeast Drainage						
MS-004	GW Elevations	-0.000195	2521.7	-0.0003364	-0.0000386	decreasing
MW-019R	GW Elevations	-0.000707	2713.7	-0.001136	-0.0001807	decreasing
South Drainage						
MS-005	GW Elevations	0.0006	2537.1	0.000319	0.000863	increasing
MW-020	GW Elevations	-0.0002063	2597.8	-0.000665	0.000302	no trend
MW-023	GW Elevations	0.000444	2545.2	0.000214	0.000664	increasing
Southwest Drainage						
MW-009	GW Elevations	0.0000376	2489.3	-0.0001286	0.00024	no trend
MW-010	GW Elevations	-0.0000638	2494.8	-0.0002327	0.000093	no trend
MW-016	GW Elevations	0.000683	2509.7	0.00055	0.000806	increasing
Northwest Drainage						
MW-013	GW Elevations	-0.00002237	2671.8	-0.000463	0.000362	no trend
MW-014	GW Elevations	0	2591.1	-0.0002323	0.0000762	no trend
MW-029	GW Elevations	-0.000975	2635.5	-0.00133	-0.000618	decreasing
MW-031	GW Elevations	0.0000334	2586.3	-0.0002145	0.000539	no trend

Groundwater Elevation Contours **Mica Landfill - September 2019**

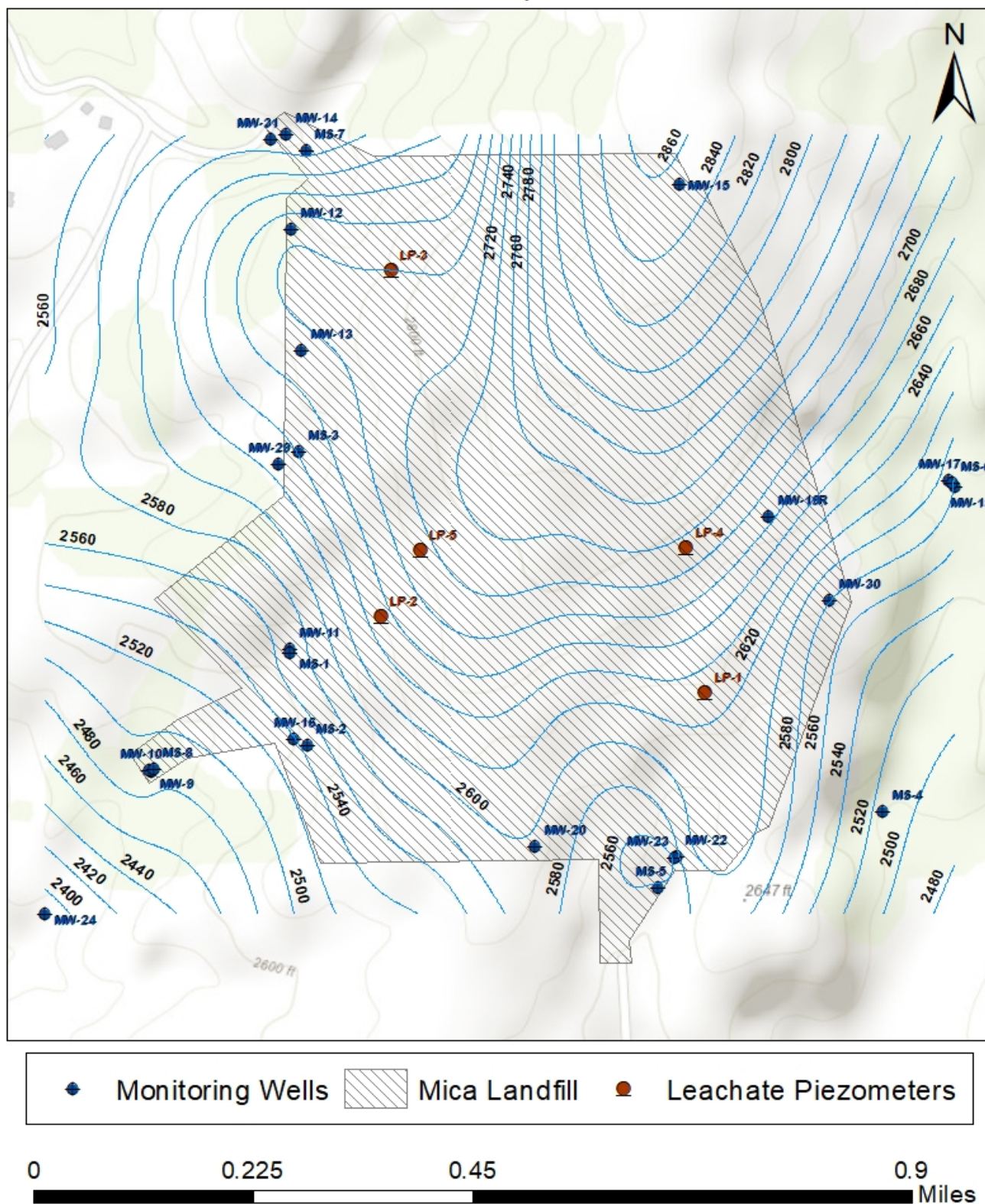


Figure 2-6: Mica Landfill Groundwater Elevation Contours

Criteria Exceedances

Table 2-3: Mica Landfill Analyte Criteria Exceedances

StationID	SampleDate	Analyte	Concentration	MTCAB	AnalyteCat	Units	DrainageArea
DW-002	4/10/2019	N-Nitrate	1.19	0.8	C	mg/L	Domestic
DW-002	9/10/2019	N-Nitrate	1.3	0.8	C	mg/L	Domestic
DW-002	4/10/2019	Zinc	0.772	0.4	I	mg/L	Domestic
DW-003	4/10/2019	N-Nitrate	2.38	0.8	C	mg/L	Domestic
DW-003	9/10/2019	N-Nitrate	2.35	0.8	C	mg/L	Domestic
DW-003	9/10/2019	N-Nitrate	2.56	0.8	C	mg/L	Domestic
MW-013	9/10/2019	N-Nitrate	0.846	0.8	C	mg/L	Northwest
MW-029	4/10/2019	N-Nitrate	0.88	0.8	C	mg/L	Northwest
MW-029	9/10/2019	N-Nitrate	1.16	0.8	C	mg/L	Northwest
MS-005	4/11/2019	N-Nitrate	1.61	0.8	C	mg/L	South
MS-005	9/11/2019	N-Nitrate	1.63	0.8	C	mg/L	South
MW-020	4/11/2019	N-Nitrate	3.01	0.8	C	mg/L	South
MW-020	9/10/2019	N-Nitrate	2.94	0.8	C	mg/L	South
MW-020	9/10/2019	Arsenic	0.00589	0.005	I	mg/L	South
MW-020	9/10/2019	Barium	0.597	0.56	I	mg/L	South
MW-020	9/10/2019	Lead	0.0626	0.015	I	mg/L	South
MW-023	4/11/2019	Vinyl Chloride	0.75	0.023	V	ug/L	South
MS-004	4/10/2019	N-Nitrate	4.7	0.8	C	mg/L	Southeast
MS-004	9/10/2019	N-Nitrate	6.14	0.8	C	mg/L	Southeast
MW-019R	4/10/2019	N-Nitrate	1.38	0.8	C	mg/L	Southeast
MW-019R	9/10/2019	N-Nitrate	1.41	0.8	C	mg/L	Southeast
MW-016	9/11/2019	N-Nitrate	1.13	0.8	C	mg/L	Southwest
MW-016	12/19/2018	Arsenic	0.0692	0.005	I	mg/L	Southwest
MW-016	4/11/2019	Arsenic	0.0618	0.005	I	mg/L	Southwest
MW-016	6/12/2019	Arsenic	0.0686	0.005	I	mg/L	Southwest
MW-016	9/11/2019	Arsenic	0.0619	0.005	I	mg/L	Southwest
MW-016	12/19/2018	Barium	0.789	0.56	I	mg/L	Southwest
MW-016	4/11/2019	Barium	0.75	0.56	I	mg/L	Southwest
MW-016	6/12/2019	Barium	0.807	0.56	I	mg/L	Southwest
MW-016	9/11/2019	Barium	0.726	0.56	I	mg/L	Southwest
MW-016	12/12/2018	1,2-Dichloroethane	2.56	1.2	V	ug/L	Southwest
MW-016	12/12/2018	1,2-Dichloropropane	12.6	0.643	V	ug/L	Southwest
MW-016	4/11/2019	1,2-Dichloropropane	15.1	0.643	V	ug/L	Southwest
MW-016	6/12/2019	1,2-Dichloropropane	12.5	0.643	V	ug/L	Southwest
MW-016	9/11/2019	1,2-Dichloropropane	16.6	0.643	V	ug/L	Southwest
MW-016	12/12/2018	Acetone	895	688	V	ug/L	Southwest
MW-016	4/11/2019	Acetone	2690	688	V	ug/L	Southwest
MW-016	6/12/2019	Acetone	1550	688	V	ug/L	Southwest
MW-016	9/11/2019	Acetone	4430	688	V	ug/L	Southwest
MW-016	12/12/2018	Benzene	12.6	0.795	V	ug/L	Southwest
MW-016	4/11/2019	Benzene	11.9	0.795	V	ug/L	Southwest
MW-016	6/12/2019	Benzene	13.9	0.795	V	ug/L	Southwest
MW-016	9/11/2019	Benzene	14.4	0.795	V	ug/L	Southwest
MW-016	4/11/2019	cis-1,2-dichloroethene	40.1	33	V	ug/L	Southwest
MW-016	12/12/2018	Vinyl Chloride	2.89	0.023	V	ug/L	Southwest
MW-016	4/11/2019	Vinyl Chloride	5.44	0.023	V	ug/L	Southwest
MW-016	9/11/2019	Vinyl Chloride	3.13	0.023	V	ug/L	Southwest

Mica Landfill Volatile Organic Detections

Table 2-4: Mica Landfill VOC Detections for the Reporting Period (ug/L)

StationID	SampleDate	1,2-DCA	1,2-DCP	Acetone	Benzene	cis-1,2-DCE	Ethylbenzene	m,p-Xylene	o-Xylene	Toluene	VC
DW-002	4/10/2019									5.24	
MW-016	12/12/2018	2.56	12.6	895	12.6	11.1	53.6	41.2	18.8	25.1	2.89
MW-016	4/11/2019		15.1	2690	11.9	40.1	61.6	40.2	17.7	75.2	5.44
MW-016	6/12/2019		12.5	1550	13.9	15.5	58.5	36.6	16.3	39.1	
MW-016	9/11/2019		16.6	4430	14.4		59.3	41.3	19	43.5	3.13
MW-023	4/11/2019				0.56	0.68					0.75

Clean-up level exceedances are in **red**.

Mica Landfill Semi-Volatile Organic Detections

Table 2-5: Mica Landfill SVOC Detections for the Reporting Period (ug/L)

StationID	SampleDate	bis(2-Ethylhexyl)Phthalate	Units
DW-001	4/10/2019	0.58	ug/L
DW-002	4/10/2019	0.96	ug/L
DW-003	4/10/2019	0.5U	ug/L
MS-004	4/10/2019	1.5	ug/L
MW-009	4/10/2019	0.5U	ug/L
MW-029	4/10/2019	0.5U	ug/L
MS-005	4/11/2019	0.5U	ug/L

Clean-up level exceedances are in **red**.

Mica Landfill Inorganic Detections

Table 2-6: Inorganics Detections for the Reporting Period (mg/L)

StationID	SampleDate	Arsenic	Barium	Lead	Manganese	Vanadium	Zinc
DW-001	10/9/2018		0.0129		0.0081		0.126
DW-001	4/10/2019		0.0262		0.008		0.355
DW-001	9/10/2019		0.0092				0.086
DW-002	4/10/2019		0.0384		0.025		0.772
DW-002	9/10/2019		0.0398				0.332
DW-003	4/10/2019		0.0303				0.272
DW-003	9/10/2019		0.0285				0.085
MS-004	4/10/2019		0.0718				
MS-004	9/10/2019		0.0712				0.01
MS-005	4/11/2019		0.0569			0.0052	
MS-005	9/11/2019		0.053				
MW-009	4/10/2019		0.129		0.219		
MW-009	9/10/2019		0.131		0.474		
MW-010	4/10/2019		0.0482				
MW-010	9/10/2019		0.0445				
MW-013	4/10/2019		0.0568				
MW-013	9/10/2019		0.0506				
MW-014	4/10/2019				0.143		
MW-014	9/10/2019				0.22		
MW-016	12/19/2018	0.0692	0.789		0.886		
MW-016	4/11/2019	0.0618	0.75		1.51	0.0083	
MW-016	6/12/2019	0.0686	0.807		0.741		
MW-016	9/11/2019	0.0619	0.726		0.745		
MW-019R	4/10/2019		0.0405				
MW-019R	9/10/2019		0.0405				
MW-020	4/11/2019		0.146		0.0158		
MW-020	9/10/2019	0.00589	0.597	0.0626	0.344	0.0088	0.088
MW-023	4/11/2019		0.155		0.979		
MW-023	9/11/2019		0.143		0.828		
MW-029	4/10/2019		0.1				
MW-029	9/10/2019		0.099				
MW-031	4/10/2019		0.0386		0.0141	0.0051	

Clean-up level exceedances are in **red**

Mica Landfill Conventional Detections

Table 2-7: Conventional Detections for the Reporting Period (mg/L)

StationID	SampleDate	ALK	Cl	N-NH3	N-NO3	SO4	TDS	TOC
DW-001	10/9/2018	139	6.21		0.157	9.24		
DW-001	4/10/2019	141	11.3		0.268	8.87		1.13
DW-001	9/10/2019	143	6.16		0.161	10.1		
DW-002	4/10/2019	152	8.51		1.19	5.87		1.01
DW-002	9/10/2019	155	8.51		1.3	4.97		
DW-003	4/10/2019	177	0.85		2.38	1.56		
DW-003	9/10/2019	175	0.92		2.56	1.82	251	
MS-004	4/10/2019	125	0.49		4.7	10.8	211	1.13
MS-004	9/10/2019	124	0.64	1.19	6.14	11.8	238	1.49
MS-005	4/11/2019	107	27.9		1.61	21.1	248	1.62
MS-005	9/11/2019	109	27.7		1.63	21	275	2.7
MW-009	4/10/2019	198	18			3.21	238	2.34
MW-009	9/10/2019	254	31		0.232	3.71	330	2.44
MW-010	4/10/2019	91.5	0.38		0.244	0.78	130	
MW-010	9/10/2019	89.7	0.39		0.248	0.69	148	
MW-013	4/10/2019	193	9.29		0.287	3.8	252	1.33
MW-013	9/10/2019	192	9.36		0.846	3.81	293	1.46
MW-014	4/10/2019	74.6	0.75			8.73	113	
MW-014	9/10/2019	77.2	0.79			9.17	132	
MW-016	12/19/2018			0.035				118
MW-016	4/11/2019	1460	159	0.198		0.36	1980	171
MW-016	6/12/2019	1450	169	0.179	0.05		478	84.5
MW-016	9/11/2019	1500	161	0.271	1.13		1770	116
MW-019R	4/10/2019	112	7.8		1.38	5.33	174	1.3
MW-019R	9/10/2019	112	7.8		1.41	5.74	189	1.42
MW-020	4/11/2019	238	8.66		3.01	6.42	330	1.63
MW-020	9/10/2019	236	8.48		2.94	6.48	202	
MW-023	4/11/2019	364	55			8.42	507	2.65
MW-023	9/11/2019	375	55.8			8.89	497	2.67
MW-029	4/10/2019	72.4	144		0.88	6.13	476	
MW-029	9/10/2019	77.8	146		1.16	6.57	432	
MW-031	4/10/2019	39.4	2.31		0.566	3.49	61	5.45

Clean-up level exceedances are in **red**

VOC detections/exceedance maps – 1,2-Dichloroethane

Mica Landfill - September 2019

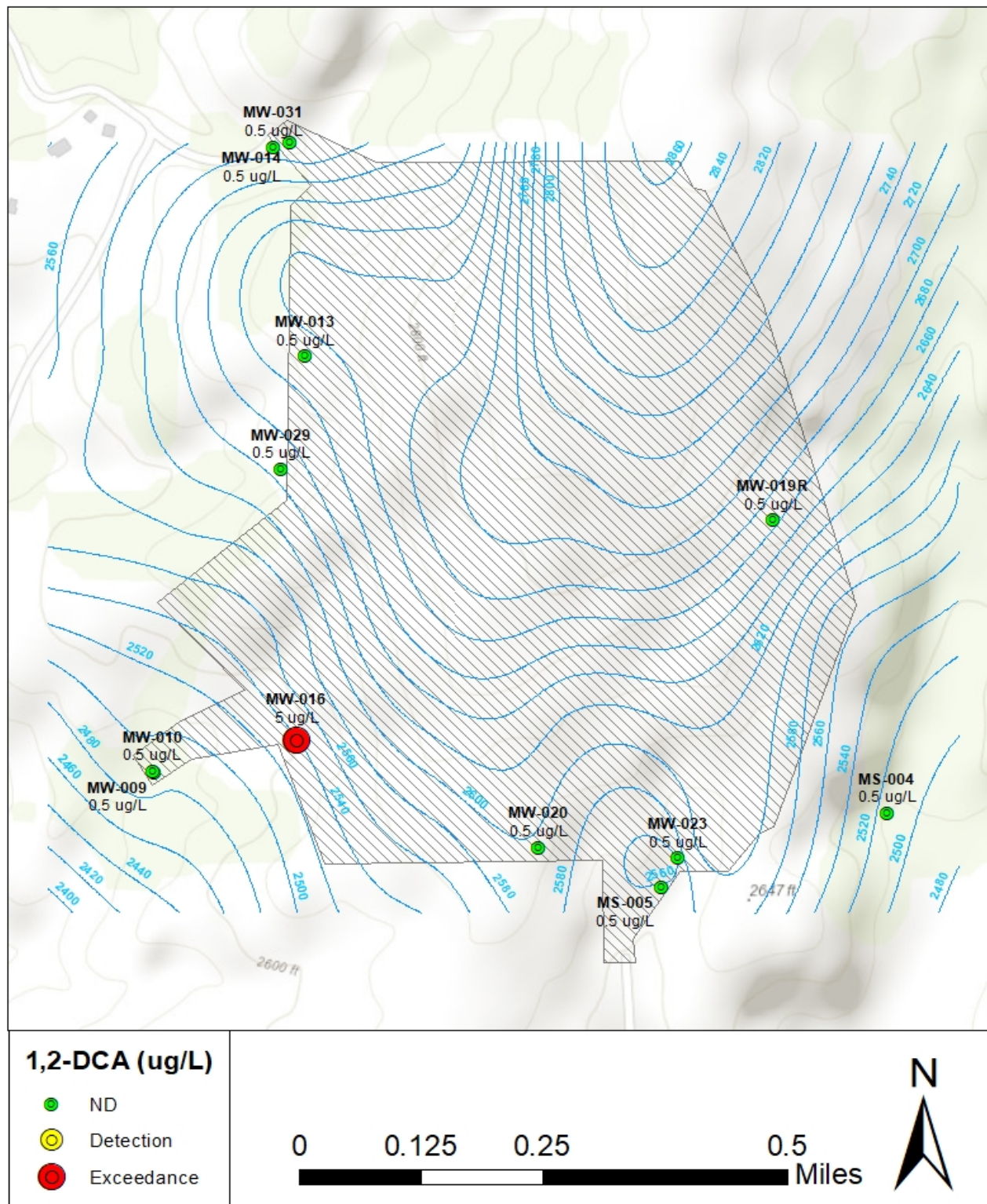


Figure 2-7: 1,2-Dichloroethane detections/exceedance map

VOC detections/exceedance maps – 1,2-Dichloropropane

Mica Landfill - September 2019

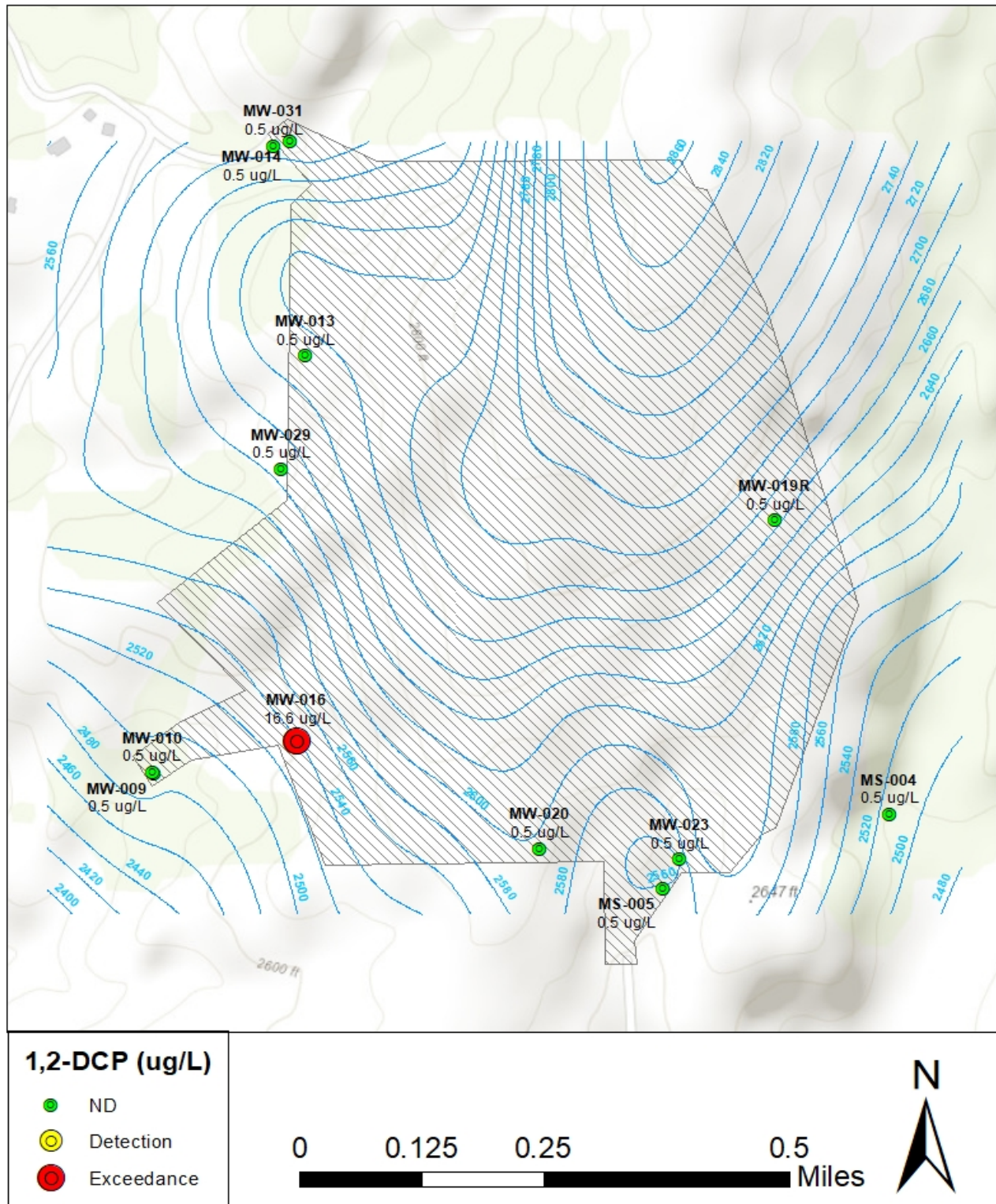


Figure 2-8: 1,2-Dichloropropane detections/exceedance map

VOC detections/exceedance maps - Acetone

Mica Landfill - September 2019

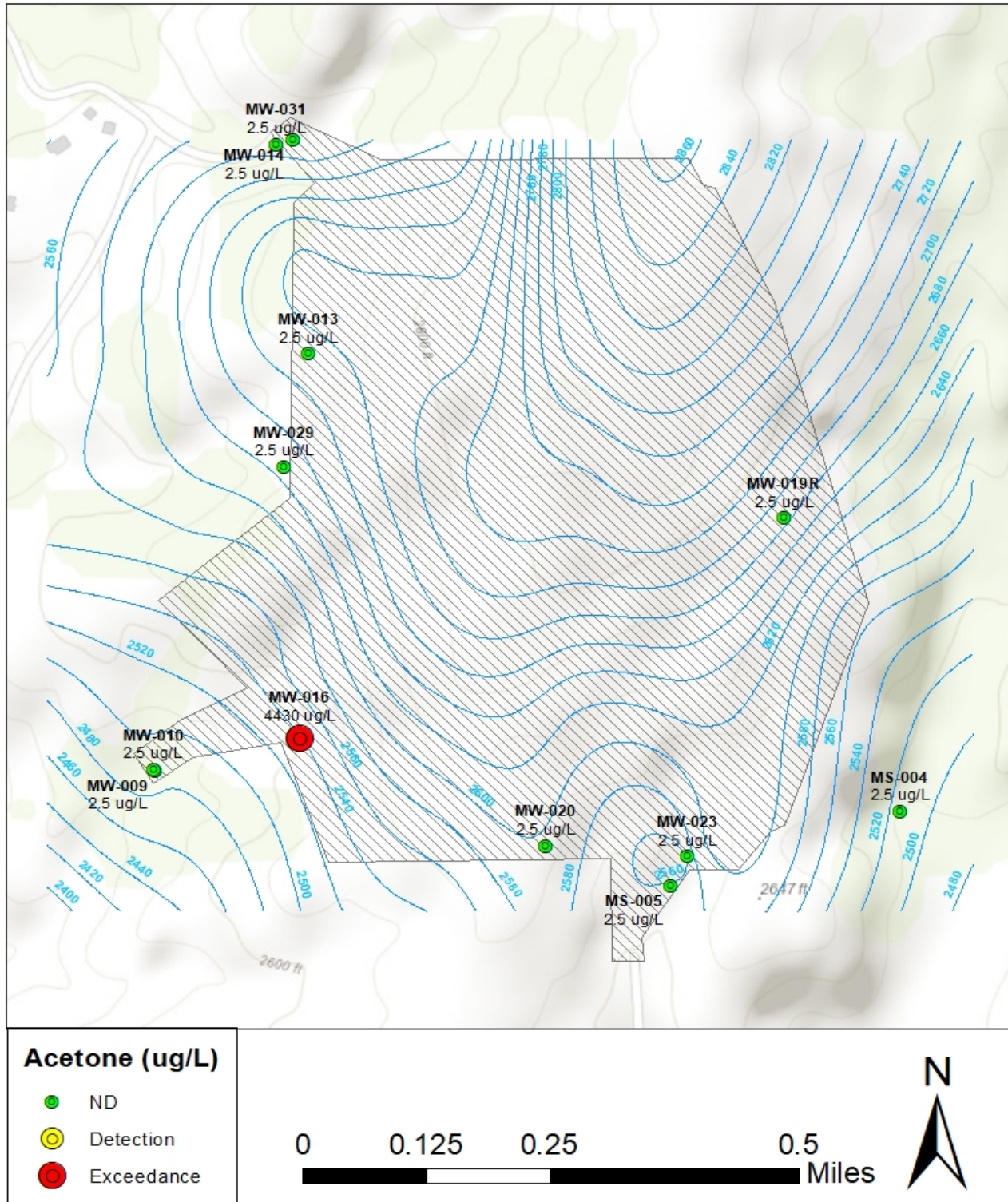


Figure 2-9: Acetone detections/exceedance map

VOC detections/exceedance maps – Benzene

Mica Landfill - September 2019

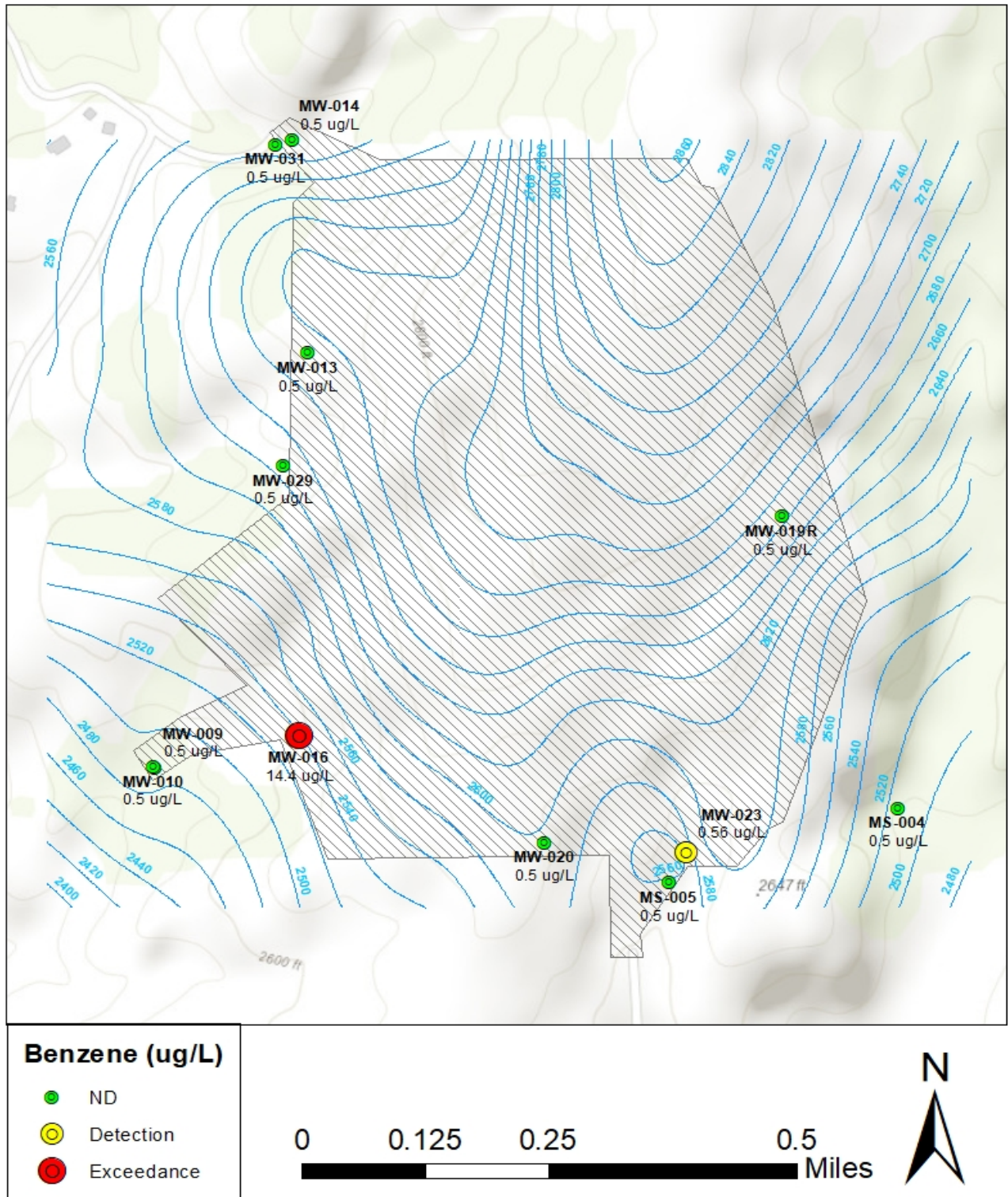


Figure 2-10: Benzene detections/exceedance map

VOC detections/exceedance maps – *cis*-1,2-Dichloroethene

Mica Landfill - September 2019

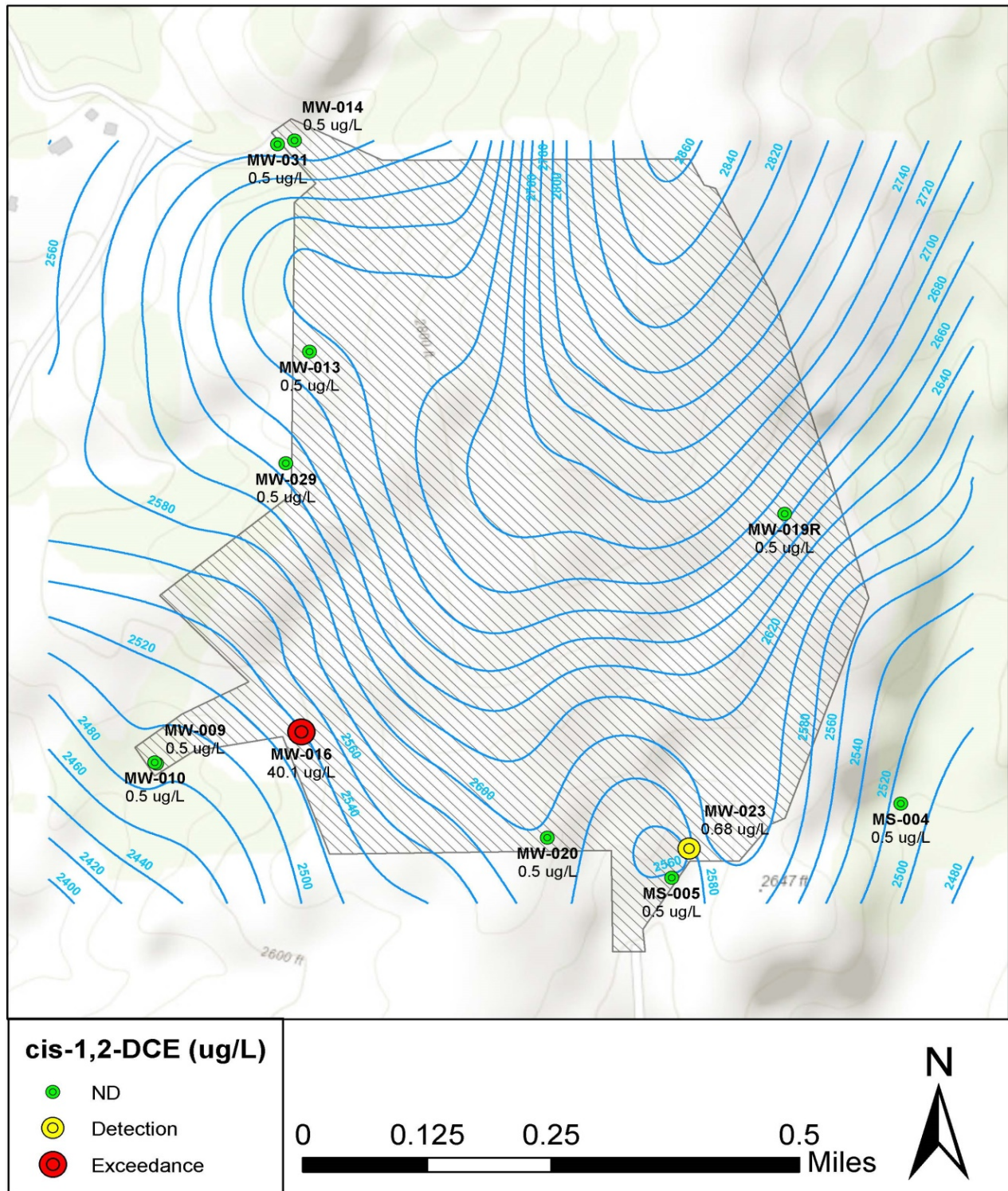


Figure 2-11: *cis*-1,2-Dichloroethene detections/exceedance map

VOC detections/exceedance maps – Vinyl chloride

Mica Landfill - September 2019

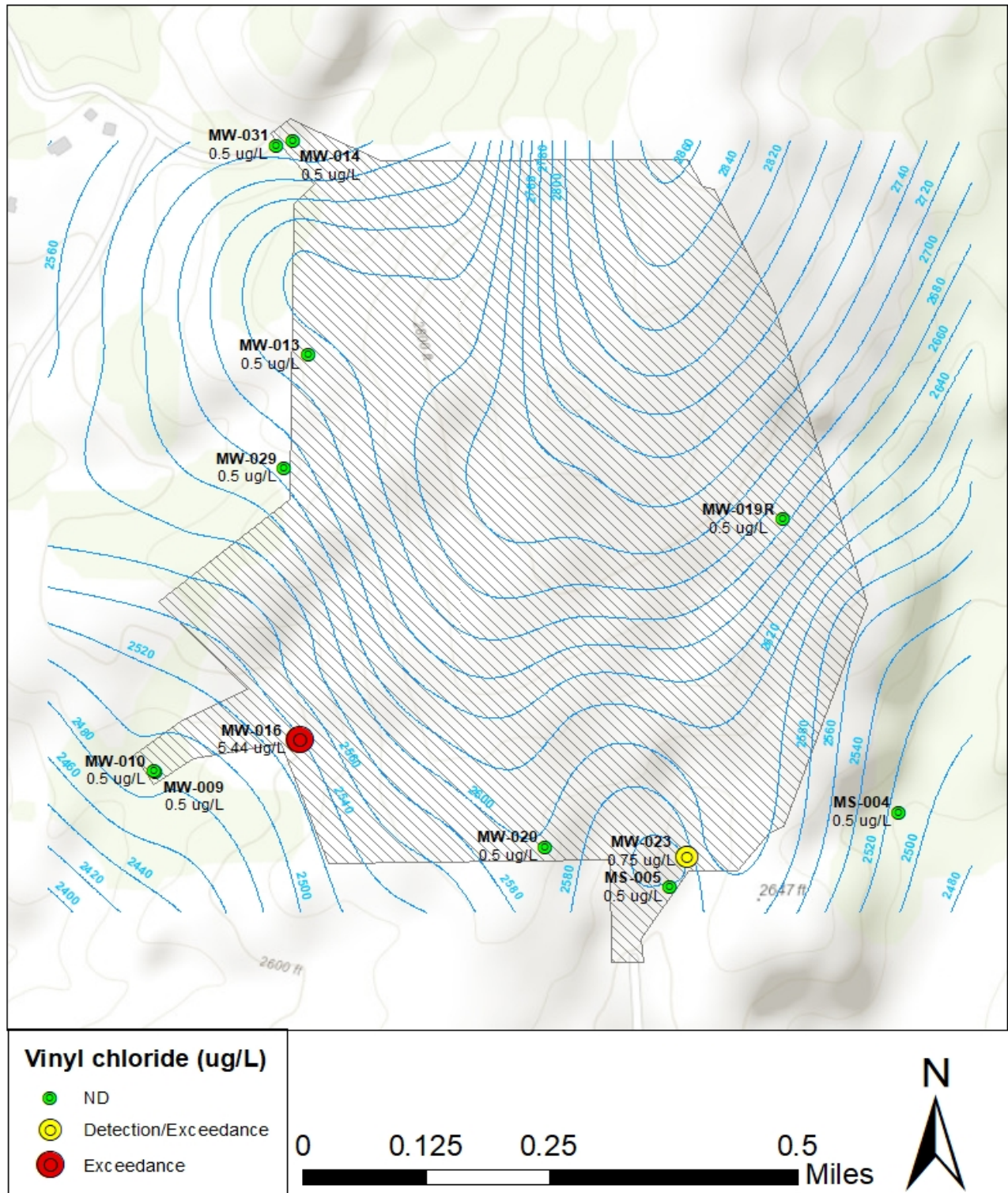


Figure 2-12: Vinyl chloride detections/exceedance map

Inorganics detections/exceedance maps – Arsenic

Mica Landfill - September 2019

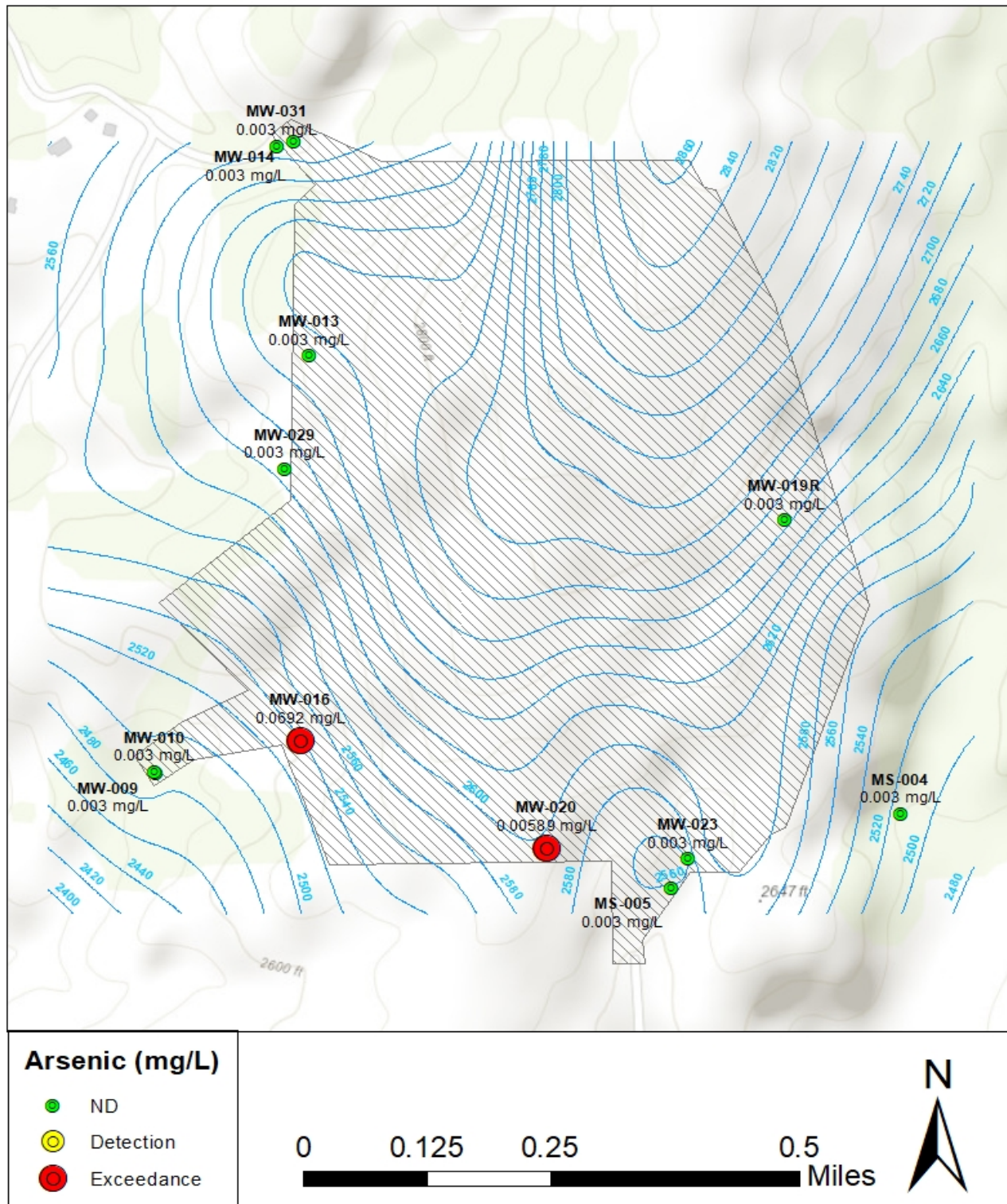


Figure 2-13: Arsenic detections/exceedance map

Inorganics detections/exceedance maps – Barium

Mica Landfill - September 2019

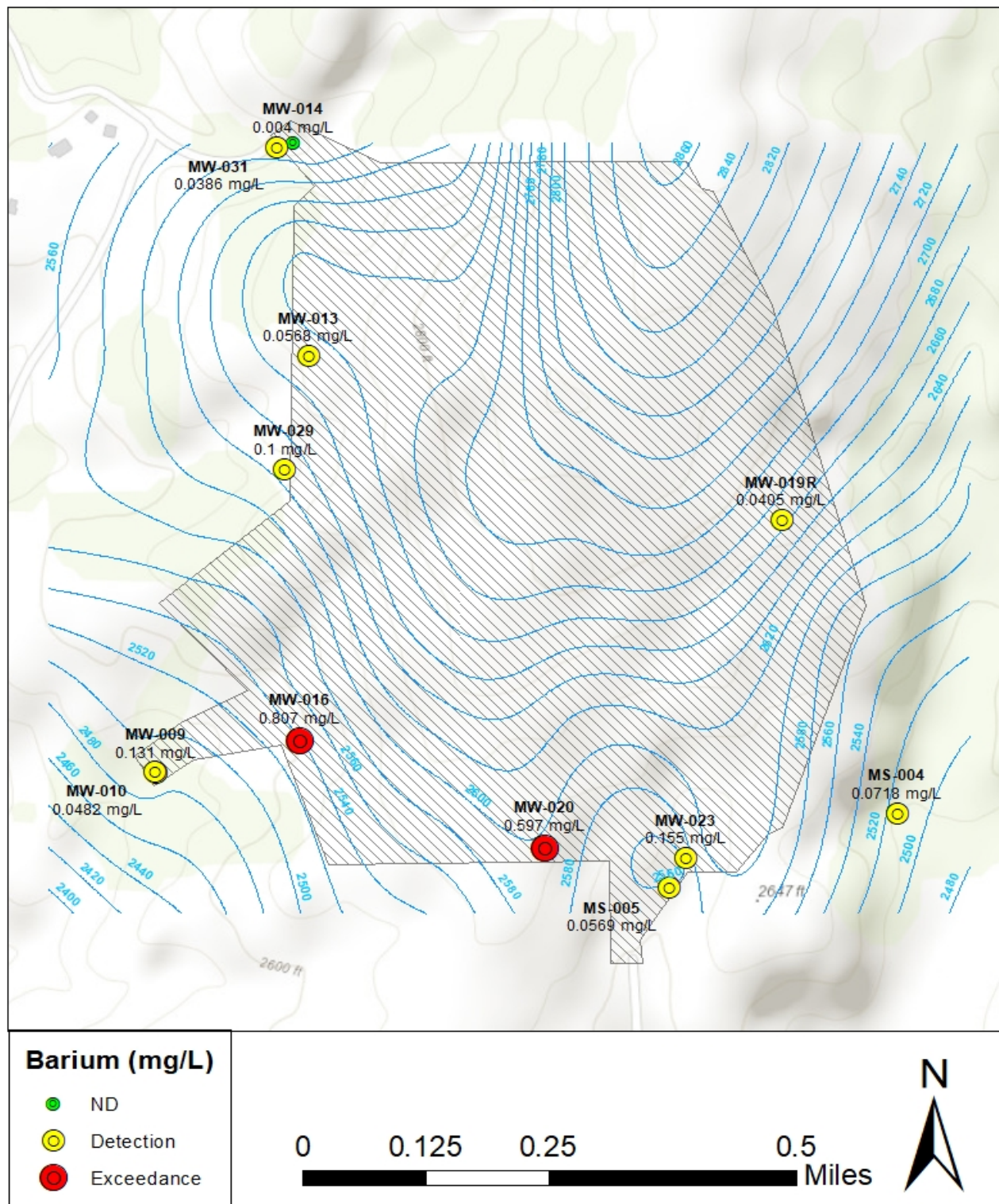
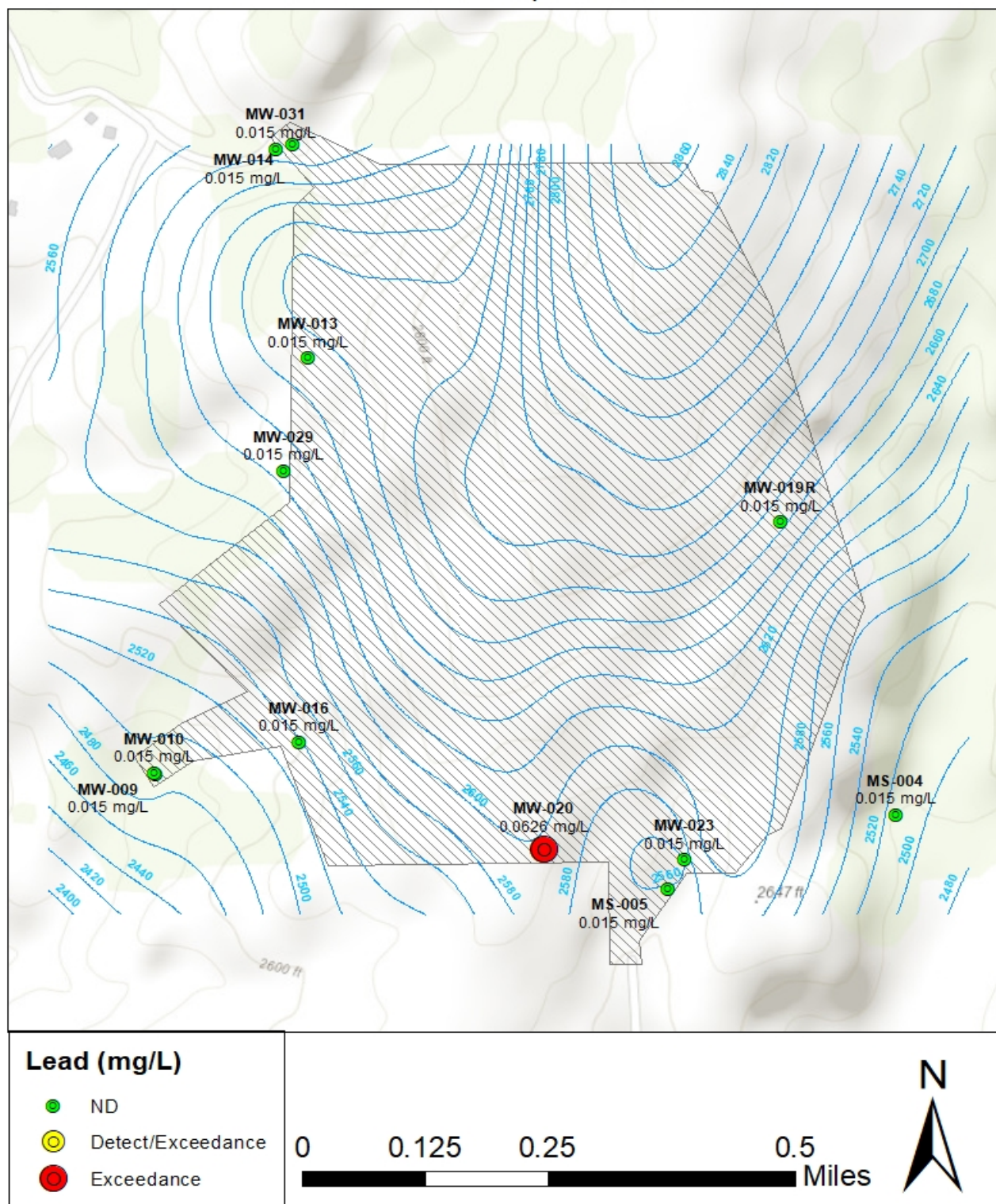


Figure 2-14: Barium detections/exceedance map

Inorganics detections/exceedance maps – Lead

Mica Landfill - September 2019



Conventional detections/exceedance maps – Nitrate
Mica Landfill - September 2019

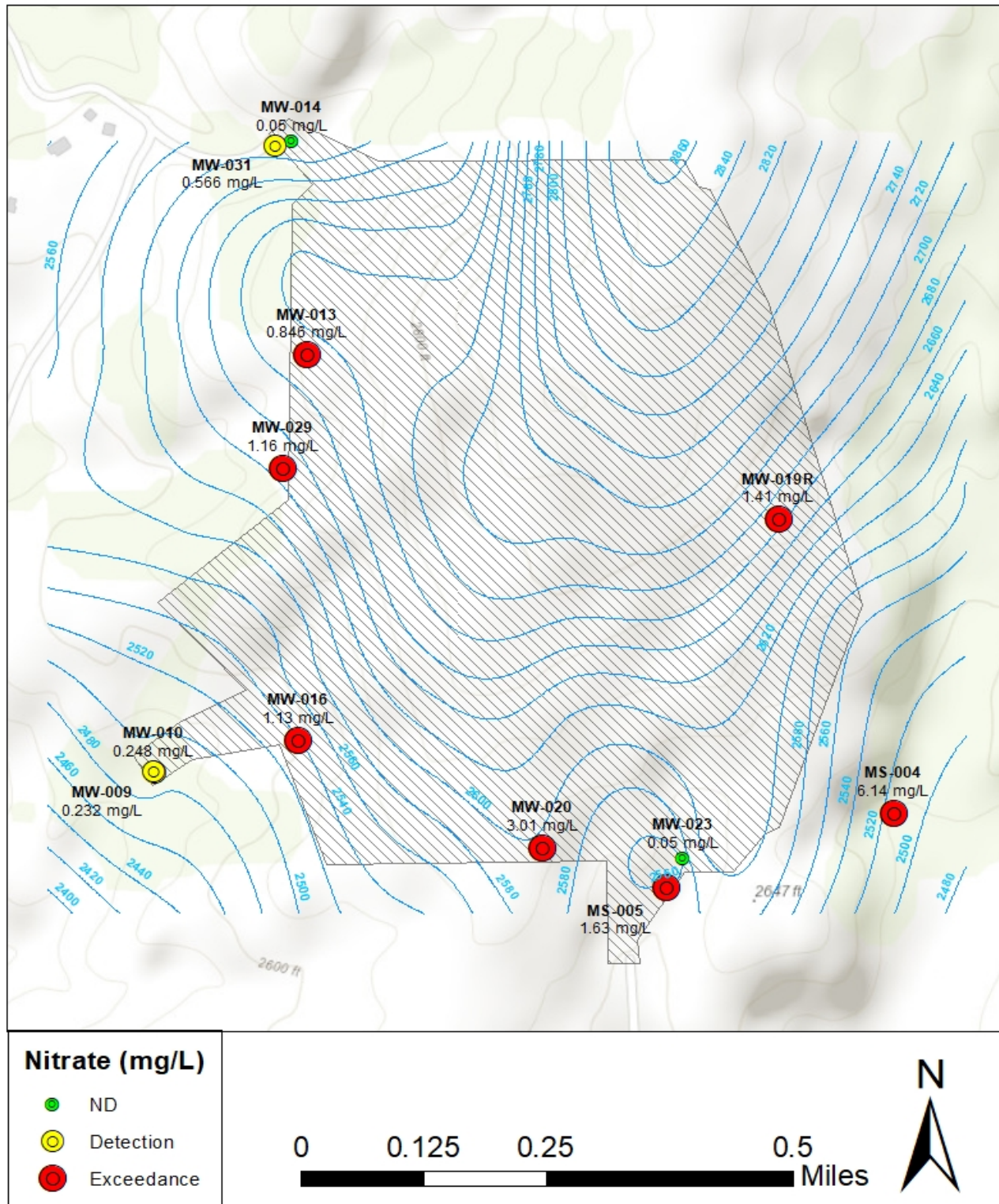


Figure 2-16: Nitrate detections/exceedance map

Mica Landfill Trend Analysis - 2019

Table 2-8: Mica Landfill Statistically Significant Trends (Sen's Test) 2019

Drainage:	Northwest				Southwest			South			Southeast		Domestic		
Analyte	MW-13	MW-14	MW-29	MW-31	MW-9	MW-10	MW-16	MS-5	MW-20	MW-23	MS-4	MW-19R	DW-1	DW-2	DW-3
Alkalinity	▲		▲	▼	▼	▲	▲	▲		▲	▲	▼	▼		
Ammonia							▲								
Chloride			▲	▼	▼	▼	▲	▲	▼	▲		▼	▲		
Nitrate	▼		▲			▲		▼	▼	▼	▲	▲	▲	▼	▲
Sulfate	▼		▲	▼	▼		▼	▲	▼		▲	▼			▲
TDS			▲	▼	▼		▲			▲	▲	▼			
TOC					▼				▼			▼			
Arsenic							▲ *								
Barium	▼ *		▲ *		▲ *	▲ *		▼ *		▼ *	▲ *	▼ *	▲ *	▲ *	▲ *
Manganese					▼ *		▼ *			▲ *	▼ *				
Zinc															▼ *
1,2-DCA										▼					
1,2-DCP							▲								
Acetone															
Benzene							▲								
Cis-1,2-DCE							▲			▼		▼			
MC							▼			▼					
PCE	▼									▼					
TCE							▼			▼					
Toluene															
VC															

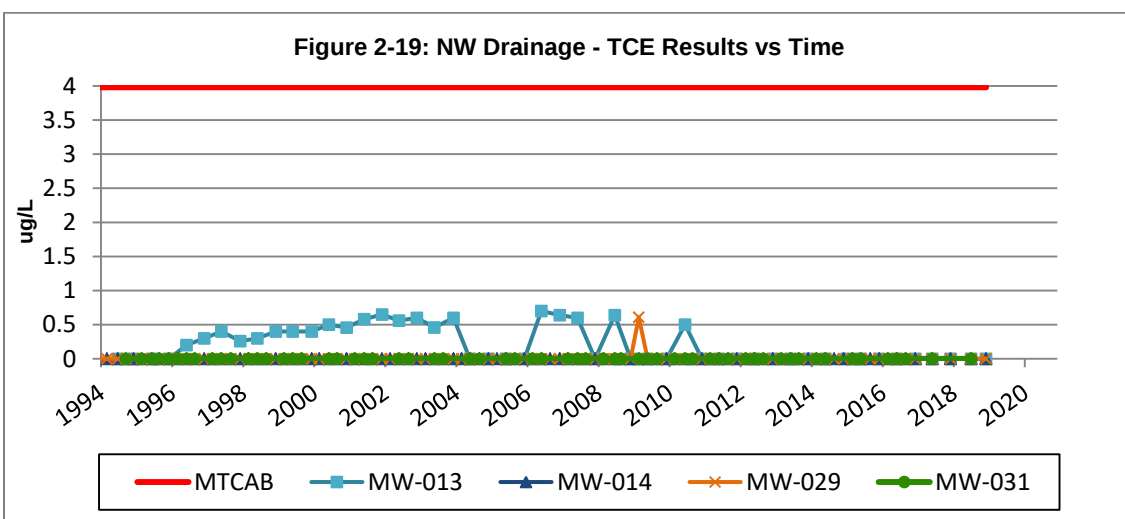
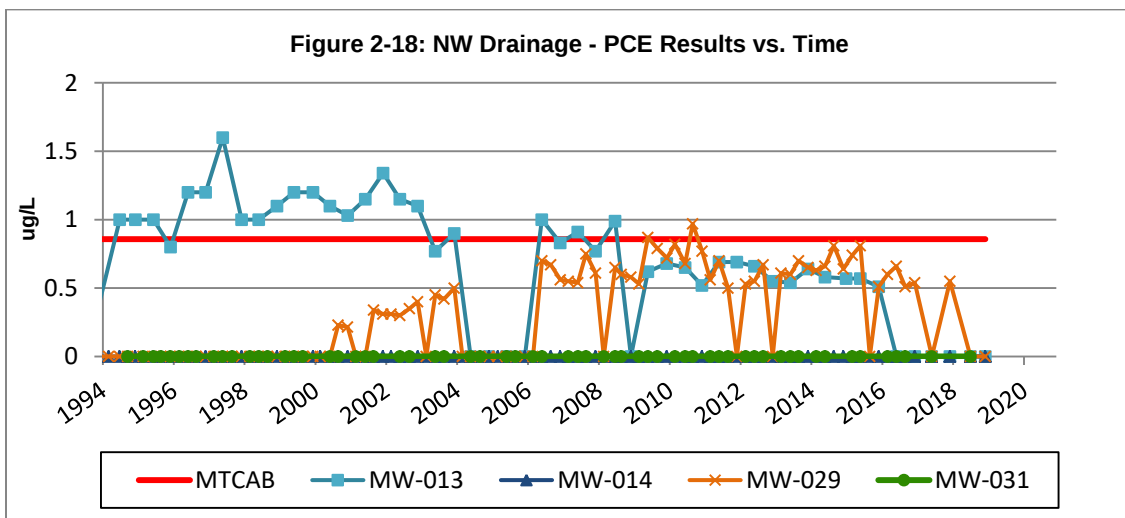
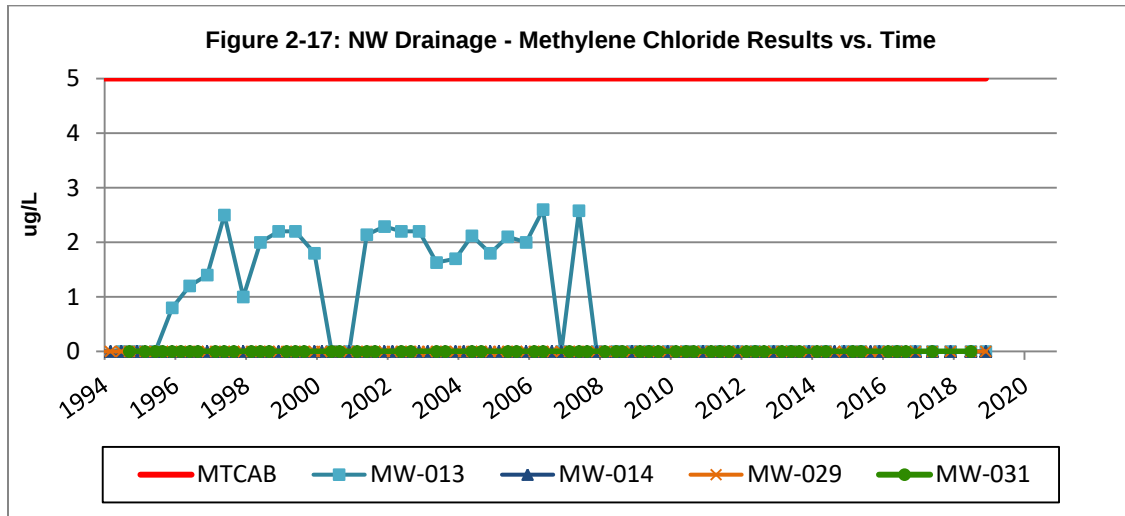
▼ = decreasing trend

▲ = increasing trend

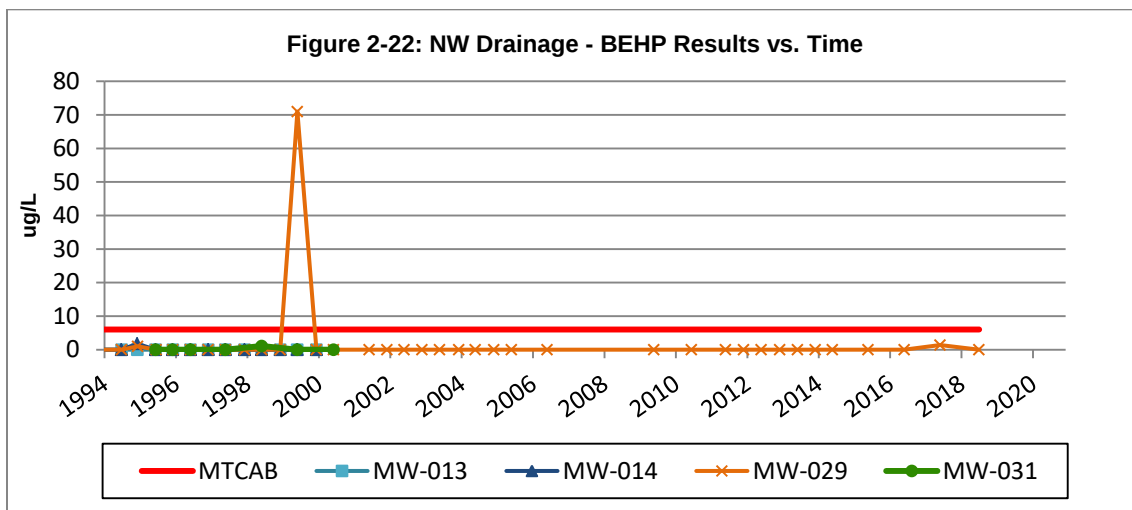
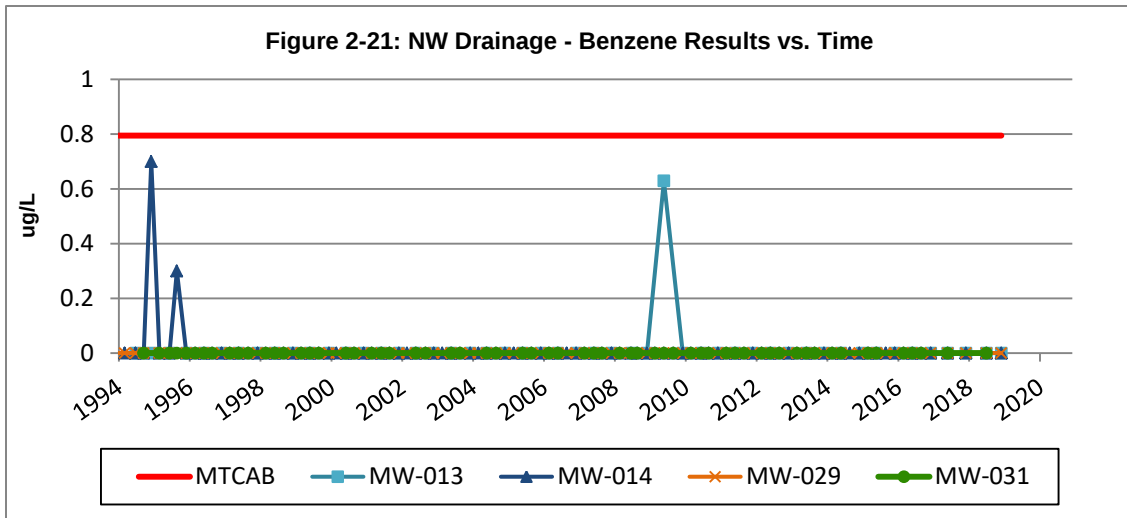
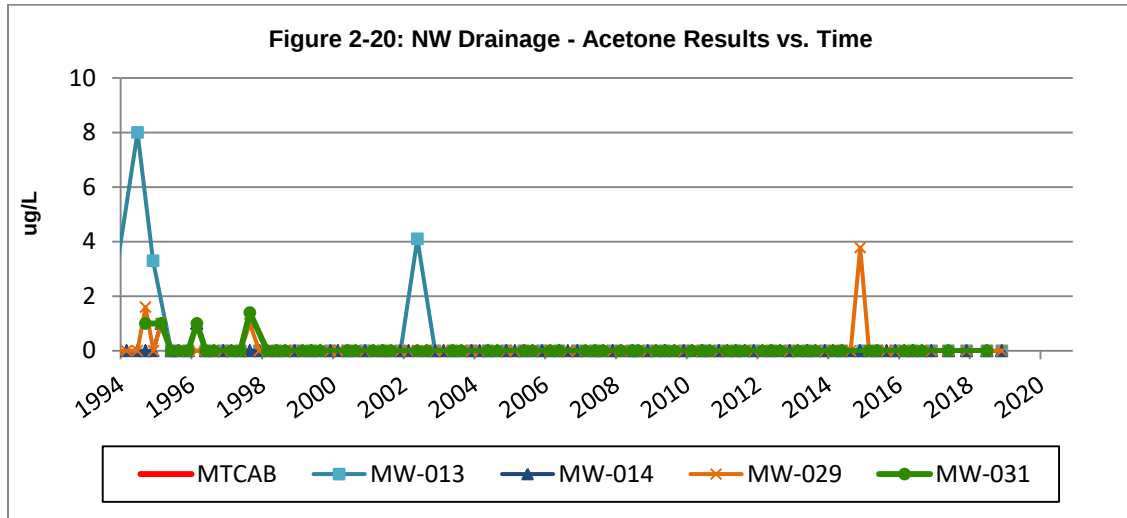
* Statistical analysis calculated on metals data collected after March 2002. May not reflect overall historical trend. (99% Confidence level)

Northwest Drainage Monitoring Wells: Concentration Time Series Graphs

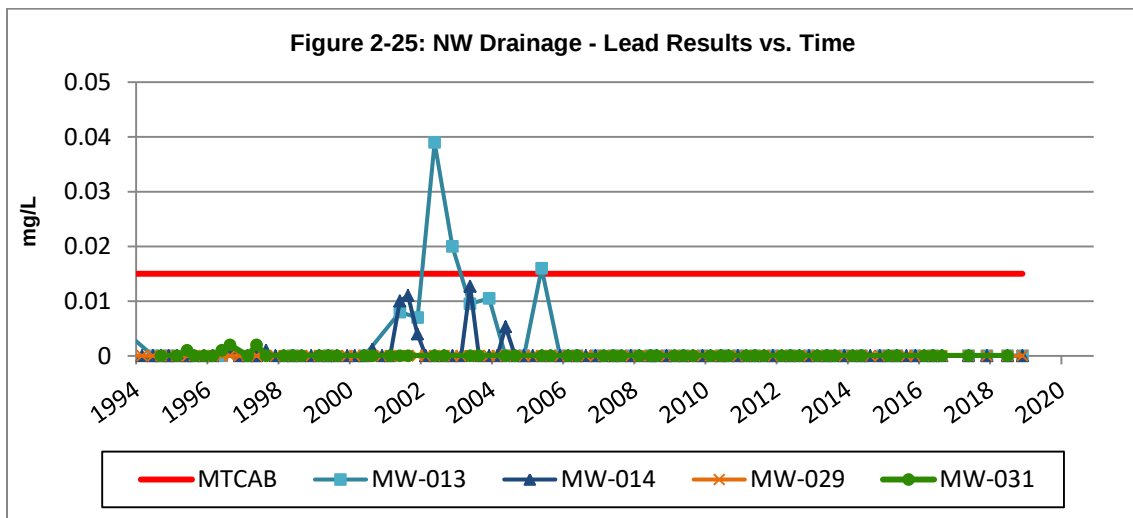
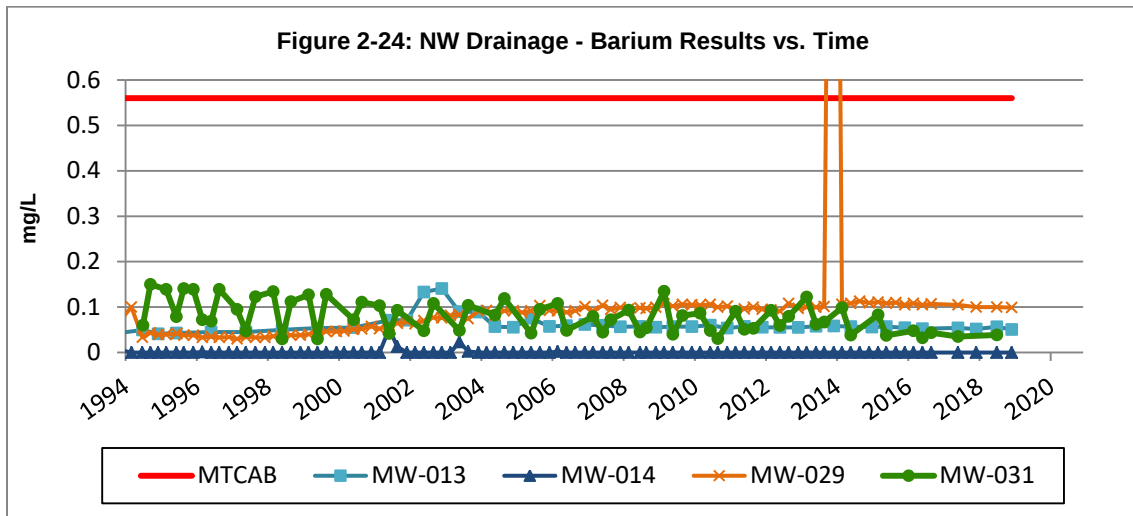
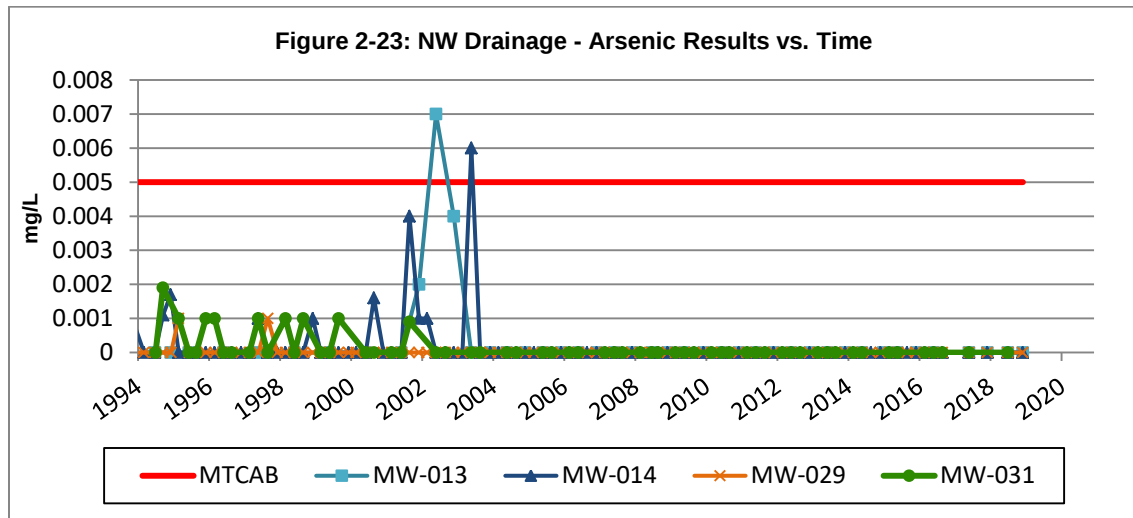
Figures 2-17 – 2-22: Northwest Wells – VOCs / SVOCs Time Series Graphs



Northwest Wells – VOCs / SVOCs Time Series Graphs



Figures 2-23 – 2-28: Northwest Wells – Inorganics Time Series Graphs



Northwest Wells – Inorganics Time Series Graphs

Figure 2-26: NW Drainage - Manganese Results vs. Time

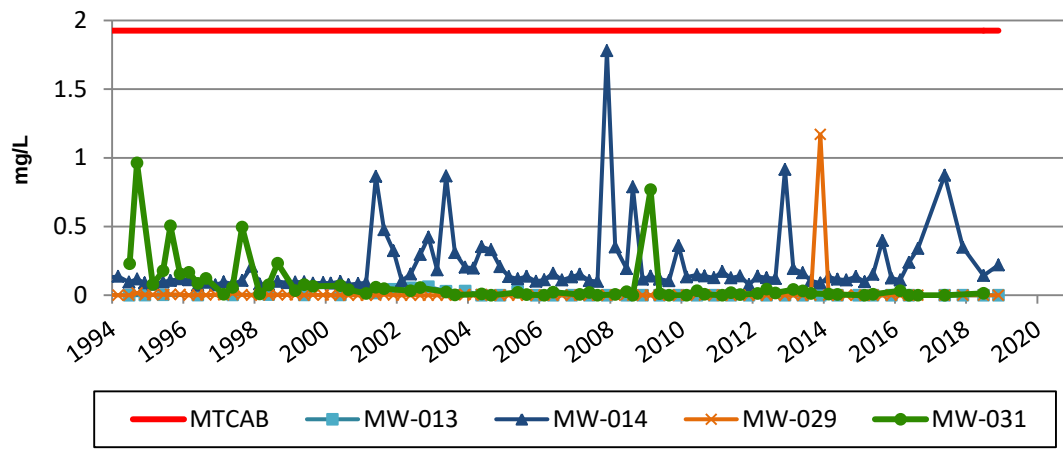


Figure 2-27: NW Drainage - Vanadium Results vs. Time

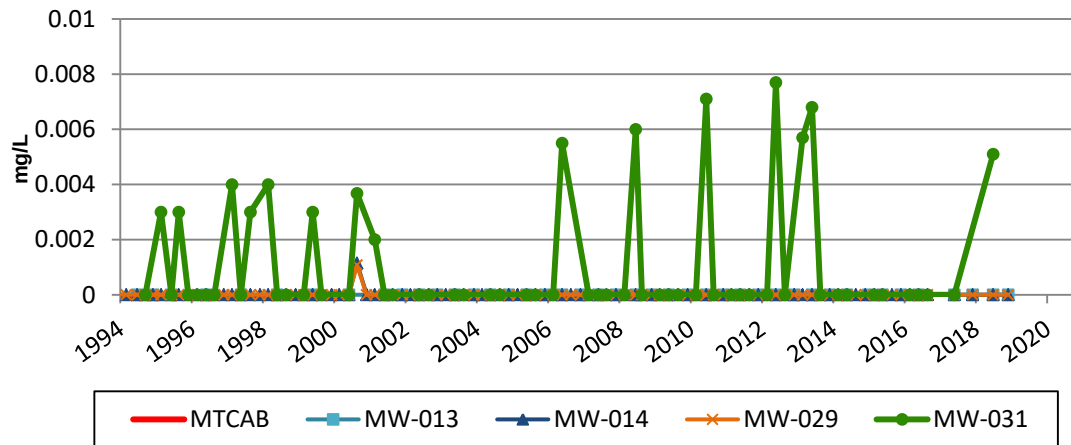
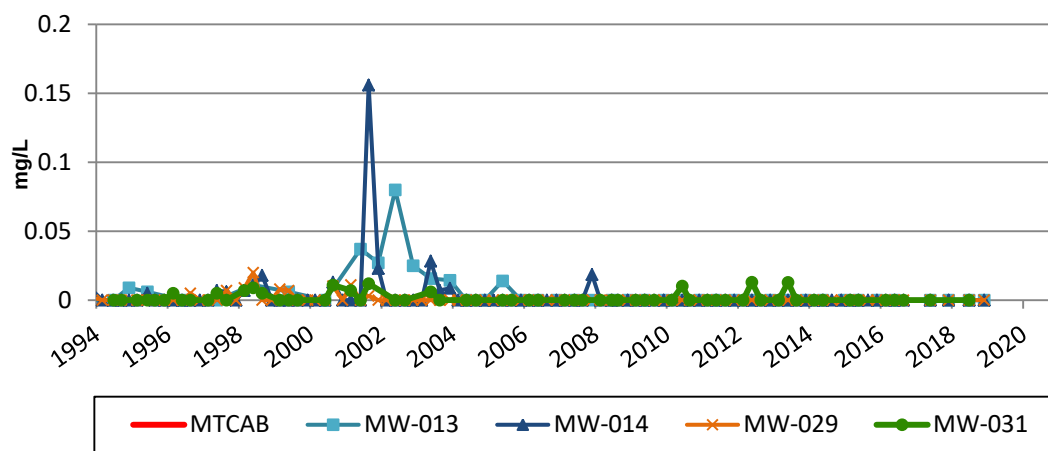
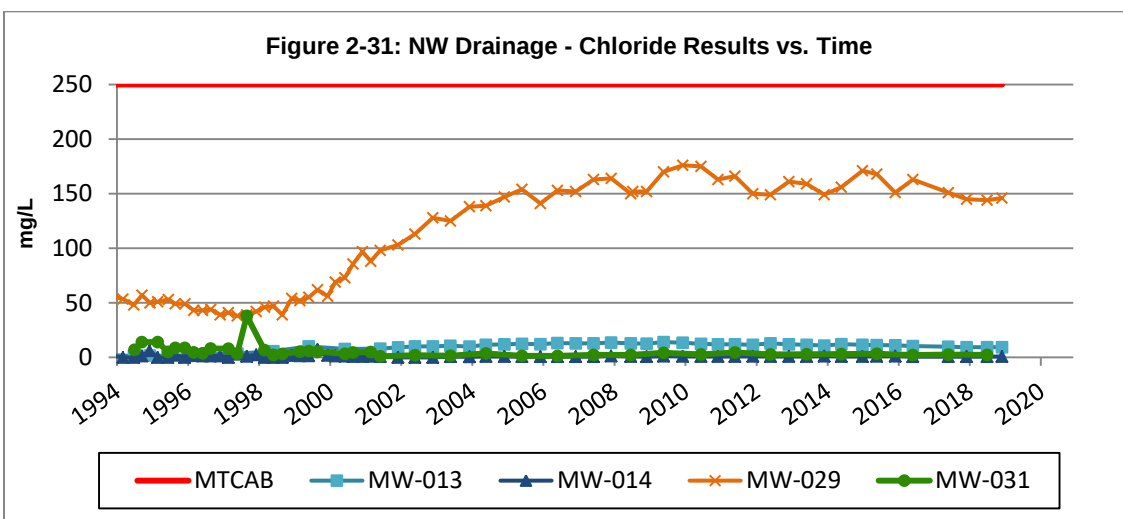
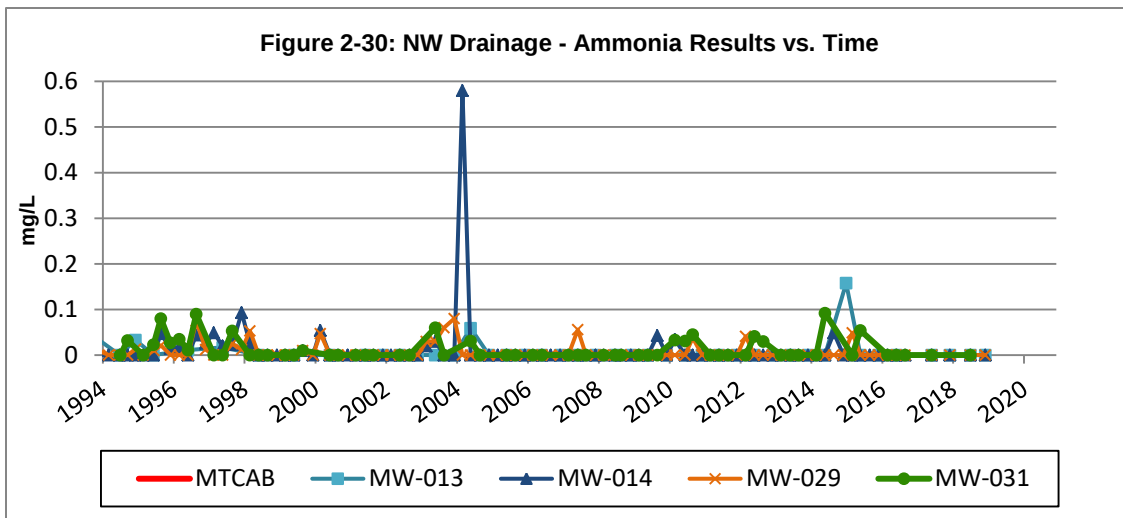
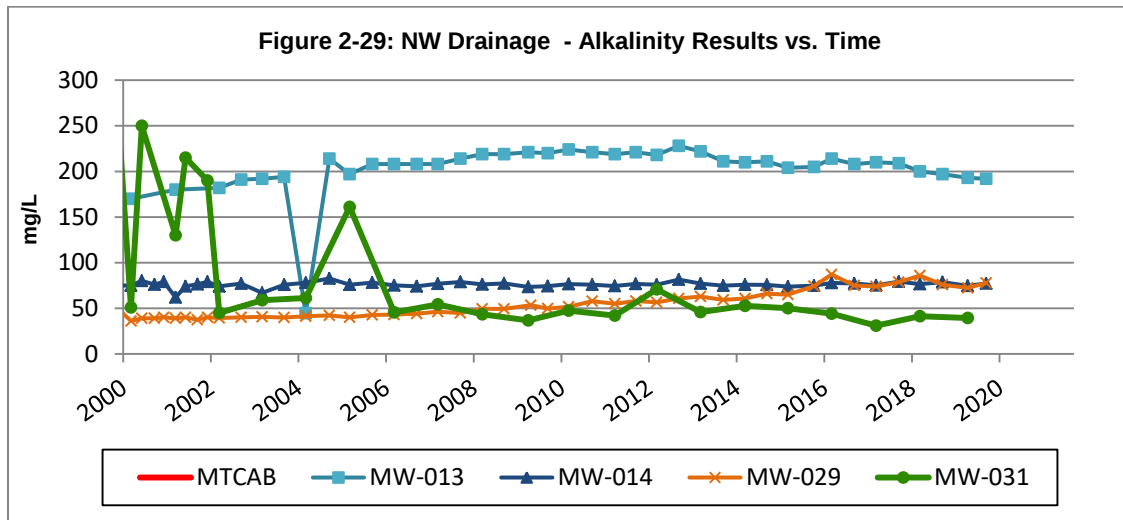


Figure 2-28: NW Drainage - Zinc Results vs. Time



Figures 2-29 – 2-35: Northwest Wells – Conventional Time Series Graphs



Northwest Wells – Conventional Time Series Graphs

Figure 2-32: NW Drainage - Nitrate Results vs. Time

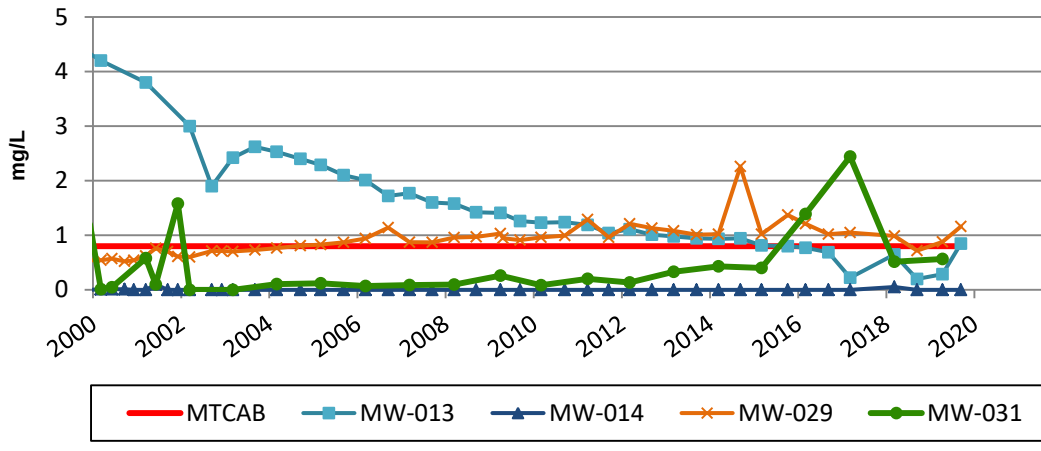


Figure 2-33: NW Drainage - Sulfate Results vs. Time

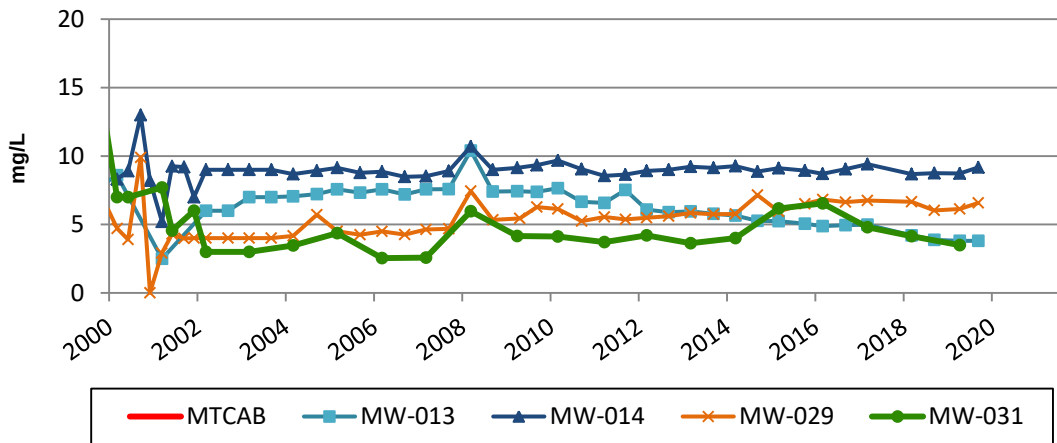
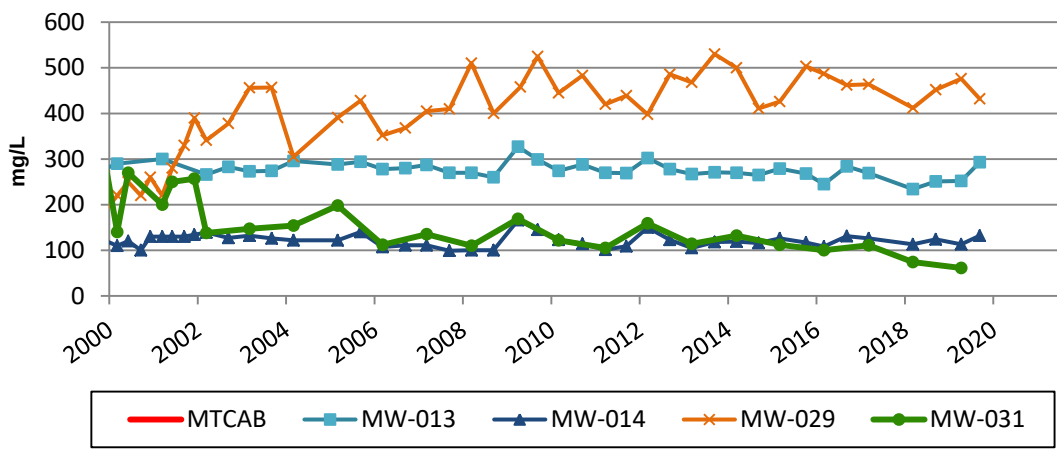
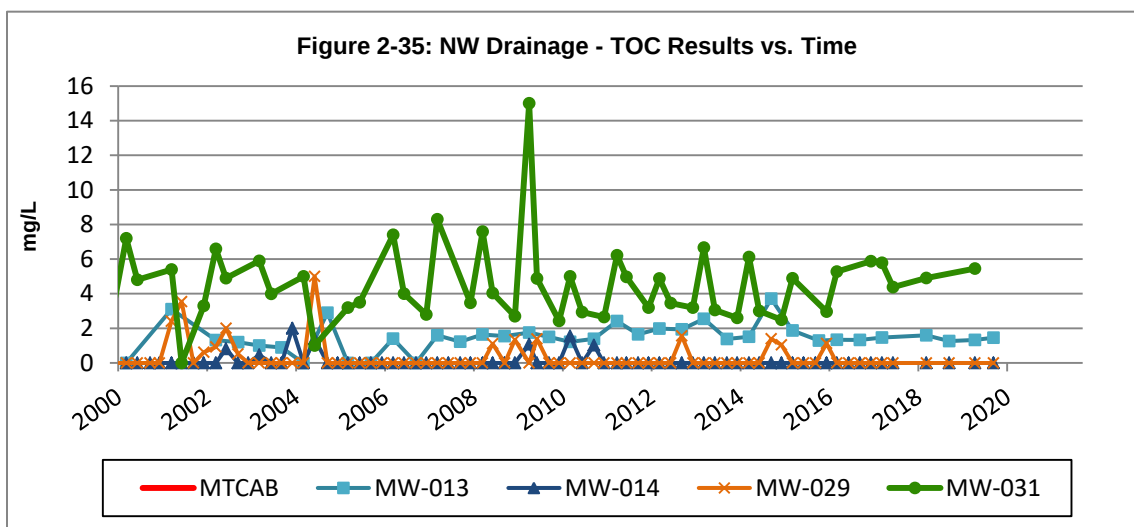


Figure 2-34: NW Drainage - TDS Results vs. Time

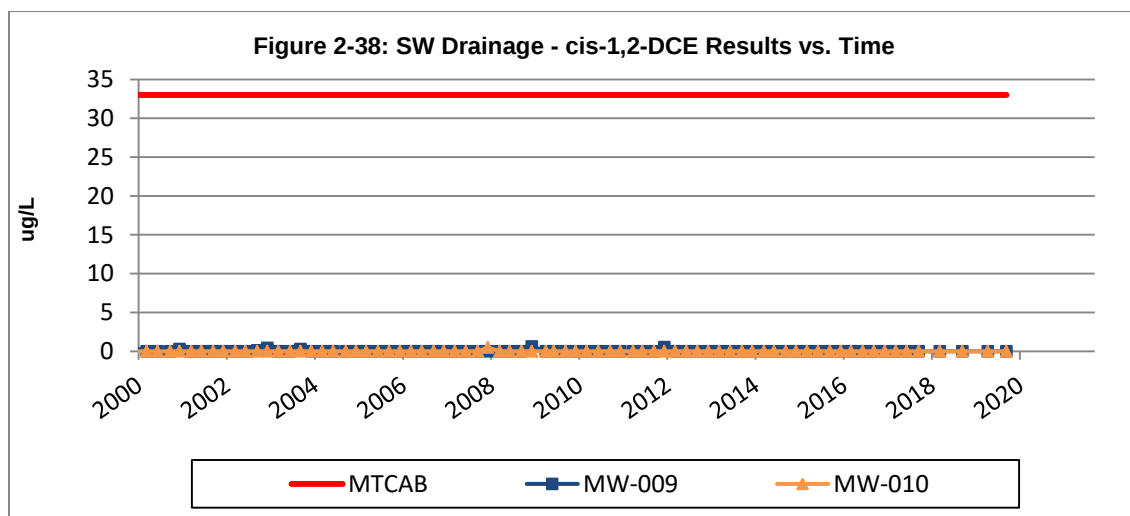
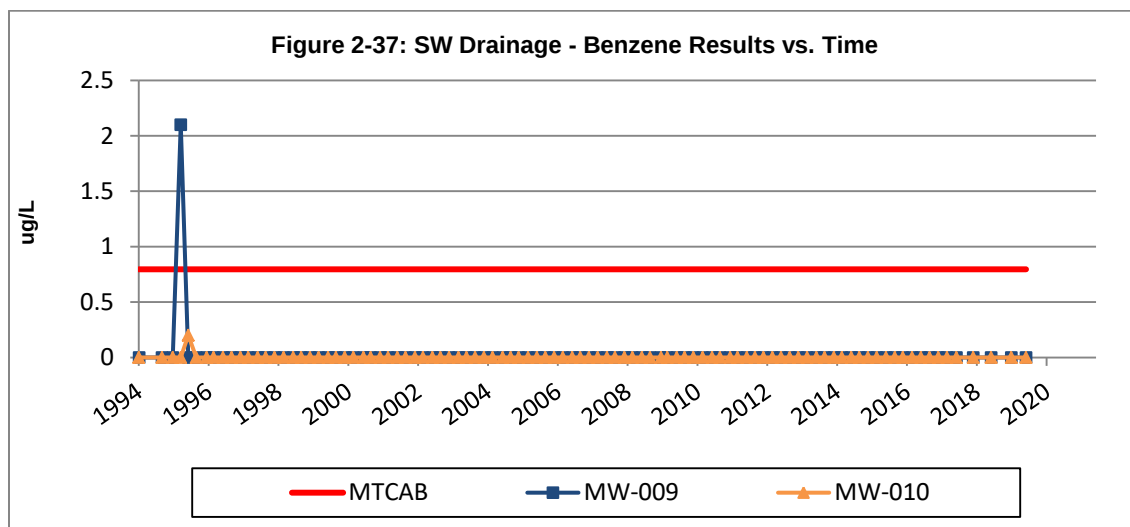
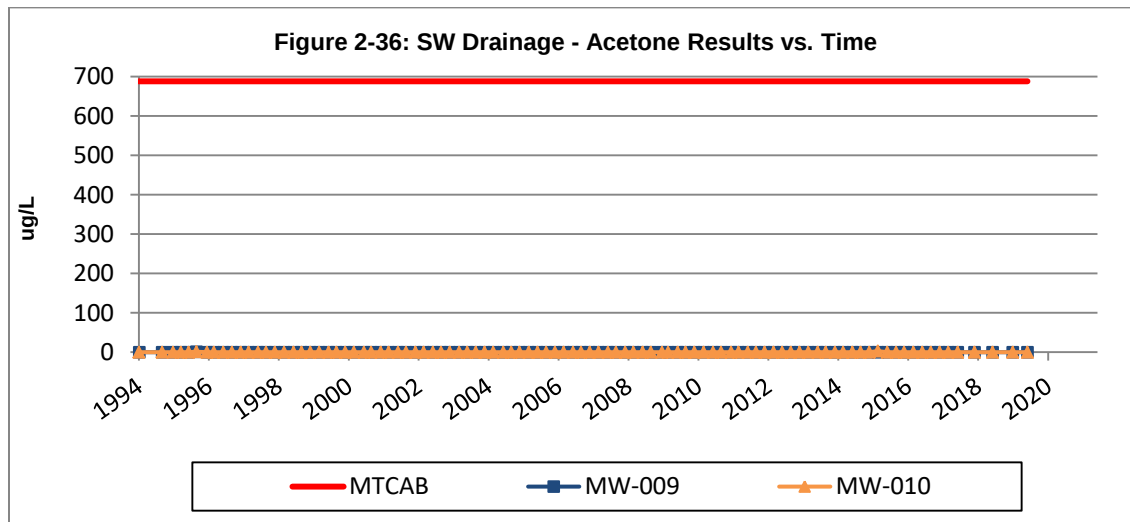


Northwest Wells – Conventional Time Series Graphs

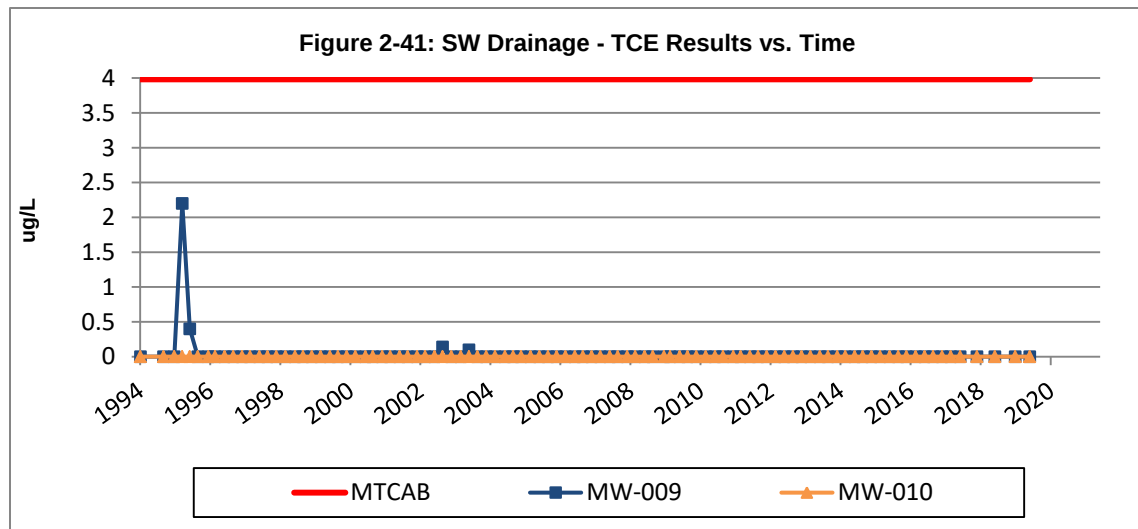
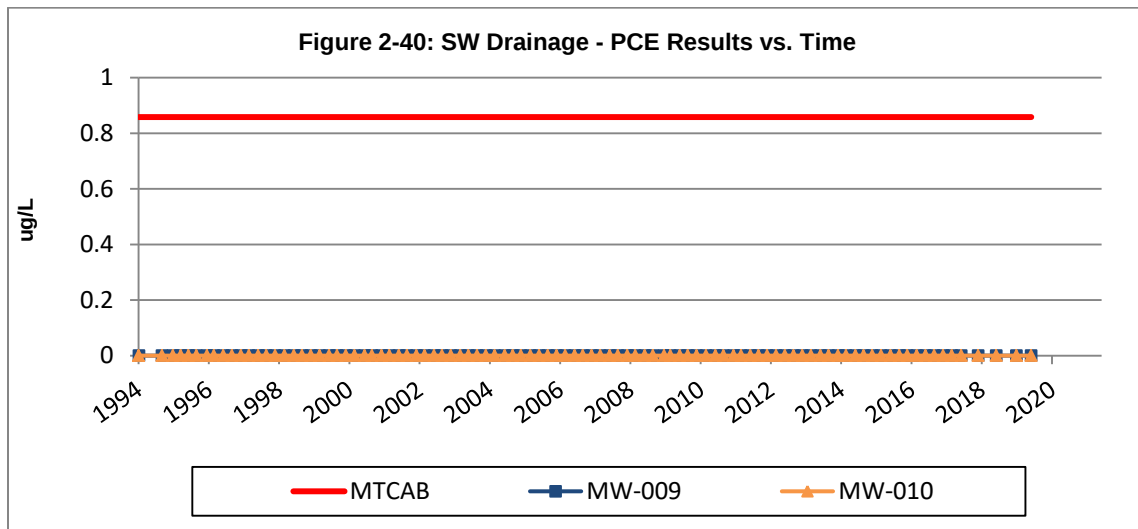
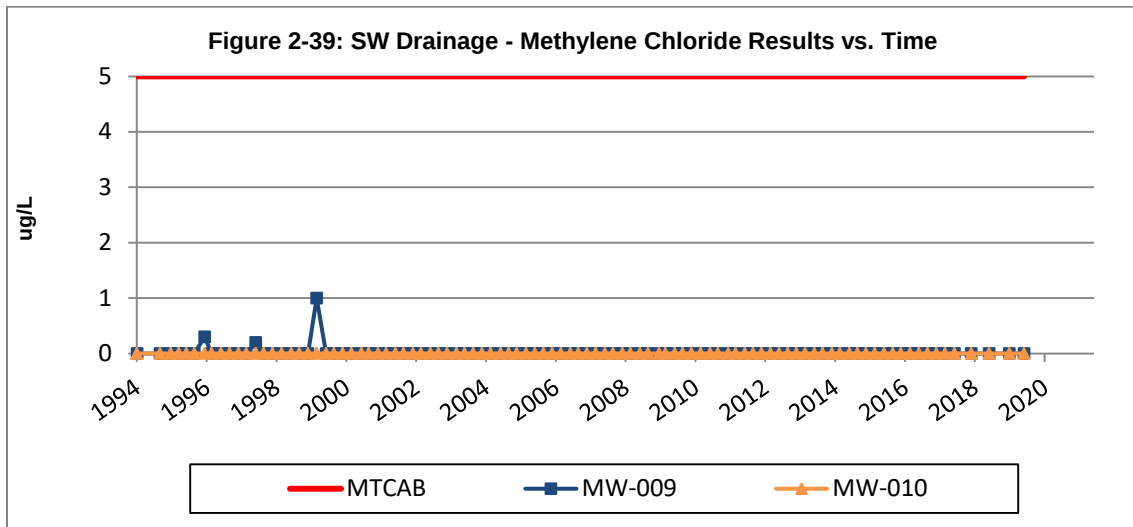


Southwest Drainage Monitoring Wells: Concentration Time Series Graphs

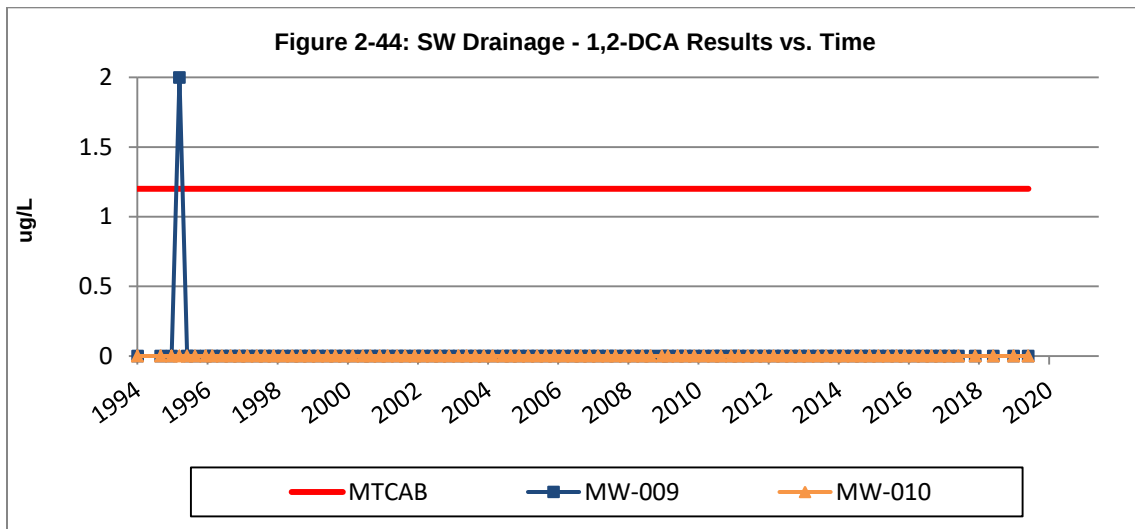
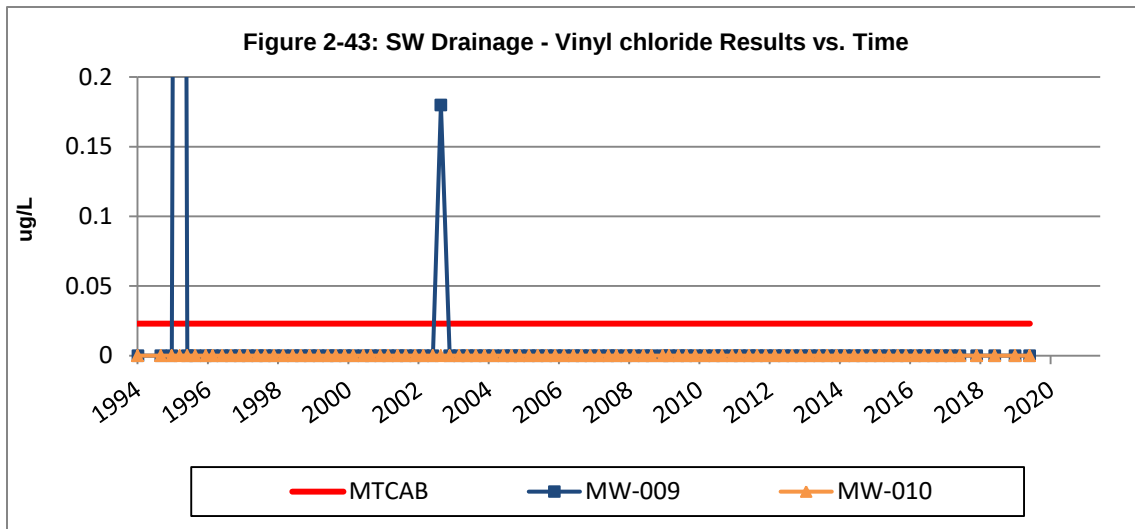
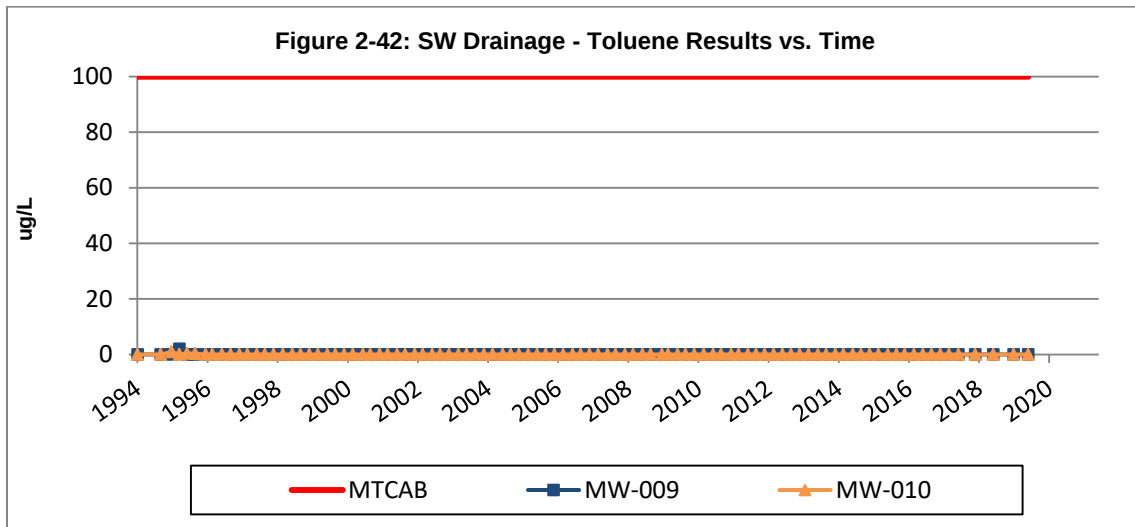
Figures 2-36 – 2-46: Southwest Wells – VOCs / SVOCs Time Series Graphs



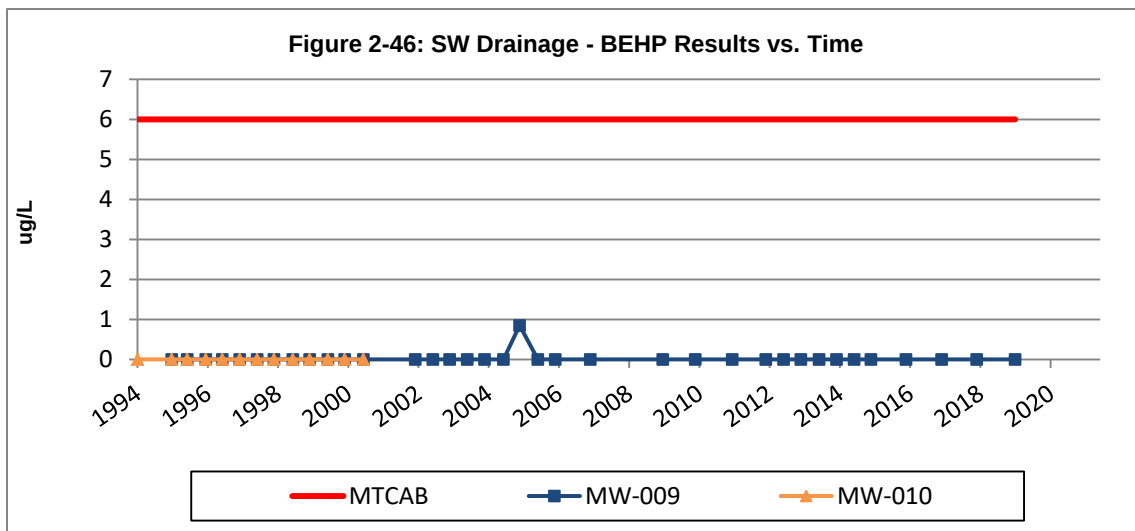
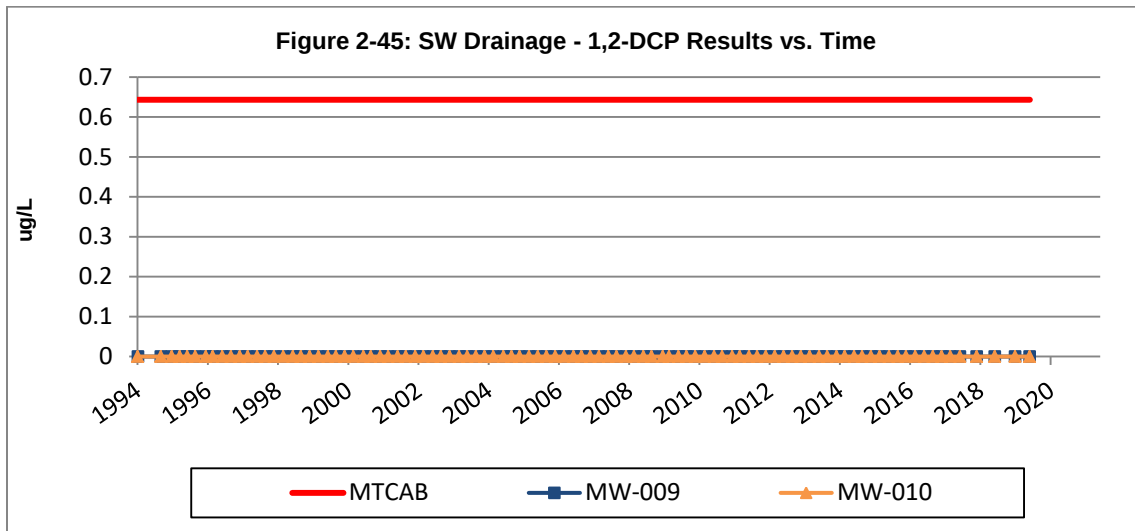
Southwest Wells – VOCs / SVOCs Time Series Graphs



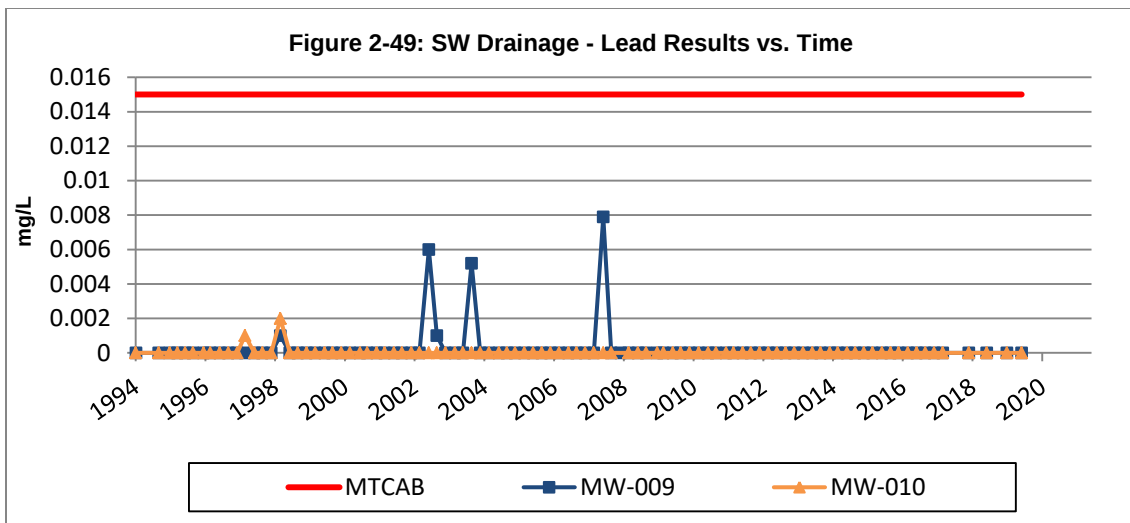
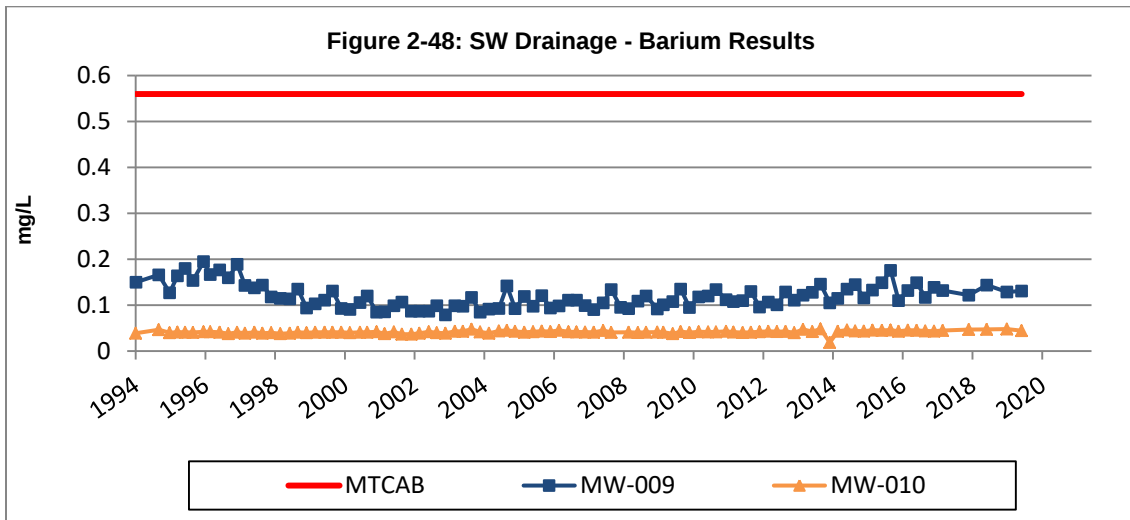
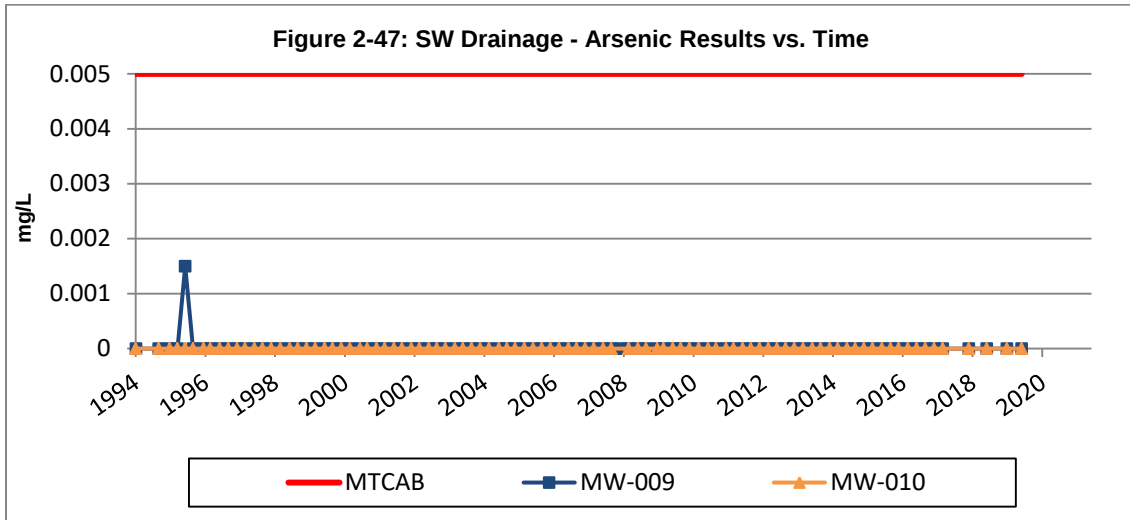
Southwest Wells – VOCs / SVOCs Time Series Graphs



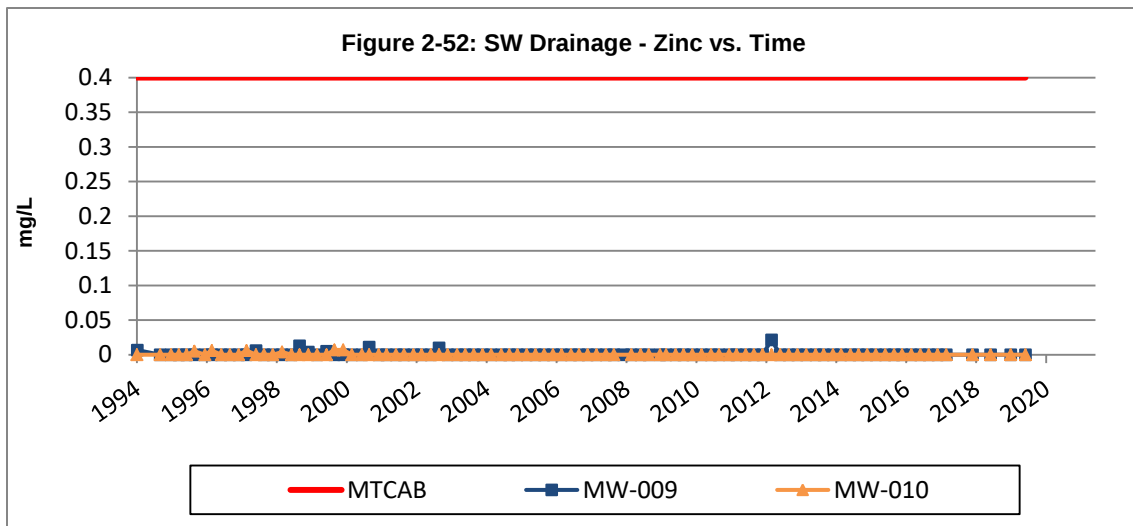
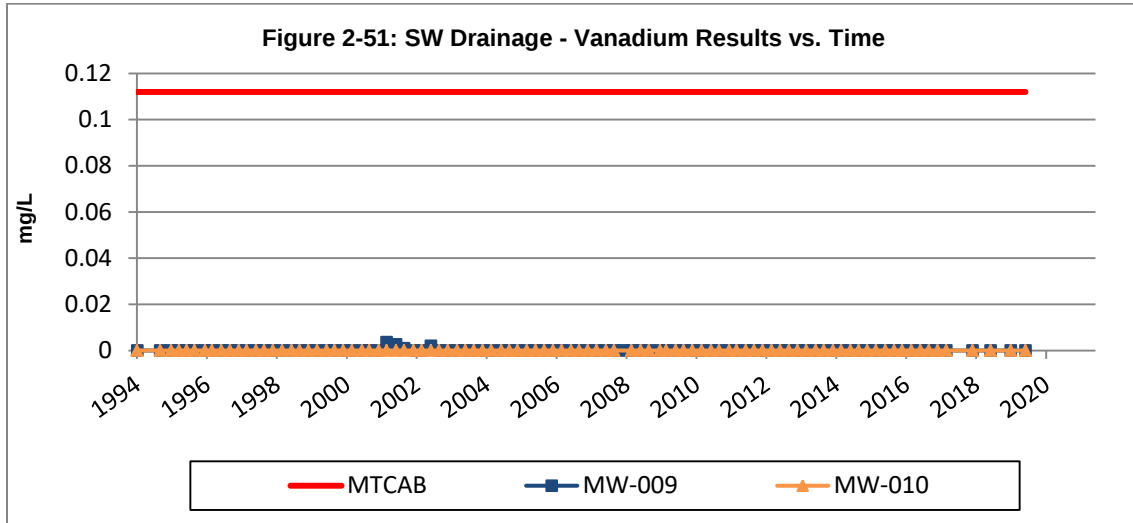
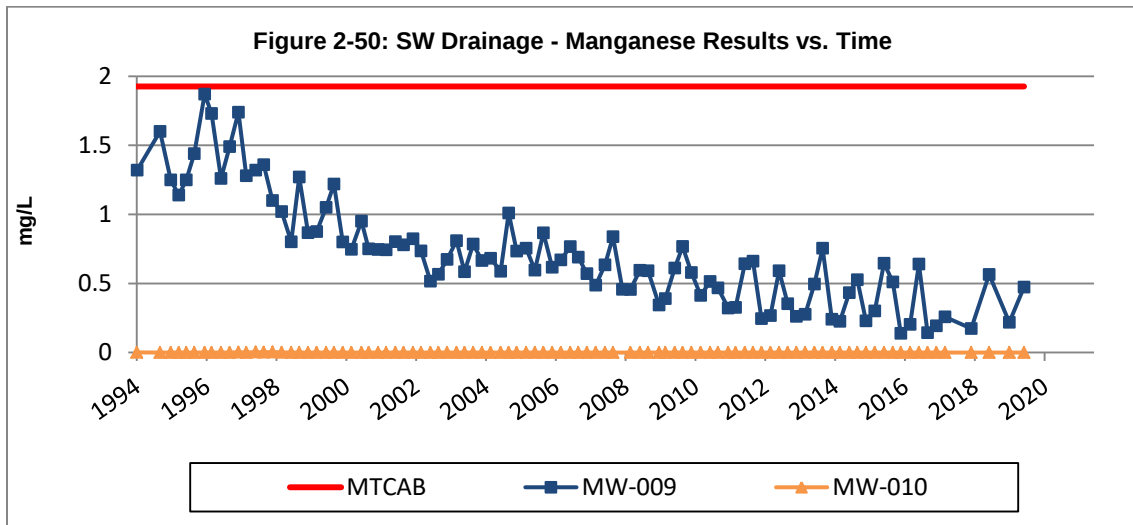
Southwest Wells – VOCs / SVOCs Time Series Graphs



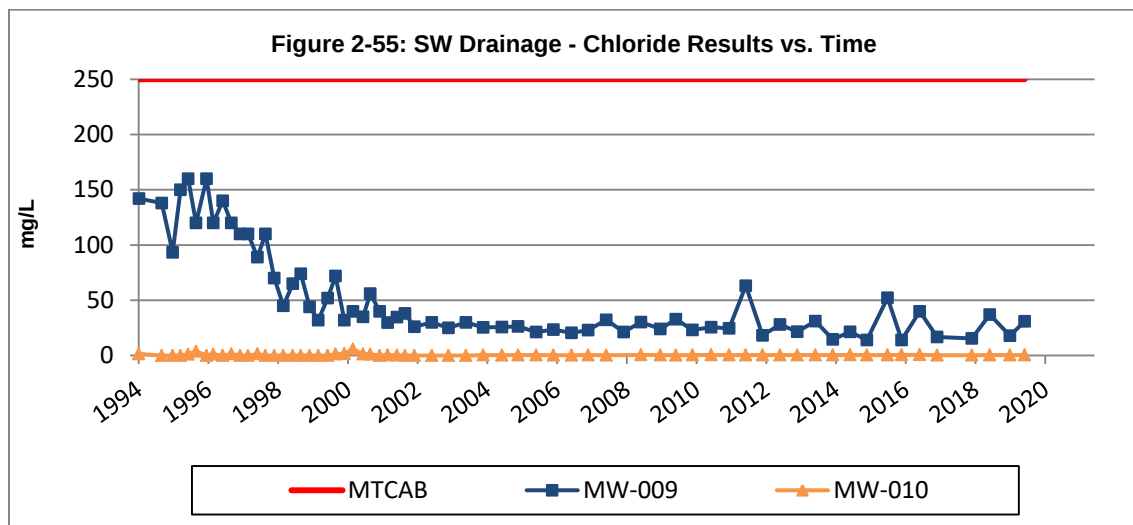
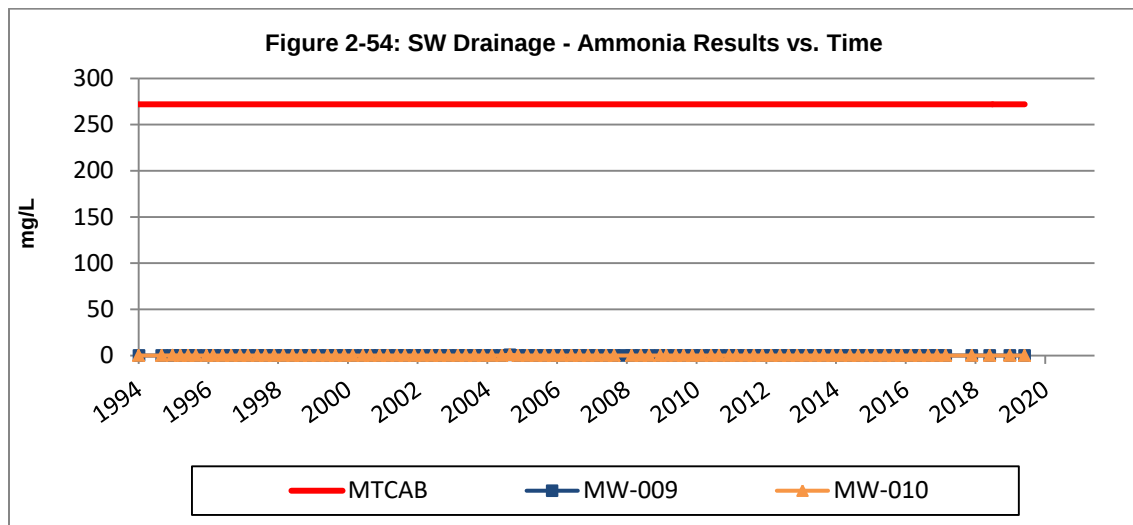
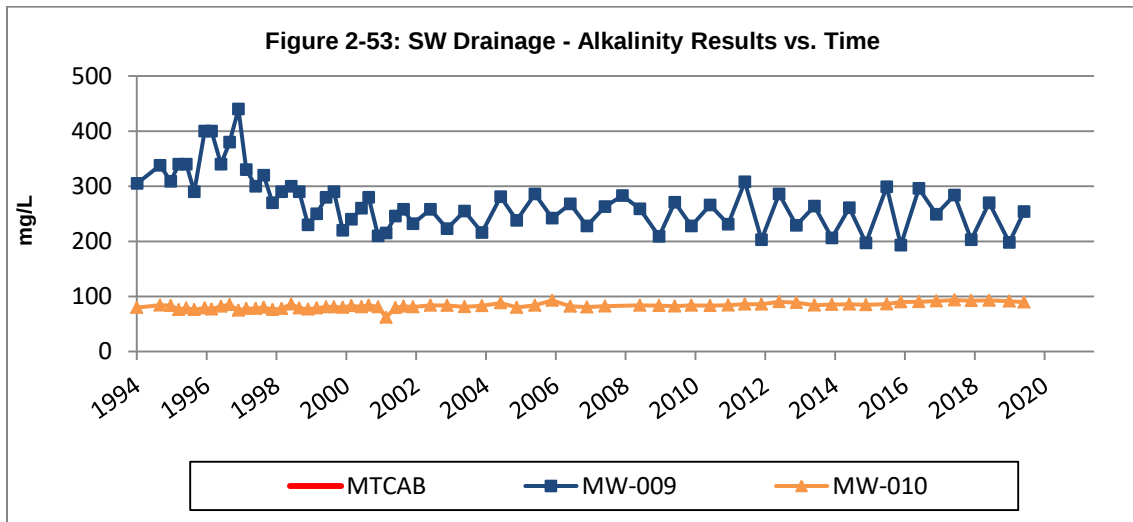
Figures 2-47 – 2-52: Southwest Wells – Inorganics Time Series Graphs



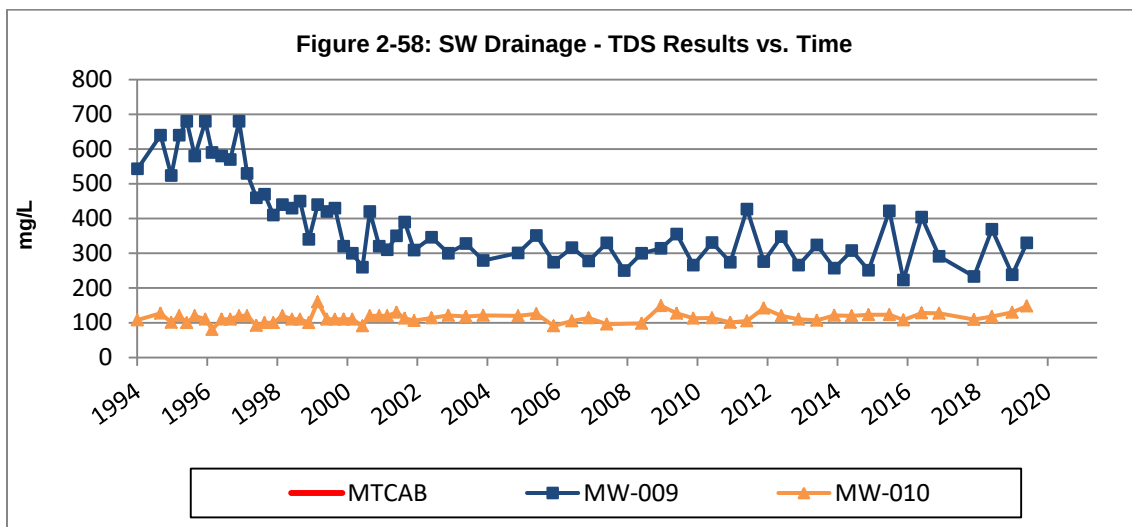
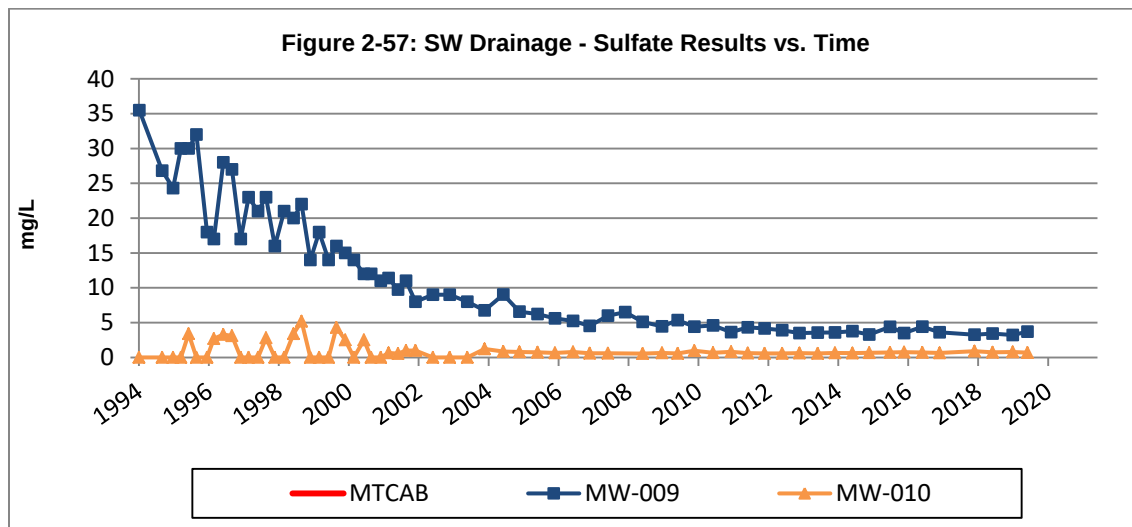
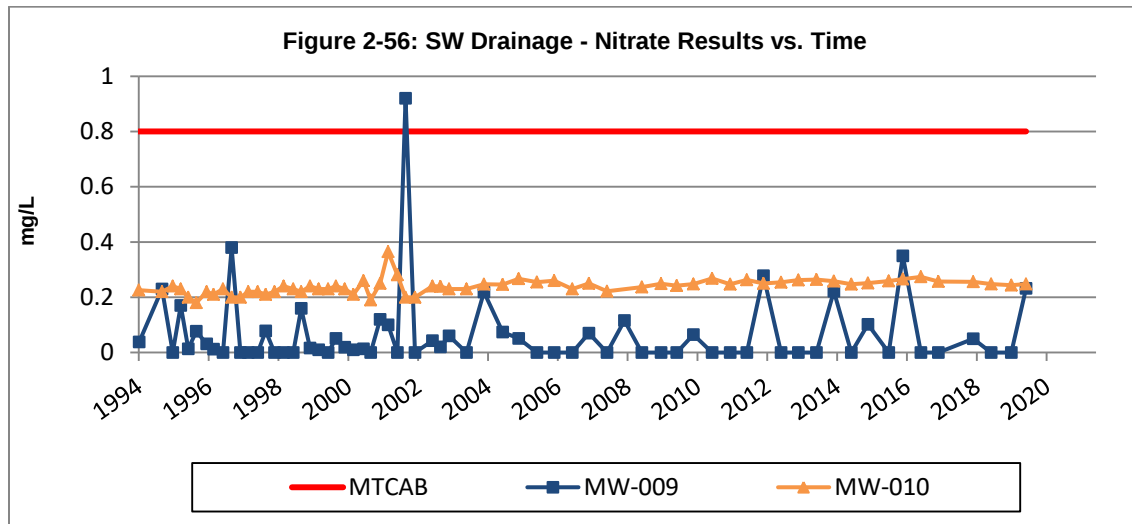
Southwest Wells – Inorganics Time Series Graphs



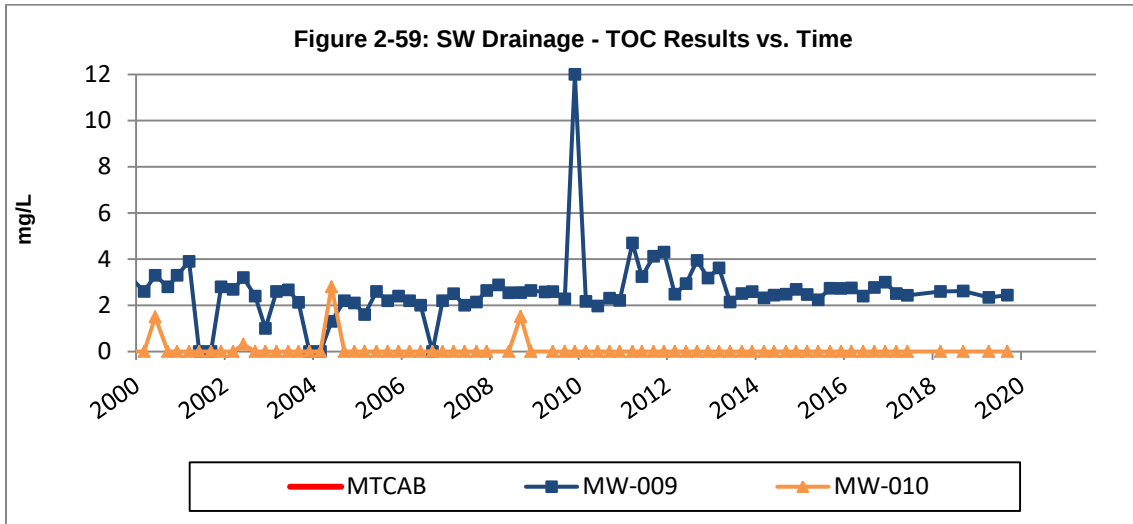
Figures 2-53 – 2-59: Southwest Wells – Conventional Concentration Graphs



Southwest Wells – Conventional Concentration Graphs

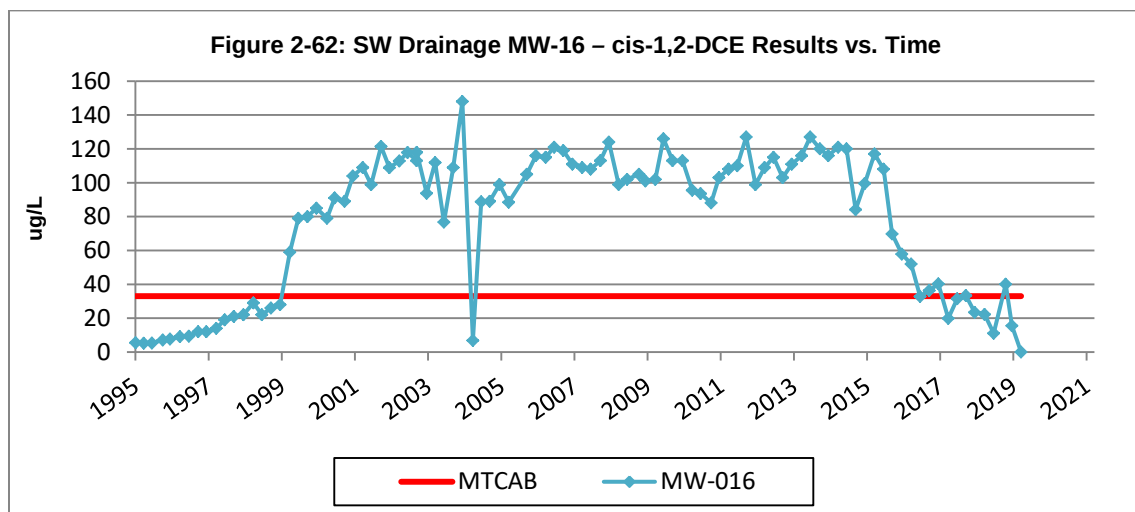
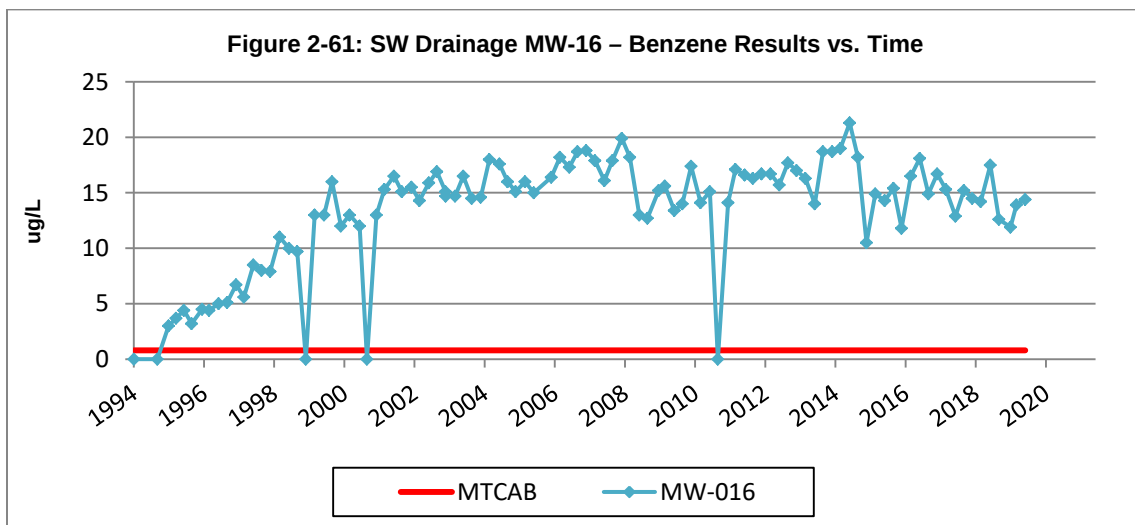
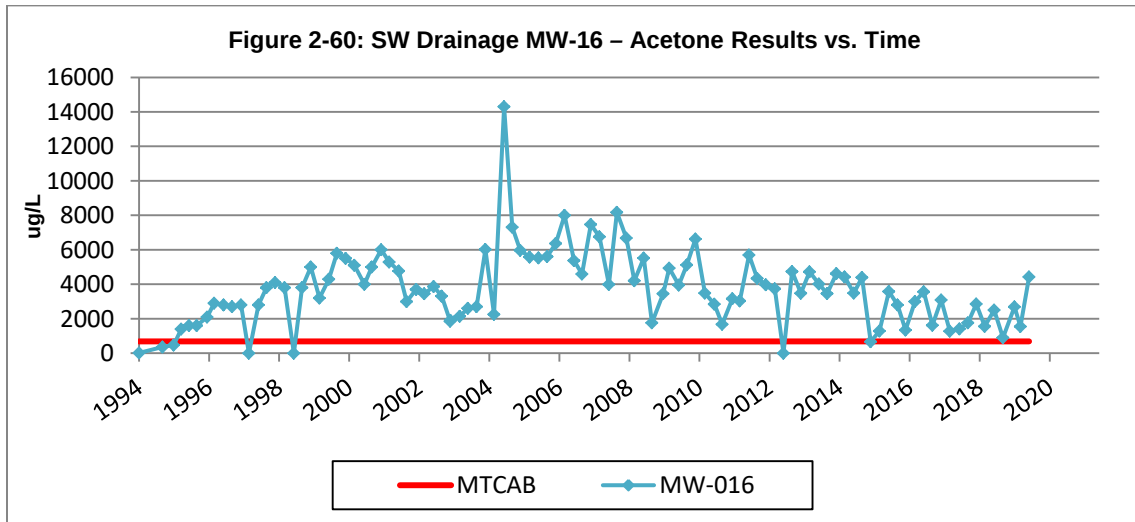


Southwest Wells – Conventional Concentration Graphs

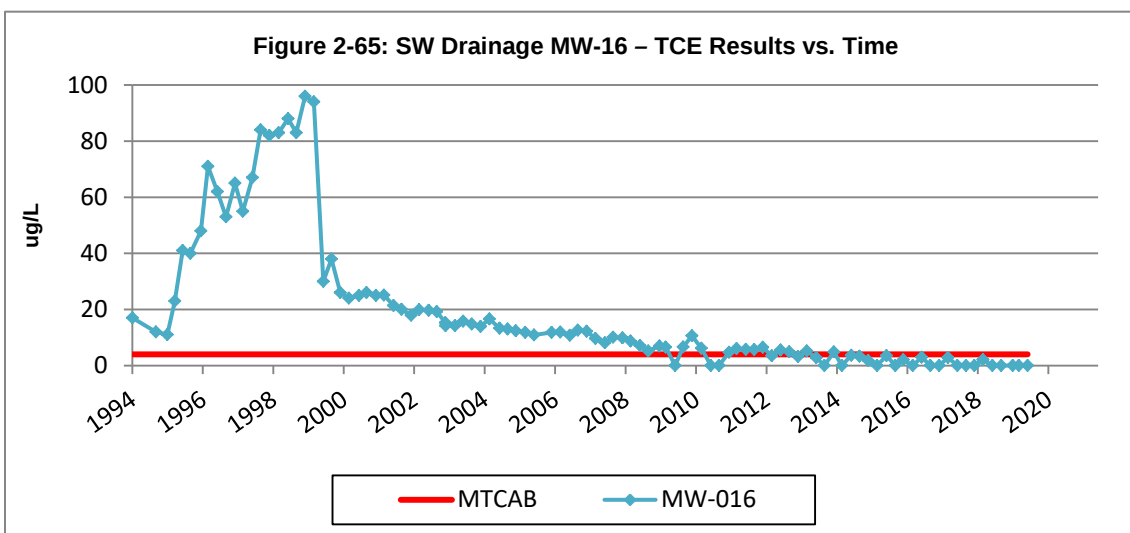
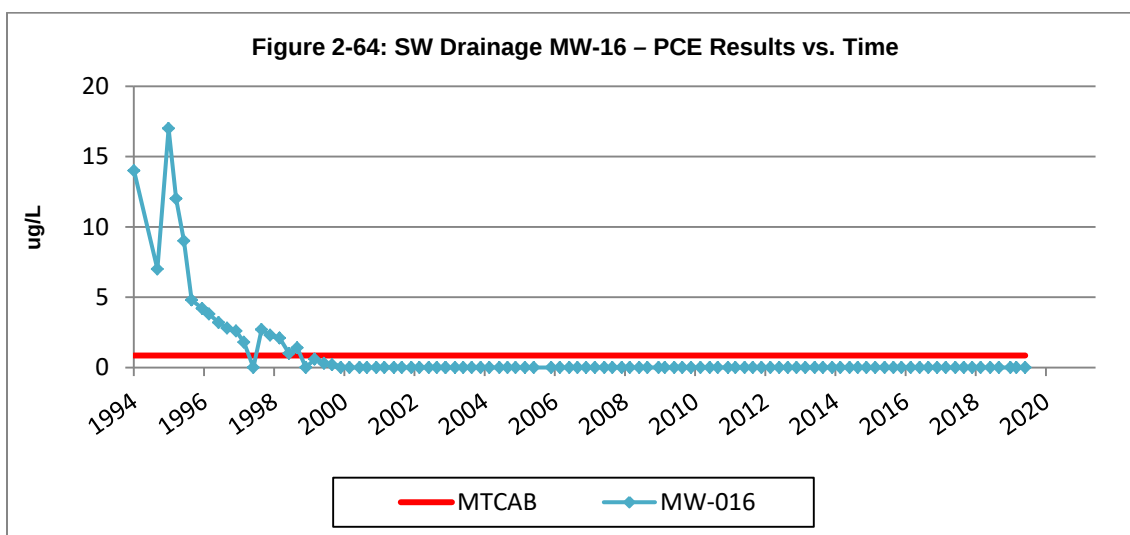
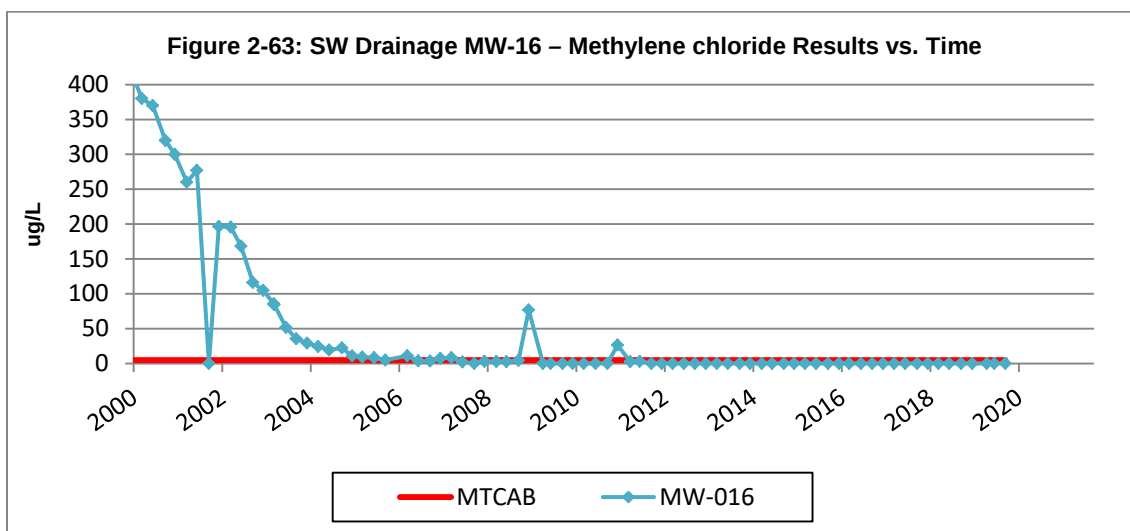


Southwest MW-016 Monitoring Well: Concentration Time Series Graphs

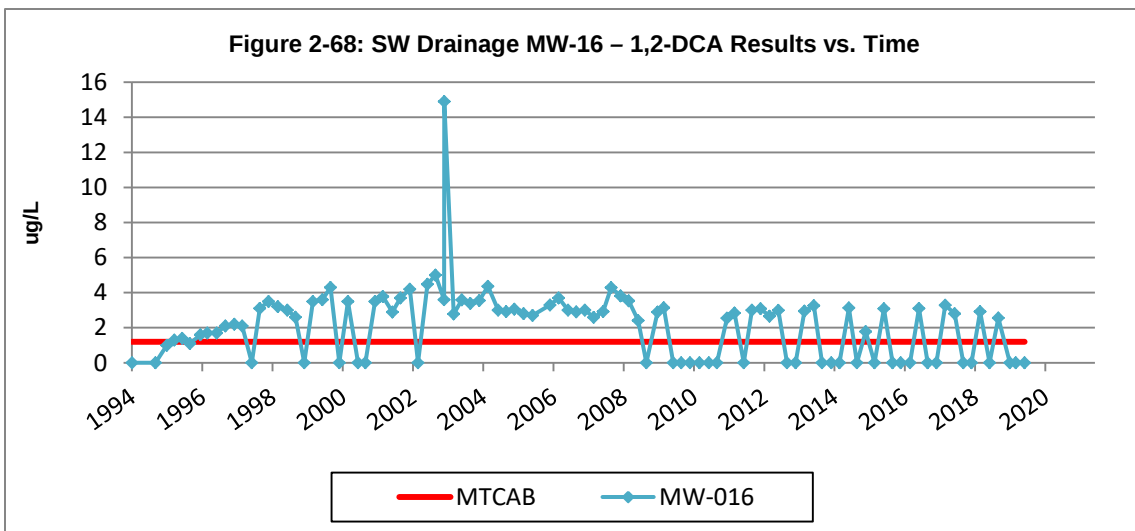
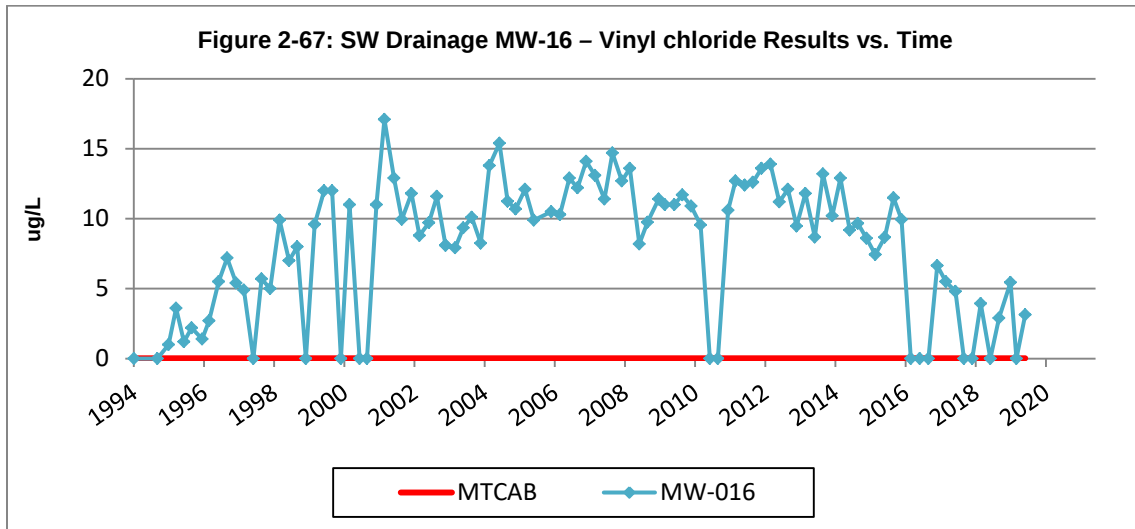
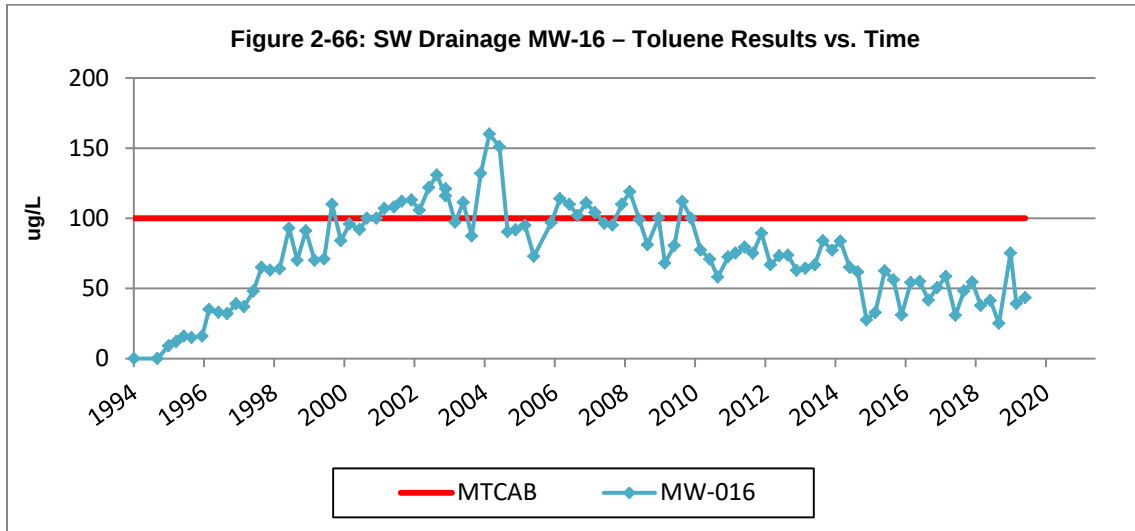
Figures 2-60 – 2-69: MW-016 VOCs / SVOCs Concentration Graphs



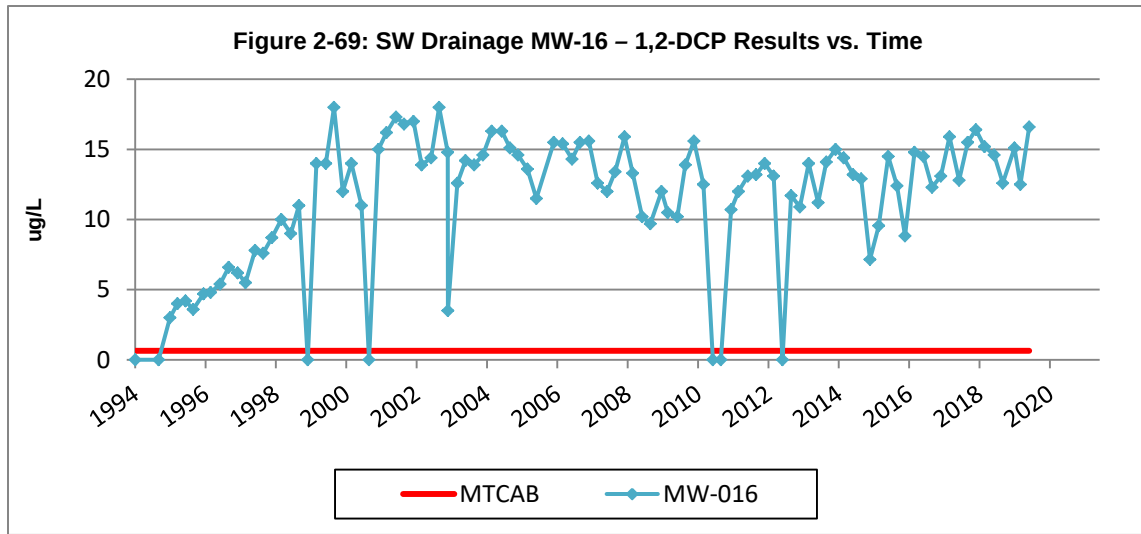
MW-016 VOCs / SVOCs Concentration Graphs



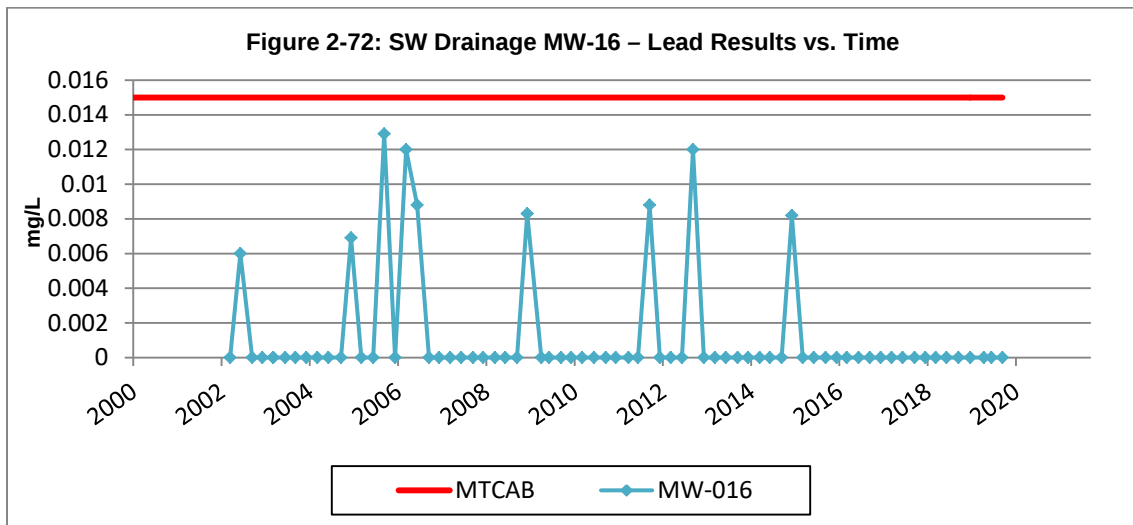
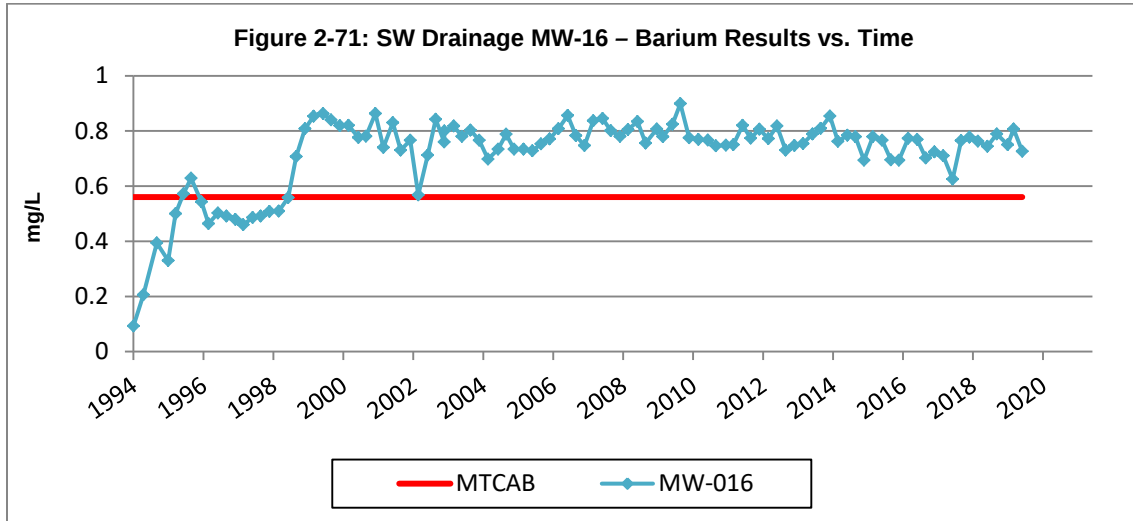
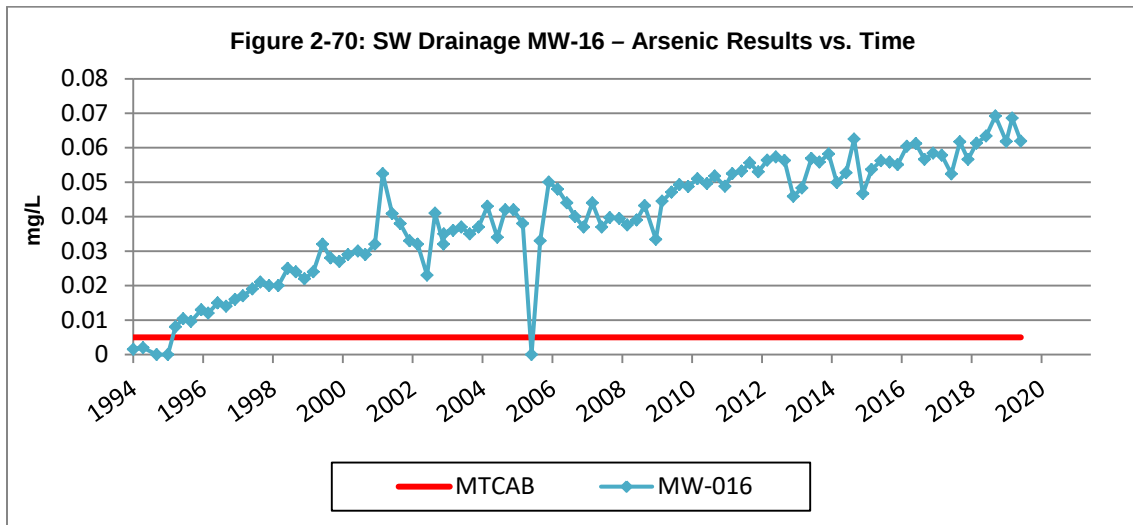
MW-016 VOCs / SVOCs Concentration Graphs



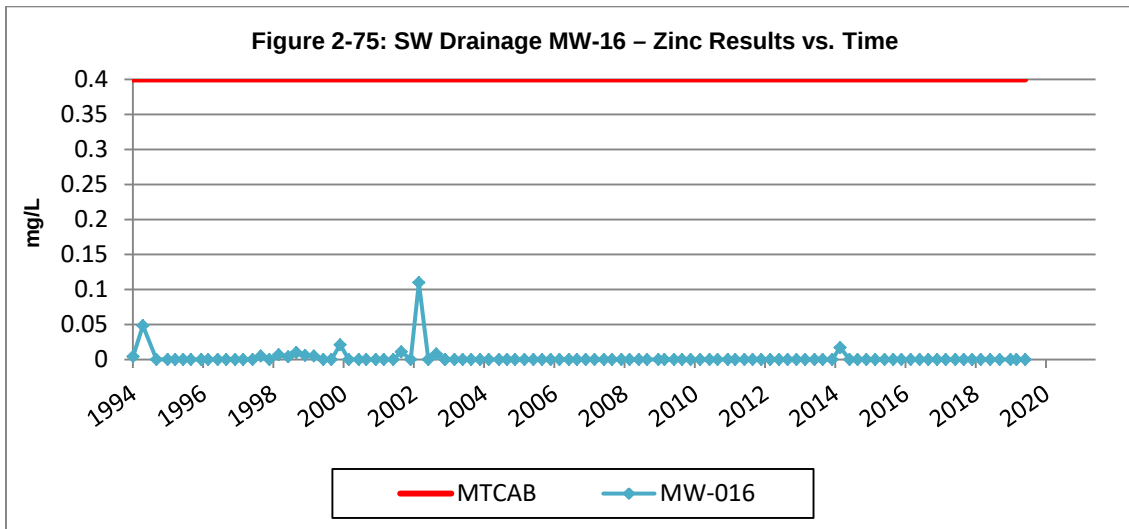
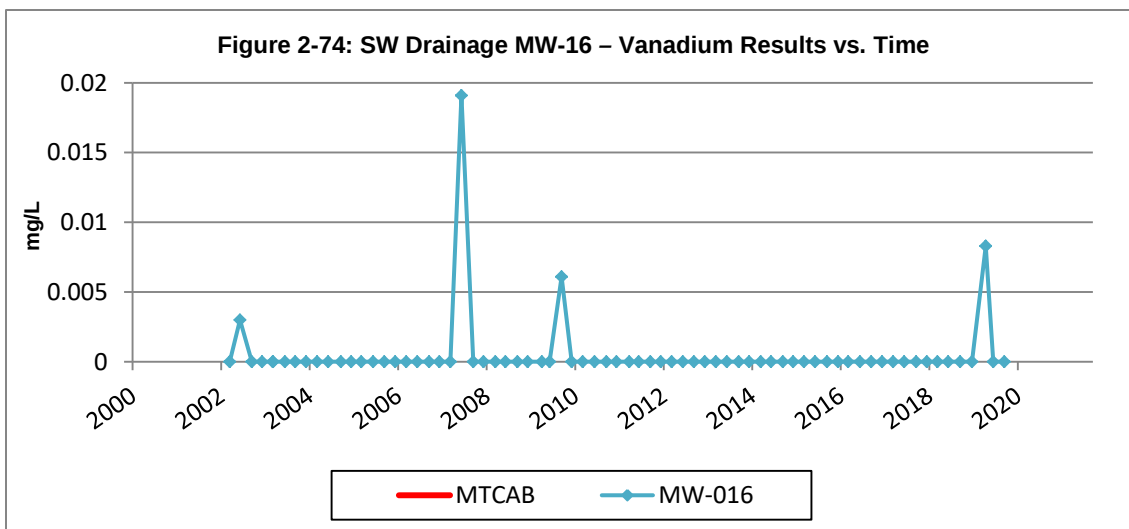
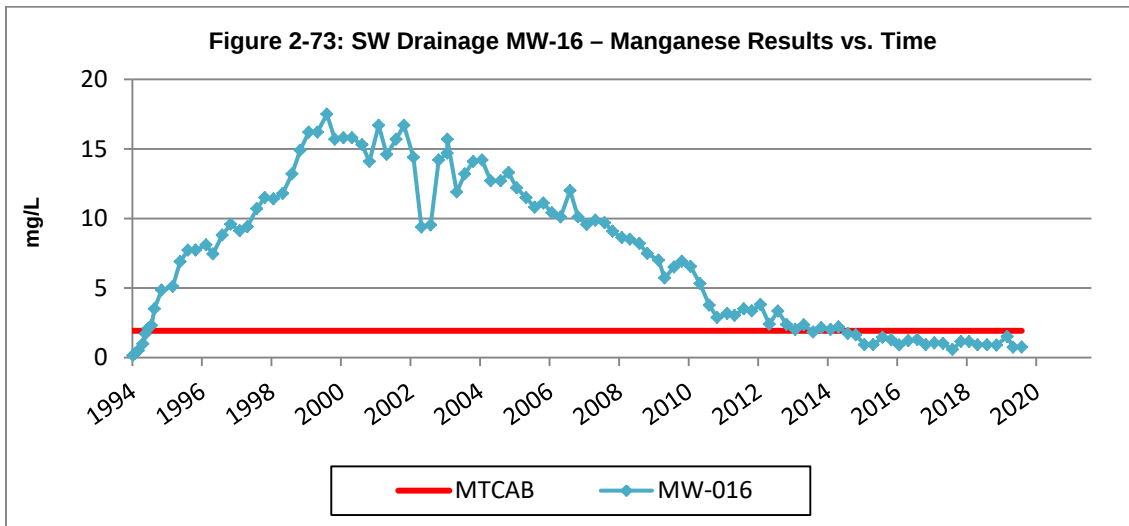
MW-016 VOCs / SVOCs Concentration Graphs



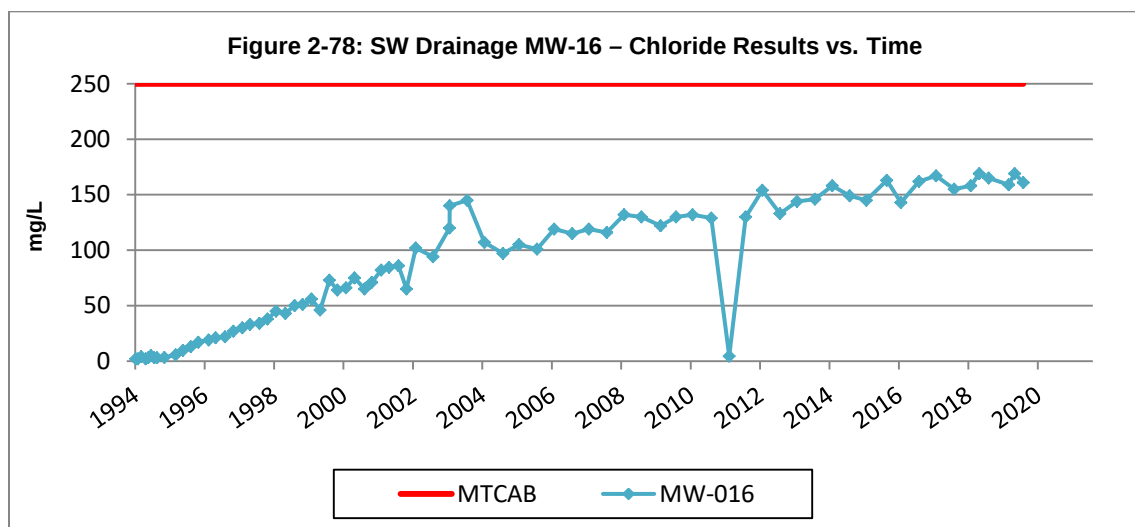
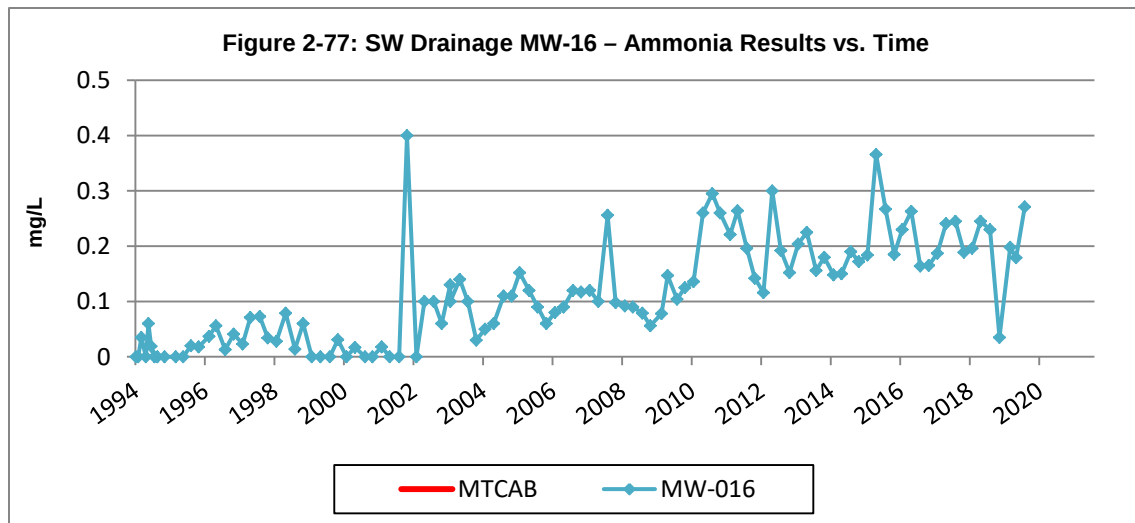
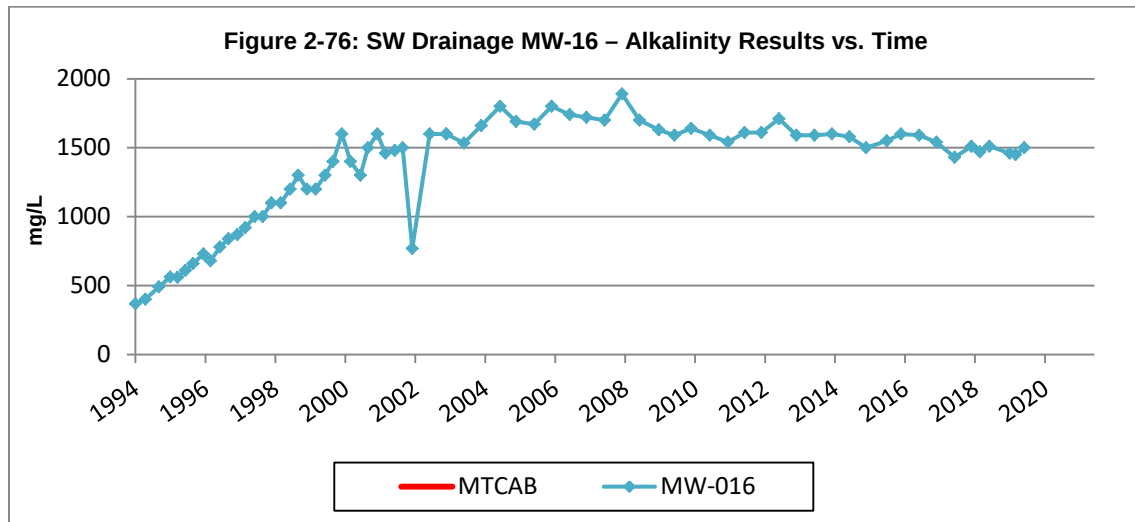
2-24 Figures 2-70 – 2-75: MW-016 Inorganics Concentration Graphs



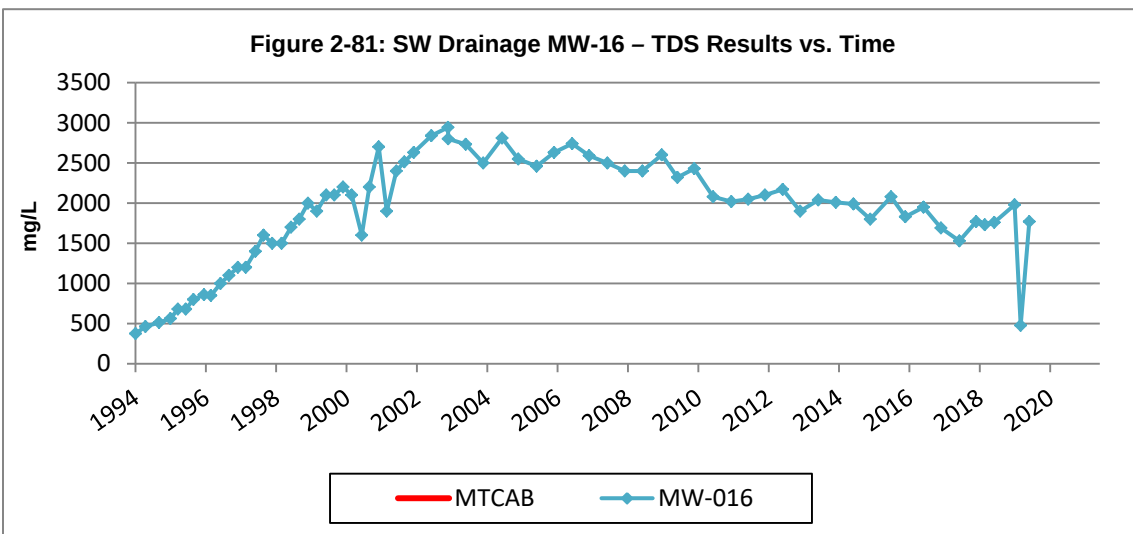
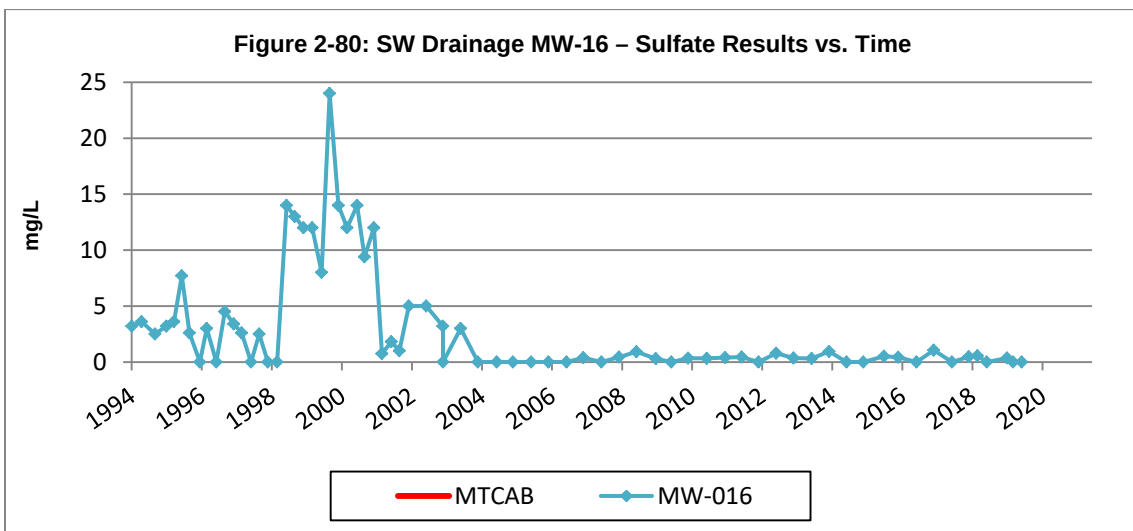
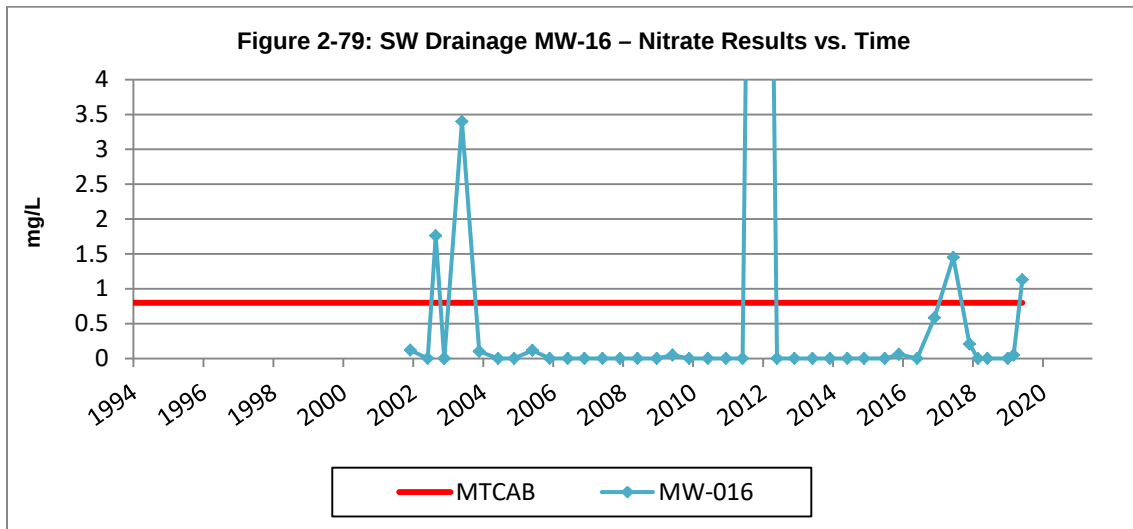
MW-016 Inorganics Concentration Graphs



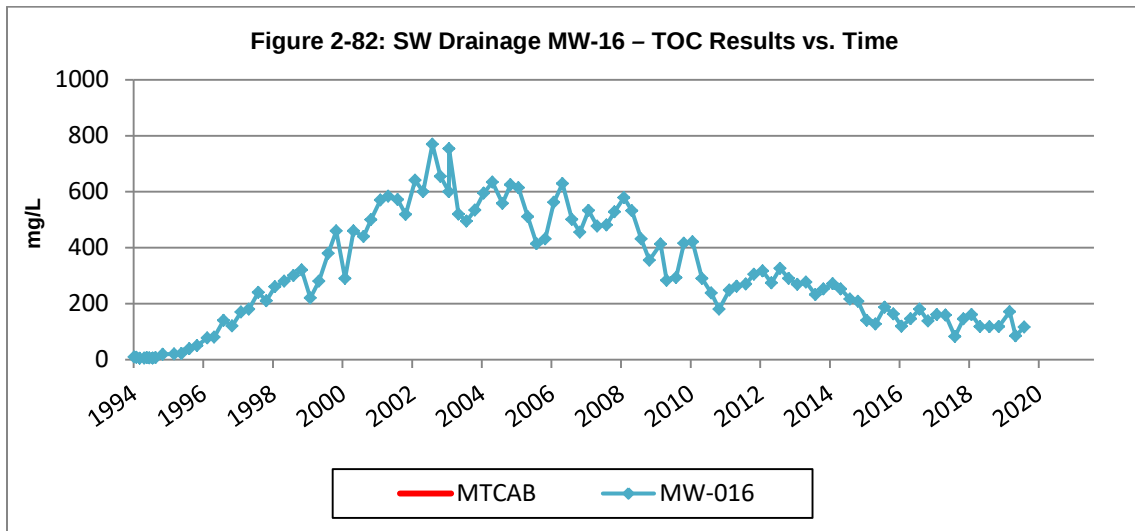
Figures 2-76 – 2-82: MW-016 Conventional Concentration Graphs



MW-016 Conventional Concentration Graphs

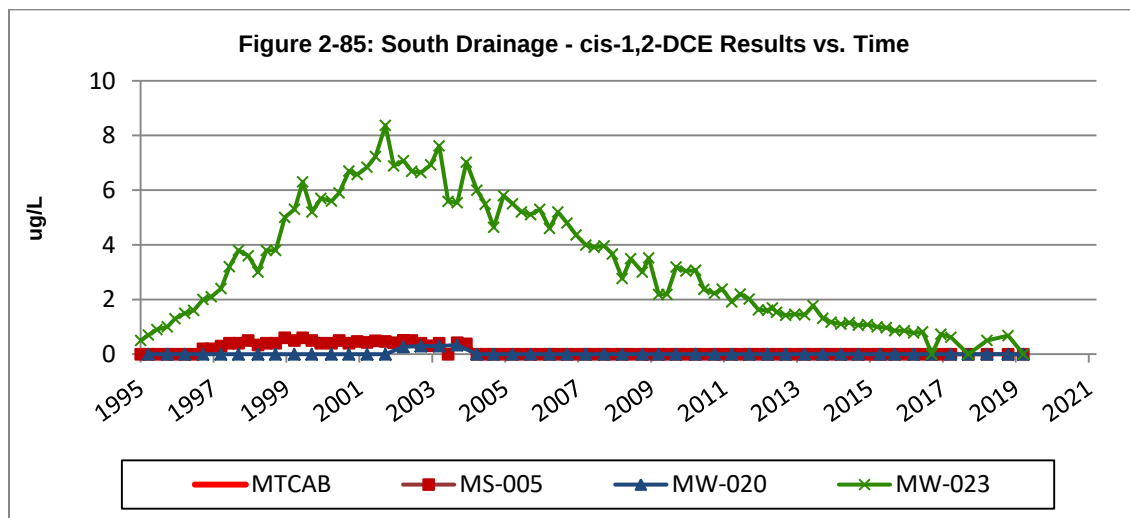
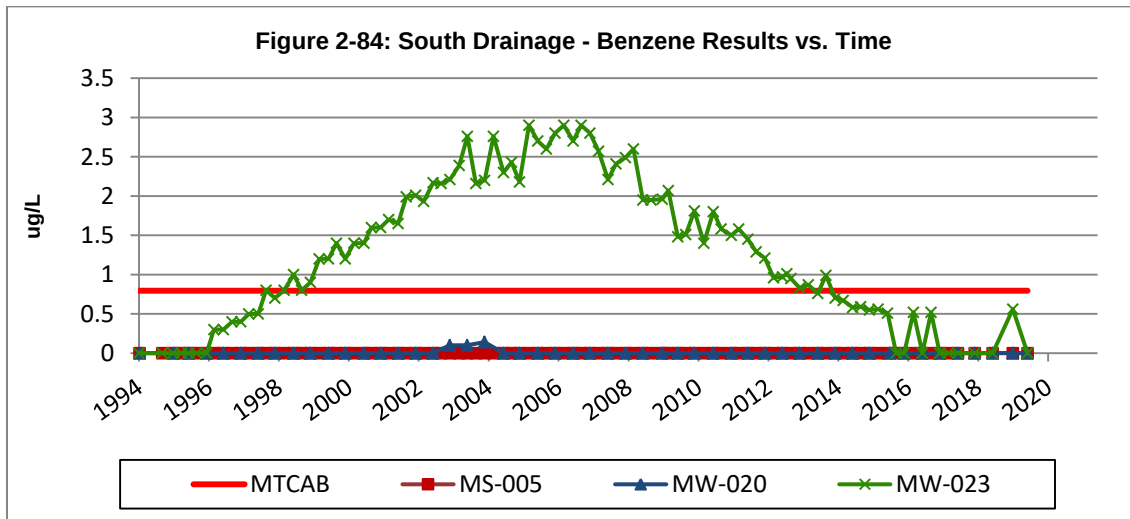
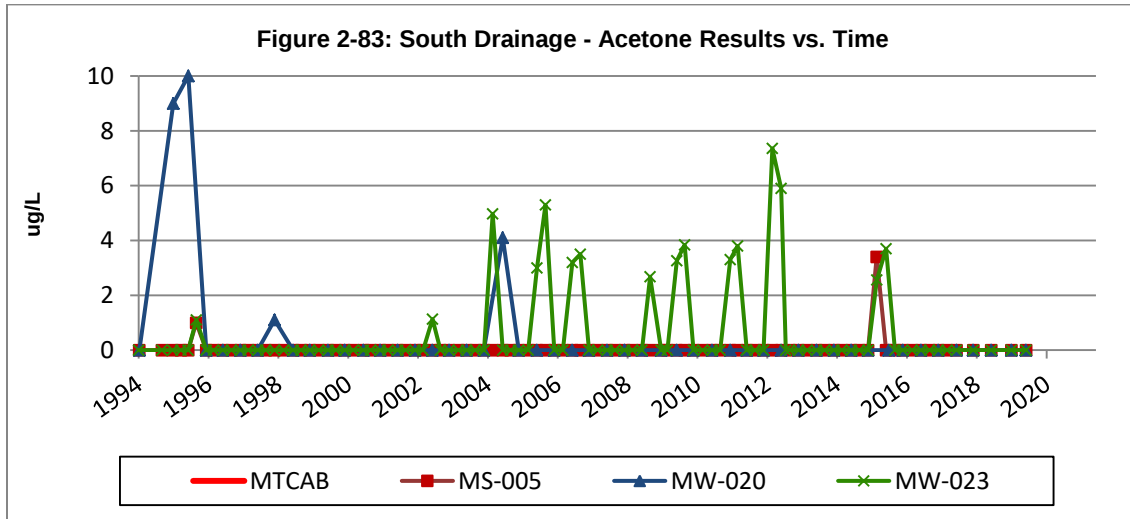


MW-016 Conventional Concentration Graphs

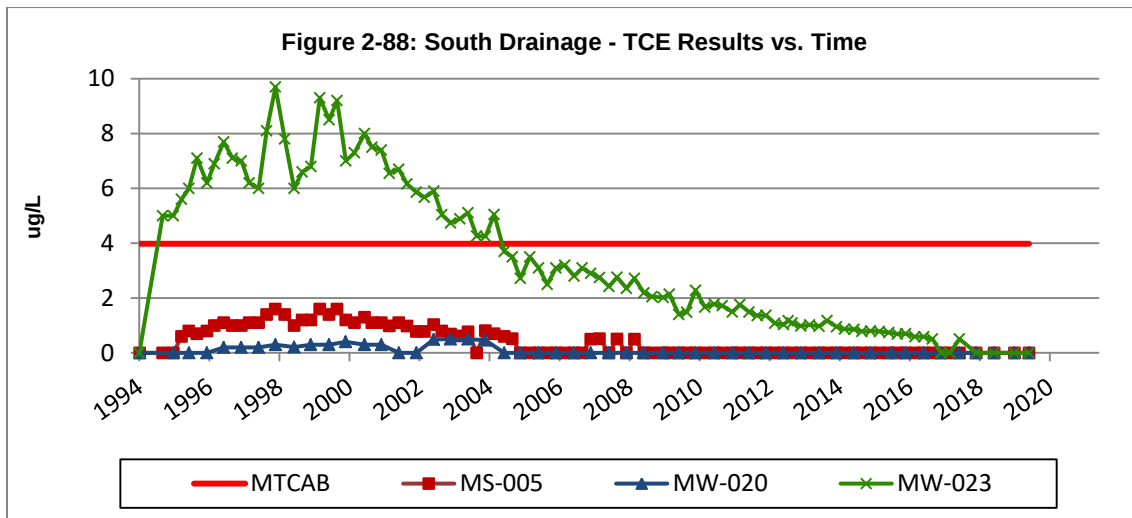
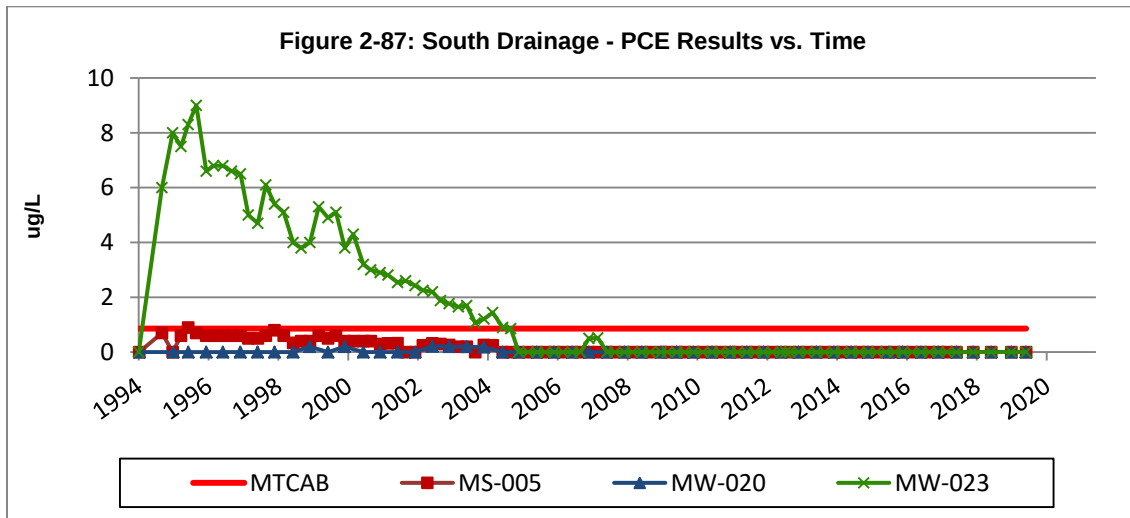
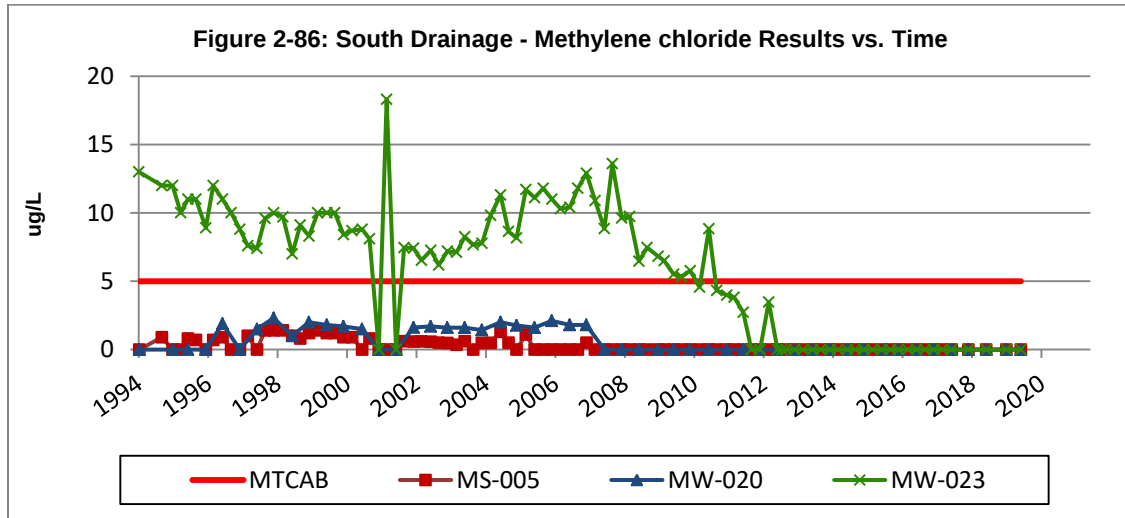


South Drainage Monitoring Wells: Concentration Time Series Graphs

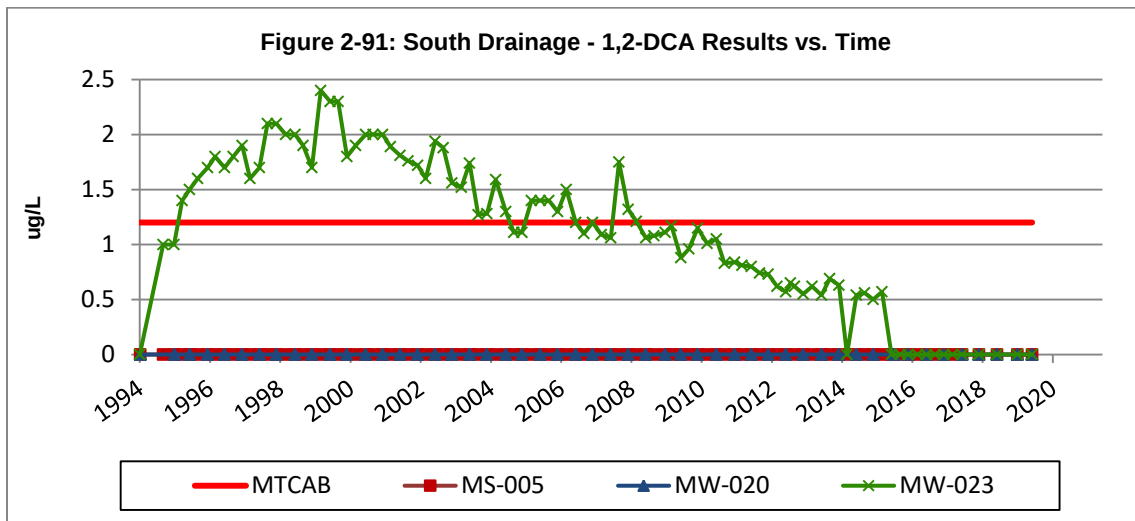
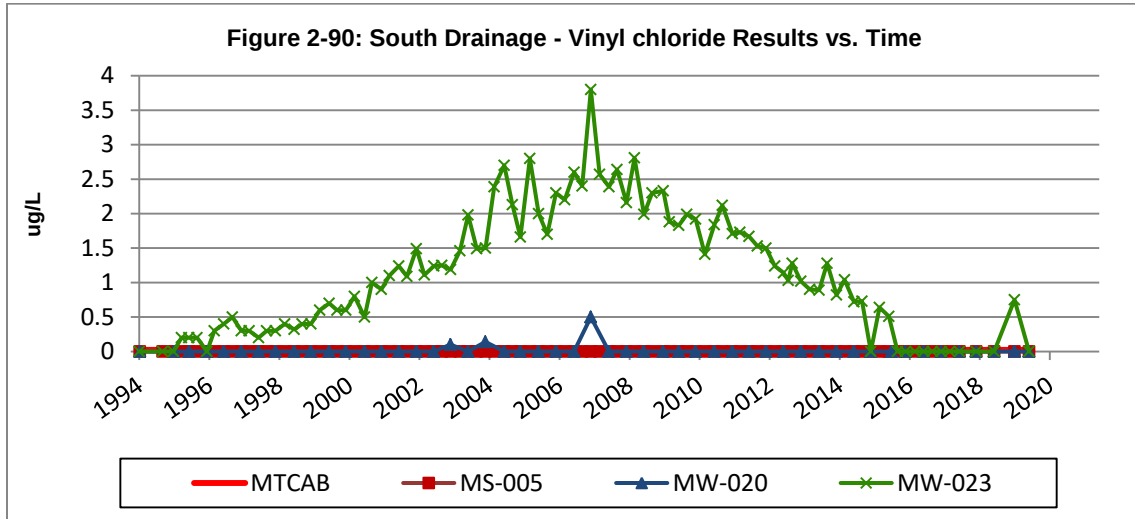
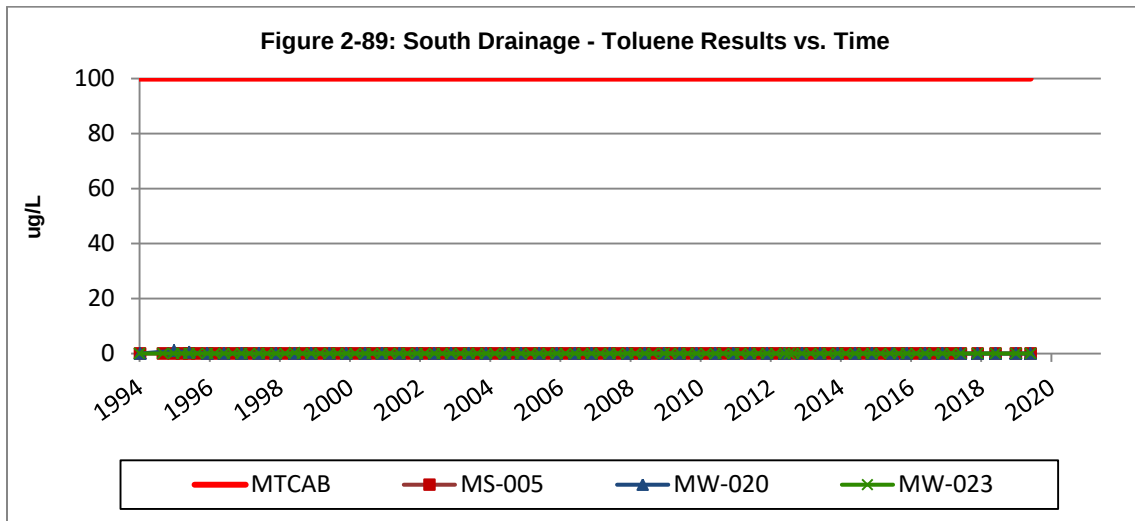
Figures 2-83 – 2-92: South Wells – VOCs / SVOCs Concentration Graphs



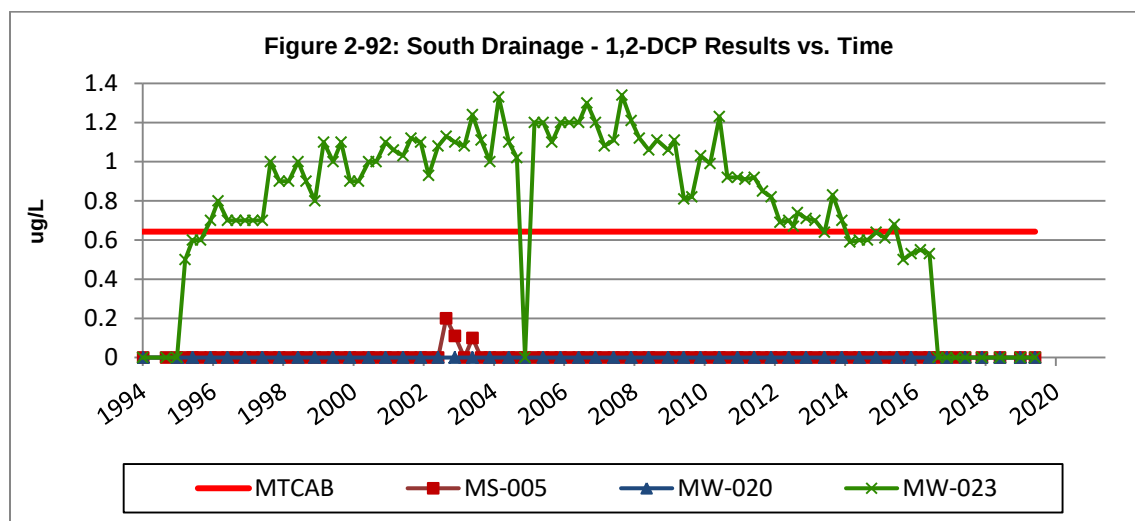
South Wells – VOCs / SVOCs Concentration Graphs



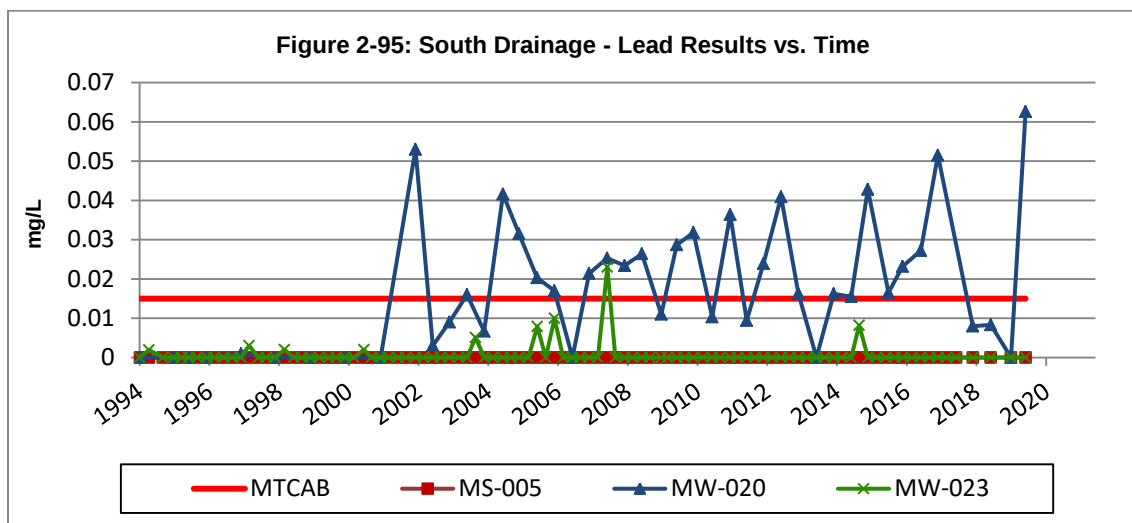
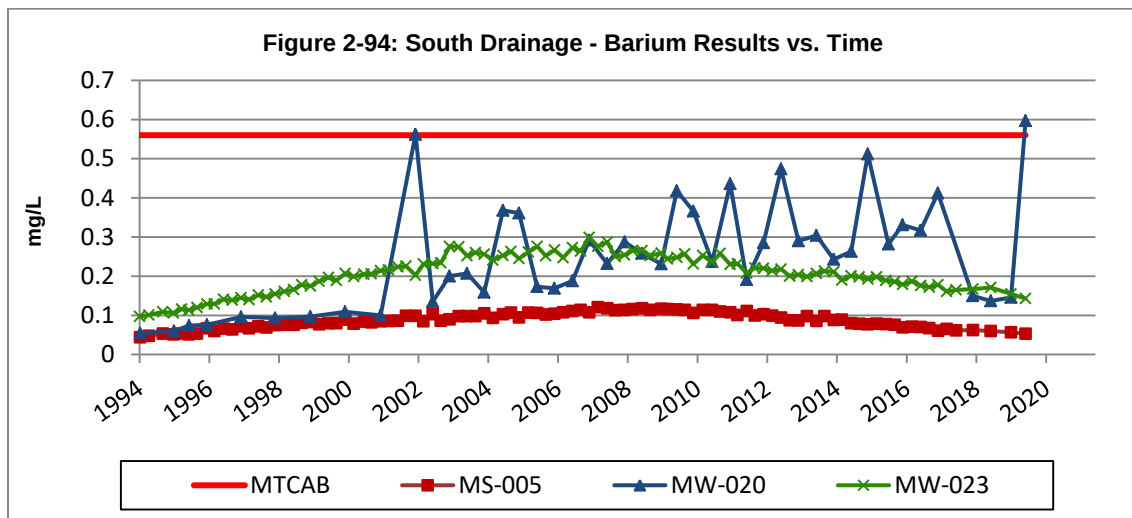
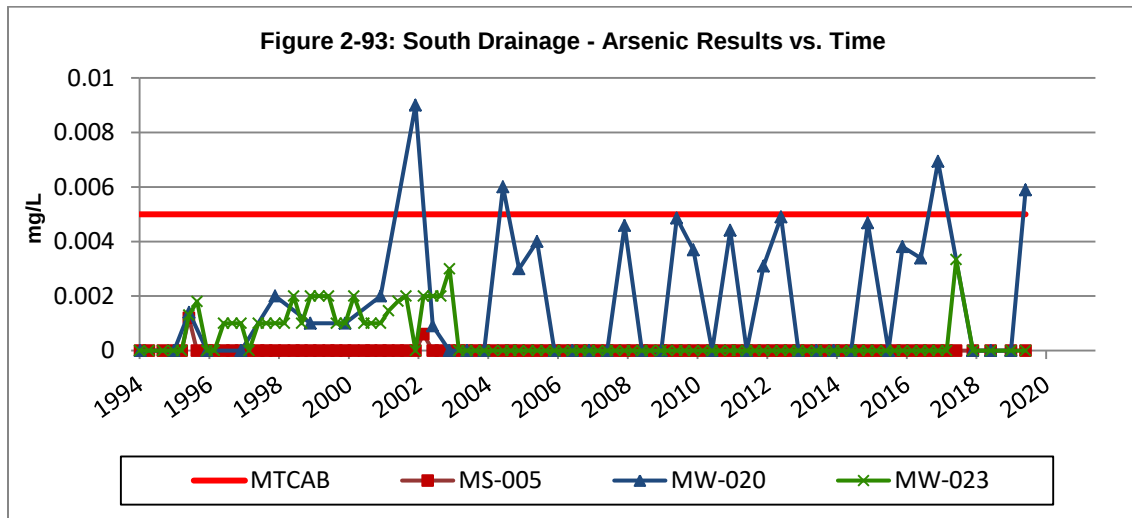
South Wells – VOCs / SVOCs Concentration Graphs



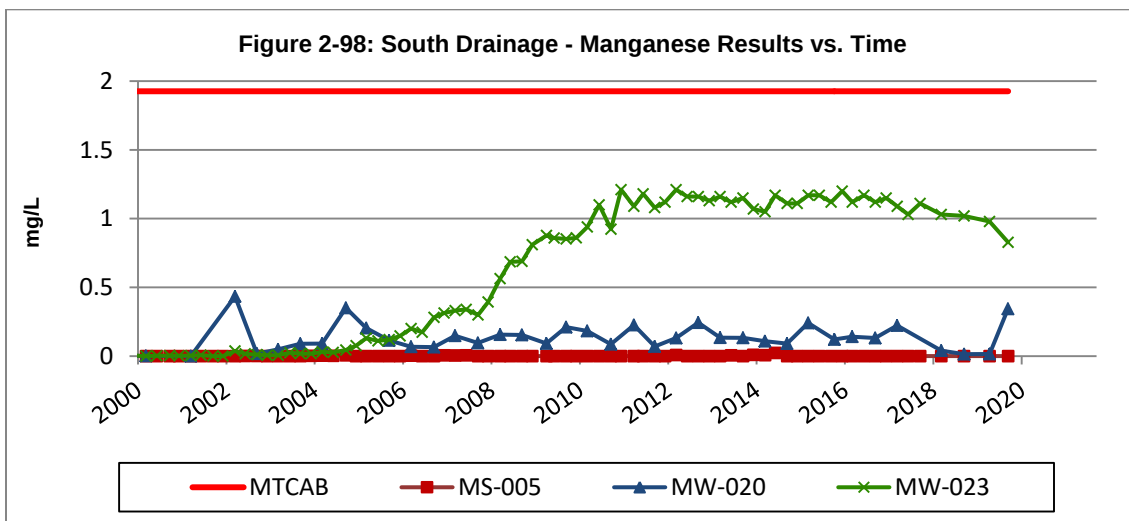
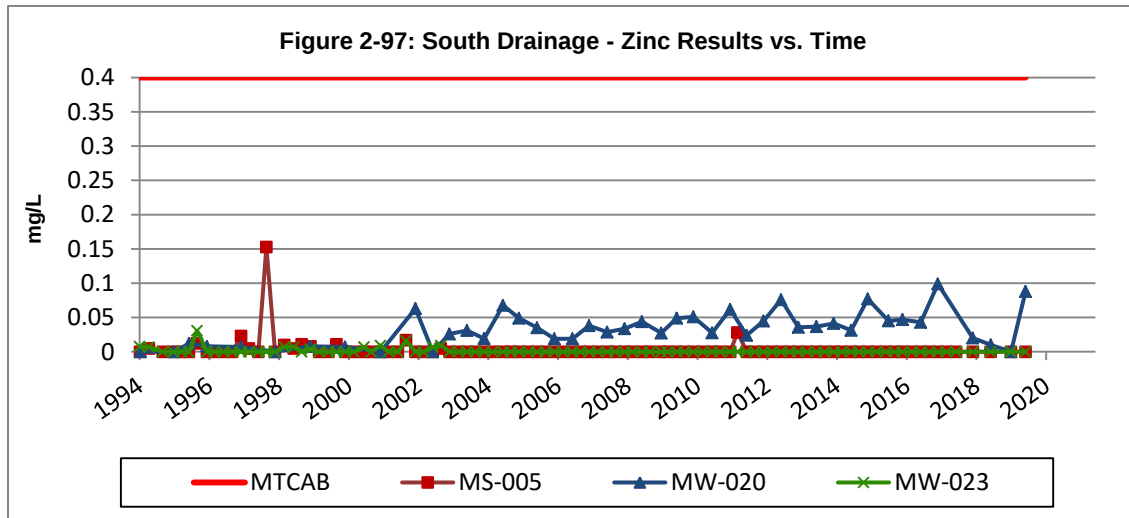
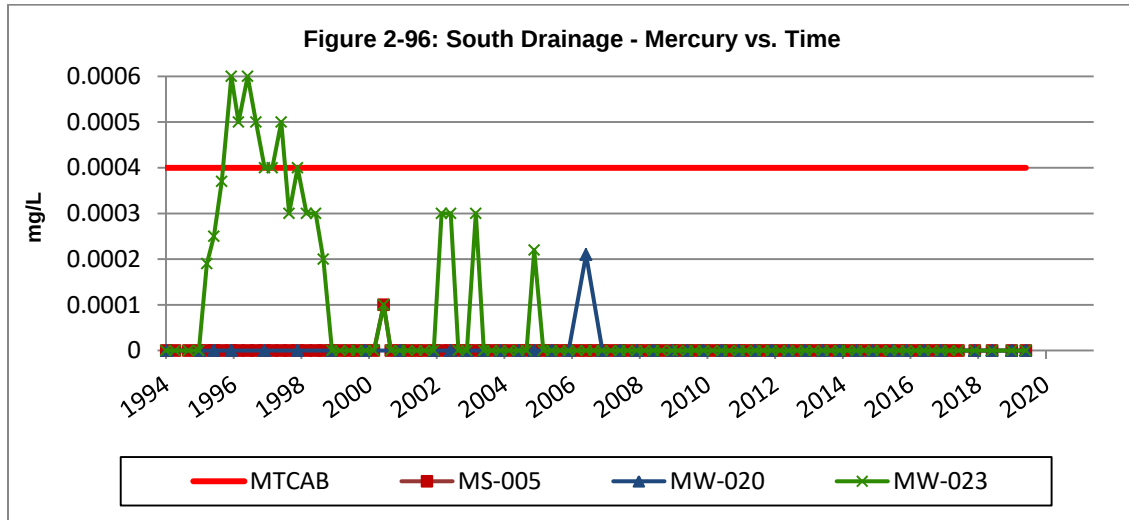
South Wells – VOCs / SVOCs Concentration Graphs



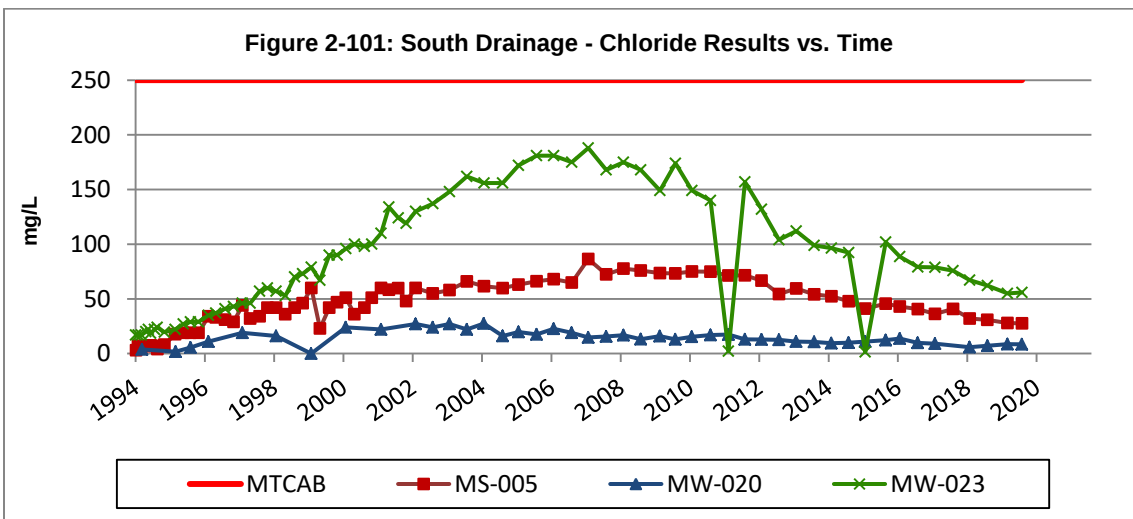
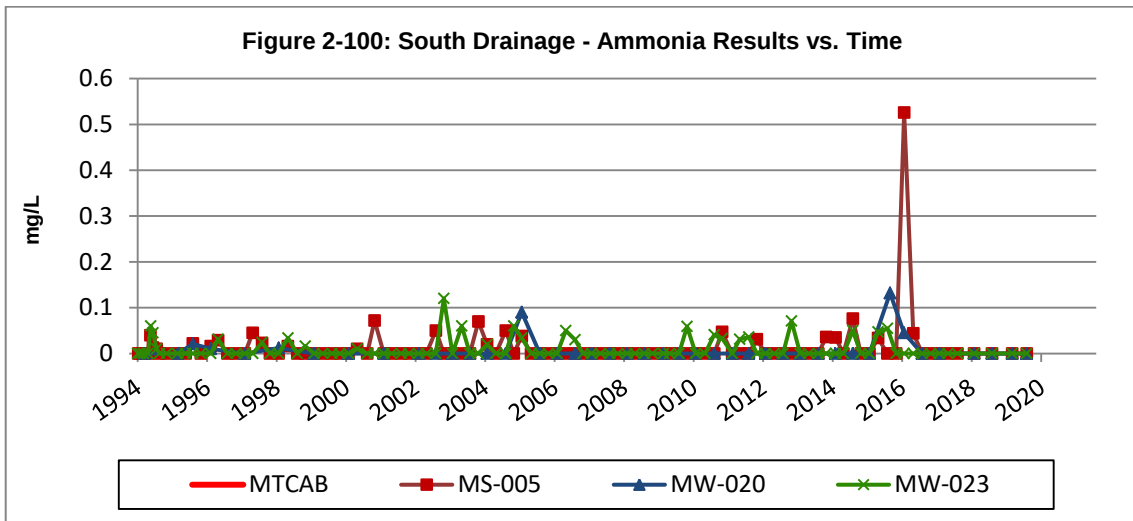
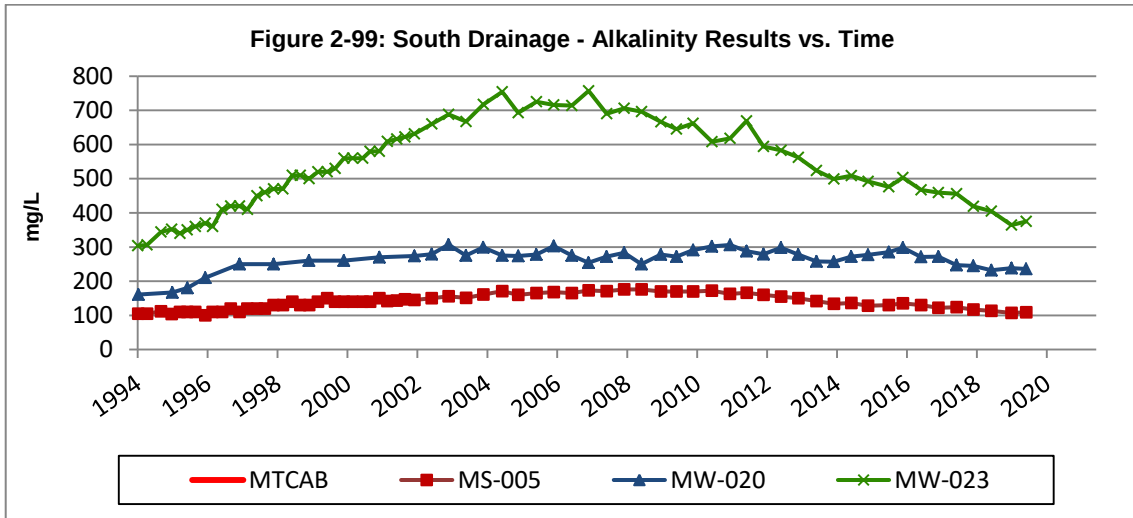
Figures 2-93 – 2-98: South Wells – Inorganics Concentration Graphs



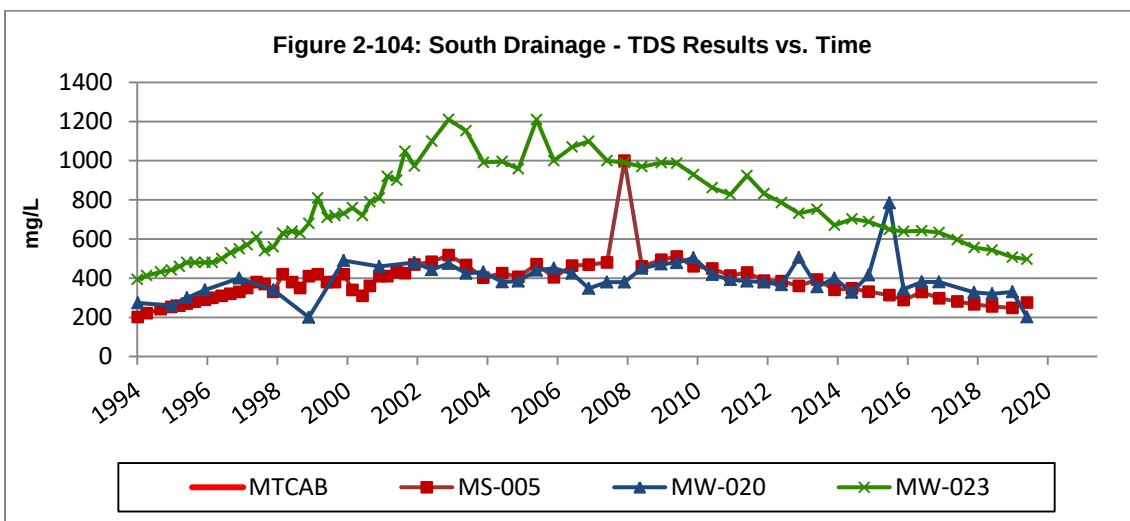
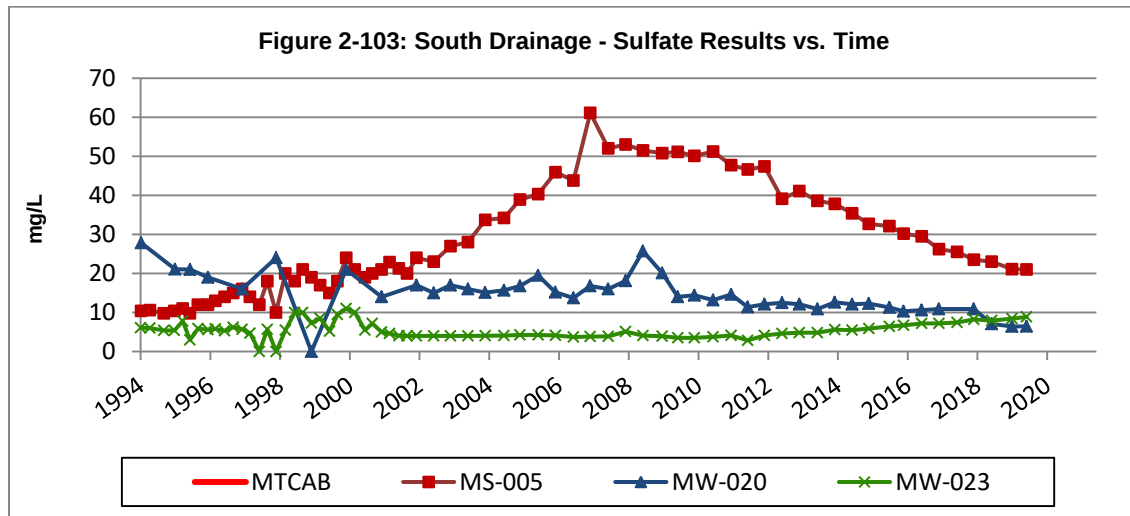
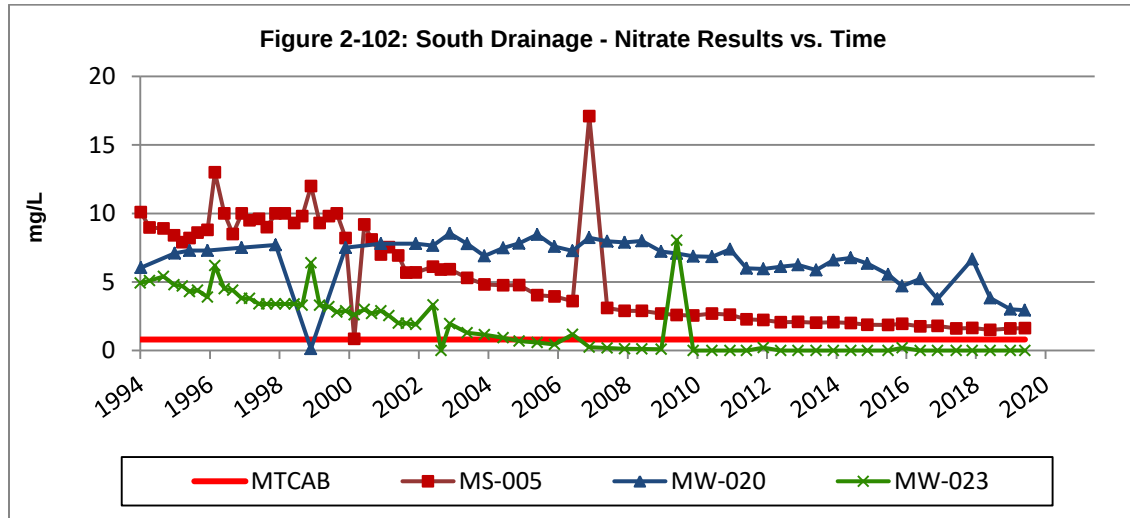
South Wells – Inorganics Concentration Graphs



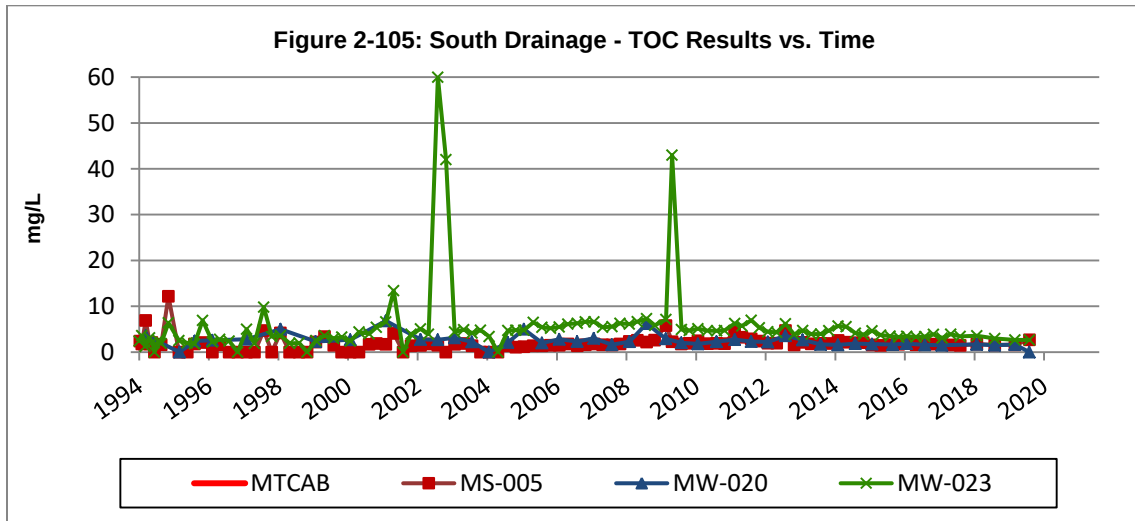
Figures 2-99 – 2-105: South Wells – Conventional Concentration Graphs



South Wells – Conventional Concentration Graphs

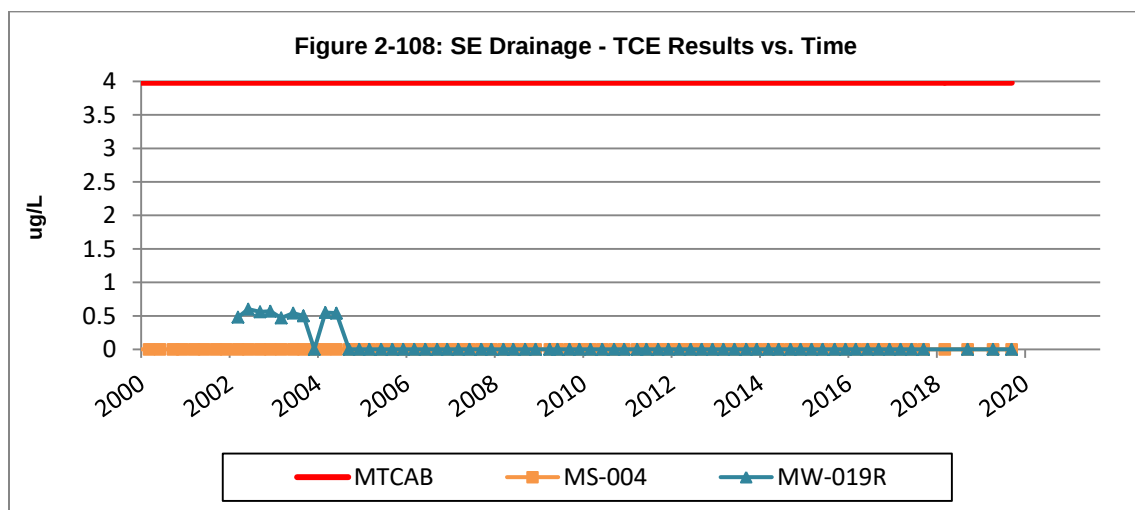
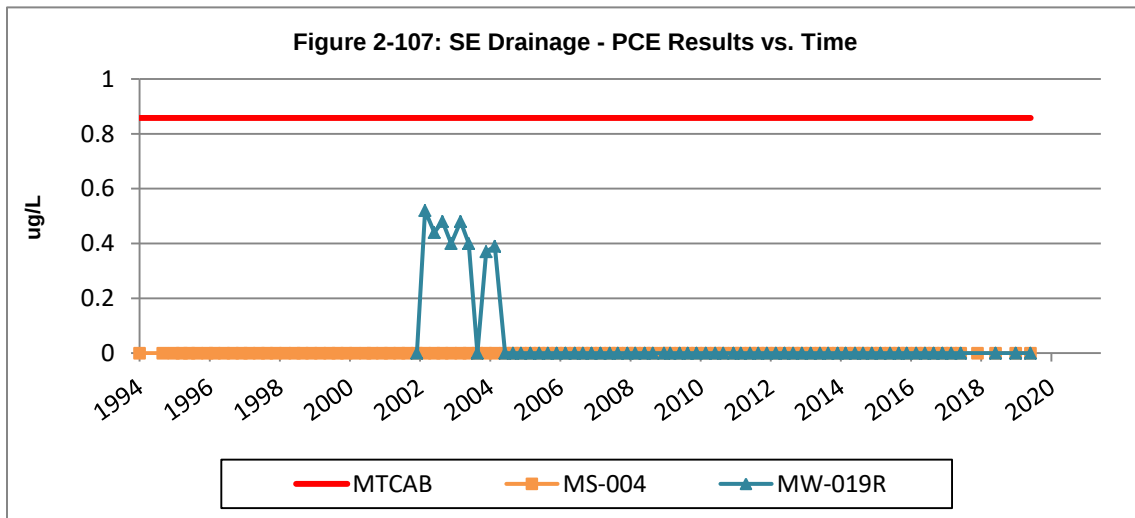
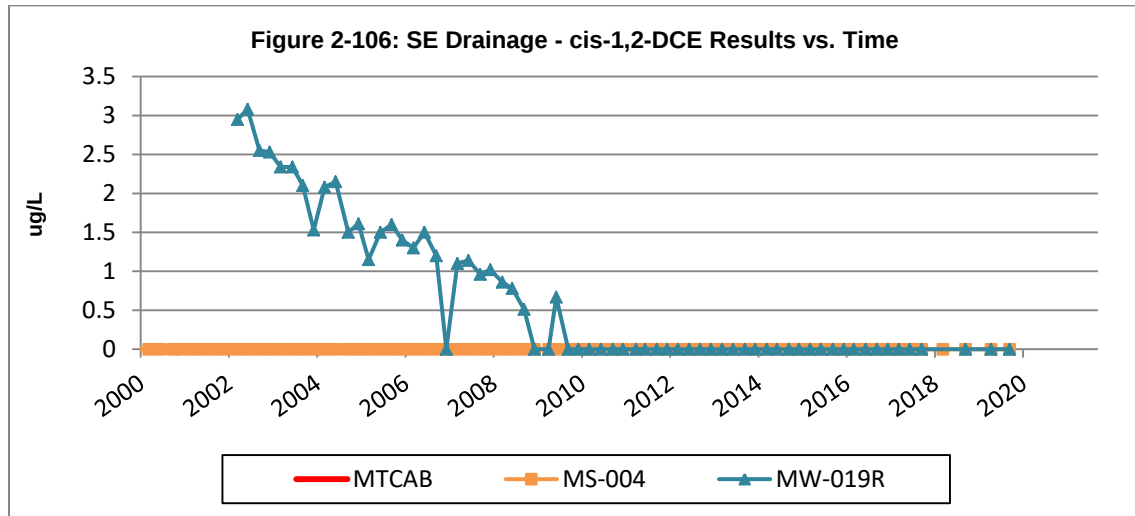


South Wells – Conventional Concentration Graphs

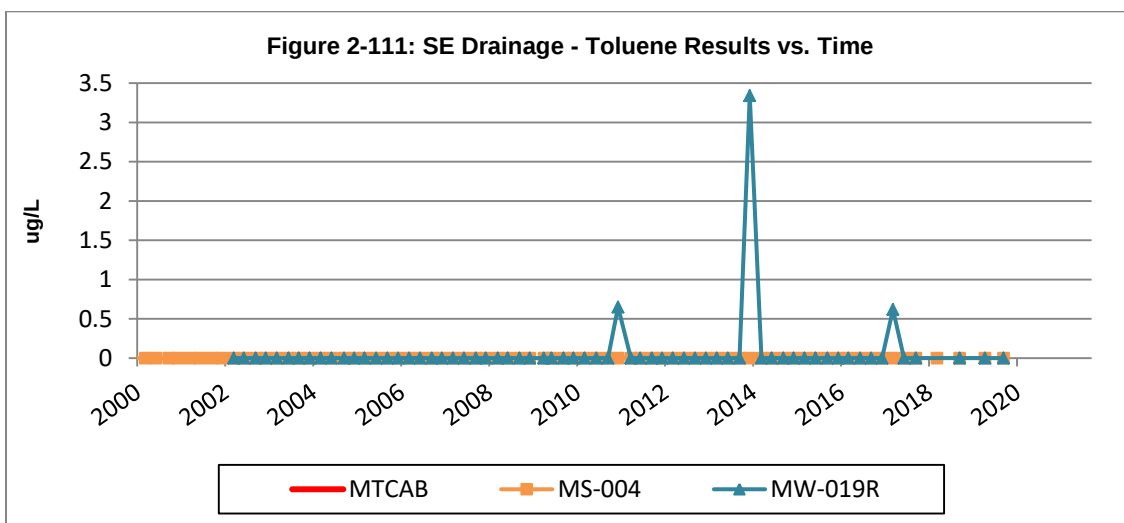
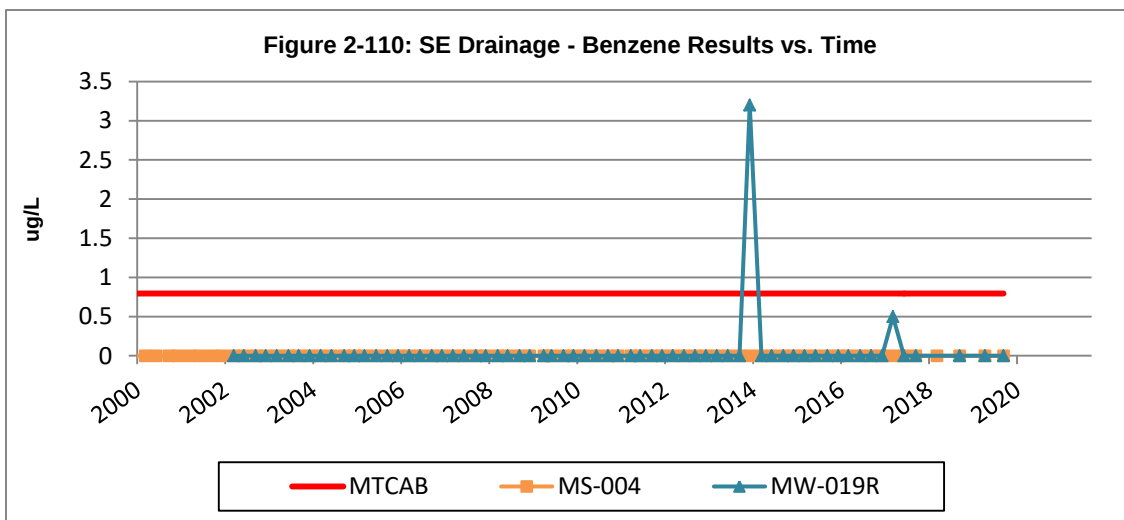
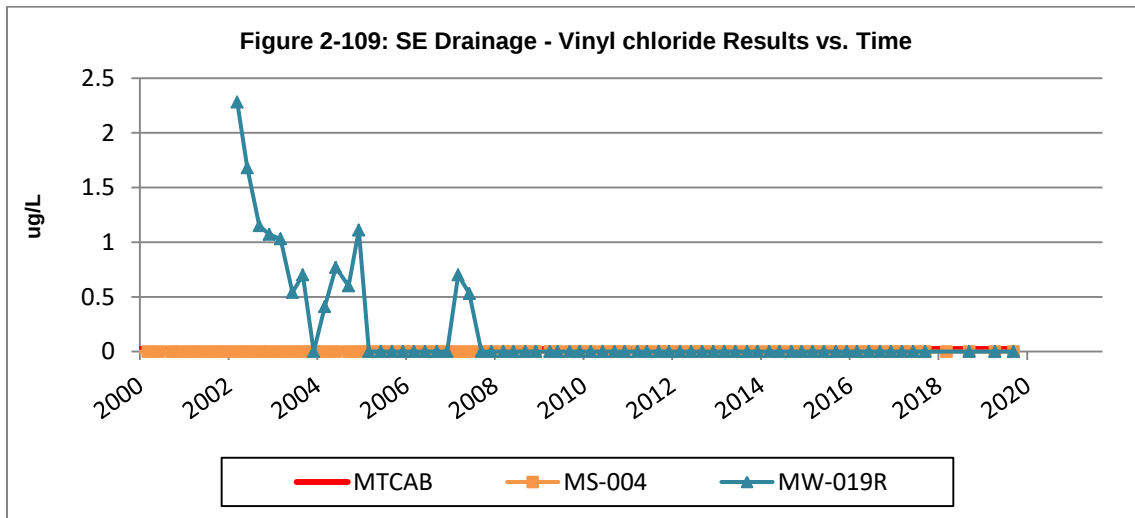


Southeast Drainage Monitoring Wells: Concentration Time Series Graphs

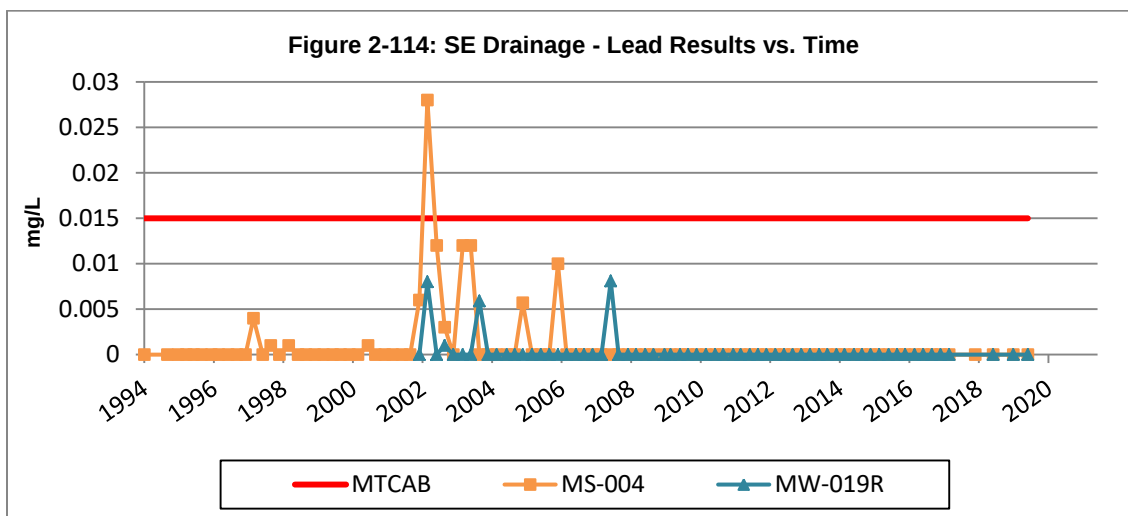
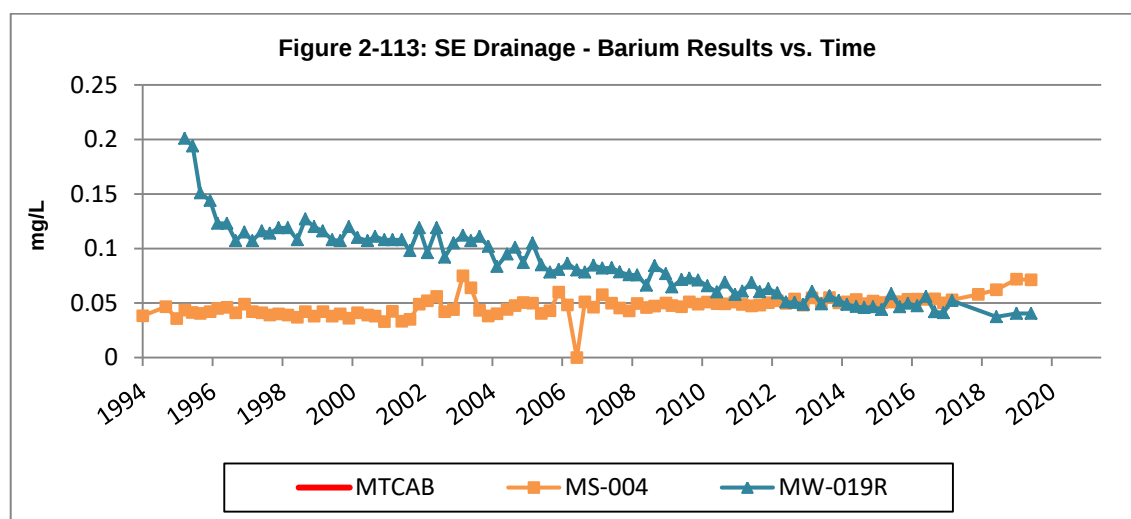
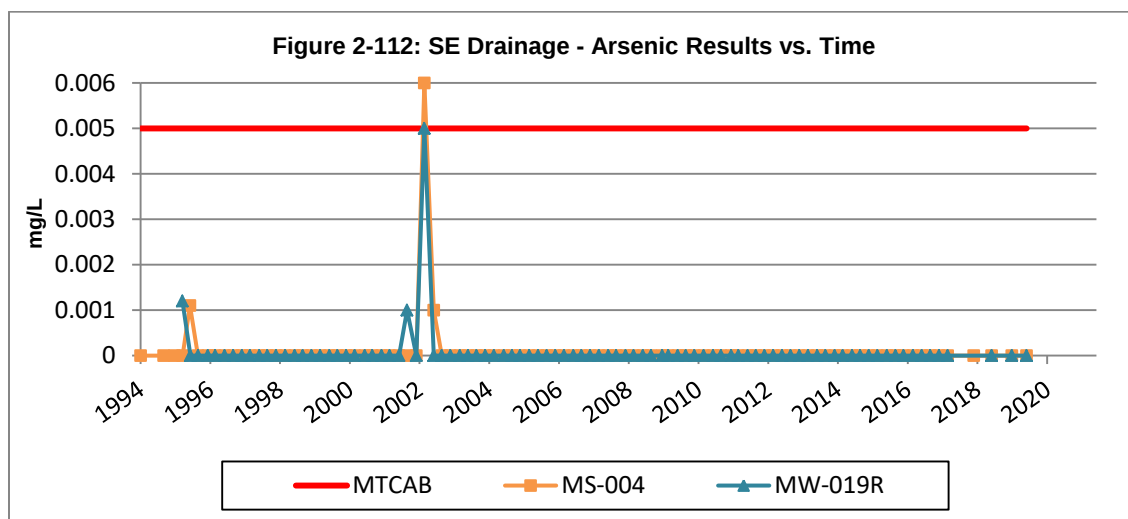
Figures 2-106 – 2-111: Southeast Wells – VOCs / SVOCs Concentration Graphs



Southeast Wells – VOCs / SVOCs Concentration Graphs



Figures 2-112 – 2-117: Southeast Wells – Inorganics Concentration Graphs



Southeast Wells – Inorganics Concentration Graphs

Figure 2-115: SE Drainage - Manganese Results vs. Time

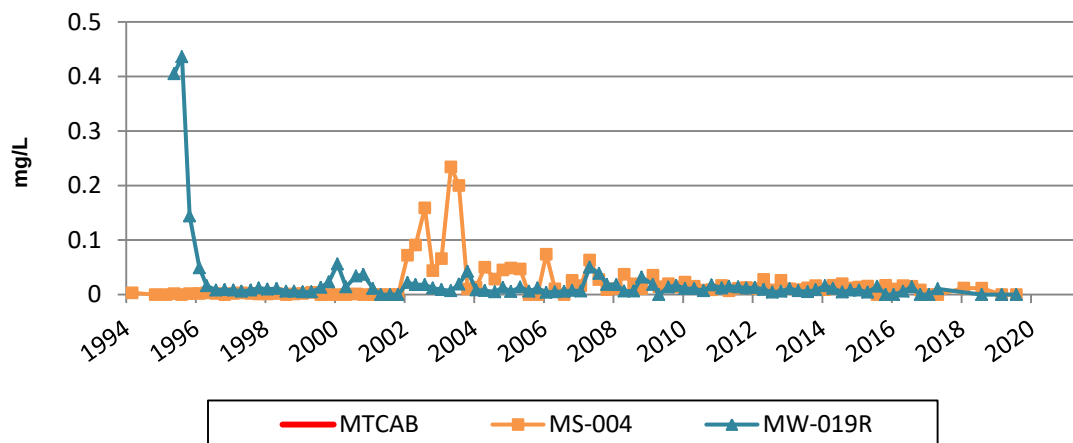


Figure 2-116: SE Drainage - Vanadium Results vs. Time

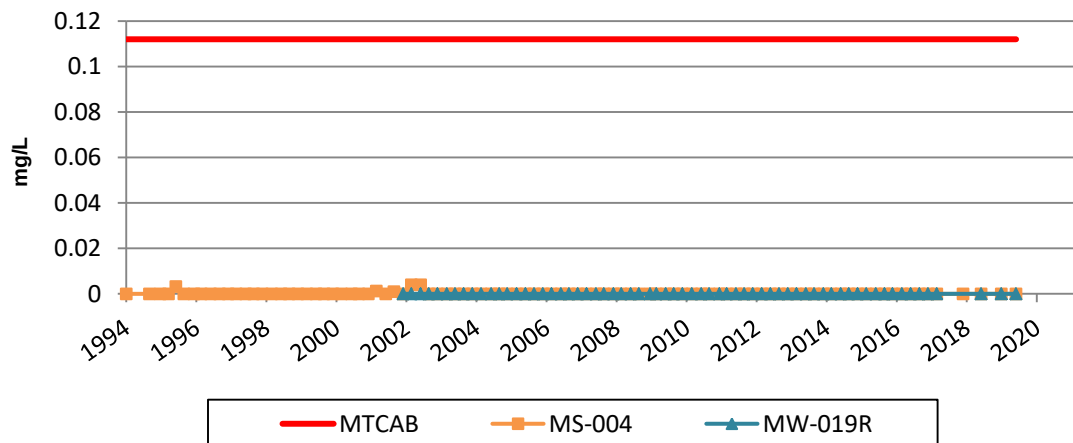
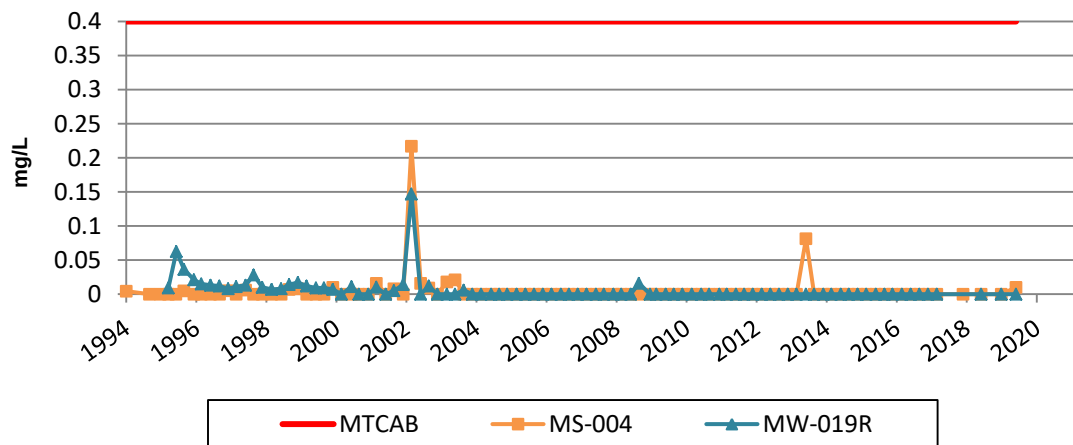
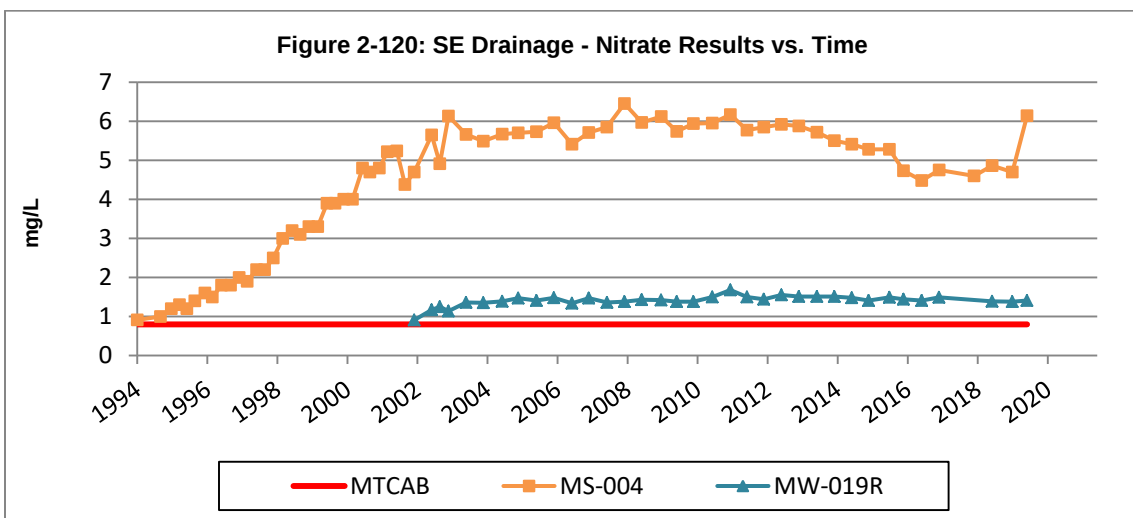
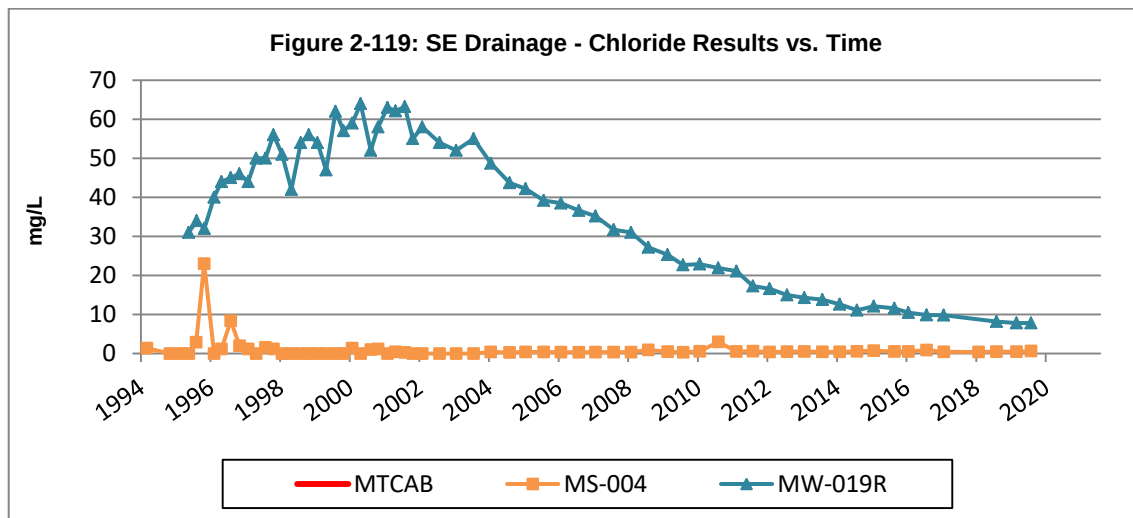
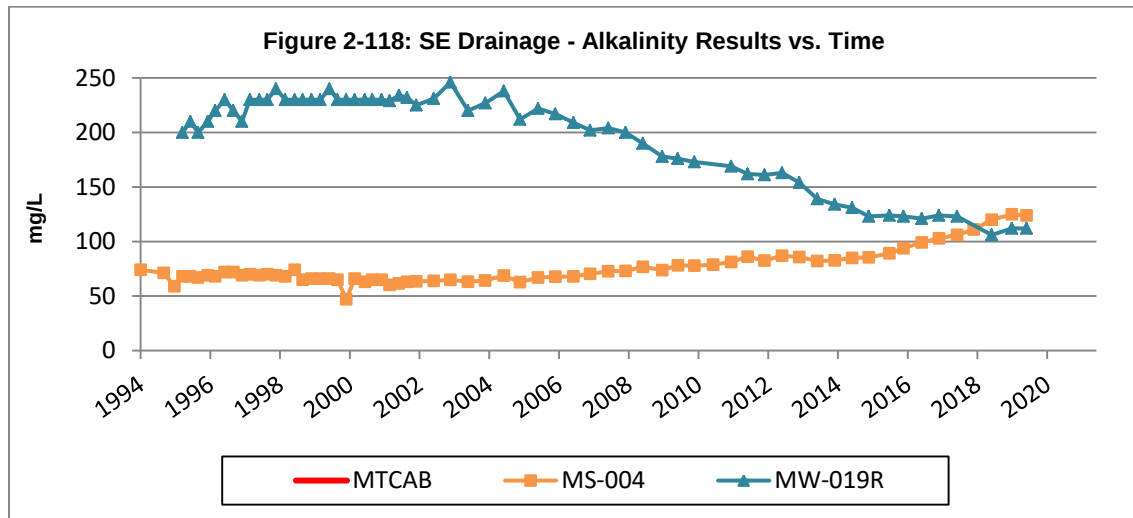


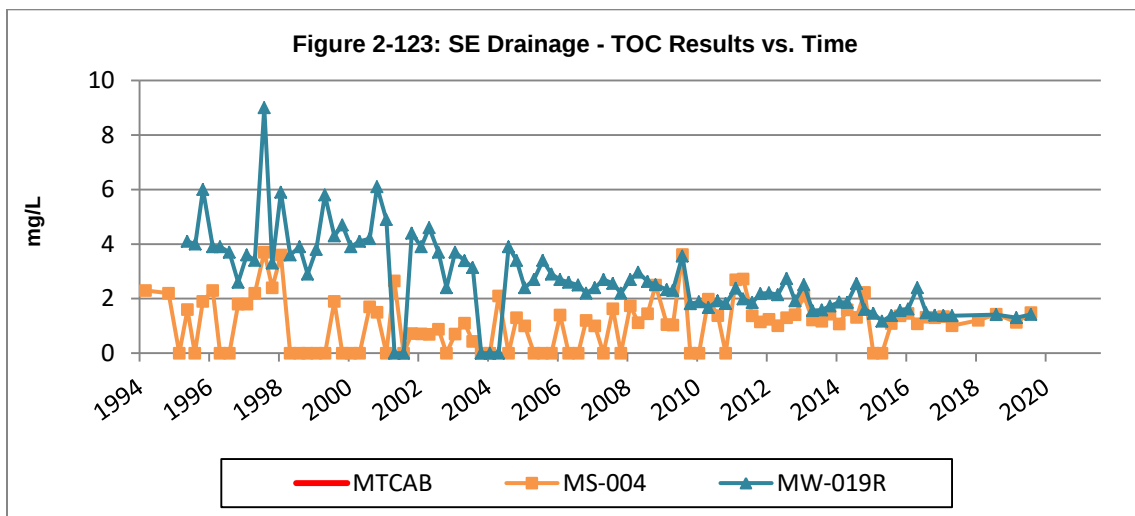
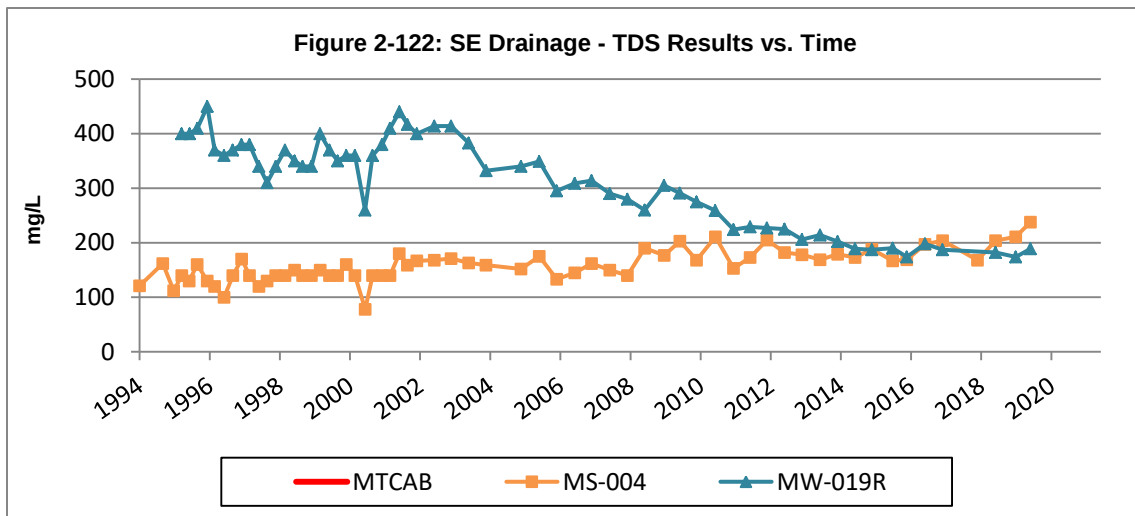
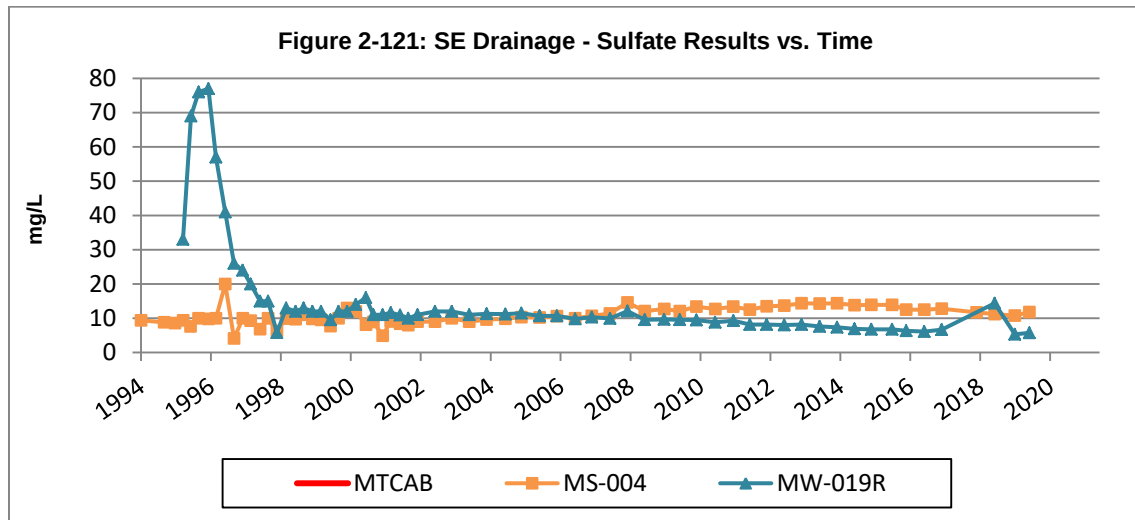
Figure 2-117: SE Drainage - Zinc Results vs. Time



Figures 2-118 – 2-123: Southeast Wells – Conventional Concentration Graphs

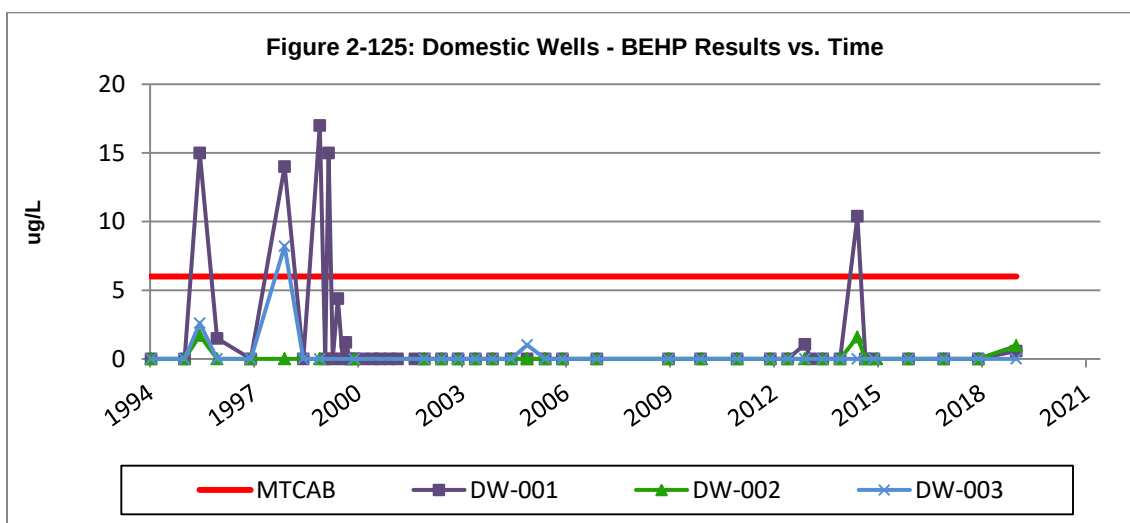
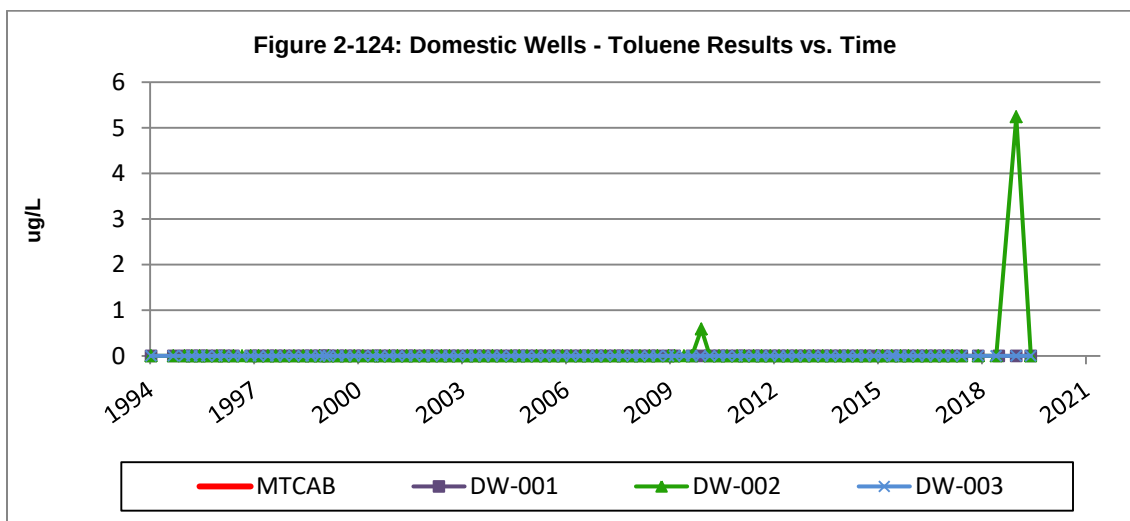


Southeast Wells – Conventional Concentration Graphs

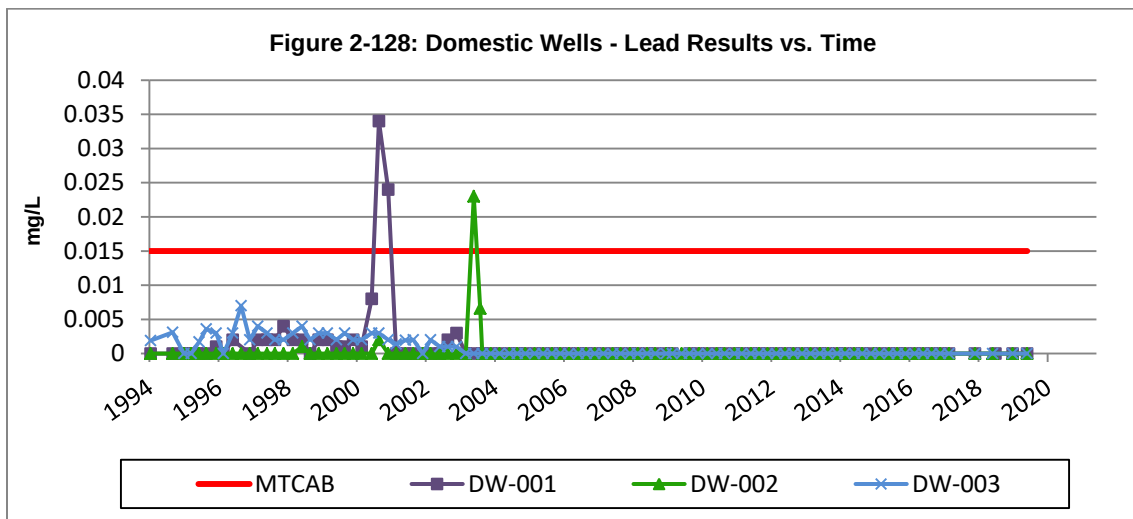
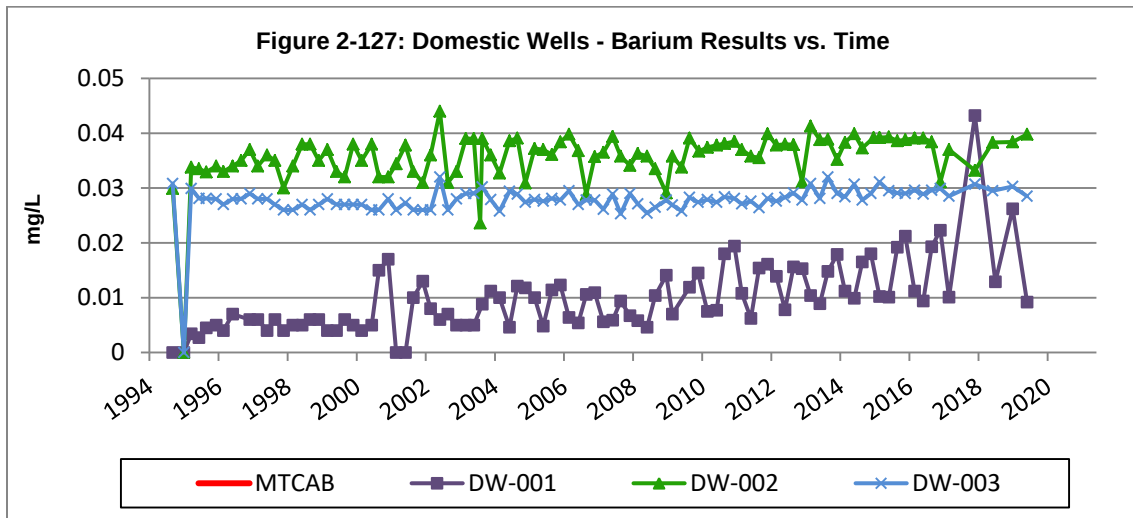
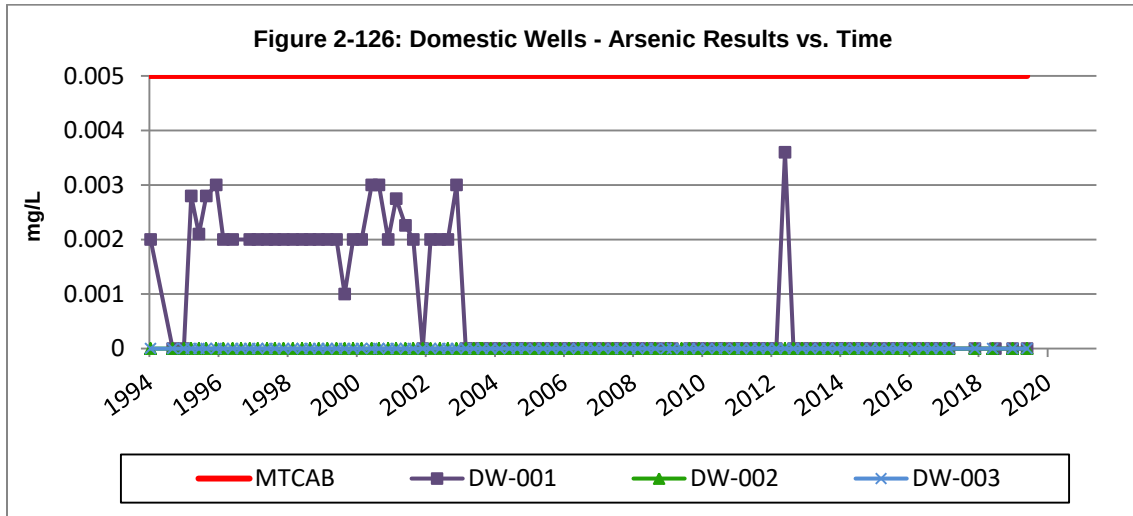


Domestic Wells: Concentration Time Series Graphs

Figures 2-124 – 2-125: Domestic Wells – VOCs / SVOCs Concentration Graphs



Figures 2-126 – 2-131: Domestic Wells – Inorganics Concentration Graphs



Domestic Wells – Inorganics Concentration Graphs

Figure 2-129: Domestic Wells - Zinc Results vs. Time

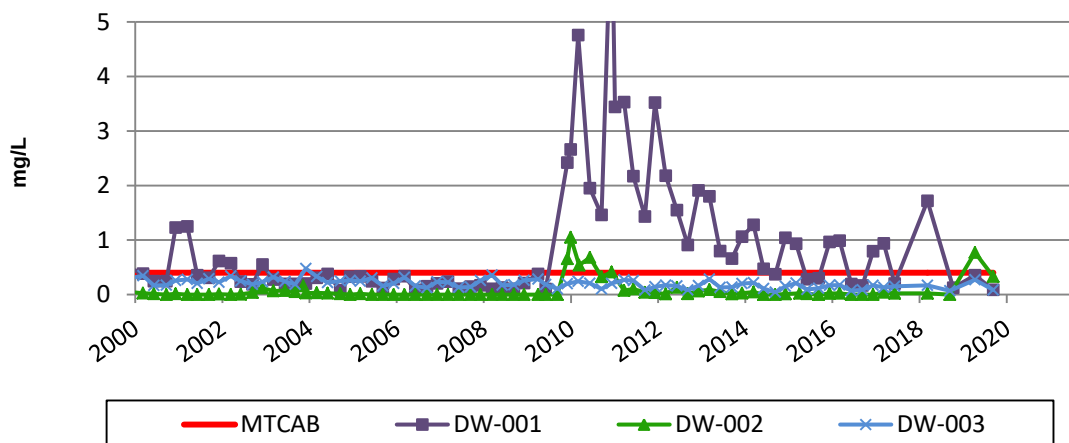


Figure 2-130: Domestic Wells - Manganese Results vs. Time

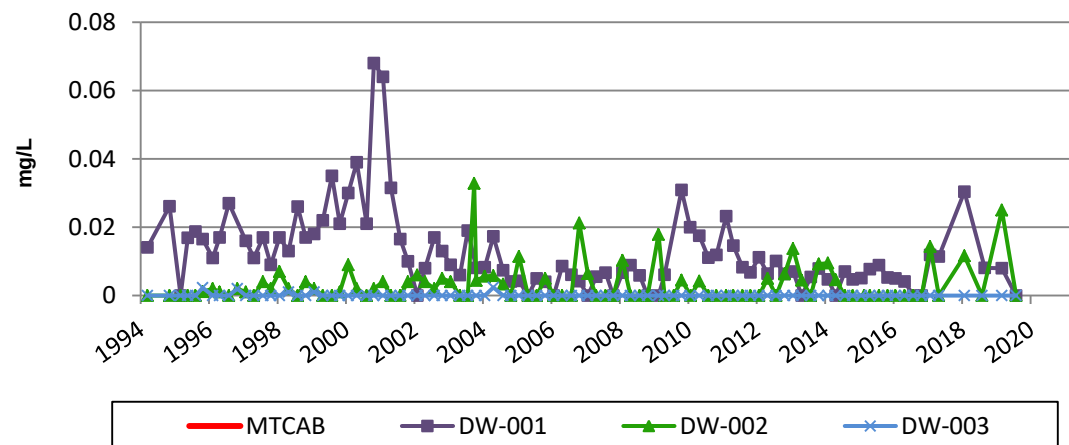
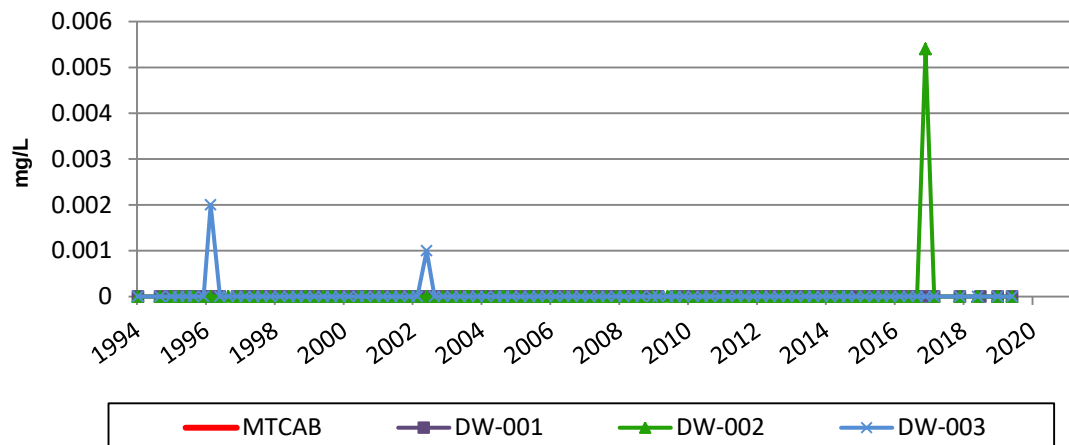
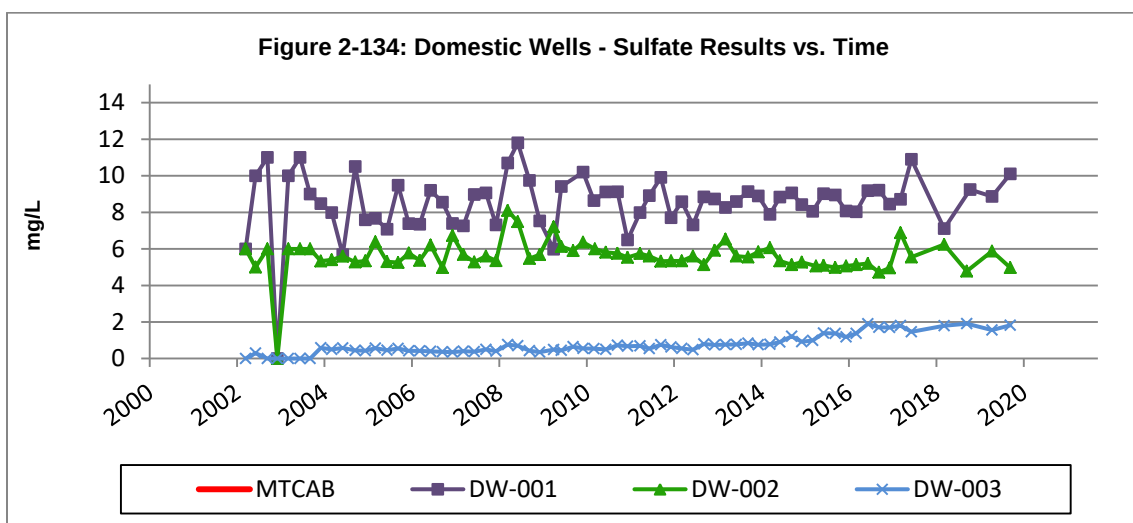
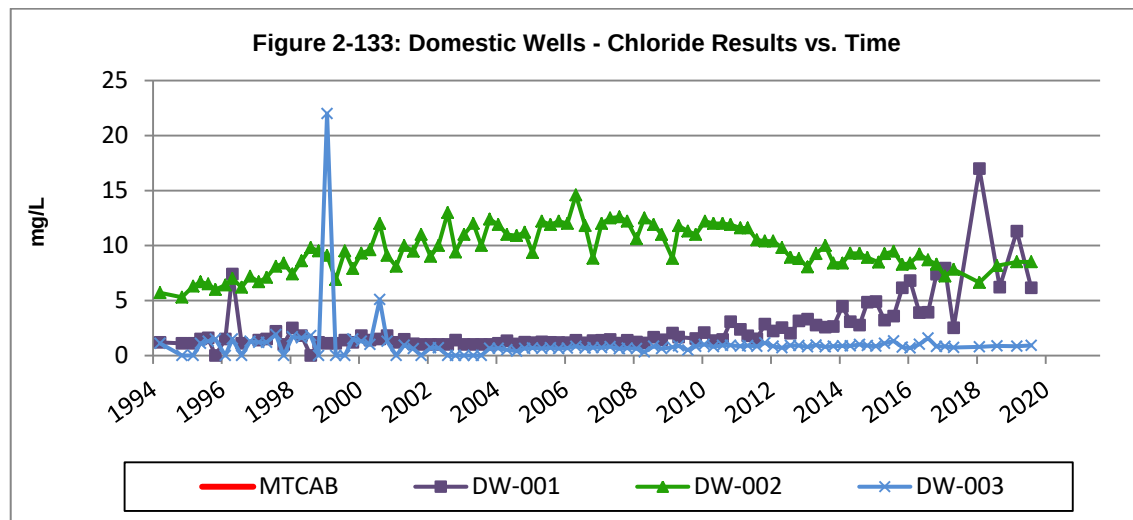
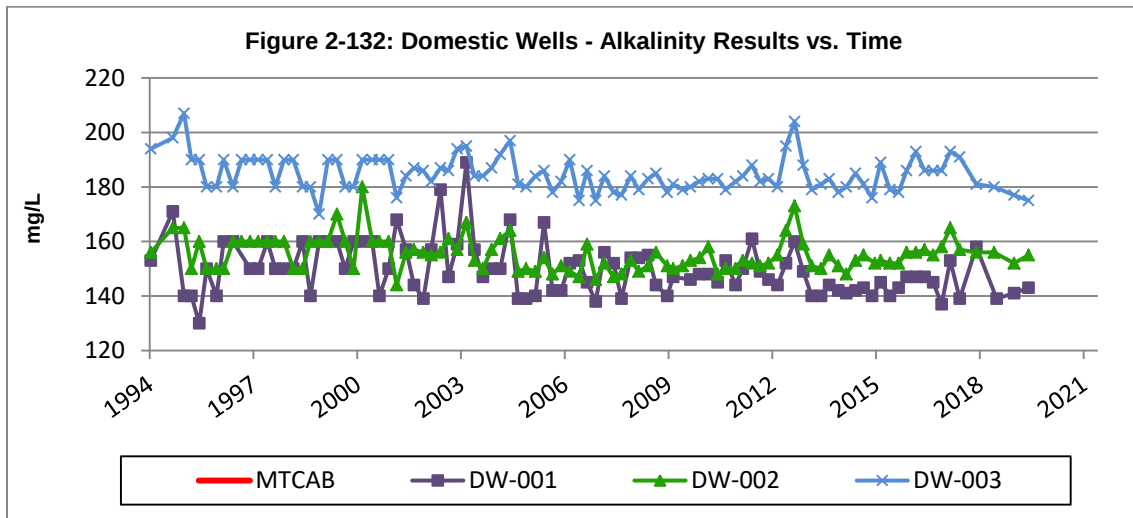


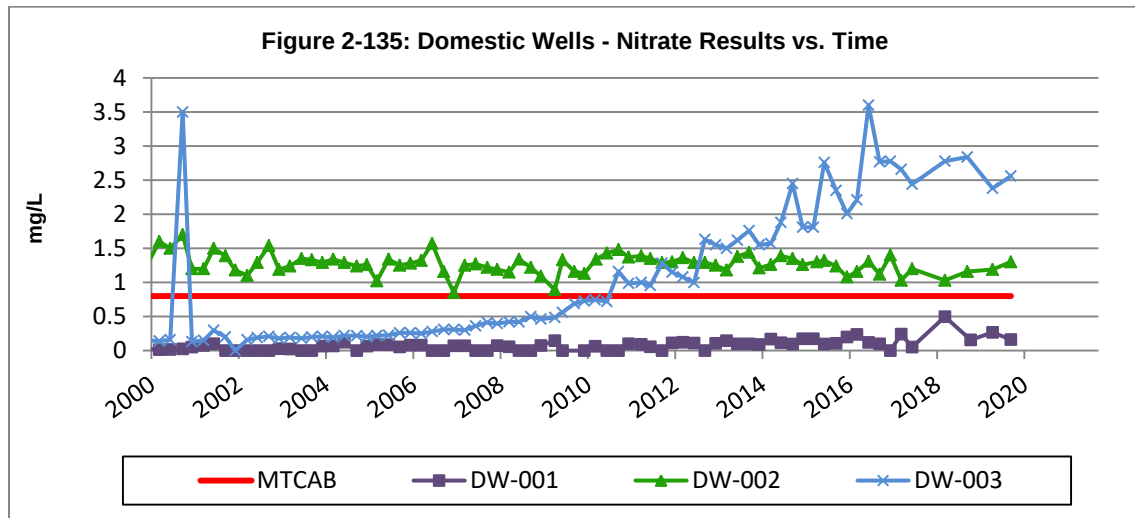
Figure 2-131: Domestic Wells - Vanadium Results vs. Time



Figures 2-132 – 2-135: Domestic Wells – Conventional Concentration Graphs



Domestic Wells – Conventional Concentration Graphs



3 LEACHATE

3.1 LEACHATE DATA

As required by the wastewater discharge permit (issued by Spokane County), a grab sample is collected twice a year at the gravity line conveying leachate to the local sewer system. Grab samples were collected in October 2018 and April 2019.

FIELD DATA

Field parameters were collected at the gravity line during the above sampling rounds. Results are shown in Table 3-1. Hydrographs created using levels taken at landfill leachate piezometers are presented in Figures 3-1 through 3-5.

CRITERIA EXCEEDANCES

There were no exceedances of daily maximum criteria set forth for the leachate gravity line samples during this annual reporting period.

CHEMICAL DATA

Results from the analyses of the October and April leachate samples are presented in Table 3-2.

LEACHATE PRODUCTION

Monthly and quarterly leachate production rates are presented in Table 3-3 along with local precipitation amounts. Total annual production rates and precipitation totals versus time are shown in Figure 3-6. The total amount of leachate generated at the Mica Landfill from October 2018 through September 2019 was approximately 4,393,296 gallons.

Leachate Field Parameters

Table 3-1: Leachate Field Parameters for the Reporting Period

StationID	SampleID	SampleDate	FieldTemp	FieldPH	FieldConductivity	FieldTurbidity
LS-GL	LS-GL-181009-D	10/9/2018	9.7	7.86	545	6.83
LS-GL	LS-GL-181009-C	10/9/2018	9.5	7.85	594	8.39
LS-GL	LS-GL-181009-B	10/9/2018	8.8	7.78	591	9.61
LS-GL	LS-GL-181009-A	10/9/2018	10.1	7.83	604	7.91
LS-GL	LS-GL-190408-D	4/8/2019	6.8	6.97	308	3.52
LS-GL	LS-GL-190408-C	4/8/2019	6.7	6.98	320	3.81
LS-GL	LS-GL-190408-B	4/8/2019	6.7	6.92	312	3.63
LS-GL	LS-GL-190408-A	4/8/2019	6.8	6.87	321	3.58
LS-GL	GWLS-GL-190619	6/19/2019	18.1	7.72	498	5.65
LS-GL	LS-GL-191023-B	10/23/2019	7.1	8.14	429	5.66
LS-GL	LS-GL-191023-D	10/23/2019	7.2	8.16	428	5.83
LS-GL	LS-GL-191023-C	10/23/2019	7	8.13	432	5.71
LS-GL	LS-GL-191023-A	10/23/2019	7.8	8.11	418	5.79

Temp: Degrees C, Conductivity: umhos/cm, Turbidity: NTU

Leachate Hydrographs

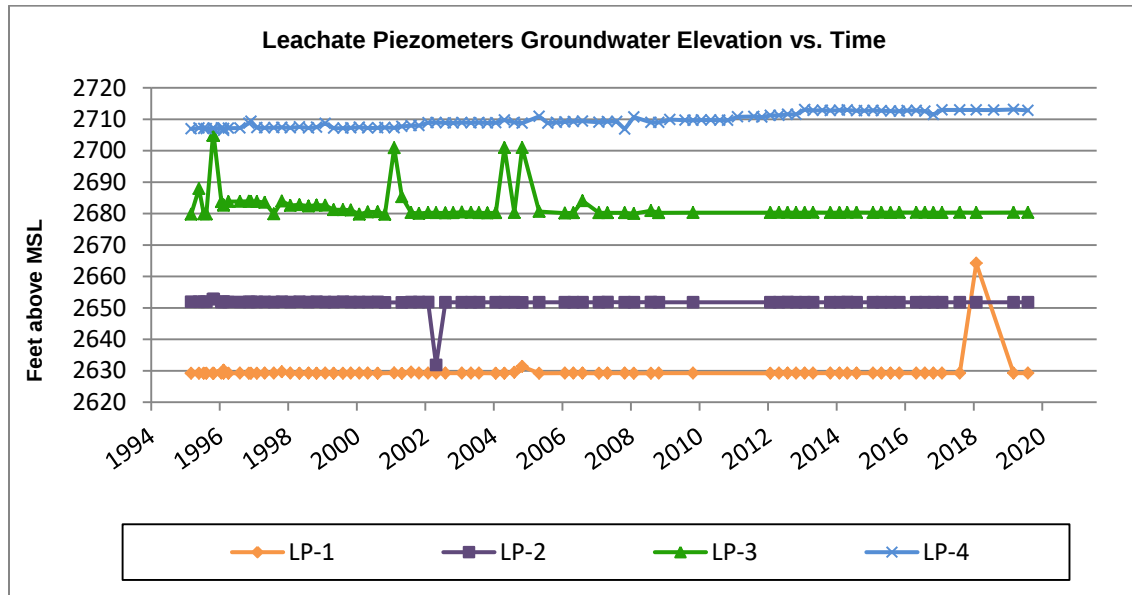


Figure 3-1

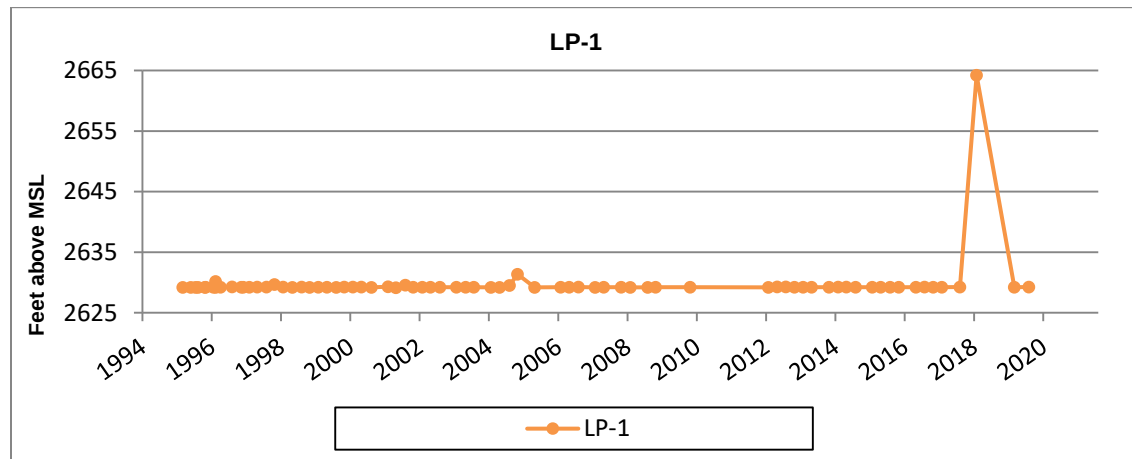


Figure 3-2

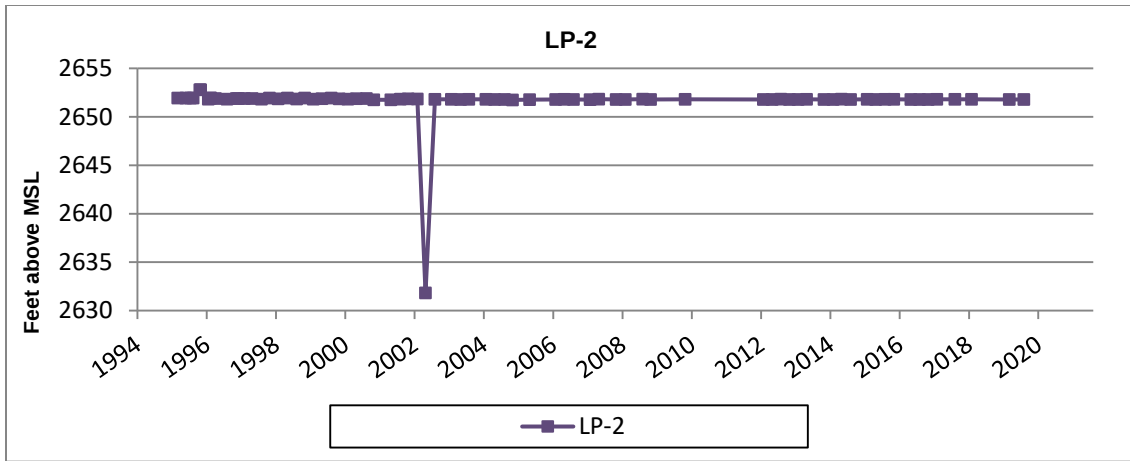


Figure 3-3

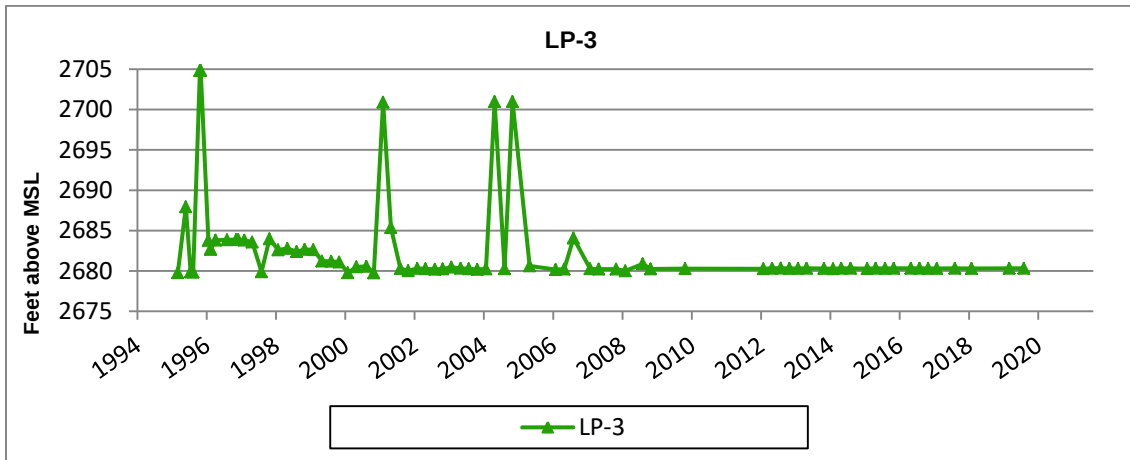


Figure 3-4

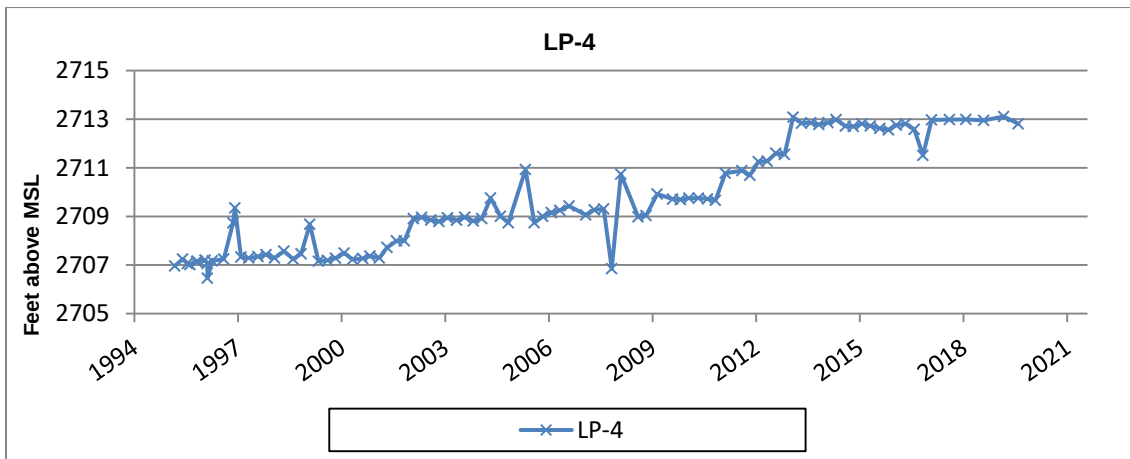


Figure 3-5

Leachate Analytical Results

Table 3-2: Leachate Analytical Results for the Reporting Period

StationID	Analyte	10/9/2018	4/8/2019	10/23/2019
LS-GL	1,2-Dichloroethane	0.5U		
LS-GL	1,2-Dichloropropane	0.5U		
LS-GL	Acetone	5.31		
LS-GL	Benzene	0.5U	0.5U	0.5U
LS-GL	cis-1,2-dichloroethene	0.5U		
LS-GL	Ethylbenzene	0.5U	0.5U	0.5U
LS-GL	m,p-Xylene	0.5U	0.5U	0.5U
LS-GL	Methylene Chloride	0.5U		
LS-GL	o-Xylene	0.5U	0.5U	0.5U
LS-GL	Tetrachloroethene	0.5U		
LS-GL	Toluene	0.91	0.5U	0.5U
LS-GL	Trichloroethene	0.5U		
LS-GL	Vinyl Chloride	0.5U		

Laboratory detections are highlighted in **Orange**.

Leachate Production Summary

Table 3-3: Leachate Production Summary for the Reporting Period

Month	Leachate Volume (gal)	Precipitation (inches)
Oct-18	15,834	2.05
Nov-18	70,053	3.28
Dec-18	636,896	3.23
Jan-19	777,409	2.22
Feb-19	450,483	0.94
Mar-19	891,100	1.59
Apr-19	999,557	2.06
May-19	298,752	2.36
Jun-19	109,031	0.78
Jul-19	67,706	0.54
Aug-19	37,726	0.7
Sep-19	38,749	1.42
Total - Annual	4,393,296	21.17

Annual Leachate Production Rates and Precipitation Data vs. Time

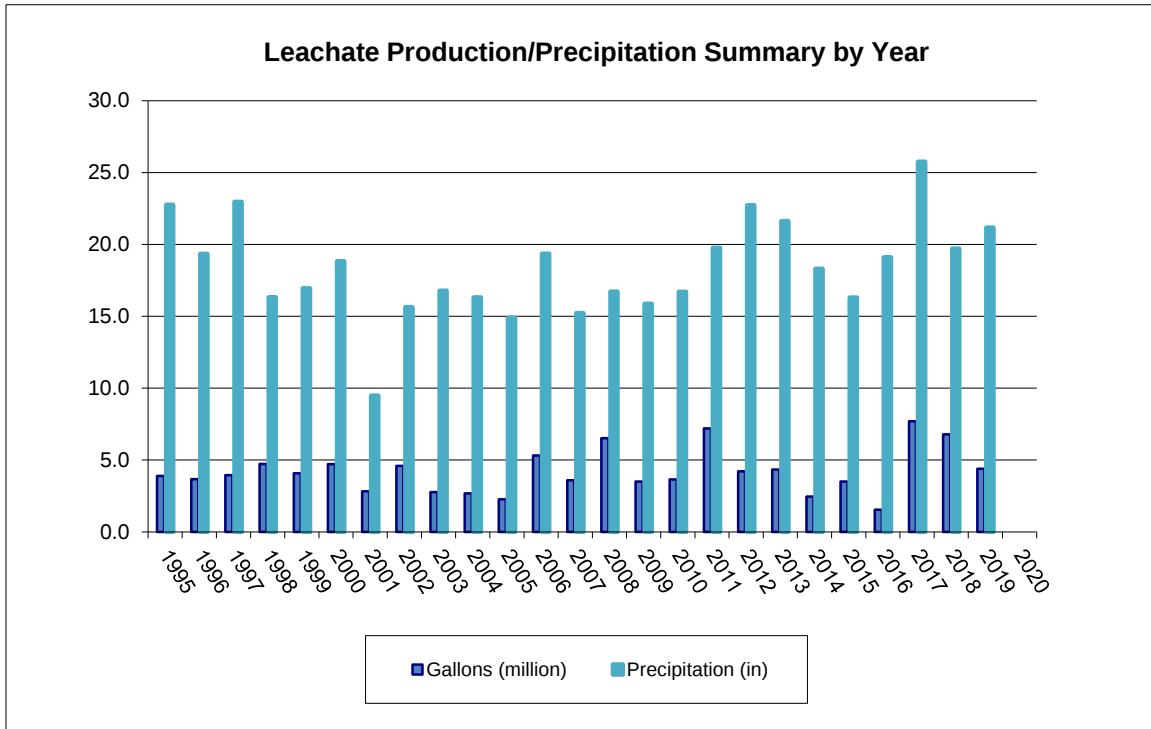


Figure 3-6

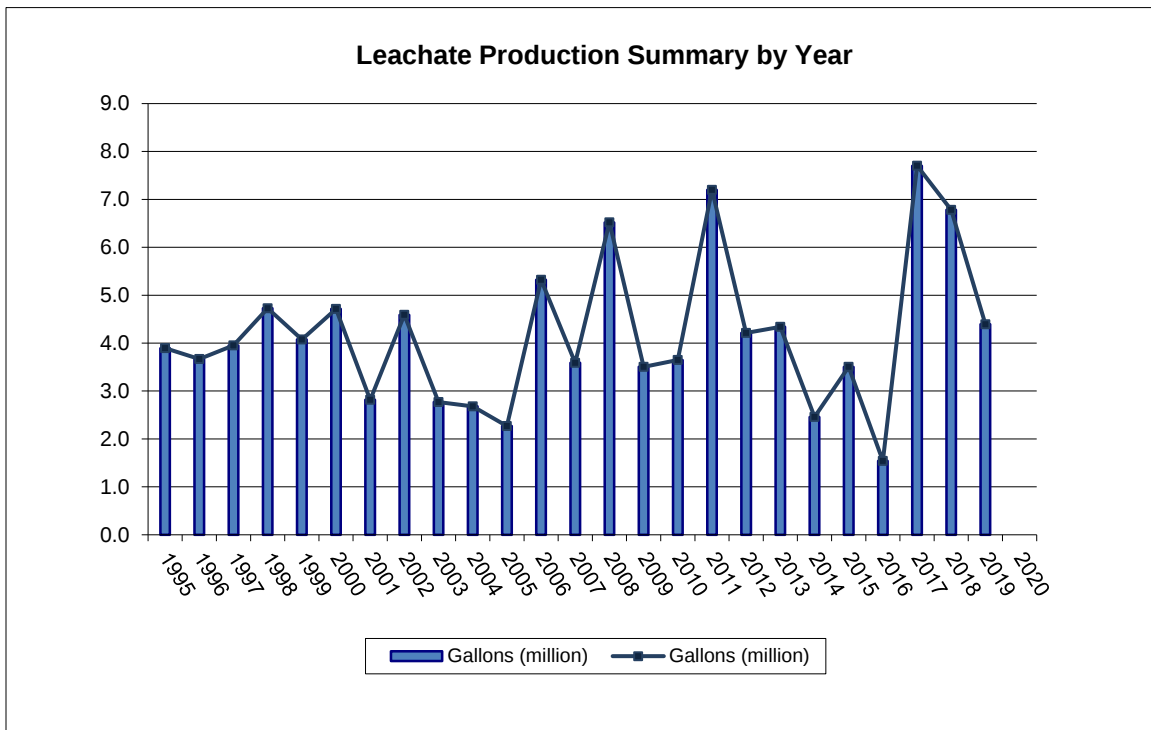


Figure 3-7

4 LANDFILL GAS

FLARE STATIONS

A summary of monitoring results from the operational flare stations are presented in Table 4-1. The Mica Landfill produced an estimated 29.4 million cubic feet of landfill gas in 2019. The average methane concentration was approximately 39.4%.

GAS PROBES

Monthly gas probe monitoring results are presented in Appendix D. There were no methane detections near or above the regulatory criteria of 5% during this annual reporting period.

MICA FLARE STATION SUMMARY

Table 4-1: Annual Summary of Mica Landfill Flare Stations

Mica Landfill Emission Point Summary for 2019				
	Flare 6		Flare 7	
DATE	flow	%CH4	flow	%CH4
Jan-19	500	45.3	510	42.8
Feb-19	260	22.4	245	19.6
Mar-19	600	48.8	560	43.3
Apr-19	610	48.7	600	44.8
May-19	615	41.9	600	39.1
Jun-19	610	49.4	600	44.6
Jul-19	490	43.5	475	41.8
Aug-19	330	25.2	300	25.6
Sep-19	500	39.5	430	33.8
Oct-19	700	50.9	695	48.3
Nov-19	330	38.1	300	35
Dec-19	420	37.3	375	35.8
Total	5965	491	5690	454.5
Average	497.1	40.9	474.2	37.9

Flare 6:	497.1	* 0.66 * 0.0872	= 28.60814	* 525,600/10 ⁶ =	15.04
Flare 7:	474.2	* 0.66 * 0.0872	= 27.28924	* 525,600/10 ⁶ =	14.34
Total=					29.38 Mft3

APPENDIX A - LABORATORY RESULTS

Mica Landfill Groundwater Monitoring Annual Analytical Results

[illegible]

Mica Landfill Groundwater Monitoring Annual Analytical Results

Analyte	Units	Date	DW-001	DW-002	DW-003	MS-004	MS-005	MW-009	MW-010	MW-013	MW-014	MW-016	MW-019R	MW-020	MW-023	MW-029	MW-031
Methylene Chloride	ug/L	12-2018										12.5U					
Methylene Chloride	ug/L	4-2019	2.5U	2.5U	2.5U	2.5U	2.5U	2.5U	2.5U	2.5U	2.5U	20U	2.5U	2.5U	2.5U	2.5U	2.5U
Methylene Chloride	ug/L	6-2019										25U					
Methylene Chloride	ug/L	9-2019	2.5U	2.5U	2.5U	2.5U	2.5U	2.5U	2.5U	2.5U	2.5U	15U	2.5U	2.5U	2.5U	2.5U	
o-Xylene	ug/L	10-2018	0.5U														
o-Xylene	ug/L	12-2018										18.8					
o-Xylene	ug/L	4-2019	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	17.7	0.5U	0.5U	0.5U	0.5U	0.5U
o-Xylene	ug/L	6-2019										16.3					
o-Xylene	ug/L	9-2019	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	19	0.5U	0.5U	0.5U	0.5U	
Tetrachloroethene	ug/L	10-2018	0.5U														
Tetrachloroethene	ug/L	12-2018										2.5U					
Tetrachloroethene	ug/L	4-2019	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	4U	0.5U	0.5U	0.5U	0.5U	0.5U
Tetrachloroethene	ug/L	6-2019										5U					
Tetrachloroethene	ug/L	9-2019	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	3U	0.5U	0.5U	0.5U	0.5U	
Toluene	ug/L	10-2018	0.5U														
Toluene	ug/L	12-2018										25.1					
Toluene	ug/L	4-2019	0.5U	5.24	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	75.2	0.5U	0.5U	0.5U	0.5U	0.5U
Toluene	ug/L	6-2019										39.1					
Toluene	ug/L	9-2019	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	43.5	0.5U	0.5U	0.5U	0.5U	
Trichloroethene	ug/L	10-2018	0.5U														
Trichloroethene	ug/L	12-2018										2.5U					
Trichloroethene	ug/L	4-2019	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	4U	0.5U	0.5U	0.5U	0.5U	0.5U
Trichloroethene	ug/L	6-2019										5U					
Trichloroethene	ug/L	9-2019	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	3U	0.5U	0.5U	0.5U	0.5U	
Vinyl Chloride	ug/L	10-2018	0.5U														
Vinyl Chloride	ug/L	12-2018										2.89					
Vinyl Chloride	ug/L	4-2019	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	5.44	0.5U	0.5U	0.75	0.5U	0.5U
Vinyl Chloride	ug/L	6-2019										5U					
Vinyl Chloride	ug/L	9-2019	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	3.13	0.5U	0.5U	0.5U	0.5U	
bis(2-Ethylhexyl)Phthalate	ug/L	4-2019	0.58	0.96	0.5U	1.5	0.5U	0.5U								0.5U	
Arsenic	mg/L	10-2018	0.003U														
Arsenic	mg/L	12-2018										0.0692					
Arsenic	mg/L	4-2019	0.003U	0.003U	0.003U	0.003U	0.003U	0.003U	0.003U	0.003U	0.003U	0.0618	0.003U	0.003U	0.003U	0.003U	0.003U
Arsenic	mg/L	6-2019										0.0686					
Arsenic	mg/L	9-2019	0.003U	0.003U	0.003U	0.003U	0.003U	0.003U	0.003U	0.003U	0.003U	0.0619	0.003U	0.00589	0.003U	0.003U	
Barium	mg/L	10-2018	0.0129														

Mica Landfill Groundwater Monitoring Annual Analytical Results

Analyte	Units	Date	DW-001	DW-002	DW-003	MS-004	MS-005	MW-009	MW-010	MW-013	MW-014	MW-016	MW-019R	MW-020	MW-023	MW-029	MW-031
Barium	mg/L	12-2018										0.789					
Barium	mg/L	4-2019	0.0262	0.0384	0.0303	0.0718	0.0569	0.129	0.0482	0.0568	0.004U	0.75	0.0405	0.146	0.155	0.1	0.0386
Barium	mg/L	6-2019										0.807					
Barium	mg/L	9-2019	0.0092	0.0398	0.0285	0.0712	0.053	0.131	0.0445	0.0506	0.004U	0.726	0.0405	0.597	0.143	0.099	
Lead	mg/L	10-2018	0.0075U														
Lead	mg/L	12-2018										0.015U					
Lead	mg/L	4-2019	0.015U	0.015U	0.015U	0.015U	0.015U	0.015U	0.015U	0.015U	0.015U	0.015U	0.015U	0.015U	0.015U	0.015U	0.015U
Lead	mg/L	6-2019										0.015U					
Lead	mg/L	9-2019	0.015U	0.015U	0.015U	0.015U	0.015U	0.015U	0.015U	0.015U	0.015U	0.015U	0.015U	0.0626	0.015U	0.015U	
Manganese	mg/L	10-2018	0.0081														
Manganese	mg/L	12-2018										0.886					
Manganese	mg/L	4-2019	0.008	0.025	0.008U	0.008U	0.008U	0.219	0.008U	0.008U	0.143	1.51	0.008U	0.0158	0.979	0.008U	0.0141
Manganese	mg/L	6-2019										0.741					
Manganese	mg/L	9-2019	0.008U	0.008U	0.008U	0.008U	0.008U	0.474	0.008U	0.008U	0.22	0.745	0.008U	0.344	0.828	0.008U	
Mercury	mg/L	10-2018	0.0002U														
Mercury	mg/L	12-2018										0.0002U					
Mercury	mg/L	4-2019	0.0002U	0.0002U	0.0002U	0.0002U	0.0002U	0.0002U	0.0002U	0.0002U	0.0002U	0.0002U	0.0002U	0.0002U	0.0002U	0.0002U	0.0002U
Mercury	mg/L	6-2019										0.0002U					
Mercury	mg/L	9-2019	0.0002U	0.0002U	0.0002U	0.0002U	0.0002U	0.0002U	0.0002U	0.0002U	0.0002U	0.0002U	0.0002U	0.0002U	0.0002U	0.0002U	
Vanadium	mg/L	10-2018	0.005U														
Vanadium	mg/L	12-2018										0.005U					
Vanadium	mg/L	4-2019	0.005U	0.005U	0.005U	0.005U	0.0052	0.005U	0.005U	0.005U	0.005U	0.0083	0.005U	0.005U	0.005U	0.005U	0.0051
Vanadium	mg/L	6-2019										0.005U					
Vanadium	mg/L	9-2019	0.005U	0.005U	0.005U	0.005U	0.005U	0.005U	0.005U	0.005U	0.005U	0.005U	0.005U	0.0088	0.005U	0.005U	
Zinc	mg/L	10-2018	0.126														
Zinc	mg/L	12-2018										0.01U					
Zinc	mg/L	4-2019	0.355	0.772	0.272	0.01U	0.01U	0.01U	0.01U	0.01U	0.01U	0.01U	0.01U	0.01U	0.01U	0.01U	0.01U
Zinc	mg/L	6-2019										0.01U					
Zinc	mg/L	9-2019	0.086	0.332	0.085	0.01	0.01U	0.01U	0.01U	0.01U	0.01U	0.01U	0.01U	0.088	0.01U	0.01U	
Alkalinity	mg/L as Ca	10-2018	139														
Alkalinity	mg/L as Ca	4-2019	141	152	177	125	107	198	91.5	193	74.6	1460	112	238	364	72.4	39.4
Alkalinity	mg/L as Ca	6-2019										1450					
Alkalinity	mg/L as Ca	9-2019	143	155	175	124	109	254	89.7	192	77.2	1500	112	236	375	77.8	
Ammonia	mg/L	10-2018	0.03U														
Ammonia	mg/L	12-2018										0.035					

Mica Landfill Groundwater Monitoring Annual Analytical Results

Analyte	Units	Date	DW-001	DW-002	DW-003	MS-004	MS-005	MW-009	MW-010	MW-013	MW-014	MW-016	MW-019R	MW-020	MW-023	MW-029	MW-031
Ammonia	mg/L	4-2019	0.03U	0.03U	0.03U	0.03U	0.03U	0.03U	0.03U	0.03U	0.03U	0.198	0.03U	0.03U	0.03U	0.03U	0.03U
Ammonia	mg/L	6-2019										0.179					
Ammonia	mg/L	9-2019	0.03U	0.03U	0.03U	1.19D	0.03U	0.03U	0.03U	0.03U	0.03U	0.271	0.03U	0.03U	0.03U	0.03U	
Chloride	mg/L	10-2018	6.21														
Chloride	mg/L	4-2019	11.3	8.51	0.85	0.49	27.9D	18D	0.38	9.29	0.75	159D	7.8	8.66	55D	144D	2.31
Chloride	mg/L	6-2019										169D					
Chloride	mg/L	9-2019	6.16	8.51	0.92	0.64	27.7D	31D	0.39	9.36	0.79	161D	7.8	8.48	55.8D	146D	
N-Nitrate	mg/L	10-2018	0.157														
N-Nitrate	mg/L	4-2019	0.268	1.19	2.38	4.7	1.61	0.05U	0.244	0.287	0.05U	0.05U	1.38	3.01D	0.05U	0.88	0.566
N-Nitrate	mg/L	6-2019										0.05UJ					
N-Nitrate	mg/L	9-2019	0.161	1.3	2.56	6.14	1.63	0.232	0.248	0.846	0.05U	1.13	1.41	2.94	0.05U	1.16	
Sulfate	mg/L	10-2018	9.24														
Sulfate	mg/L	4-2019	8.87	5.87	1.56	10.8	21.1	3.21	0.78	3.8	8.73	0.36	5.33	6.42	8.42	6.13	3.49
Sulfate	mg/L	6-2019										0.3U					
Sulfate	mg/L	9-2019	10.1	4.97	1.82	11.8	21	3.71	0.69	3.81	9.17	0.3U	5.74	6.48	8.89	6.57	
Total Dissolved Solids	mg/L	4-2019				211	248	238	130	252	113	1980	174	330	507	476	61
Total Dissolved Solids	mg/L	6-2019										478					
Total Dissolved Solids	mg/L	9-2019			251	238	275	330	148	293	132	1770	189	202	497	432	
Total Organic Carbon	mg/L	10-2018	1U														
Total Organic Carbon	mg/L	12-2018										118D					
Total Organic Carbon	mg/L	4-2019	1.13	1.01	1U	1.13	1.62	2.34	1U	1.33	1U	171D	1.3	1.63	2.65	1U	5.45
Total Organic Carbon	mg/L	6-2019										84.5D					
Total Organic Carbon	mg/L	9-2019	1U	1U	1U	1.49	2.7	2.44	1U	1.46	1U	116D	1.42	3U	2.67	1U	

APPENDIX B - DATA SUMMARY ANALYSIS

Mica Landfill Summary Statistics 2019

StationID	Analyte	Count	Average	Min	Max	StDev	# Detects	# NonDetects	# Exceedances
DW-001	1,2-Dichloroethane	96	0.00	0	0	0.00	0	96	0
DW-001	1,2-Dichloropropane	96	0.00	0	0	0.00	0	96	0
DW-001	Acetone	96	0.00	0	0	0.00	0	96	0
DW-001	Alkalinity	96	149.42	130	189	9.86	96	0	0
DW-001	Ammonia	95	0.01	0	0.27	0.04	18	77	0
DW-001	Arsenic	96	0.00	0	0.0036	0.00	34	62	0
DW-001	Barium	96	0.01	0	0.0432	0.01	92	4	0
DW-001	Benzene	96	0.00	0	0	0.00	0	96	0
DW-001	bis(2-Ethylhexyl)Phthalate	51	1.80	0	17	4.45	13	38	6
DW-001	Chloride	96	2.39	0	17	2.41	94	2	0
DW-001	cis-1,2-dichloroethene	93	0.00	0	0	0.00	0	93	0
DW-001	Ethylbenzene	87	0.00	0	0	0.00	0	87	0
DW-001	Lead	96	0.00	0	0.034	0.00	20	76	0
DW-001	m,p-Xylene	57	0.00	0	0	0.00	0	57	0
DW-001	Manganese	96	0.01	0	0.068	0.01	83	13	0
DW-001	Mercury	94	0.00	0	0	0.00	0	94	0
DW-001	Methylene Chloride	96	0.00	0	0	0.00	0	96	0
DW-001	N-Nitrate	96	0.06	0	0.496	0.08	68	28	0
DW-001	o-Xylene	84	0.00	0	0	0.00	0	84	0
DW-001	Sulfate	65	8.52	0	11.8	1.64	64	1	0
DW-001	Tetrachloroethene	96	0.00	0	0	0.00	0	96	0
DW-001	Toluene	96	0.00	0	0	0.00	0	96	0
DW-001	Total Dissolved Solids	2	189.00	188	190	1.41	2	0	0
DW-001	Total Organic Carbon	94	0.55	0	6.1	1.11	28	66	0
DW-001	Trichloroethene	96	0.00	0	0	0.00	0	96	0
DW-001	Vanadium	94	0.00	0	0	0.00	0	94	0
DW-001	Vinyl Chloride	96	0.00	0	0	0.00	0	96	0
DW-001	Xylene	30	0.00	0	0	0.00	0	30	0
DW-001	Zinc	99	0.83	0.0809	7.18	1.09	99	0	0
DW-002	1,2-Dichloroethane	97	0.00	0	0	0.00	0	97	0
DW-002	1,2-Dichloropropane	97	0.00	0	0	0.00	0	97	0
DW-002	Acetone	97	0.00	0	0	0.00	0	97	0
DW-002	Alkalinity	112	154.83	144	180	5.83	112	0	0
DW-002	Ammonia	101	0.01	0	0.28	0.03	19	82	0
DW-002	Arsenic	97	0.00	0	0	0.00	0	97	0
DW-002	Barium	124	0.04	0	0.044	0.00	123	1	0
DW-002	Benzene	97	0.00	0	0	0.00	0	97	0
DW-002	bis(2-Ethylhexyl)Phthalate	33	0.13	0	1.7	0.43	3	30	0
DW-002	Chloride	114	9.72	5.3	14.6	1.92	114	0	0
DW-002	cis-1,2-dichloroethene	94	0.00	0	0	0.00	0	94	0
DW-002	Ethylbenzene	88	0.00	0	0	0.00	0	88	0

Mica Landfill Summary Statistics 2019

StationID	Analyte	Count	Average	Min	Max	StDev	# Detects	# NonDetects	# Exceedances
DW-002	Lead	98	0.00	0	0.023	0.00	4	94	0
DW-002	m,p-Xylene	59	0.00	0	0.15	0.02	1	58	0
DW-002	Manganese	104	0.00	0	0.0328	0.01	50	54	0
DW-002	Mercury	97	0.00	0	0	0.00	0	97	0
DW-002	Methylene Chloride	98	0.00	0	0.12	0.01	1	97	0
DW-002	N-Nitrate	114	1.36	0.85	2.32	0.24	114	0	0
DW-002	o-Xylene	85	0.00	0	0	0.00	0	85	0
DW-002	Sulfate	89	5.58	0	8.1	0.85	88	1	0
DW-002	Tetrachloroethene	97	0.00	0	0	0.00	0	97	0
DW-002	Toluene	97	0.06	0	5.24	0.53	2	95	0
DW-002	Total Dissolved Solids	4	211.00	200	220	8.41	4	0	0
DW-002	Total Organic Carbon	107	0.60	0	13.1	1.45	39	68	0
DW-002	Trichloroethene	97	0.00	0	0	0.00	0	97	0
DW-002	Vanadium	97	0.00	0	0.0054	0.00	1	96	0
DW-002	Vinyl Chloride	97	0.00	0	0	0.00	0	97	0
DW-002	Xylene	30	0.00	0	0	0.00	0	30	0
DW-002	Zinc	113	0.09	0	1.05	0.19	74	39	0
DW-003	1,2-Dichloroethane	99	0.00	0	0	0.00	0	99	0
DW-003	1,2-Dichloropropane	99	0.00	0	0	0.00	0	99	0
DW-003	Acetone	99	0.00	0	0	0.00	0	99	0
DW-003	Alkalinity	104	184.62	170	207	6.37	104	0	0
DW-003	Ammonia	99	0.03	0	1.94	0.19	21	78	0
DW-003	Arsenic	96	0.00	0	0	0.00	0	96	0
DW-003	Barium	105	0.03	0	0.032	0.00	104	1	0
DW-003	Benzene	99	0.00	0	0	0.00	0	99	0
DW-003	bis(2-Ethylhexyl)Phthalate	33	0.36	0	8.2	1.49	3	30	1
DW-003	Chloride	103	1.01	0	22	2.17	88	15	0
DW-003	cis-1,2-dichloroethene	96	0.00	0	0	0.00	0	96	0
DW-003	Ethylbenzene	90	0.00	0	0	0.00	0	90	0
DW-003	Lead	97	0.00	0	0.007	0.00	32	65	0
DW-003	m,p-Xylene	59	0.00	0	0	0.00	0	59	0
DW-003	Manganese	98	0.00	0	0.0024	0.00	6	92	0
DW-003	Mercury	96	0.00	0	0	0.00	0	96	0
DW-003	Methylene Chloride	99	0.00	0	0.3	0.03	1	98	0
DW-003	N-Nitrate	104	0.94	0	7.4	1.13	103	1	0
DW-003	o-Xylene	87	0.00	0	0	0.00	0	87	0
DW-003	Sulfate	74	0.76	0	1.91	0.52	68	6	0
DW-003	Tetrachloroethene	99	0.00	0	0	0.00	0	99	0
DW-003	Toluene	99	0.00	0	0	0.00	0	99	0
DW-003	Total Dissolved Solids	4	220.25	200	251	22.07	4	0	0
DW-003	Total Organic Carbon	97	0.24	0	3.3	0.64	15	82	0

Mica Landfill Summary Statistics 2019

StationID	Analyte	Count	Average	Min	Max	StDev	# Detects	# NonDetects	# Exceedances
DW-003	Trichloroethene	99	0.00	0	0	0.00	0	99	0
DW-003	Vanadium	96	0.00	0	0.002	0.00	2	94	0
DW-003	Vinyl Chloride	99	0.00	0	0	0.00	0	99	0
DW-003	Xylene	31	0.00	0	0	0.00	0	31	0
DW-003	Zinc	107	0.24	0.0426	0.774	0.13	107	0	0
LS-AB	Arsenic	4	0.00	0	0	0.00	0	4	0
LS-AB	Benzene	4	0.00	0	0	0.00	0	4	0
LS-AB	Cadmium	4	0.00	0	0	0.00	0	4	0
LS-AB	Copper	4	0.00	0	0	0.00	0	4	0
LS-AB	Ethylbenzene	4	0.00	0	0	0.00	0	4	0
LS-AB	Lead	4	0.00	0	0	0.00	0	4	0
LS-AB	m,p-Xylene	4	0.00	0	0	0.00	0	4	0
LS-AB	Mercury	4	0.00	0	0	0.00	0	4	0
LS-AB	Nickel	4	0.00	0	0	0.00	0	4	0
LS-AB	o-Xylene	4	0.00	0	0	0.00	0	4	0
LS-AB	Silver	4	0.00	0	0	0.00	0	4	0
LS-AB	Toluene	4	0.28	0	1.12	0.56	1	3	0
LS-AB	total cyanide	3	0.00	0	0	0.00	0	3	0
LS-AB	Zinc	4	0.00	0	0	0.00	0	4	0
LS-GL	1,2-Dichloroethane	20	0.85	0	2.3	0.75	13	7	8
LS-GL	1,2-Dichloropropane	19	0.27	0	0.6	0.23	12	7	0
LS-GL	Acetone	27	13.87	0	53	15.06	23	4	0
LS-GL	Arsenic	37	0.00	0	0.005	0.00	15	22	0
LS-GL	Benzene	45	0.30	0	10.7	1.59	10	35	1
LS-GL	bis(2-Ethylhexyl)Phthalate	14	0.51	0	4.5	1.25	3	11	0
LS-GL	Cadmium	33	0.03	0	0.931	0.16	1	32	0
LS-GL	cis-1,2-dichloroethene	23	1.27	0	3.6	1.10	16	7	0
LS-GL	Copper	33	0.03	0	0.948	0.17	1	32	0
LS-GL	Ethylbenzene	47	0.41	0	3	0.72	16	31	0
LS-GL	Lead	35	0.03	0	0.924	0.16	5	30	0
LS-GL	m,p-Xylene	28	0.28	0	4.52	1.06	2	26	0
LS-GL	Manganese	2	0.82	0.819	0.824	0.00	2	0	0
LS-GL	Mercury	32	0.00	0	0	0.00	0	32	0
LS-GL	Methylene Chloride	23	5.60	0	17	5.32	16	7	13
LS-GL	Nickel	33	0.03	0	0.9	0.16	2	31	2
LS-GL	o-Xylene	45	0.72	0	4.2	1.13	17	28	0
LS-GL	Silver	35	0.00	0	0.0504	0.01	4	31	0
LS-GL	Tetrachloroethene	20	0.97	0	2.7	0.83	13	7	13
LS-GL	Toluene	61	1.90	0	14	2.84	38	23	0
LS-GL	total cyanide	27	0.00	0	0	0.00	0	27	0
LS-GL	total oil & grease	20	0.80	0	3.6	1.19	7	13	0

Mica Landfill Summary Statistics 2019

StationID	Analyte	Count	Average	Min	Max	StDev	# Detects	# NonDetects	# Exceedances
LS-GL	Trichloroethene	19	0.47	0	1.2	0.42	12	7	0
LS-GL	Vinyl Chloride	20	1.00	0	3.8	1.11	13	7	13
LS-GL	Xylene	21	2.83	0	9.7	2.74	16	5	0
LS-GL	Zinc	38	0.03	0	0.915	0.15	14	24	0
LS-LSW	Ammonia	11	0.18	0	0.64	0.19	8	3	0
LS-LSW	Chloride	11	109.00	18	500	141.59	11	0	0
LS-LSW	Manganese	11	0.60	0.043	1.69	0.58	11	0	0
LS-LSW	Total Dissolved Solids	11	420.91	64	1300	369.54	11	0	0
LS-LSW	Total Organic Carbon	11	11.31	0	66	18.44	10	1	0
LS-NW	Ammonia	15	0.58	0.023	4.2	1.09	15	0	0
LS-NW	Chloride	15	24.25	3.5	120	29.59	15	0	0
LS-NW	Manganese	15	1.62	0.491	3.85	0.97	15	0	0
LS-NW	Total Dissolved Solids	15	329.00	280	450	43.10	15	0	0
LS-NW	Total Organic Carbon	15	7.28	0	12	3.18	14	1	0
LS-SE	Ammonia	24	8.40	0.044	60	15.60	24	0	0
LS-SE	Chloride	24	69.08	2.7	590	116.57	24	0	0
LS-SE	Manganese	26	2.15	0.068	6.69	1.85	26	0	0
LS-SE	Total Dissolved Solids	23	631.43	0	4000	795.22	22	1	0
LS-SE	Total Organic Carbon	24	98.28	3.1	1200	240.96	24	0	0
LS-SET	1,2-Dichloroethane	4	0.05	0	0.2	0.10	1	3	0
LS-SET	1,2-Dichloropropane	4	0.15	0	0.6	0.30	1	3	0
LS-SET	Acetone	4	363.50	14	800	324.89	4	0	1
LS-SET	Arsenic	4	0.00	0.002	0.004	0.00	4	0	0
LS-SET	Benzene	4	0.18	0	0.7	0.35	1	3	0
LS-SET	bis(2-Ethylhexyl)Phthalate	4	0.00	0	0	0.00	0	4	0
LS-SET	Cadmium	4	0.00	0	0	0.00	0	4	0
LS-SET	cis-1,2-dichloroethene	4	1.63	0	3.2	1.61	3	1	0
LS-SET	Copper	4	0.00	0.002	0.006	0.00	4	0	0
LS-SET	Ethylbenzene	4	2.45	0	5.2	2.59	3	1	0
LS-SET	Lead	4	0.00	0	0	0.00	0	4	0
LS-SET	Mercury	4	0.00	0	0	0.00	0	4	0
LS-SET	Methylene Chloride	4	15.18	0	36	16.99	3	1	2
LS-SET	Nickel	4	0.00	0	0.01	0.01	1	3	1
LS-SET	o-Xylene	4	2.48	0	4.8	2.53	3	1	0
LS-SET	Silver	4	0.00	0	0	0.00	0	4	0
LS-SET	Tetrachloroethene	4	0.35	0	1.4	0.70	1	3	1
LS-SET	Toluene	4	8.60	0	16	8.10	3	1	0
LS-SET	total cyanide	4	0.00	0	0	0.00	0	4	0
LS-SET	total oil & grease	4	3.43	1.9	5.1	1.31	4	0	0
LS-SET	Trichloroethene	4	0.45	0	1.6	0.77	2	2	0
LS-SET	Vinyl Chloride	4	0.13	0	0.5	0.25	1	3	1

Mica Landfill Summary Statistics 2019

StationID	Analyte	Count	Average	Min	Max	StDev	# Detects	# NonDetects	# Exceedances
LS-SET	Xylene	4	6.38	0	13	6.57	3	1	0
LS-SET	Zinc	4	0.02	0	0.027	0.01	3	1	0
LS-TT	1,2-Dichloroethane	7	1.59	0	4.2	1.97	4	3	3
LS-TT	1,2-Dichloropropane	6	0.18	0	0.7	0.30	2	4	1
LS-TT	Acetone	10	26.93	0	120	44.39	9	1	0
LS-TT	Ammonia	2	2.10	0	4.2	2.97	1	1	0
LS-TT	Arsenic	8	0.01	0	0.0397	0.02	7	1	0
LS-TT	Benzene	8	0.08	0	0.4	0.15	2	6	0
LS-TT	bis(2-Ethylhexyl)Phthalate	6	0.20	0	1.2	0.49	1	5	0
LS-TT	Cadmium	6	0.00	0	0	0.00	0	6	0
LS-TT	Chloride	2	38.10	1.6	74.6	51.62	2	0	0
LS-TT	cis-1,2-dichloroethene	7	0.80	0	2.3	1.02	3	4	0
LS-TT	Copper	8	0.01	0.003	0.026	0.01	8	0	0
LS-TT	Ethylbenzene	8	0.31	0	1	0.44	3	5	0
LS-TT	Lead	9	0.00	0	0.002	0.00	4	5	0
LS-TT	Manganese	2	0.68	0.013	1.35	0.95	2	0	0
LS-TT	Mercury	7	0.00	0	0	0.00	0	7	0
LS-TT	Methylene Chloride	6	9.22	0	44	17.59	3	3	2
LS-TT	Nickel	7	0.00	0	0.011	0.01	2	5	2
LS-TT	o-Xylene	8	0.48	0	1.3	0.61	4	4	0
LS-TT	Silver	6	0.00	0	0	0.00	0	6	0
LS-TT	Tetrachloroethene	7	0.54	0	1.6	0.70	3	4	3
LS-TT	Toluene	10	2.17	0	4.6	1.98	6	4	0
LS-TT	total cyanide	7	0.00	0	0.009	0.00	2	5	2
LS-TT	total oil & grease	9	2.53	0	6.9	2.22	8	1	0
LS-TT	Total Organic Carbon	2	6.05	0	12.1	8.56	1	1	0
LS-TT	Trichloroethene	7	0.41	0	1.4	0.56	3	4	0
LS-TT	Vinyl Chloride	7	0.46	0	1.3	0.60	3	4	3
LS-TT	Xylene	8	1.01	0	2.8	1.18	5	3	0
LS-TT	Zinc	11	0.14	0	1.03	0.30	10	1	0
LS-USW	Ammonia	15	12.56	0.014	130	32.61	15	0	0
LS-USW	Chloride	15	282.41	6.8	2600	650.00	15	0	0
LS-USW	Manganese	15	0.66	0.022	2.18	0.62	15	0	0
LS-USW	Total Dissolved Solids	15	747.20	210	4700	1107.25	15	0	0
LS-USW	Total Organic Carbon	15	14.67	4.9	64	14.37	15	0	0
MS-004	1,2-Dichloroethane	97	0.00	0	0	0.00	0	97	0
MS-004	1,2-Dichloropropane	97	0.00	0	0	0.00	0	97	0
MS-004	Acetone	97	0.00	0	0	0.00	0	97	0
MS-004	Alkalinity	66	75.46	47	125	15.62	66	0	0
MS-004	Ammonia	96	0.02	0	1.19	0.13	19	77	0
MS-004	Arsenic	96	0.00	0	0.006	0.00	3	93	0

Mica Landfill Summary Statistics 2019

StationID	Analyte	Count	Average	Min	Max	StDev	# Detects	# NonDetects	# Exceedances
MS-004	Barium	96	0.05	0	0.075	0.01	95	1	0
MS-004	Benzene	97	0.00	0	0	0.00	0	97	0
MS-004	bis(2-Ethylhexyl)Phthalate	46	1.16	0	11.1	2.21	16	30	2
MS-004	Chloride	65	1.00	0	23	3.00	45	20	0
MS-004	cis-1,2-dichloroethene	94	0.00	0	0	0.00	0	94	0
MS-004	Ethylbenzene	88	0.00	0	0	0.00	0	88	0
MS-004	Lead	96	0.00	0	0.028	0.00	12	84	0
MS-004	m,p-Xylene	58	0.00	0	0	0.00	0	58	0
MS-004	Manganese	96	0.02	0	0.234	0.04	74	22	0
MS-004	Mercury	96	0.00	0	0.00115	0.00	1	95	0
MS-004	Methylene Chloride	97	0.00	0	0	0.00	0	97	0
MS-004	N-Nitrate	66	4.32	0.911	6.45	1.69	66	0	0
MS-004	o-Xylene	85	0.00	0	0	0.00	0	85	0
MS-004	Sulfate	65	10.74	4.1	20	2.59	65	0	0
MS-004	Tetrachloroethene	97	0.00	0	0	0.00	0	97	0
MS-004	Toluene	97	0.00	0	0	0.00	0	97	0
MS-004	Total Dissolved Solids	64	158.50	78	238	28.75	64	0	0
MS-004	Total Organic Carbon	96	1.09	0	3.7	0.93	66	30	0
MS-004	Trichloroethene	97	0.00	0	0	0.00	0	97	0
MS-004	Vanadium	96	0.00	0	0.004	0.00	5	91	0
MS-004	Vinyl Chloride	97	0.00	0	0	0.00	0	97	0
MS-004	Xylene	30	0.00	0	0	0.00	0	30	0
MS-004	Zinc	96	0.00	0	0.217	0.02	16	80	0
MS-005	1,2-Dichloroethane	97	0.00	0	0	0.00	0	97	0
MS-005	1,2-Dichloropropane	98	0.00	0	0.2	0.02	3	95	0
MS-005	Acetone	97	0.04	0	3.4	0.35	1	96	0
MS-005	Alkalinity	81	140.86	100	176	21.82	81	0	0
MS-005	Ammonia	111	0.01	0	0.526	0.05	23	88	0
MS-005	Arsenic	98	0.00	0	0.0012	0.00	2	96	0
MS-005	Barium	120	0.09	0.0442	0.121	0.02	120	0	0
MS-005	Benzene	97	0.00	0	0	0.00	0	97	0
MS-005	bis(2-Ethylhexyl)Phthalate	39	0.43	0	7.3	1.43	5	34	1
MS-005	Chloride	87	46.45	3	86.5	21.03	87	0	0
MS-005	cis-1,2-dichloroethene	96	0.14	0	0.6	0.20	31	65	0
MS-005	Ethylbenzene	88	0.00	0	0	0.00	0	88	0
MS-005	Lead	98	0.00	0	0	0.00	0	98	0
MS-005	m,p-Xylene	58	0.00	0	0	0.00	0	58	0
MS-005	Manganese	108	0.00	0	0.0229	0.00	25	83	0
MS-005	Mercury	98	0.00	0	0	0.00	0	98	0
MS-005	Methylene Chloride	102	0.28	0	1.4	0.44	34	68	0
MS-005	N-Nitrate	81	5.49	0.85	17.1	3.51	81	0	0

Mica Landfill Summary Statistics 2019

StationID	Analyte	Count	Average	Min	Max	StDev	# Detects	# NonDetects	# Exceedances
MS-005	o-Xylene	85	0.00	0	0	0.00	0	85	0
MS-005	Sulfate	78	29.02	9.8	61.1	13.82	78	0	0
MS-005	Tetrachloroethene	101	0.18	0	0.9	0.25	39	62	1
MS-005	Toluene	97	0.00	0	0	0.00	0	97	0
MS-005	Total Dissolved Solids	84	383.06	202	1000	102.66	84	0	0
MS-005	Total Organic Carbon	126	1.83	0	12.2	1.50	105	21	0
MS-005	Trichloroethene	101	0.44	0	1.6	0.53	46	55	0
MS-005	Vanadium	100	0.00	0	0.0052	0.00	17	83	0
MS-005	Vinyl Chloride	97	0.00	0	0	0.00	0	97	0
MS-005	Xylene	30	0.00	0	0	0.00	0	30	0
MS-005	Zinc	98	0.00	0	0.153	0.02	13	85	0
MS-007	Alkalinity	31	379.77	265	1200	164.79	31	0	0
MS-007	Ammonia	37	1.23	0.5	1.8	0.37	37	0	0
MS-007	Arsenic	31	0.02	0	0.0385	0.01	30	1	0
MS-007	Barium	31	0.14	0.111	0.208	0.02	31	0	0
MS-007	Chloride	37	10.43	3.2	21	5.27	37	0	0
MS-007	Manganese	37	7.73	6.2	10.7	1.04	37	0	0
MS-007	Sulfate	31	2.19	0	7.5	2.54	17	14	0
MS-007	Total Dissolved Solids	31	388.55	280	616	71.27	31	0	0
MS-007	Total Organic Carbon	37	8.50	0	24.3	3.97	35	2	0
MS-007	Vanadium	2	0.00	0	0	0.00	0	2	0
MS-007	Zinc	31	0.00	0	0.018	0.01	9	22	0
MW-009	1,2-Dichloroethane	97	0.02	0	2	0.20	1	96	1
MW-009	1,2-Dichloropropane	97	0.00	0	0	0.00	0	97	0
MW-009	Acetone	97	0.00	0	0	0.00	0	97	0
MW-009	Alkalinity	77	270.35	193	440	50.34	77	0	0
MW-009	Ammonia	102	0.01	0	0.64	0.06	25	77	0
MW-009	Arsenic	97	0.00	0	0.0015	0.00	2	95	0
MW-009	Barium	119	0.12	0.079	0.195	0.03	119	0	0
MW-009	Benzene	97	0.02	0	2.1	0.21	1	96	1
MW-009	bis(2-Ethylhexyl)Phthalate	36	0.02	0	0.85	0.14	1	35	0
MW-009	Chloride	85	54.78	14	160	41.03	85	0	0
MW-009	cis-1,2-dichloroethene	94	0.08	0	2.6	0.30	17	77	0
MW-009	Ethylbenzene	88	0.02	0	1.9	0.20	1	87	0
MW-009	Lead	96	0.00	0	0.0079	0.00	5	91	0
MW-009	m,p-Xylene	58	0.00	0	0	0.00	0	58	0
MW-009	Manganese	120	0.75	0.139	1.87	0.39	120	0	0
MW-009	Mercury	97	0.00	0	0.00014	0.00	4	93	0
MW-009	Methylene Chloride	99	0.02	0	1	0.11	3	96	0
MW-009	N-Nitrate	77	0.08	0	0.92	0.16	41	36	0
MW-009	o-Xylene	85	0.02	0	2	0.22	1	84	0

Mica Landfill Summary Statistics 2019

StationID	Analyte	Count	Average	Min	Max	StDev	# Detects	# NonDetects	# Exceedances
MW-009	Sulfate	79	11.48	2	35.5	8.39	79	0	0
MW-009	Tetrachloroethene	97	0.00	0	0	0.00	0	97	0
MW-009	Toluene	97	0.02	0	2	0.20	1	96	0
MW-009	Total Dissolved Solids	86	394.50	223	680	126.03	86	0	0
MW-009	Total Organic Carbon	121	4.25	0	153	13.71	116	5	0
MW-009	Trichloroethene	97	0.03	0	2.2	0.23	4	93	0
MW-009	Vanadium	98	0.00	0	0.00357	0.00	6	92	0
MW-009	Vinyl Chloride	97	0.02	0	1.8	0.18	2	95	2
MW-009	Xylene	30	0.00	0	0	0.00	0	30	0
MW-009	Zinc	101	0.00	0	0.0214	0.00	9	92	0
MW-010	1,2-Dichloroethane	97	0.00	0	0	0.00	0	97	0
MW-010	1,2-Dichloropropane	97	0.00	0	0	0.00	0	97	0
MW-010	Acetone	97	0.03	0	2.8	0.28	1	96	0
MW-010	Alkalinity	70	82.77	62	93.4	5.27	70	0	0
MW-010	Ammonia	98	0.02	0	0.86	0.09	16	82	0
MW-010	Arsenic	95	0.00	0	0	0.00	0	95	0
MW-010	Barium	101	0.04	0.0188	0.0483	0.00	101	0	0
MW-010	Benzene	97	0.00	0	0.2	0.02	1	96	0
MW-010	bis(2-Ethylhexyl)Phthalate	13	0.00	0	0	0.00	0	13	0
MW-010	Chloride	67	0.58	0	5.8	0.90	46	21	0
MW-010	cis-1,2-dichloroethene	94	0.01	0	0.5	0.05	1	93	0
MW-010	Ethylbenzene	88	0.00	0	0	0.00	0	88	0
MW-010	Lead	97	0.00	0	0.002	0.00	2	95	0
MW-010	m,p-Xylene	58	0.00	0	0	0.00	0	58	0
MW-010	Manganese	95	0.00	0	0.003	0.00	6	89	0
MW-010	Mercury	95	0.00	0	0	0.00	0	95	0
MW-010	Methylene Chloride	97	0.00	0	0	0.00	0	97	0
MW-010	N-Nitrate	67	0.24	0.028	0.365	0.04	67	0	0
MW-010	o-Xylene	86	0.01	0	0.4	0.05	2	84	0
MW-010	Sulfate	66	0.89	0	5.2	1.14	45	21	0
MW-010	Tetrachloroethene	97	0.00	0	0	0.00	0	97	0
MW-010	Toluene	98	0.02	0	0.9	0.10	3	95	0
MW-010	Total Dissolved Solids	71	113.38	69	160	14.60	71	0	0
MW-010	Total Organic Carbon	95	0.14	0	2.8	0.52	8	87	0
MW-010	Trichloroethene	97	0.00	0	0	0.00	0	97	0
MW-010	Vanadium	95	0.00	0	0	0.00	0	95	0
MW-010	Vinyl Chloride	97	0.00	0	0	0.00	0	97	0
MW-010	Xylene	31	0.06	0	1	0.23	2	29	0
MW-010	Zinc	98	0.00	0	0.007	0.00	8	90	0
MW-011	Alkalinity	28	2184.29	1100	4400	792.26	28	0	0
MW-011	Ammonia	34	192.08	51	480	104.94	34	0	0

Mica Landfill Summary Statistics 2019

StationID	Analyte	Count	Average	Min	Max	StDev	# Detects	# NonDetects	# Exceedances
MW-011	Arsenic	27	0.02	0	0.046	0.01	26	1	0
MW-011	Barium	28	2.66	1.14	4.8	1.04	28	0	0
MW-011	Chloride	34	6209.12	620	12300	2779.12	34	0	0
MW-011	Manganese	34	17.96	1.09	68	17.18	34	0	0
MW-011	Sulfate	27	34.60	0	300	66.19	22	5	0
MW-011	Total Dissolved Solids	28	14513.93	2500	26000	5852.09	28	0	0
MW-011	Total Organic Carbon	34	1284.18	110	6900	1499.33	34	0	0
MW-011	Zinc	28	0.27	0	6.7	1.26	17	11	0
MW-012	Alkalinity	9	140.89	110	170	25.93	9	0	0
MW-012	Ammonia	9	0.02	0	0.084	0.03	3	6	0
MW-012	Arsenic	9	0.00	0	0	0.00	0	9	0
MW-012	Barium	9	0.04	0.0292	0.05	0.01	9	0	0
MW-012	Chloride	9	5.32	4	6.8	0.87	9	0	0
MW-012	Lead	9	0.00	0	0.001	0.00	1	8	0
MW-012	Manganese	9	0.00	0	0.025	0.01	5	4	0
MW-012	Mercury	9	0.00	0	0	0.00	0	9	0
MW-012	N-Nitrate	9	0.71	0.247	1.1	0.24	9	0	0
MW-012	Sulfate	9	10.63	6.3	17	3.53	9	0	0
MW-012	Total Dissolved Solids	9	256.33	167	370	58.66	9	0	0
MW-012	Total Organic Carbon	9	3.35	0	6.4	1.87	8	1	0
MW-012	Vanadium	9	0.00	0	0.003	0.00	1	8	0
MW-012	Zinc	9	0.00	0	0.016	0.01	4	5	0
MW-013	1,2-Dichloroethane	51	0.00	0	0	0.00	0	51	0
MW-013	1,2-Dichloropropane	51	0.00	0	0	0.00	0	51	0
MW-013	Acetone	52	0.39	0	8	1.46	4	48	0
MW-013	Alkalinity	47	192.61	44.6	228	36.27	47	0	0
MW-013	Ammonia	44	0.01	0	0.158	0.03	6	38	0
MW-013	Arsenic	44	0.00	0	0.007	0.00	3	41	0
MW-013	Barium	46	0.06	0.04	0.141	0.02	46	0	0
MW-013	Benzene	51	0.01	0	0.63	0.09	1	50	0
MW-013	bis(2-Ethylhexyl)Phthalate	13	0.00	0	0	0.00	0	13	0
MW-013	Chloride	45	9.96	1.3	14	3.52	45	0	0
MW-013	cis-1,2-dichloroethene	49	0.01	0	0.2	0.04	3	46	0
MW-013	Ethylbenzene	46	0.00	0	0	0.00	0	46	0
MW-013	Lead	44	0.00	0	0.039	0.01	8	36	0
MW-013	m,p-Xylene	31	0.00	0	0	0.00	0	31	0
MW-013	Manganese	44	0.01	0	0.061	0.01	15	29	0
MW-013	Mercury	44	0.00	0	0	0.00	0	44	0
MW-013	Methylene Chloride	51	0.79	0	2.6	1.01	21	30	0
MW-013	N-Nitrate	45	2.15	0.197	6.58	1.77	45	0	0
MW-013	o-Xylene	44	0.00	0	0	0.00	0	44	0

Mica Landfill Summary Statistics 2019

StationID	Analyte	Count	Average	Min	Max	StDev	# Detects	# NonDetects	# Exceedances
MW-013	Sulfate	45	6.07	0	10.4	1.73	44	1	0
MW-013	Tetrachloroethene	52	0.68	0	1.6	0.44	40	12	21
MW-013	Toluene	52	0.02	0	0.7	0.11	3	49	0
MW-013	Total Dissolved Solids	45	262.38	121	327	38.04	45	0	0
MW-013	Total Organic Carbon	45	1.35	0	4.7	1.04	34	11	0
MW-013	Trichloroethene	51	0.20	0	0.7	0.26	21	30	0
MW-013	Vanadium	44	0.00	0	0	0.00	0	44	0
MW-013	Vinyl Chloride	51	0.00	0	0	0.00	0	51	0
MW-013	Xylene	15	0.00	0	0	0.00	0	15	0
MW-013	Zinc	44	0.01	0	0.08	0.01	11	33	0
MW-014	1,2-Dichloroethane	97	0.00	0	0	0.00	0	97	0
MW-014	1,2-Dichloropropane	97	0.00	0	0	0.00	0	97	0
MW-014	Acetone	97	0.00	0	0	0.00	0	97	0
MW-014	Alkalinity	68	75.75	62	82.6	3.10	68	0	0
MW-014	Ammonia	104	0.01	0	0.58	0.06	22	82	0
MW-014	Arsenic	98	0.00	0	0.006	0.00	10	88	0
MW-014	Barium	97	0.00	0	0.052	0.01	7	90	0
MW-014	Benzene	97	0.01	0	0.7	0.08	2	95	0
MW-014	bis(2-Ethylhexyl)Phthalate	13	0.14	0	1.8	0.50	1	12	0
MW-014	Chloride	73	1.07	0	7.1	1.13	60	13	0
MW-014	cis-1,2-dichloroethene	94	0.00	0	0	0.00	0	94	0
MW-014	Ethylbenzene	88	0.01	0	0.5	0.05	1	87	0
MW-014	Lead	97	0.00	0	0.0127	0.00	9	88	0
MW-014	m,p-Xylene	58	0.00	0	0	0.00	0	58	0
MW-014	Manganese	104	0.20	0.0505	1.78	0.24	104	0	0
MW-014	Mercury	97	0.00	0	0.0002	0.00	1	96	0
MW-014	Methylene Chloride	97	0.00	0	0	0.00	0	97	0
MW-014	N-Nitrate	66	0.00	0	0.059	0.01	12	54	0
MW-014	o-Xylene	85	0.02	0	1.5	0.17	2	83	0
MW-014	Sulfate	67	9.27	5.2	13	1.28	67	0	0
MW-014	Tetrachloroethene	97	0.00	0	0	0.00	0	97	0
MW-014	Toluene	97	0.04	0	1.6	0.21	3	94	0
MW-014	Total Dissolved Solids	66	123.36	99	166	15.22	66	0	0
MW-014	Total Organic Carbon	104	0.23	0	3.5	0.62	15	89	0
MW-014	Trichloroethene	97	0.00	0	0	0.00	0	97	0
MW-014	Vanadium	97	0.00	0	0.00115	0.00	1	96	0
MW-014	Vinyl Chloride	97	0.00	0	0	0.00	0	97	0
MW-014	Xylene	30	0.12	0	2.9	0.54	2	28	0
MW-014	Zinc	98	0.00	0	0.156	0.02	14	84	0
MW-015	1,2-Dichloroethane	27	0.00	0	0	0.00	0	27	0
MW-015	1,2-Dichloropropane	27	0.00	0	0	0.00	0	27	0

Mica Landfill Summary Statistics 2019

StationID	Analyte	Count	Average	Min	Max	StDev	# Detects	# NonDetects	# Exceedances
MW-015	Acetone	27	0.07	0	1.8	0.35	1	26	0
MW-015	Alkalinity	27	16.83	6.6	39	6.35	27	0	0
MW-015	Ammonia	27	0.03	0	0.56	0.11	9	18	0
MW-015	Arsenic	27	0.00	0	0	0.00	0	27	0
MW-015	Barium	27	0.01	0	0.015	0.00	24	3	0
MW-015	Benzene	27	0.05	0	0.7	0.16	3	24	0
MW-015	bis(2-Ethylhexyl)Phthalate	12	0.00	0	0	0.00	0	12	0
MW-015	Chloride	27	1.88	1	2.9	0.53	27	0	0
MW-015	cis-1,2-dichloroethene	26	0.00	0	0	0.00	0	26	0
MW-015	Ethylbenzene	26	0.02	0	0.5	0.10	1	25	0
MW-015	Lead	27	0.00	0	0.001	0.00	5	22	0
MW-015	Manganese	27	0.00	0	0.012	0.00	21	6	0
MW-015	Mercury	27	0.00	0	0	0.00	0	27	0
MW-015	Methylene Chloride	27	0.00	0	0	0.00	0	27	0
MW-015	N-Nitrate	27	1.37	0.41	2.2	0.43	27	0	0
MW-015	o-Xylene	25	0.04	0	0.7	0.14	2	23	0
MW-015	Sulfate	27	4.60	0	8.7	2.27	24	3	0
MW-015	Tetrachloroethene	27	0.00	0	0	0.00	0	27	0
MW-015	Toluene	27	0.24	0	3.5	0.69	7	20	0
MW-015	Total Dissolved Solids	27	75.89	35	100	15.61	27	0	0
MW-015	Total Organic Carbon	27	2.53	0	8.3	1.70	23	4	0
MW-015	Trichloroethene	27	0.00	0	0	0.00	0	27	0
MW-015	Vanadium	27	0.00	0	0	0.00	0	27	0
MW-015	Vinyl Chloride	27	0.00	0	0	0.00	0	27	0
MW-015	Xylene	26	0.10	0	2	0.40	2	24	0
MW-015	Zinc	27	0.00	0	0.01	0.00	7	20	0
MW-016	1,2-Dichloroethane	115	2.21	0	14.9	1.93	81	34	79
MW-016	1,2-Dichloropropane	116	11.56	0	18	4.59	109	7	109
MW-016	Acetone	119	3831.65	0	14300	2099.58	116	3	112
MW-016	Alkalinity	79	1334.13	369	1890	393.32	79	0	0
MW-016	Ammonia	124	0.11	0	0.4	0.09	103	21	0
MW-016	Arsenic	120	0.04	0	0.0692	0.02	117	3	0
MW-016	Barium	120	0.72	0.0928	0.899	0.14	120	0	0
MW-016	Benzene	117	13.28	0	21.3	5.09	111	6	111
MW-016	Chloride	83	86.15	2	169	55.26	83	0	0
MW-016	cis-1,2-dichloroethene	115	79.18	0	148	41.91	114	1	86
MW-016	Ethylbenzene	107	54.73	0	86.4	19.18	105	2	0
MW-016	Lead	73	0.00	0	0.0129	0.00	9	64	0
MW-016	m,p-Xylene	71	45.67	31	61.6	6.51	71	0	0
MW-016	Manganese	127	7.77	0.15	17.5	5.23	127	0	0
MW-016	Mercury	72	0.00	0	0.0034	0.00	3	69	0

Mica Landfill Summary Statistics 2019

StationID	Analyte	Count	Average	Min	Max	StDev	# Detects	# NonDetects	# Exceedances
MW-016	Methylene Chloride	113	104.86	0	560	153.72	70	43	56
MW-016	N-Nitrate	42	0.82	0	22.1	3.46	12	30	0
MW-016	o-Xylene	104	20.05	0	31.6	6.54	102	2	0
MW-016	Sulfate	76	3.24	0	24	5.10	54	22	0
MW-016	Tetrachloroethene	103	1.00	0	17	2.86	22	81	19
MW-016	Toluene	118	76.65	0	160	33.36	116	2	28
MW-016	Total Dissolved Solids	78	1914.85	375	2943	679.47	78	0	0
MW-016	Total Organic Carbon	125	320.26	4.44	770	197.14	125	0	0
MW-016	Trichloroethene	117	19.18	0	96	23.77	99	18	88
MW-016	Vanadium	74	0.00	0	0.0191	0.00	6	68	0
MW-016	Vinyl Chloride	118	8.22	0	17.1	4.58	102	16	102
MW-016	Xylene	36	32.38	0	55.9	15.57	35	1	0
MW-016	Zinc	103	0.00	0	0.11	0.01	13	90	0
MW-018	1,2-Dichloroethane	30	0.00	0	0	0.00	0	30	0
MW-018	1,2-Dichloropropane	30	0.00	0	0	0.00	0	30	0
MW-018	Acetone	30	0.55	0	9	1.86	3	27	0
MW-018	Alkalinity	30	82.66	45	98	8.78	30	0	0
MW-018	Ammonia	30	0.01	0	0.18	0.03	10	20	0
MW-018	Arsenic	30	0.00	0	0.0026	0.00	26	4	0
MW-018	Barium	30	0.01	0	0.016	0.00	26	4	0
MW-018	Benzene	30	0.12	0	1	0.29	6	24	3
MW-018	bis(2-Ethylhexyl)Phthalate	14	0.16	0	1.2	0.42	2	12	0
MW-018	Chloride	30	7.21	3.06	26	5.56	30	0	0
MW-018	cis-1,2-dichloroethene	27	0.00	0	0	0.00	0	27	0
MW-018	Ethylbenzene	28	0.00	0	0	0.00	0	28	0
MW-018	Lead	30	0.00	0	0.001	0.00	1	29	0
MW-018	Manganese	30	0.01	0	0.0257	0.01	26	4	0
MW-018	Mercury	30	0.00	0	0	0.00	0	30	0
MW-018	Methylene Chloride	30	0.00	0	0	0.00	0	30	0
MW-018	N-Nitrate	29	0.02	0	0.064	0.02	15	14	0
MW-018	o-Xylene	25	0.03	0	0.3	0.09	3	22	0
MW-018	Sulfate	30	7.42	3.4	11	1.59	30	0	0
MW-018	Tetrachloroethene	30	0.00	0	0	0.00	0	30	0
MW-018	Toluene	30	0.40	0	5	1.07	7	23	0
MW-018	Total Dissolved Solids	30	125.37	88	176	18.75	30	0	0
MW-018	Total Organic Carbon	30	0.32	0	3	0.86	4	26	0
MW-018	Trichloroethene	30	0.00	0	0	0.00	0	30	0
MW-018	Vanadium	30	0.00	0	0	0.00	0	30	0
MW-018	Vinyl Chloride	30	0.00	0	0	0.00	0	30	0
MW-018	Xylene	28	0.35	0	6	1.18	5	23	0
MW-018	Zinc	30	0.00	0	0.012	0.00	6	24	0

Mica Landfill Summary Statistics 2019

StationID	Analyte	Count	Average	Min	Max	StDev	# Detects	# NonDetects	# Exceedances
MW-019R	1,2-Dichloroethane	66	0.01	0	0.2	0.03	2	64	0
MW-019R	1,2-Dichloropropane	66	0.00	0	0.1	0.01	1	65	0
MW-019R	Acetone	66	0.00	0	0	0.00	0	66	0
MW-019R	Alkalinity	61	195.84	106	246	42.64	61	0	0
MW-019R	Ammonia	92	0.02	0	1.21	0.13	19	73	0
MW-019R	Arsenic	92	0.00	0	0.005	0.00	3	89	0
MW-019R	Barium	92	0.09	0.0374	0.201	0.03	92	0	0
MW-019R	Benzene	66	0.06	0	3.2	0.40	2	64	1
MW-019R	Chloride	61	36.99	7.8	64	18.15	61	0	0
MW-019R	cis-1,2-dichloroethene	66	0.66	0	3.08	0.91	27	39	0
MW-019R	Ethylbenzene	59	0.00	0	0	0.00	0	59	0
MW-019R	Lead	65	0.00	0	0.0081	0.00	4	61	0
MW-019R	m,p-Xylene	57	0.01	0	0.69	0.09	1	56	0
MW-019R	Manganese	92	0.02	0	0.436	0.06	81	11	0
MW-019R	Mercury	65	0.00	0	0	0.00	0	65	0
MW-019R	Methylene Chloride	66	0.00	0	0.2	0.02	1	65	0
MW-019R	N-Nitrate	35	1.41	0.91	1.68	0.13	35	0	0
MW-019R	o-Xylene	59	0.00	0	0	0.00	0	59	0
MW-019R	Sulfate	61	15.60	5.33	77	15.82	61	0	0
MW-019R	Tetrachloroethene	66	0.05	0	0.52	0.14	8	58	0
MW-019R	Toluene	66	0.07	0	3.34	0.42	3	63	0
MW-019R	Total Dissolved Solids	60	312.07	174	450	80.91	60	0	0
MW-019R	Total Organic Carbon	92	2.76	0	9	1.47	87	5	0
MW-019R	Trichloroethene	66	0.07	0	0.6	0.19	9	57	0
MW-019R	Vanadium	65	0.00	0	0	0.00	0	65	0
MW-019R	Vinyl Chloride	66	0.19	0	2.28	0.45	13	53	13
MW-019R	Xylene	2	0.00	0	0	0.00	0	2	0
MW-019R	Zinc	92	0.01	0	0.147	0.02	28	64	0
MW-020	1,2-Dichloroethane	51	0.00	0	0	0.00	0	51	0
MW-020	1,2-Dichloropropane	51	0.00	0	0	0.00	0	51	0
MW-020	Acetone	51	0.47	0	10	1.94	4	47	0
MW-020	Alkalinity	45	264.13	161	307	33.12	45	0	0
MW-020	Ammonia	44	0.01	0	0.132	0.02	6	38	0
MW-020	Arsenic	44	0.00	0	0.009	0.00	21	23	0
MW-020	Barium	44	0.25	0.0542	0.597	0.14	44	0	0
MW-020	Benzene	51	0.01	0	0.14	0.03	3	48	0
MW-020	Chloride	44	14.31	0	27.5	6.61	43	1	0
MW-020	cis-1,2-dichloroethene	49	0.02	0	0.33	0.08	4	45	0
MW-020	Ethylbenzene	46	0.00	0	0	0.00	0	46	0
MW-020	Lead	44	0.02	0	0.0626	0.02	33	11	0
MW-020	m,p-Xylene	31	0.00	0	0	0.00	0	31	0

Mica Landfill Summary Statistics 2019

StationID	Analyte	Count	Average	Min	Max	StDev	# Detects	# NonDetects	# Exceedances
MW-020	Manganese	44	0.11	0	0.434	0.10	38	6	0
MW-020	Mercury	44	0.00	0	0.00021	0.00	1	43	0
MW-020	Methylene Chloride	51	0.64	0	2.3	0.86	19	32	0
MW-020	N-Nitrate	44	6.56	0.13	8.54	1.69	44	0	0
MW-020	o-Xylene	44	0.01	0	0.34	0.07	2	42	0
MW-020	Sulfate	44	14.72	0	27.8	5.19	43	1	0
MW-020	Tetrachloroethene	51	0.02	0	0.21	0.06	6	45	0
MW-020	Toluene	51	0.03	0	1	0.15	2	49	0
MW-020	Total Dissolved Solids	44	396.14	200	784	94.10	44	0	0
MW-020	Total Organic Carbon	44	2.43	0	6.8	1.34	41	3	0
MW-020	Trichloroethene	51	0.09	0	0.5	0.16	14	37	0
MW-020	Vanadium	44	0.00	0	0.012	0.00	8	36	0
MW-020	Vinyl Chloride	51	0.01	0	0.5	0.07	3	48	3
MW-020	Xylene	15	0.09	0	1	0.27	2	13	0
MW-020	Zinc	44	0.03	0	0.099	0.02	38	6	0
MW-023	1,2-Dichloroethane	138	1.15	0	2.4	0.65	120	18	65
MW-023	1,2-Dichloropropane	134	0.80	0	1.34	0.35	120	14	97
MW-023	Acetone	107	0.63	0	7.36	1.50	19	88	0
MW-023	Alkalinity	105	528.15	0	757	139.83	104	1	0
MW-023	Ammonia	118	0.01	0	0.12	0.02	27	91	0
MW-023	Arsenic	107	0.00	0	0.00334	0.00	30	77	0
MW-023	Barium	149	0.20	0.0091	0.299	0.05	149	0	0
MW-023	Benzene	138	1.34	0	2.9	0.89	121	17	92
MW-023	bis(2-Ethylhexyl)Phthalate	16	0.51	0	3.7	1.21	3	13	0
MW-023	Chloride	110	91.67	1.38	188	52.69	110	0	0
MW-023	cis-1,2-dichloroethene	146	3.19	0	8.37	2.17	141	5	0
MW-023	Ethylbenzene	89	0.00	0	0	0.00	0	89	0
MW-023	Lead	104	0.00	0	0.023	0.00	12	92	0
MW-023	m,p-Xylene	59	0.02	0	0.68	0.11	2	57	0
MW-023	Manganese	149	0.48	0	1.21	0.50	136	13	0
MW-023	Mercury	101	0.00	0	0.0006	0.00	22	79	0
MW-023	Methylene Chloride	131	6.63	0	18.3	4.38	100	31	92
MW-023	N-Nitrate	92	1.97	0	8.04	1.94	71	21	0
MW-023	o-Xylene	118	3.99	0	13.9	3.99	87	31	0
MW-023	Sulfate	111	5.56	0	11	2.02	109	2	0
MW-023	Tetrachloroethene	120	2.11	0	9	2.55	65	55	62
MW-023	Toluene	99	0.00	0	0.22	0.02	1	98	0
MW-023	Total Dissolved Solids	108	736.55	394	1211	211.69	108	0	0
MW-023	Total Organic Carbon	162	5.23	0	60	6.88	156	6	0
MW-023	Trichloroethene	152	3.54	0	9.7	2.66	144	8	62
MW-023	Vanadium	112	0.00	0	0.00935	0.00	33	79	0

Mica Landfill Summary Statistics 2019

StationID	Analyte	Count	Average	Min	Max	StDev	# Detects	# NonDetects	# Exceedances
MW-023	Vinyl Chloride	140	1.14	0	3.8	0.86	120	20	120
MW-023	Xylene	35	0.31	0	1	0.36	16	19	0
MW-023	Zinc	104	0.00	0	0.0309	0.00	12	92	0
MW-024	Arsenic	15	0.00	0	0	0.00	0	15	0
MW-024	Barium	15	0.03	0	0.0497	0.01	14	1	0
MW-024	Lead	15	0.00	0	0	0.00	0	15	0
MW-024	Manganese	15	0.00	0	0.0082	0.00	10	5	0
MW-024	Mercury	15	0.00	0	0	0.00	0	15	0
MW-024	Vanadium	15	0.00	0	0.00151	0.00	1	14	0
MW-024	Zinc	15	0.01	0	0.017	0.01	13	2	0
MW-025	Arsenic	15	0.00	0	0.0017	0.00	2	13	0
MW-025	Barium	15	0.06	0.052	0.061	0.00	15	0	0
MW-025	Lead	15	0.00	0	0.0022	0.00	3	12	0
MW-025	Manganese	15	0.00	0	0.005	0.00	4	11	0
MW-025	Mercury	15	0.00	0	0	0.00	0	15	0
MW-025	Vanadium	15	0.00	0	0.004	0.00	8	7	0
MW-025	Zinc	15	0.00	0	0	0.00	0	15	0
MW-026	Arsenic	15	0.00	0	0.001	0.00	1	14	0
MW-026	Barium	17	0.06	0.0513	0.065	0.00	17	0	0
MW-026	Lead	15	0.00	0	0.001	0.00	1	14	0
MW-026	Manganese	15	0.00	0	0.003	0.00	1	14	0
MW-026	Mercury	15	0.00	0	0	0.00	0	15	0
MW-026	Vanadium	16	0.00	0	0.00225	0.00	2	14	0
MW-026	Zinc	15	0.00	0	0.01	0.00	1	14	0
MW-027	Alkalinity	9	157.78	130	210	24.27	9	0	0
MW-027	Ammonia	9	0.00	0	0.029	0.01	1	8	0
MW-027	Arsenic	15	0.00	0	0.0016	0.00	2	13	0
MW-027	Barium	17	0.15	0.128	0.176	0.01	17	0	0
MW-027	Chloride	10	51.83	12	77	20.00	10	0	0
MW-027	Lead	15	0.00	0	0.001	0.00	1	14	0
MW-027	Manganese	15	0.00	0	0.0231	0.01	8	7	0
MW-027	Mercury	15	0.00	0	0	0.00	0	15	0
MW-027	N-Nitrate	10	0.90	0.59	1.9	0.39	10	0	0
MW-027	Sulfate	10	15.34	12	18	1.84	10	0	0
MW-027	Total Dissolved Solids	9	340.56	300	367	23.05	9	0	0
MW-027	Total Organic Carbon	10	1.73	0	3.9	1.45	7	3	0
MW-027	Vanadium	17	0.00	0	0.0045	0.00	8	9	0
MW-027	Zinc	17	0.00	0	0.011	0.00	4	13	0
MW-028	1,2-Dichloroethane	9	0.00	0	0	0.00	0	9	0
MW-028	1,2-Dichloropropane	9	0.00	0	0	0.00	0	9	0
MW-028	Acetone	9	0.00	0	0	0.00	0	9	0

Mica Landfill Summary Statistics 2019

StationID	Analyte	Count	Average	Min	Max	StDev	# Detects	# NonDetects	# Exceedances
MW-028	Alkalinity	9	181.67	140	240	33.54	9	0	0
MW-028	Ammonia	9	0.01	0	0.035	0.01	2	7	0
MW-028	Arsenic	15	0.00	0	0.0011	0.00	1	14	0
MW-028	Barium	15	0.09	0.0551	0.19	0.04	15	0	0
MW-028	Benzene	9	0.00	0	0	0.00	0	9	0
MW-028	bis(2-Ethylhexyl)Phthalate	8	0.00	0	0	0.00	0	8	0
MW-028	Chloride	9	36.01	1.1	160	55.99	9	0	0
MW-028	cis-1,2-dichloroethene	7	0.00	0	0	0.00	0	7	0
MW-028	Ethylbenzene	9	0.00	0	0	0.00	0	9	0
MW-028	Lead	15	0.00	0	0	0.00	0	15	0
MW-028	Manganese	15	0.00	0	0.003	0.00	2	13	0
MW-028	Mercury	15	0.00	0	0	0.00	0	15	0
MW-028	Methylene Chloride	9	0.00	0	0	0.00	0	9	0
MW-028	N-Nitrate	9	12.22	8.4	14.7	2.48	9	0	0
MW-028	o-Xylene	7	0.00	0	0	0.00	0	7	0
MW-028	Sulfate	9	17.31	14	21	2.52	9	0	0
MW-028	Tetrachloroethene	9	0.00	0	0	0.00	0	9	0
MW-028	Toluene	9	0.00	0	0	0.00	0	9	0
MW-028	Total Dissolved Solids	9	374.33	294	620	121.62	9	0	0
MW-028	Total Organic Carbon	9	1.11	0	3.9	1.46	4	5	0
MW-028	Trichloroethene	9	0.00	0	0	0.00	0	9	0
MW-028	Vanadium	15	0.00	0	0.004	0.00	4	11	0
MW-028	Vinyl Chloride	9	0.00	0	0	0.00	0	9	0
MW-028	Xylene	9	0.00	0	0	0.00	0	9	0
MW-028	Zinc	15	0.00	0	0.007	0.00	2	13	0
MW-029	1,2-Dichloroethane	97	0.00	0	0	0.00	0	97	0
MW-029	1,2-Dichloropropane	97	0.00	0	0	0.00	0	97	0
MW-029	Acetone	97	0.06	0	3.78	0.42	2	95	0
MW-029	Alkalinity	66	51.94	26	311	35.67	66	0	0
MW-029	Ammonia	96	0.01	0	0.08	0.02	18	78	0
MW-029	Arsenic	96	0.00	0	0.001	0.00	1	95	0
MW-029	Barium	96	0.10	0.03	2.51	0.25	96	0	0
MW-029	Benzene	97	0.00	0	0	0.00	0	97	0
MW-029	bis(2-Ethylhexyl)Phthalate	37	1.98	0	71	11.66	3	34	1
MW-029	Chloride	66	106.15	38	176	50.75	66	0	0
MW-029	cis-1,2-dichloroethene	94	0.00	0	0	0.00	0	94	0
MW-029	Ethylbenzene	88	0.00	0	0.3	0.03	1	87	0
MW-029	Lead	96	0.00	0	0	0.00	0	96	0
MW-029	m,p-Xylene	58	0.00	0	0	0.00	0	58	0
MW-029	Manganese	96	0.01	0	1.17	0.12	29	67	0
MW-029	Mercury	96	0.00	0	0	0.00	0	96	0

Mica Landfill Summary Statistics 2019

StationID	Analyte	Count	Average	Min	Max	StDev	# Detects	# NonDetects	# Exceedances
MW-029	Methylene Chloride	97	0.00	0	0	0.00	0	97	0
MW-029	N-Nitrate	66	0.81	0.49	2.26	0.30	66	0	0
MW-029	o-Xylene	85	0.01	0	0.5	0.05	1	84	0
MW-029	Sulfate	65	4.98	0	9.9	1.67	62	3	0
MW-029	Tetrachloroethene	97	0.31	0	0.97	0.32	51	46	2
MW-029	Toluene	97	0.04	0	2	0.24	5	92	0
MW-029	Total Dissolved Solids	64	332.92	150	530	123.65	64	0	0
MW-029	Total Organic Carbon	96	0.32	0	5	0.84	17	79	0
MW-029	Trichloroethene	97	0.01	0	0.61	0.06	1	96	0
MW-029	Vanadium	96	0.00	0	0.00108	0.00	1	95	0
MW-029	Vinyl Chloride	97	0.00	0	0	0.00	0	97	0
MW-029	Xylene	30	0.14	0	3	0.59	2	28	0
MW-029	Zinc	96	0.00	0	0.02	0.00	10	86	0
MW-031	1,2-Dichloroethane	62	0.00	0	0	0.00	0	62	0
MW-031	1,2-Dichloropropane	62	0.00	0	0	0.00	0	62	0
MW-031	Acetone	63	0.04	0	1.4	0.22	2	61	0
MW-031	Alkalinity	41	131.14	31	280	91.65	41	0	0
MW-031	Ammonia	65	0.01	0	0.092	0.03	19	46	0
MW-031	Arsenic	63	0.00	0	0.0019	0.00	9	54	0
MW-031	Barium	65	0.08	0.03	0.15	0.04	65	0	0
MW-031	Benzene	62	0.00	0	0	0.00	0	62	0
MW-031	bis(2-Ethylhexyl)Phthalate	8	0.14	0	1.1	0.39	1	7	0
MW-031	Chloride	42	5.40	1	38	5.96	42	0	0
MW-031	cis-1,2-dichloroethene	62	0.00	0	0	0.00	0	62	0
MW-031	Ethylbenzene	57	0.00	0	0	0.00	0	57	0
MW-031	Lead	63	0.00	0	0.002	0.00	5	58	0
MW-031	m,p-Xylene	37	0.00	0	0	0.00	0	37	0
MW-031	Manganese	66	0.09	0	0.963	0.18	55	11	0
MW-031	Mercury	62	0.00	0	0	0.00	0	62	0
MW-031	Methylene Chloride	62	0.00	0	0	0.00	0	62	0
MW-031	N-Nitrate	40	0.34	0	2.44	0.55	33	7	0
MW-031	o-Xylene	57	0.00	0	0	0.00	0	57	0
MW-031	Sulfate	42	6.09	0	17	3.24	41	1	0
MW-031	Tetrachloroethene	62	0.00	0	0	0.00	0	62	0
MW-031	Toluene	62	0.00	0	0.3	0.04	1	61	0
MW-031	Total Dissolved Solids	41	194.22	61	340	81.44	41	0	0
MW-031	Total Organic Carbon	66	5.00	0	15	2.22	65	1	0
MW-031	Trichloroethene	62	0.00	0	0	0.00	0	62	0
MW-031	Vanadium	63	0.00	0	0.0077	0.00	15	48	0
MW-031	Vinyl Chloride	62	0.00	0	0	0.00	0	62	0
MW-031	Xylene	20	0.00	0	0	0.00	0	20	0

Mica Landfill Summary Statistics 2019

StationID	Analyte	Count	Average	Min	Max	StDev	# Detects	# NonDetects	# Exceedances
MW-031	Zinc	64	0.00	0	0.013	0.00	13	51	0
SW-1	Ammonia	2	0.01	0	0.021	0.01	1	1	0
SW-1	Arsenic	3	0.00	0.001	0.002	0.00	3	0	0
SW-1	Barium	3	0.06	0.062	0.0663	0.00	3	0	0
SW-1	bis(2-Ethylhexyl)Phthalate	3	0.40	0	1.2	0.69	1	2	0
SW-1	Chloride	3	7.90	6.6	9.3	1.35	3	0	0
SW-1	Copper	3	0.01	0.002	0.0111	0.00	3	0	0
SW-1	Lead	2	0.00	0	0	0.00	0	2	0
SW-1	Mercury	2	0.00	0	0	0.00	0	2	0
SW-1	N-Nitrate	3	0.97	0.022	1.5	0.83	3	0	0
SW-1	Silver	2	0.00	0	0	0.00	0	2	0
SW-1	total cyanide	2	0.00	0	0	0.00	0	2	0
SW-1	Total Organic Carbon	3	8.97	6.7	13	3.50	3	0	0
SW-1	Zinc	3	0.03	0.021	0.0396	0.01	3	0	0
SW-2	Ammonia	2	0.06	0.017	0.095	0.06	2	0	0
SW-2	Arsenic	2	0.00	0	0.002	0.00	1	1	0
SW-2	Barium	2	0.58	0.124	1.04	0.65	2	0	0
SW-2	bis(2-Ethylhexyl)Phthalate	2	0.00	0	0	0.00	0	2	0
SW-2	Chloride	2	15.05	9.1	21	8.41	2	0	0
SW-2	Copper	2	0.06	0.0088	0.109	0.07	2	0	0
SW-2	Lead	2	0.03	0	0.062	0.04	1	1	0
SW-2	Mercury	2	0.00	0	0.0001	0.00	1	1	0
SW-2	N-Nitrate	2	0.45	0.014	0.89	0.62	2	0	0
SW-2	Silver	2	0.00	0	0.0002	0.00	1	1	0
SW-2	total cyanide	2	0.00	0	0	0.00	0	2	0
SW-2	Total Organic Carbon	2	7.60	7	8.2	0.85	2	0	0
SW-2	Zinc	2	0.16	0.0052	0.316	0.22	2	0	0
SW-3	Ammonia	3	0.01	0.01	0.019	0.00	3	0	0
SW-3	Arsenic	3	0.00	0.0011	0.004	0.00	3	0	0
SW-3	Barium	3	0.18	0.154	0.191	0.02	3	0	0
SW-3	bis(2-Ethylhexyl)Phthalate	2	0.00	0	0	0.00	0	2	0
SW-3	Chloride	3	21.00	15	25	5.29	3	0	0
SW-3	Copper	2	0.00	0	0	0.00	0	2	0
SW-3	Lead	2	0.00	0	0.001	0.00	1	1	0
SW-3	Mercury	2	0.00	0	0	0.00	0	2	0
SW-3	N-Nitrate	3	0.79	0.37	1.6	0.70	3	0	0
SW-3	Silver	2	0.00	0	0	0.00	0	2	0
SW-3	total cyanide	2	0.00	0	0	0.00	0	2	0
SW-3	Total Organic Carbon	3	7.83	6.7	9.4	1.40	3	0	0
SW-3	Zinc	3	0.00	0	0.0052	0.00	2	1	0

APPENDIX C - DATA VALIDATION

Analytical data for the September 2019 sample round was reviewed using quality control (QC) criteria documented in the analytical method, *National Functional Guidelines for Organic Data Review and Inorganic Data Review (1994*, and the *Work Plan for Interim Action Compliance Monitoring Mica Landfill Spokane County, Washington (October 1994)* as amended by the County and Ecology in February, 2001.

Data Qualifier Summary for September 2019 Sampling Results

StationID	SampleDate	Analyte	Type	Units	SampleID	Reporting Limit	Result	Qualifier
MW-16	4/23/2019	Alkalinity	C	mg/L as Ca	GWMW-016-190412	1	1	REJ
MW-016	6/12/2019	N-Nitrate	C	mg/L	GWMW-016-190612	0.05	0.05	UJ

Laboratory explanation for the rejection (REJ) of the alkalinity value from sample GWMW-016-190412 collected on 4/23/2019:

“We have finished the reanalysis for Alk on sample 1 of the above work order. There was a data upload error on this sample for the original report. We will be reissuing your report with the corrected Alk result in duplicate.

“Alkalinity was reanalyzed; the reanalysis did not confirm the original analysis. Our apologies for the inconvenience.”

Laboratory explanation for the estimation (J) of the n-nitrate value from sample GWMW-016-190612 collected on 6/12/2019:

“SVL just reviewed the set-up for this sample and found a mistake. The NO3 did not get assigned, and so was not run within hold time. It can be run today, but the hold time expired at 9:01 this morning. I am sorry for this. What would you like us to do? The NO3 data would be qualified as out of hold time.”

“We will remove the NO3 charge, since it was our mistake. We will go forward with the analysis.”

APPENDIX D - LANDFILL GAS PROBE MEASUREMENTS

Mica Landfill Gas Measurements

Tech: GF

Date: 1/8/2019

Temp: 25-32 deg F

Weather: cldy

Baro. Pres: 30.25 @ 730

Qualifier: F

Gas Extraction Monitoring Data

Filename: MP190108.XLS

Inst. Used: Landtec Gem 500 # 760

Time Gem Calib: 1000

Time Gem Checked:

Baro. Pres: 30.16 @ 1203

Code	Time	Date	CH4	CO2	O2	Bal	Static Pre	Differenti	Temp	Refere	Adjus	Valve Pos	Comments
MGP00012	10:08	1/8/2019	0	0.9	20.3	78.8	0	0.52	>>>	>>>	>>>	>>>	
MGP0002R	10:18	1/8/2019	0	0	21.1	78.9	0	0	>>>	>>>	>>>	>>>	
MGP00007	10:28	1/8/2019	0	3.8	17.3	78.9	0	0	>>>	>>>	>>>	>>>	
MGP00008	10:38	1/8/2019	0	1.6	19.2	79.2	0	0.04	>>>	>>>	>>>	>>>	
MGP00009	10:54	1/8/2019	0	4	17.5	78.5	0	0.19	>>>	>>>	>>>	>>>	
MGP00001	10:58	1/8/2019							>>>	>>>	>>>	>>>	gw in screen, ns
MGP00006	11:09	1/8/2019							>>>	>>>	>>>	>>>	gw in screen, ns
MGP00011	11:20	1/8/2019	0	1.4	19.6	79	0	0.24	>>>	>>>	>>>	>>>	
MGP00005	11:27	1/8/2019	0	2.2	18.9	78.9	0	0	>>>	>>>	>>>	>>>	
MGP00010	11:34	1/8/2019	0	6.4	15	78.6	0	0	>>>	>>>	>>>	>>>	
MGP00003	11:45	1/8/2019	0	5.9	2.3	91.8	0	0	>>>	>>>	>>>	>>>	

Mica Landfill Gas Measurements

Tech: GF

Date: 2/6/2019

Temp: 19-20 deg F

Weather: ptly cldy

Baro. Pres: 30.04 @ 1015

Qualifier: R

Gas Extraction Monitoring Data

Filename: MP190206.XLS

Inst. Used: Landtec Gem 500 # 760

Time Gem Calib: 1100

Time Gem Checked:

Baro. Pres: 30.08 @ 1300

Code	Time	Date	CH4	CO2	O2	Bal	Static Pre	Differenti	Temp	Refere	Adjus	Valve Pos	Comments
MGP00012	11:04	2/6/2019	0	0.9	19.7	79.4	0	-2.04	>>>	>>>	>>>	>>>	
MGP0002R	11:11	2/6/2019	0	0.9	19.6	79.5	0	-0.02	>>>	>>>	>>>	>>>	
MGP00007	11:20	2/6/2019	0	1.2	19.5	79.3	0	-0.03	>>>	>>>	>>>	>>>	
MGP00008	11:34	2/6/2019	0	1.1	19.6	79.3	0	0	>>>	>>>	>>>	>>>	
MGP00009	11:43	2/6/2019	0	2.8	18	79.2	0	-1.36	>>>	>>>	>>>	>>>	
MGP00001	11:48	2/6/2019							>>>	>>>	>>>	>>>	gw in screen, no sample
MGP00006	11:54	2/6/2019							>>>	>>>	>>>	>>>	gw in screen, no sample
MGP00011	12:26	2/6/2019	0	0.1	20.1	79.8	0	-0.42	>>>	>>>	>>>	>>>	
MGP00005	12:32	2/6/2019	0	2.5	18	79.5	0	0	>>>	>>>	>>>	>>>	
MGP00010	12:38	2/6/2019	0	7.2	13.8	79	0	0	>>>	>>>	>>>	>>>	
MGP00003	12:47	2/6/2019							>>>	>>>	>>>	>>>	gw in screen, no sample

Mica Landfill Gas Measurements

Tech: GF

Date: 3/7/2019

Temp: 30-33 deg F

Weather: ptly cldy

Baro. Pres: 29.88 @ 830

Qualifier: Rising

Gas Extraction Monitoring Data

Filename: MP190307.XLS

Inst. Used: Landtec Gem 500 # 546

Time Gem Calib: 1015

Time Gem Checked:

Baro. Pres: 29.92 @ 1145

Code	Time	Date	CH4	CO2	O2	Bal	Static Pre	Differenti	Temp	Refere	Adjus	Valve Pos:	Comments
MGP00012	10:24	3/7/2019	0	1.3	19.9	78.8	0	-1.43	>>>	>>>	>>>	>>>	
MGP0002R	10:29	3/7/2019	0	13.8	9.7	76.5	0	0	>>>	>>>	>>>	>>>	
MGP00007	10:35	3/7/2019	0	3.2	17.3	79.5	0	-0.01	>>>	>>>	>>>	>>>	
MGP00008	10:42	3/7/2019	0	1.9	19.5	78.6	0	-0.48	>>>	>>>	>>>	>>>	
MGP00009	10:49	3/7/2019	0	3.8	16.7	79.5	0	-0.85	>>>	>>>	>>>	>>>	
MGP00001	10:55	3/7/2019							>>>	>>>	>>>	>>>	gw in screen, no sample
MGP00006	11:49	3/7/2019							>>>	>>>	>>>	>>>	gw in screen, no sample
MGP00011	12:02	3/7/2019	0	2.1	18.3	79.6	0	-0.25	>>>	>>>	>>>	>>>	
MGP00005	12:08	3/7/2019	0	2.2	18.5	79.3	0	0	>>>	>>>	>>>	>>>	
MGP00010	12:13	3/7/2019	0	6.2	14.1	79.7	0	0	>>>	>>>	>>>	>>>	
MGP00003	12:23	3/7/2019	0	4.3	11.8	83.9	0	0	>>>	>>>	>>>	>>>	

Mica Landfill Gas Measurements

Tech: GF

Date: 4/4/2019

Temp: 45-55 deg F

Weather: cldy

Baro. Pres: 29.99 @ 900

Qualifier: Falling (F)

Gas Extraction Monitoring Data

Filename: MP190404.XLS

Inst. Used: Landtec Gem 500 # 760

Time Gem Calib: 845

Time Gem Checked:

Baro. Pres: 29.95 @ 1415

Code	Time	Date	CH4	CO2	O2	Bal	Static Pre	Differenti	Temp	Refere	Adjus	Valve Pos	Comments
MGP00012	8:54	4/4/2019	0	1.1	19.7	79.2	0	-0.81	>>>	>>>	>>>	>>>	
MGP0002R	9:41	4/4/2019	0	10.9	12.7	76.4	0	0	>>>	>>>	>>>	>>>	
MGP00007	10:01	4/4/2019	0	3.9	16.8	79.3	0	0	>>>	>>>	>>>	>>>	
MGP00008	10:12	4/4/2019	0	3.4	17.6	79	0	-0.13	>>>	>>>	>>>	>>>	
MGP00009	10:23	4/4/2019	0	3.8	16.6	79.6	0	-0.59	>>>	>>>	>>>	>>>	
MGP00001	10:37	4/4/2019							>>>	>>>	>>>	>>>	gw in screen, no sample
MGP00006	10:52	4/4/2019							>>>	>>>	>>>	>>>	gw in screen, no sample
MGP00011	11:01	4/4/2019	0	1.8	18.6	79.6	0	0	>>>	>>>	>>>	>>>	
MGP00005	11:39	4/4/2019							>>>	>>>	>>>	>>>	gw in screen, no sample
MGP00010	11:51	4/4/2019	0	3.7	14	82.3	0	0	>>>	>>>	>>>	>>>	
MGP00003	12:10	4/4/2019							>>>	>>>	>>>	>>>	gw in screen, no sample

Mica Landfill Gas Measurements

Tech: GF

Date: 5/7/2019

Temp: 52-67 deg F

Weather: mstly clear

Baro. Pres: 29.97 @ 815

Qualifier: Steady (S)

Gas Extraction Monitoring Data

Filename: MP190507.XLS

Inst. Used: Landtec Gem 500 # 760

Time Gem Calib: 750

Time Gem Checked:

Baro. Pres: 29.97 @ 1250

Code	Time	Date	CH4	CO2	O2	Bal	Static Pre	Differenti	Temp	Refere	Adjus	Valve Pos	Comments
MGP00012	7:57	5/7/2019	0	0.6	20	79.4	0	-0.51	>>>	>>>	>>>	>>>	
MGP0002R	8:03	5/7/2019	0	0.1	20.7	79.2	0	0	>>>	>>>	>>>	>>>	
MGP00007	8:10	5/7/2019	0	3.8	17	79.2	0	-0.01	>>>	>>>	>>>	>>>	
MGP00008	8:17	5/7/2019	0	3.2	17.8	79	0	-0.16	>>>	>>>	>>>	>>>	
MGP00009	8:27	5/7/2019	0	3.7	16.6	79.7	0	-0.23	>>>	>>>	>>>	>>>	
MGP00006	8:32	5/7/2019							>>>	>>>	>>>	>>>	gw in screen, ns
MGP00003	8:40	5/7/2019	0	4.8	6	89.2	0	0	>>>	>>>	>>>	>>>	
MGP00001	9:39	5/7/2019							>>>	>>>	>>>	>>>	gw in screen, ns
MGP00011	11:15	5/7/2019	0	1.9	18.4	79.7	0	0	>>>	>>>	>>>	>>>	
MGP00005	11:21	5/7/2019	0	1.9	17.9	80.2	0	0	>>>	>>>	>>>	>>>	
MGP00010	11:27	5/7/2019	0	7.2	11.4	81.4	0	0	>>>	>>>	>>>	>>>	

Mica Landfill Gas Measurements

Tech: GF

Date: 6/4/2019

Temp: 65-69 deg F

Weather: ptly cldy

Baro. Pres: 30.01 @ 800

Qualifier: R

Gas Extraction Monitoring Data

Filename: MP190604.XLS

Inst. Used: Landtec Gem 500 # 760

Time Gem Calib: 832

Time Gem Checked:

Baro. Pres: 30.02 @ 1215

Code	Time	Date	CH4	CO2	O2	Bal	Static Pre	Differenti	Temp	Refere	Adjus	Valve Pos	Comments
MGP00012	8:42	6/4/2019	0	1.4	19.1	79.5	0	-0.77	>>>	>>>	>>>	>>>	
MGP0002R	8:49	6/4/2019	0	1.5	19.5	79	0	0	>>>	>>>	>>>	>>>	
MGP00007	8:56	6/4/2019	0	1.4	19.4	79.2	0	0	>>>	>>>	>>>	>>>	
MGP00008	9:04	6/4/2019	0	3.5	17.1	79.4	0	-0.17	>>>	>>>	>>>	>>>	
MGP00009	9:30	6/4/2019	0	2.3	18	79.7	0	-0.18	>>>	>>>	>>>	>>>	
MGP00001	9:40	6/4/2019	0.1	0.6	17.8	81.5	0	0	>>>	>>>	>>>	>>>	
MGP00006	9:48	6/4/2019							>>>	>>>	>>>	e	gw in screen, no sample
MGP00003	9:54	6/4/2019	0	6	4.5	89.5	0	0	>>>	>>>	>>>	>>>	
MGP00011	10:38	6/4/2019	0	3.6	17.3	79.1	0	-0.09	>>>	>>>	>>>	>>>	
MGP00005	10:43	6/4/2019							>>>	>>>	>>>	>>>	gw in screen, no sample
MGP00010	10:50	6/4/2019	0	8.3	10.8	80.9	0	0	>>>	>>>	>>>	>>>	

Mica Landfill Gas Measurements

Tech: GF

Date: 7/1/2019

Temp: 61-81 deg F

Weather: ptly cldy

Baro. Pres: 29.98 @ 830

Qualifier: Falling

Gas Extraction Monitoring Data

Filename: MP190701.XLS

Inst. Used: Landtec Gem 500 # 760

Time Gem Calib: 1005

Time Gem Checked:

Baro. Pres: 29.94 @ 1410

Code	Time	Date	CH4	CO2	O2	Bal	Static Pre	Differenti	Temp	Refere	Adjus	Valve Pos	Comments
MGP00012	10:14	7/1/2019	0	1.1	19.4	79.5	0	0.08	>>>	>>>	>>>	>>>	
MGP0002R	10:20	7/1/2019	0.1	10	16	73.9	0	0	>>>	>>>	>>>	>>>	
MGP00007	10:33	7/1/2019	0	3.1	16.6	80.3	0	0	>>>	>>>	>>>	>>>	
MGP00008	10:46	7/1/2019	0	2.7	17.4	79.9	0	0.08	>>>	>>>	>>>	>>>	
MGP00009	10:55	7/1/2019	0	4.8	15.1	80.1	0	0.1	>>>	>>>	>>>	>>>	
MGP00001	11:11	7/1/2019	0	4	0	96	0	0	>>>	>>>	>>>	>>>	
MGP00006	11:18	7/1/2019	0	5.8	15	79.2	0	0	>>>	>>>	>>>	>>>	
MGP00011	12:16	7/1/2019	0	2.6	17.3	80.1	0	0.06	>>>	>>>	>>>	>>>	
MGP00005	12:24	7/1/2019	0	3.9	16.1	80	0	0	>>>	>>>	>>>	>>>	
MGP00010	12:38	7/1/2019	0	9.2	11.1	79.7	0	0.01	>>>	>>>	>>>	>>>	
MGP00003	12:49	7/1/2019	0	7.4	1.7	90.9	0	0	>>>	>>>	>>>	>>>	

Mica Landfill Gas Measurements

Tech: GF

Date: 8/6/2019

Temp: 70-88 deg F

Weather: cloudless yet smoky skies

Baro. Pres: 29.92 @ 800

Qualifier: F

Gas Extraction Monitoring Data

Filename: MP190806.XLS

Inst. Used: Landtec Gem 500 # 760

Time Gem Calib: 800

Time Gem Checked:

Baro. Pres: 29.9 @ 1230

Code	Time	Date	CH4	CO2	O2	Bal	Static Pre	Differenti	Temp	Refere	Adjus	Valve Pos	Comments
MGP00012	8:03	8/6/2019	0	1.1	19.4	79.5	0	-0.08	>>>	>>>	>>>	>>>	
MGP0002R	8:20	8/6/2019	0.1	1.7	19.7	78.5	0	0	>>>	>>>	>>>	>>>	
MGP00007	8:30	8/6/2019	0	3.8	15.6	80.6	0	0	>>>	>>>	>>>	>>>	
MGP00008	8:37	8/6/2019	0	3.5	16.8	79.7	0	0	>>>	>>>	>>>	>>>	
MGP00009	9:12	8/6/2019	0	5	15.2	79.8	0	0	>>>	>>>	>>>	>>>	
MGP00001	9:20	8/6/2019	0.1	5.2	0.1	94.6	0	0	>>>	>>>	>>>	>>>	
MGP00006	9:31	8/6/2019	0	2	18.6	79.4	0	0	>>>	>>>	>>>	>>>	
MGP00011	10:37	8/6/2019	0	2.4	18.1	79.5	0	0	>>>	>>>	>>>	>>>	
MGP00005	10:44	8/6/2019	0	3.2	17.3	79.5	0	0.02	>>>	>>>	>>>	>>>	
MGP00010	10:52	8/6/2019	0	7	14.7	78.3	0	-0.01	>>>	>>>	>>>	>>>	
MGP00003	11:02	8/6/2019	0	10.3	2.7	87	0	0	>>>	>>>	>>>	>>>	

Mica Landfill Gas Measurements

Tech: GF

Date: 9/3/2019

Temp: 65-80 deg F

Weather: clear to ptly cldy

Baro. Pres: 29.96 @ 840

Qualifier: Falling

Gas Extraction Monitoring Data

Filename: MP190903.XLS

Inst. Used: Landtec Gem 500 # 760

Time Gem Calib: 1030

Time Gem Checked:

Baro. Pres: 29.86 @ 1440

Code	Time	Date	CH4	CO2	O2	Bal	Static Pre	Differenti	Temp	Refere	Adjus	Valve Pos	Comments
MGP00012	10:45	9/3/2019	0	1	19.6	79.4	0	0.13	>>>	>>>	>>>	>>>	
MGP00009	10:55	9/3/2019	0	5.3	15.9	78.8	0	0	>>>	>>>	>>>	>>>	
MGP0002R	11:00	9/3/2019	0	11.8	15.7	72.5	0	0.02	>>>	>>>	>>>	>>>	
MGP00007	11:18	9/3/2019	0	3.6	16	80.4	0	0.18	>>>	>>>	>>>	>>>	
MGP00008	11:26	9/3/2019	0	3.6	16.9	79.5	0	0.04	>>>	>>>	>>>	>>>	
MGP00001	11:57	9/3/2019	0.1	6.1	0.1	93.7	0	0	>>>	>>>	>>>	>>>	
MGP00006	13:54	9/3/2019	0	1.5	19.2	79.3	0	0	>>>	>>>	>>>	>>>	
MGP00011	14:03	9/3/2019	0	1.5	18.8	79.7	0	0.23	>>>	>>>	>>>	>>>	
MGP00005	14:12	9/3/2019	0	2.5	18.3	79.2	0	0	>>>	>>>	>>>	>>>	
MGP00010	14:19	9/3/2019	0	5.9	15.9	78.2	0	0	>>>	>>>	>>>	>>>	
MGP00003	14:28	9/3/2019	0	11.8	4.2	84	0	0	>>>	>>>	>>>	>>>	

Mica Landfill Gas Measurements

Tech: GF

Date: 10/8/2019

Temp: 48-52 deg F

Weather: ptly cldy

Baro. Pres: 29.62 @ 715

Qualifier: Rising

Gas Extraction Monitoring Data

Filename: MP191008.XLS

Inst. Used: Landtec Gem 500 # 760

Time Gem Calib: 920

Time Gem Checked:

Baro. Pres: 29.66 @ 1201

Code	Time	Date	CH4	CO2	O2	Bal	Static Pre	Differenti	Temp	Refere	Adjus	Valve Pos	Comments
MGP00012	9:28	10/8/2019	0	1.2	19.7	79.1	0	0.02	>>>	>>>	>>>	>>>	
MGP0002R	9:44	10/8/2019	0.1	15.3	13.8	70.8	0	0	>>>	>>>	>>>	>>>	
MGP00007	9:53	10/8/2019	0	3.9	16.3	79.8	0	0.01	>>>	>>>	>>>	>>>	
MGP00008	10:01	10/8/2019	0	3.9	17	79.1	0	-0.07	>>>	>>>	>>>	>>>	
MGP00009	10:09	10/8/2019	0	5.3	16.1	78.6	0	-0.1	>>>	>>>	>>>	>>>	
MGP00001	10:20	10/8/2019	0.1	6.2	0.5	93.2	0	0	>>>	>>>	>>>	>>>	
MGP00006	10:37	10/8/2019	0	1.3	19.7	79	0	0	>>>	>>>	>>>	>>>	
MGP00011	11:21	10/8/2019	0	1.8	19.1	79.1	0	-0.03	>>>	>>>	>>>	>>>	
MGP00005	11:28	10/8/2019	0	2.3	18.9	78.8	0	-0.02	>>>	>>>	>>>	>>>	
MGP00010	11:35	10/8/2019	0	5.5	16.3	78.2	0	-0.01	>>>	>>>	>>>	>>>	
MGP00003	11:49	10/8/2019	0	10.8	6.8	82.4	0	0	>>>	>>>	>>>	>>>	

Mica Landfill Gas Measurements

Tech: GF

Date: 11/4/2019

Temp: 44-54 deg F

Weather: mstly clear

Baro. Pres: 30.13 @ 1000

Qualifier: F

Gas Extraction Monitoring Data

Filename: MP191104.XLS

Inst. Used: Landtec Gem 500 # 760

Time Gem Calib: 1000

Time Gem Checked:

Baro. Pres: 30.09 @ 1350

Code	Time	Date	CH4	CO2	O2	Bal	Static Pre	Differenti	Temp	Refere	Adjus	Valve Pos	Comments
MGP00001	10:04	11/4/2019	0.1	5.5	0.4	94	0	0	>>>	>>>	>>>	>>>	
MGP00006	10:13	11/4/2019	0	1.6	19.5	78.9	0	0	>>>	>>>	>>>	>>>	
MGP00003	10:20	11/4/2019	0	9.2	8.8	82	0	0	>>>	>>>	>>>	>>>	
MGP00012	12:35	11/4/2019	0	1.3	19.3	79.4	0	0	>>>	>>>	>>>	>>>	
MGP0002R	12:39	11/4/2019	0	14.8	13.1	72.1	0	0	>>>	>>>	>>>	>>>	
MGP00007	12:50	11/4/2019	0	3.4	17.2	79.4	0	0.03	>>>	>>>	>>>	>>>	
MGP00008	12:58	11/4/2019	0	3.4	17.8	78.8	0	0.05	>>>	>>>	>>>	>>>	
MGP00009	13:10	11/4/2019	0	4.6	17	78.4	0	0.03	>>>	>>>	>>>	>>>	
MGP00011	13:20	11/4/2019	0	2	18.9	79.1	0	0	>>>	>>>	>>>	>>>	
MGP00005	13:25	11/4/2019	0	2.2	19.1	78.7	0	0	>>>	>>>	>>>	>>>	
MGP00010	13:31	11/4/2019	0	4.9	17.1	78	0	0	>>>	>>>	>>>	>>>	

Mica Landfill Gas Measurements

Tech: GF

Date: 12/3/2019

Temp: 43 deg F

Weather: cldy

Baro. Pres: 30.08 @ 1145

Qualifier: Falling

Gas Extraction Monitoring Data

Filename: MP191203.XLS

Inst. Used: Landtec Gem 500 # 760

Time Gem Calib: 1150

Time Gem Checked:

Baro. Pres: 30.05 @ 1505

Code	Time	Date	CH4	CO2	O2	Bal	Static Pre	Differenti	Temp	Refere	Adjus	Valve Pos	Comments
MGP00012	11:58	12/3/2019	0	1	19.7	79.3	0	0	>>>	>>>	>>>	>>>	
MGP0002R	12:11	12/3/2019	0	13.6	13	73.4	0	0	>>>	>>>	>>>	>>>	
MGP00007	12:14	12/3/2019	0	3.9	16.8	79.3	0	0	>>>	>>>	>>>	>>>	
MGP00008	12:21	12/3/2019	0	3.6	17.7	78.7	0	0.02	>>>	>>>	>>>	>>>	
MGP00009	12:31	12/3/2019	0	3.6	18	78.4	0	0.06	>>>	>>>	>>>	>>>	
MGP00001	12:37	12/3/2019	0	4.8	1	94.2	0	0	>>>	>>>	>>>	>>>	
MGP00006	12:46	12/3/2019	0	1.4	19.4	79.2	0	0	>>>	>>>	>>>	>>>	
MGP00003	12:52	12/3/2019	0	8	10.1	81.9	0	0	>>>	>>>	>>>	>>>	
MGP00011	14:32	12/3/2019	0	2.2	18.7	79.1	0	0.05	>>>	>>>	>>>	>>>	
MGP00005	14:39	12/3/2019	0	2	19	79	0	0	>>>	>>>	>>>	>>>	
MGP00010	14:45	12/3/2019	0	4.5	17.4	78.1	0	0	>>>	>>>	>>>	>>>	