## THIRD ANNUAL GROUNDWATER MONITORING REPORT CHESAPEAKE ENERGY CORPORATION STATE M LEASE (AP-72) LEA COUNTY, NEW MEXICO

Prepared for:

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#### TABLE OF CONTENTS

1.0	INTRO	DUCTION	1
2.0	REME	DIATION	3
	2.1	SVE SYSTEM	3
	2.2	MW-1R LNAPL RECOVERY	5
3.0	QUAR	TERLY GROUNDWATER MONITORING	6
	3.1	GROUNDWATER MONITORING METHODOLOGY	6
	3.2	NINTH QUARTERLY GROUNDWATER SAMPLING RESULTS	7
	3.3	TENTH QUARTERLY GROUNDWATER SAMPLING RESULTS	7
	3.4	ELEVENTH QUARTERLY GROUNDWATER SAMPLING RESULTS	7
	3.5	TWELFTH QUARTERLY GROUNDWATER SAMPLING RESULTS	8
4.0	CONC	LUSIONS	9
5.0	RECO	MMENDATIONS1	0

i

Page 3 of 183

#### LIST OF TABLES

- 1 Summary of SVE System Field Readings
- 2 Summary of Laboratory Analytical Results for Discharge Air Samples
- 3 Summary of Liquid Level Measurements
- 4 Summary of Laboratory Analytical Results for Groundwater Samples

#### LIST OF FIGURES

- 1 Site Location and Topographic Features
- 2 Site Base Map
- 3 SVE System VOC Discharge Concentrations Versus Time
- 4 Groundwater Potentiometric Surface, June 28, 2016
- 5 Groundwater Potentiometric Surface, September 21, 2016
- 6 Groundwater Potentiometric Surface, December 7, 2016
- 7 Groundwater Potentiometric Surface, March 8, 2017
- 8 Isopleth of Chloride Concentrations in Groundwater, March 9, 2017
- 9 Chloride Concentration Trend Graphs

#### LIST OF APPENDICES

(All Appendices on CD in bound copy)

- A Stage 2 Abatement Plan
- B NMOCD Approval of Stage 2 Abatement Plan
- C Laboratory Analytical Reports and Chain-of-Custody Documentation



#### CHESAPEAKE ENERGY CORPORATION STATE M LEASE (AP-72) THIRD ANNUAL GROUNDWATER MONITORING REPORT MAY 25, 2017

#### 1.0 INTRODUCTION

Chesapeake Energy Corporation (Chesapeake) retained Enviro Clean Cardinal, LLC (ECC), to perform impacted groundwater monitoring and light non-aqueous phase liquid (LNAPL) hydrocarbon remediation at Chesapeake's former State M Lease site (Site) located in Lea County, New Mexico. The Site is located approximately 8 miles south-southwest of Lovington, New Mexico in the SE-SW-SE of Section 18, Township 17 South, Range 36 East, Lea County, New Mexico (coordinates 32.828061° latitude, -103.391012° longitude). The Site location and topographic features are shown on **Figure 1**. An oil and gas production tank battery was formerly located at the Site. Chesapeake purchased the Site in 2004, but never operated the tank battery. Chesapeake began abandonment and environmental investigation activities at the Site in 2007.

Initial Site investigation activities were conducted in May 2007. These investigation activities consisted of conducting EM-31 and EM-34 ground conductivity surveys, the collection of soil samples from nine boreholes, and the installation and sampling of seven groundwater monitoring wells. Following the investigation in August 2007, Chesapeake submitted to the New Mexico Oil Conservation Division (NMOCD) a Stage 1 Abatement Plan for the Site. In May 2010, the NMOCD responded to Chesapeake that the agency was not adequately staffed to review the abatement plan in a timely manner and advised Chesapeake that they could proceed with abatement operations at risk. In July 2010, Chesapeake notified the NMOCD of their intent to proceed with the Stage 1 Abatement activities. On March 20, 2012, following implementation of these activities, Chesapeake submitted the Stage 1 Abatement Report for the Site.

On March 27, 2012, Chesapeake submitted to the NMOCD the *Stage 2 Abatement Plan* (Plan) for the Site. A copy of the Plan is provided in **Appendix A**. In this Plan, Chesapeake proposed the following abatement activities at the Site:

• Excavate and remove the near-surface soils at the Site containing concentrations of chloride exceeding 1,000 milligrams per kilogram (mg/kg),

1

Page 5 of 183

- Excavate and remove the near-surface soils at the Site containing concentrations of TPH exceeding 1,000 mg/kg,
- Install clay liners in areas where chloride and/or TPH concentrations exceed 1,000 mg/kg at depths greater than five feet below ground level (bgl),
- Install one additional groundwater monitoring well downgradient of the Site,
- Monitor the groundwater at the Site until the concentrations of chloride and benzene are below the New Mexico Water Quality Control Commission standards.

On March 7, 2013, NMOCD notified Chesapeake that the Plan was administratively complete and that Chesapeake should proceed with public notice of the Plan. On March 30, 2013, Chesapeake published a notice of the proposed activities in the Albuquerque Journal, the Hobbs-Daily News Sun and the Lovington Leader. In addition, written notification of the Plan submittal was sent to all surface owners of record within a 1-mile radius of the Site. On June 27, 2013 upon completion of the notification activities, the NMOCD approved the Plan for the Site. A copy of the NMOCD correspondence approving the Plan is included in **Appendix B**.

The soil remediation activities outlined in the Plan were conducted at the Site during the period January 15, 2014 through March 27, 2014. The soil remediation activities were summarized in the document titled **Soil Remediation Summary Report**, submitted to the NMOCD on August 6, 2014.

This *Third Annual Groundwater Monitoring Report* (Report) summarizes the groundwater monitoring activities conducted at the Site during the following quarterly sampling events:

- Ninth Event June 28 29, 2016,
- Tenth Event September 21 22, 2016,
- Eleventh Event December 7 8, 2016, and
- Twelfth Event March 9 10, 2017.

#### 2.0 **REMEDIATION**

#### 2.1 SVE SYSTEM

As documented in the *First Annual Groundwater Monitoring Report*, dated May 19, 2015, during the period May 12-14, 2014, ECC installed and made operational a soil vapor extraction (SVE) remediation system (System) at the Site. The System is comprised of 8 SVE wells connected through a manifold system constructed of two and three inch Schedule 80 PVC piping and plumbed to a 10-horsepower 3-phase SVE Regenerative Blower housed within the System Building. The location of the System Building is shown on attached **Figure 2**. Within the System, soil vapor from the SVE wells is drawn through a moisture knock out/separator and a particulate filter prior to reaching the blower. An air-flow meter is installed downstream of the blower in the air-exhaust line and an air sample port is located on the air-exhaust line at a location upstream of its exit from the System Building.

System start-up was conducted on June 6, 2014. Routine checks of the System are conducted to record the blower run times, discharge rate/ACFM and VOC concentration of the dischargeair stream. These field readings are used to calculate the approximate weight of VOCs extracted from the subsurface and discharged from the System. The field PID data are entered into to a spreadsheet to calculate the VOC discharge rate and approximate total pounds removed by the System. The approximate total VOC discharges for each quarter are then summed to provide a cumulative VOC discharge total. These data are summarized in **Table 1**. Through April 5, 2017, the field PID data suggest that approximately 5,373 pounds of VOCs have been removed from the subsurface and discharged from the System.

During the Reporting Period, discharge-air samples were collected quarterly in laboratoryprovided Suma canisters, shipped under chain-of-custody control to TestAmerica Laboratories, Inc. (West Sacramento, California) and analyzed for VOC compounds and total VOCs as hexane by Method TO-15. During the ninth quarter, discharge-air sample 20160629 M SVE was collected on June 29, 2016. On this date, the System had been running for a total of 16,447 hours, was operating at 101 ACFM and had a field reading of 156 PPM from the discharge air stream. Laboratory analytical results for this discharge-air sample indicated a total VOC as Hexane concentration of 590,000 PPB volume/volume (590 PPM V/V). During the tenth quarter, discharge-air sample 20160922 M SVE was collected on September 22, 2016. On this date, the System had been running for a total of 18,485 hours, was operating at 220 ACFM and had a field reading of 169 PPM from the discharge air stream. Laboratory analytical results for

May 25, 2017 Remediation

this discharge-air sample indicated a total VOC as Hexane concentration of 262,000 PPB V/V (262 PPM V/V). During the eleventh quarter period, discharge-air sample 20161208 M SVE was collected on December 8, 2016. On this date, the System had been running for a total of 20,332 hours, was operating at 220 ACFM and had a field reading of 109 PPM from the discharge air stream. Laboratory analytical results for this discharge-air sample indicated a total VOC as Hexane concentration of 720,000 PPB V/V (720 PPM V/V). During the twelveth quarter, discharge-air sample 20170309 M SVE was collected on March 9, 2017. On this date, the System had been running for a total of 22,035 hours, was operating at 209 ACFM and had a field reading of 321 PPM from the discharge air stream. Laboratory analytical results for this discharge-air sample indicated a total VOC as Hexane concentration of 985,000 PPB V/V (985 PPM V/V). A summary of the laboratory analytical results for the discharge-air samples is presented in **Table 2**, and complete copies of the laboratory analytical reports and chain-of-custody documentation are provided in **Appendix C**. The discharge-air analytical data are used to compute a correlation factor for the field PID readings to more accurately calculate the total VOC discharged.

Field PID instrument readings are typically lower than laboratory analysis for total VOCs. To compensate for the low field PID readings, a correlation factor is calculated based upon the ratio of the laboratory analytical value versus the field PID value. The correlation factor is then used to multiply the field PID readings and calculate the total VOC discharge. To accurately reflect the total VOC discharge from the System during a given period, **Table 1** includes the calculated unique correlation factor for each quarterly air-discharge sampling event. This unique correlation factor is then utilized to calculate the total VOC discharge from the System for the period in which that particular air-discharge sample was collected. Utilizing the noted correlation factors, approximately 10,220 pounds of VOCs have been removed from the subsurface at the Site.

**Figure 3** presents a graph of the VOC concentrations observed in the discharge air stream versus time. As can be seen on this figure, the levels of VOC observed in the air discharge stream have decreased dramatically since startup. These data indicate that the System is effective at removing the hydrocarbon vapors from the subsurface. Removal of hydrocarbon vapors coupled with the influx of oxygen drawn into the impacted area by the System enhances biodegradation of the hydrocarbon impacts observed in this area.

4

Page 8 of 183

#### 2.2 MW-1R LNAPL RECOVERY

As documented in the *First Annual Groundwater Monitoring Report*, dated May 19, 2015, to enhance LNAPL recovery in the MW-1R area, 2-inch diameter monitoring well MW-1 was plugged and replaced with 4-inch diameter monitoring well MW-1R. On June 5, 2014, a QED Environmental Genie LNAPL recovery pump was placed and made operational in monitoring well MW-1R. The Genie LNAPL recovery pump is an air-actuated bladder pump with a floating intake (skimmer), set at a depth that produces the maximum amount of LNAPL recovery per cycle. Air is provided to the Genie LNAPL recovery pump from a compressor located within the System Building.

During the reporting period, approximately 3 drums (163 gallons) of LNAPL were recovered from monitoring well MW-1R. Since start-up of the Genie LNAPL recovery pump, a total of approximately 11 drums (605 gallons) of LNAPL have been recovered from the Site. During each quarterly monitoring event, the recovery pump and controller is inspected, cleaned and adjusted to maximize LNAPL recovery.

Page 9 of 183

#### 3.0 QUARTERLY GROUNDWATER MONITORING

This Report describes the findings from four quarterly groundwater sampling events conducted at the Site from June 28, 2016 through March 9, 2017.

#### 3.1 GROUNDWATER MONITORING METHODOLOGY

Prior to collecting groundwater samples during each quarterly event, ECC gauged all 8 monitoring wells (MW-1R through MW-8) at the Site using an electronic interface probe to determine the depth-to-water (DTW) and LNAPL thickness within each well. The locations of these monitoring wells are shown on **Figure 2**. DTWs were measured from the surveyed top-of-casing (TOC) of each well and converted to elevations relative to mean sea level. These data are presented in **Table 3**. Potentiometric surface maps were constructed utilizing these data to illustrate the groundwater flow direction within the shallow groundwater system beneath the Site. These potentiometric surface maps are presented on **Figures 4** through **7**. As can be seen on the figures, groundwater flow at the Site is, in general, from the northwest to the southeast.

Upon completion of DTW measurement activities, ECC field personnel collected groundwater samples from monitoring wells MW-1R through MW-8. Due to the LNAPL present in monitoring well MW-1R, a disposable polyethylene bailer was used to evacuate the LNAPL from the well casing and a new bailer was then used to collect the groundwater sample. Groundwater samples were collected from monitoring wells MW-2 through MW-8 utilizing EPA approved lowflow purging/sampling methodologies. Field parameters consisting of pH, specific conductivity, temperature, and dissolved oxygen (DO) were measured during field activities utilizing a multiparameter meter and air-tight flow-through cell. Upon stabilization of the field parameters, groundwater samples were collected into laboratory prepared containers, labeled as to source and contents, placed on ice for preservation, placed under chain-of-custody control and shipped via overnight courier to the analytical laboratory (TestAmerica Inc., Nashville, Tennessee). As per the Plan, groundwater samples collected from monitoring wells MW-1R through MW-8 during each sampling event were analyzed for chloride (EPA Method 300.0). A summary of the laboratory analytical results for chloride analyses is presented in Table 4, and complete copies of the laboratory analytical reports and chain-of-custody documentation is proved in **Appendix** C. The laboratory analytical results from these groundwater sampling events have been screened against the New Mexico Administrative Code 20.6.2, Standards for Groundwater of 10,000 mg/L TDS Concentration or Less (Limit) for chloride of 250 mg/L.

Page 10 of 183

As specified in the Plan, chloride is the primary constituent of concern (COC) at the Site until the LNAPL has been adequately eliminated from monitoring well MW-1R. When the LNAPL has been adequately eliminated from monitoring well MW-1R, the groundwater within this well will be monitored for benzene, toluene, ethylbenzene and total xylenes (BTEX) until the levels of BTEX fall below the Limits of 0.01 mg/L, 0.75 mg/L, 0.75 mg/L and 0.62 mg/L, respectively.

#### 3.2 NINTH QUARTERLY GROUNDWATER SAMPLING RESULTS

The ninth groundwater sampling event was conducted at the Site on June 28, 2016. As can be seen in **Table 4**, the groundwater samples collected from monitoring wells MW-4 (527 mg/L) and MW-8 (539 mg/L) during this sampling event exhibited concentrations of chloride that exceed the Limit of 250 mg/L.

During the ninth quarterly groundwater sampling event, LNAPL was observed in monitoring well MW-1R at a thickness of 1.27 feet. The LNAPL skimmer pump within monitoring well MW-1R was adjusted after sampling to maximize the efficiency of LNAPL removal.

#### 3.3 TENTH QUARTERLY GROUNDWATER SAMPLING RESULTS

The tenth quarterly groundwater sampling event was conducted at the Site during the period September 21-22, 2016. As can be seen in **Table 4**, the groundwater samples collected from monitoring wells MW-4 (569 mg/L) and MW-8 (490 mg/L) during this sampling event exhibited concentrations of chloride that exceed the Limit of 250 mg/L.

During the tenth quarterly groundwater sampling event, LNAPL was observed in monitoring well MW-1R at a thickness of 0.28 feet. The measurement from this event indicates a decrease of 0.99 feet in the observed LNAPL thickness from the previous event. The LNAPL skimmer pump within monitoring well MW-1R was adjusted after sampling to maximize the efficiency of LNAPL removal.

#### 3.4 ELEVENTH QUARTERLY GROUNDWATER SAMPLING RESULTS

The eleventh quarterly groundwater sampling event was conducted at the Site on December 7, 2016. As can be seen in **Table 4**, the groundwater samples collected from monitoring wells MW-4 (605 mg/L) and MW-8 (768 mg/L) during this sampling event exhibited concentrations of chloride that exceed the Limit of 250 mg/L.

During the eleventh quarterly groundwater sampling event, LNAPL was observed in monitoring well MW-1R at a thickness of 0.75 feet. The measurement from this event indicates a slight

Page 11 of 183

increase of 0.47 feet in the observed LNAPL thickness from the previous event. The LNAPL

skimmer pump within monitoring well MW-1R was adjusted after sampling to maximize the efficiency of LNAPL removal.

#### 3.5 TWELFTH QUARTERLY GROUNDWATER SAMPLING RESULTS

The twelfth quarterly groundwater sampling event was conducted at the Site during the period March 8-9, 2017. As can be seen in **Table 4**, the groundwater samples collected from monitoring wells MW-4 (500 mg/L) and MW-8 (489 mg/L) during this sampling event exhibited concentrations of chloride that exceed the Limit of 250 mg/L. **Figure 8** presents an isopleth of the chloride concentrations observed in the groundwater samples collected during this sampling event. As can be seen on this figure, the highest levels of chloride observed in Site groundwater are observed in monitoring wells MW-4 and MW-8, in the southeast portion of the Site.

**Figure 9** presents chloride concentration trend graphs for each of the monitoring wells sampled at the Site. A review of this figure indicates that the trends of chloride concentrations observed in the groundwater samples are increasing in monitoring well MW-8, decreasing in monitoring well MW-6, and stable in monitoring wells MW-1R, MW-2, MW-3, MW-4, MW-5, and MW-7. The soil remediation activities conducted in the first quarter of 2014 have removed the continuing source of chloride impacts to the groundwater at the Site. Source removal has facilitated the physical natural attenuation mechanisms of dispersion and dilution on remnant chloride concentrations present in Site groundwater. The increasing chloride concentration trend observed in monitoring well MW-8 is likely caused by the dispersion of remnant chloride impacts from the source area to this downgradient well.

During the twelfth quarterly groundwater sampling event, LNAPL was observed in monitoring well MW-1R at a thickness of 0.43 feet. The measurement from this event indicates a decrease of 0.32 feet in the observed LNAPL thickness from the previous event. The LNAPL skimmer pump within monitoring well MW-1R was adjusted after sampling to maximize the efficiency of LNAPL removal.

#### 4.0 CONCLUSIONS

Based upon the data presented herein, the following conclusions are presented:

- Groundwater beneath the Site is encountered at depths ranging from approximately 45 to 48 feet BGL.
- The direction of groundwater flow at the Site is, in general, from the northwest to the southeast.
- During the reporting period, concentrations of chloride greater than the Limit of 250 mg/L were observed in the groundwater samples collected from monitoring wells MW-4 (ranging from 500 mg/L to 605 mg/L) and MW-8 (ranging from 489 mg/L to 768 mg/L).
- The SVE System is operating as designed and has removed approximately 10,220 pounds of VOCs since start-up on June 6, 2014.
- During the reporting period, approximately 3 drums (163 gallons) of LNAPL were recovered from monitoring well MW-1R.

#### 5.0 **RECOMMENDATIONS**

Based upon a review of the data presented within this report, the following recommendations have been developed:

- Operation of the SVE System at the Site should continue until the LNAPL observed on the groundwater in the monitoring well MW-1R area has been adequately eliminated.
- As specified in the Plan, LNAPL recovery within monitoring well MW-1R should be continued until the LNAPL observed within this well has been adequately eliminated. Efforts to optimize LNAPL recovery while minimizing pump down-time should be implemented.
- As specified in the Plan, quarterly monitoring of the groundwater within the eight monitoring wells at the Site should be continued until the levels of chloride observed in the groundwater samples fall below the Limit of 250 mg/L for eight quarters. The next groundwater monitoring event at the Site is scheduled to be conducted in June 2017.
- As specified in the Plan, when the LNAPL has been adequately eliminated from monitoring well MW-1R, the groundwater within this well should be monitored for BTEX until the levels of these constituents fall below the Limits of 0.01 mg/L, 0.75 mg/L, 0.75 mg/L and 0.62 mg/L, respectively, for eight quarters.

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## TABLES

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#### Received by OCD: 4/25/2024 8:49:58 Attable 1 : Summary of SVE System Field Readings Chesapeake Energy Corporation, State M Lease (AP-72) Lea County, New Mexico

		Run	Operating	Hours	Discharge I	Readings		VOC Disch	narge		Calculate
Date	Time	Time	since					lbs since last	Tot	al	Correlatio
		Reading	last reading	Total	PPM	CFM	lbs/Hr	Reading	lbs	Tons	Factor
06/07/14	8:00	4131.73	19.73	19.73	596.4	518.8	2.281	44.99	44.99	0.02	
06/08/14	7:10	4154.69	22.96	42.69	398	482.6	1.416	32.50	77.50	0.04	
06/08/14	9:15	4156.94	2.25	44.94	5000	489	18.021	40.55	118.05	0.06	
06/12/14	12:40	4256.45	99.51	144.45	1817	120	1.607	159.92	277.96	0.14	
06/12/14	12:43	4259.65	3.20	147.65	1561	117	1.346	4.31	282.27	0.14	
06/13/14	7:15	4274.90	18.45	162.90	1804	122	1.622	29.93	307.89	0.15	
06/13/14	7:17	4276.27	1.37	164.27	3390	121	3.023	4.14	312.03	0.16	
06/13/14	7:18	4277.08	0.81	165.08	2301	120	2.035	1.65	313.68	0.16	
06/19/14	12:05	4422.02	144.94	310.02	1153	120	1.020	147.81	461.49	0.23	
06/19/14	13:30	4423.74	1.72	311.74	1117	107	0.881	1.52	463.00	0.23	
06/19/14	16:00	4426.00	2.26	314.00	1448	121	1.291	2.92	465.92	0.23	
06/24/14	12:05	4543.27	117.27	431.27	1440	120	1.274	149.36	615.28	0.31	0.98
06/26/14	12:40	4591.01	165.01	479.01	1970	127	1.844	304.28	919.56	0.46	
06/26/14	12:42	4593.20	2.19	481.20	1968	120	1.741	3.81	923.37	0.46	
07/03/14	9:35	4755.92	162.72	643.92	1650	126	1.532	249.34	1172.71	0.59	
07/03/14	9:37	4757.95	2.03	645.95	1318	126	1.224	2.48	1175.20	0.59	
07/09/14	11:40	4901.77	143.82	789.77	874.5	126	0.812	116.80	1292.00	0.65	
07/09/14	11:40	4903.69	1.92	791.69	795.1	120	0.727	1.40	1293.39	0.65	
07/17/14	12:33	5094.48	190.79	982.48	790	124	0.722	137.75	1431.15	0.03	
07/17/14	12:33	5094.48	0.65	983.13	790	124	0.722	0.48	1431.63	0.72	
07/17/14	12:34	5095.15	2.62	985.75	790	127	0.739	1.94	1431.65	0.72	
08/01/14	12.30	5452.10	354.35	1,340.10	1078	127	1.104	391.35	1824.91	0.72	
	11:42	5452.10		1,340.10	938	159	1.104		1826.91	0.91	
08/01/14			1.93					2.00			
08/01/14	11:44	5456.32	2.29	1,344.32	2314	14	0.239	0.55	1827.46	0.91	
10/10/14	13:00	7118.38	1662.06	3,006.38	130	51.3	0.049	81.70	1909.16	0.95	1.86
10/10/14	13:02	7120.15	1.77	3,008.15	216	58.2	0.093	0.16	1909.32	0.95	1.80
10/31/14	13:00	7622.85	502.70	3,510.85	161	48	0.057	28.63	1937.95	0.97	
10/31/14	13:04	7624.49	1.64	3,512.49	78	53.7	0.031	0.05	1938.00	0.97	
12/11/14	13:50	8607.53	983.04	4,495.53	352	131	0.340	334.10	2272.11	1.14	
01/15/15	10:11	9441.32	833.79	5,329.32	46.7	131	0.045	37.60	2309.70	1.15	
01/15/15	10:12	9442.31	0.99	5,330.31	173	152	0.194	0.19	2309.89	1.15	
01/15/15	10:15	9445.26	2.95	5,333.26	388	136	0.389	1.15	2311.04	1.16	
01/29/15	11:50	9778.04	332.78	5,666.04	240	53.5	0.095	31.49	2342.53	1.17	0.21
01/29/15	11:52	9780.13	2.09	5,668.13	239	50	0.088	0.18	2342.72	1.17	
02/26/15	11:00	10448.98		6,336.98	72	137	0.073	48.63	2391.35	1.20	
02/26/15	11:02	10450.10		6,338.10	178.2	155	0.204	0.23	2391.57	1.20	
03/12/15	10:15	10780.66		6,668.66	483	155	0.552	182.40	2573.97	1.29	
04/28/15	8:30	11901.34	1120.68	7,789.34	125.9	114.3	0.106	118.86	2692.84	1.35	
04/28/15	8:36	11907.42	6.08	7,795.42	132.4	125.7	0.123	0.75	2693.58	1.35	
05/14/15	9:05	12285.12	377.70	8,173.12	95.5	55.2	0.039	14.68	2708.26	1.35	1.10
05/14/15	9:10	12290.05	4.93	8,178.05	105.2	58.2	0.045	0.22	2708.48	1.35	1.10
05/28/15	11:30	12623.70	333.65	8,511.70	5.6	150	0.006	2.07	2710.55	1.36	
06/11/15	10:39	12650.70		8,538.70	318	172	0.403	10.88	2721.43	1.36	
07/02/15	11:00	13154.04		9,042.04	85	112	0.070	35.32	2756.75	1.38	0.70
09/03/15	8:00	14662.17		10,550.17	249	104	0.191	287.85	3044.60	1.52	0.76
12/10/15	13:00	17015.28		12,903.28	162	95	0.113	266.92	3311.52	1.66	0.86
03/10/16	12:00	17899.58		13,787.58	209	105	0.162	143.03	3454.55	1.73	1.78

#### Received by OCD: 4/25/2024 8:49:58 Article 1 : Summary of SVE System Field Readings Chesapeake Energy Corporation, State M Lease (AP-72) Lea County, New Mexico

		Run	Operating	g Hours	Discharge	Readings		VOC Disc	harge		Calculated
Date	Time	Time	since					lbs since last	Tot	al	Correlation
		Reading	last reading	Total	PPM	CFM	lbs/Hr	Reading	lbs	Tons	Factor
06/29/16	8:00	20558.59	2659.01	16,446.59	156.4	101	0.116	309.58	3764.13	1.88	3.77
07/27/16	12:30	21232.43	673.84	17,120.43	125.5	103	0.095	64.20	3828.33	1.91	
08/25/16	11:00	21927.96	695.53	17,815.96	115.2	270	0.229	159.45	3987.78	1.99	1.55
09/22/16	10:20	22596.81	668.85	18,484.81	168.8	220	0.274	183.07	4170.85	2.09	
12/08/16	9:30	24443.73	1846.92	20,331.73	109.2	220	0.177	327.03	4497.88	2.25	6.59
01/10/17	12:23	24758.20	314.47	20,646.20	172.9	233	0.297	93.37	4591.25	2.30	
01/25/17	10:56	25115.43	357.23	21,003.43	205.7	179	0.271	96.95	4688.20	2.34	3.06
02/22/17	10:35	25786.27	670.84	21,674.27	247.9	214	0.391	262.30	4950.50	2.48	5.00
03/09/17	11:04	26146.82	360.55	22,034.82	321.4	209	0.495	178.51	5129.01	2.56	
04/05/17	11:55	26792.33	645.51	22,680.33	454	113	0.378	244.08	5373.09	2.69	
Corrected Total: 10,220.28 5.11											

#### Notes:

1. Color shading indicates air sampling period with a unique correlation factor.

2. During the June 24 & July 17, 2014 site visit the field readings were not recorded. The italicized values presented above for these dates are conservative estimated values based upon last known readings.

Page 16 of 183

## Table 2 : Summary of Laboratory Analytical Results for Discharge Air Samples Chesapeake Energy Corporation, State M Lease (AP-72)

Lea County, New Mexico

					-		CANISTER		1	1	1	
			Canister		Canister #8408	Canister #5451	#34000512					
		SVE	#34000823 Serial	CANISTER	2015-06-11 Air			STATE M-1	20160629 M	20160922 M	20161208 M	20170309 M
	Sample ID:		C8528 2014-12-11	#C8522	Sample	9-3-15	15930	LEASE	SVE	SVE	SVE	SVE
Parameters	Sample Date:	1-Aug-14	11-Dec-14	12-Mar-15	11-Jun-15	3-Sep-15	10-Dec-15	10-Mar-16	29-Jun-16	22-Sep-16	8-Dec-16	9-Mar-17
	-				1		1		1		1	1
Volatile Organic Compounds by	TO-15											
Acetone	ppb v/v	<2000	<615	<965	<860	<615	<370	<915	<280	<175	<106	<203
Benzene	ppb v/v	8,820	2,960	533	3,630	312	194	1,070	2,600	853	373	550
Benzyl chloride	ppb v/v	<320	<98.4	<154	<138	<98.4	<59.2	<146	<44.8	<27.9	<16.9	<32.4
Bromodichloromethane	ppb v/v	<120	<36.9	<57.9	<51.6	<36.9	<22.2	<54.9	<16.8	103.5	<6.33	<12.2
Bromoform	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2	<22.4	<14.0	<8.44	<16.2
Bromomethane	ppb v/v	<320	<98.4	<154	<138	<98.4	<59.2	<146	<44.8	<27.9	<16.9	<32.4
2-Butanone (MEK)	ppb v/v	<320	<98.4	<154	<138	<98.4	<59.2	<146	<44.8	<27.9	<16.9	<32.4
Carbon disulfide	ppb v/v	1,800	272	<154	<138	<98.4	<59.2	<146	177	<27.9	<16.9	<32.4
Carbon tetrachloride	ppb v/v	<320	<98.4	<154	<138	<98.4	<59.2	<146	<44.8	<27.9	<16.9	<32.4
Chlorobenzene	ppb v/v	<120	<36.9	<57.9	<51.6	<36.9	<22.2	<54.9	<16.8	<10.5	<6.33	<12.2
Dibromochloromethane	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2	<22.4	<14.0	<8.44	<16.2
Chloroethane	ppb v/v	<320	<98.4	<154	<138	<98.4	<59.2	<146	<44.8	<27.9	<16.9	<32.4
Chloroform	ppb v/v	<120	<36.9	<57.9	<51.6	<36.9	<22.2	<54.9	<16.8	<10.5	<6.33	<12.2
Chloromethane	ppb v/v	<320	<98.4	<154	<138	<98.4	<59.2	<146	<44.8	<27.9	<16.9	<32.4
1,2-Dibromoethane	ppb v/v	<320	<98.4	<154	<138	<98.4	<59.2	<146	<44.8	<27.9	<16.9	<32.4
1,2-Dichlorobenzene	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2	<22.4	<14.0	<8.44	<16.2
1,3-Dichlorobenzene	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2	<22.4	<14.0	<8.44	<16.2
1,4-Dichlorobenzene	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2	<22.4	<14.0	<8.44	<16.2
Dichlorodifluoromethane	ppb v/v	1,980	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2	<22.4	<14.0	<8.44	<16.2
1,1-Dichloroethane	ppb v/v	<120	<36.9	<57.9	<51.6	<36.9	<22.2	<54.9	<16.8	<10.5	<6.33	<12.2
1,2-Dichloroethane	ppb v/v	<320	<98.4	<154	<138	<98.4	<59.2	<146	<44.8	<27.9	<16.9	<32.4
1.1-Dichloroethene	ppb v/v	<320	<98.4	<154	<138	<98.4	<59.2	<146	<44.8	<27.9	<16.9	<32.4
cis-1,2-Dichloroethene	ppb v/v	<160	<49.2	84.5	<68.8	<49.2	<29.6	<73.2	<22.4	<14.0	<8.44	<16.2
trans-1,2-Dichloroethene	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2	<22.4	<14.0	<8.44	<16.2
1,2-Dichloropropane	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2	<22.4	<14.0	<8.44	<16.2
cis-1,3-Dichloropropene	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2	<22.4	<14.0	<8.44	<16.2
trans-1,3-Dichloropropene	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2	<22.4	<14.0	<8.44	<16.2
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2	<22.4	<14.0	<8.44	<16.2
Ethylbenzene	ppb v/v	13,500	3,830	799	2,890	731	723	446	2,530	1,390	531	908
4-Ethyltoluene	ppb v/v	974	533	164	299	256	186	<73.2	660	497	135	263
Hexachlorobutadiene	ppb v/v	<800	<246	<386	<344	<246	<148	<366	<112	<69.8	<42.2	<81.0
2-Hexanone	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2	<22.4	<14.0	<8.44	<16.2
Methylene Chloride	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2	<22.4	<14.0	<8.44	<16.2
4-Methyl-2-pentanone	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2	<22.4	<14.0	<8.44	<16.2

Table 2 Page 1 of 2

## Table 2 : Summary of Laboratory Analytical Results for Discharge Air SamplesChesapeake Energy Corporation, State M Lease (AP-72)Lea County, New Mexico

							CANISTER					
		SVE	Canister		Canister #8408	Canister #5451	#34000512					
		SVE	#34000823 Serial	CANISTER	2015-06-11 Air	Batch #320-14155	BATCH ID #320-	STATE M-1	20160629 M	20160922 M	20161208 M	20170309 M
	Sample ID:		C8528 2014-12-11	#C8522	Sample	9-3-15	15930	LEASE	SVE	SVE	SVE	SVE
Parameters	Sample Date:	1-Aug-14	11-Dec-14	12-Mar-15	11-Jun-15	3-Sep-15	10-Dec-15	10-Mar-16	29-Jun-16	22-Sep-16	8-Dec-16	9-Mar-17
Styrene	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2	<22.4	<14.0	<8.44	<16.2
1,1,2,2-Tetrachloroethane	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2	41.1	<14.0	<8.44	<16.2
Tetrachloroethene	ppb v/v	<160	71.9	<77.2	<68.8	<49.2	<29.6	92.9	<22.4	<14.0	<8.44	<16.2
Toluene	ppb v/v	4,020	1,040	228	1,480	<49.2	<29.6	120	975	380	164	193
1,2,4-Trichlorobenzene	ppb v/v	<800	<246	<386	<344	<246	<148	<366	<112	<69.8	<42.2	<81.0
1,1,1-Trichloroethane	ppb v/v	<120	<36.9	<57.9	<51.6	<36.9	<22.2	<54.9	<16.8	<10.5	<6.33	<12.2
1,1,2-Trichloroethane	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2	<22.4	<14.0	<8.44	<16.2
Trichloroethene	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2	<22.4	<14.0	<8.44	<16.2
Trichlorofluoromethane	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2	<22.4	<14.0	<8.44	<16.2
1,1,2-Trichloro-1,2,2-trifluoroethane	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2	<22.4	<14.0	<8.44	<16.2
1,2,4-Trimethylbenzene	ppb v/v	2,020	648	299	774	<98.4	355	<146	968	740	228	411
1,3,5-Trimethylbenzene	ppb v/v	820	385	172	353	73.0	247	<73.2	737	541	192	397
Vinyl acetate	ppb v/v	<320	<98.4	<154	<138	<98.4	<59.2	<146	<44.8	<27.9	<16.9	<32.4
Vinyl chloride	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2	<22.8	<14.0	<8.44	<16.2
m,p-Xylene	ppb v/v	12,700	4,680	1,110	3,920	1,140	1,380	609	5,050	2,550	870	1,510
o-Xylene	ppb v/v	4,520	1,190	286	1,120	164	194	107	720	419	177	337
Total VOC as Hexane (C6-C12)	ppb v/v	1,060,000	655,000	99,400	351,000	190,000	140,000	371,000	590,000	262,000	720,000	985,000

#### Received by OCD: 4/25/2024 8:49:58 ATable 3 : Summary of Liquid Level Measurements Chesapeake Energy Corporation, State M Lease (AP-72) Lea County, New Mexico

	Top of	Depth to	5 4 4	<b>.</b>		
	Casing	Liquid	Depth to	Depth to	LNAPL	Groundwater
Monitoring	Elevation	Measurement		Groundwater	Thickness	Elevation
Well	(AMSL-Feet)	Date	(Feet-TOC)	(Feet-TOC)	(Feet)	(AMSL-Feet)
MW-1R	3888.97	06/03/14	44.57	49.89	5.32	3839.08
	3888.97	09/22/14	44.87	48.91	4.04	3840.06
	3888.97	12/10/14	45.80	46.30	0.50	3842.67
	3888.97	03/11/15	45.12	46.83	1.71	3842.14
	3888.97	06/10/15	45.54	46.31	0.77	3842.66
	3888.97	09/02/15	45.81	47.37	1.56	3841.60
	3888.97	12/09/15	45.22	49.07	3.85	3839.90
	3888.97	03/09/16	45.30	47.18	1.88	3841.79
	3888.97	06/28/16	45.75	47.02	1.27	3841.95
	3888.97	09/21/16	46.10	46.38	0.28	3842.59
	3888.97	12/07/16	46.13	46.88	0.75	3842.09
	3888.97	03/08/17	46.14	46.57	0.43	3842.40
MW-2	3890.51	06/03/14		47.23		3843.28
	3890.51	09/22/14		46.37		3844.14
	3890.51	12/10/14		45.91		3844.60
	3890.51	03/11/15		46.03		3844.48
	3890.51	06/10/15		46.38		3844.13
	3890.51	09/02/15		46.44		3844.07
	3890.51	12/09/15		46.51		3844.00
	3890.51	03/09/16		46.61		3843.90
	3890.51	06/28/16		46.70		3843.81
	3890.51	09/21/16		46.80		3843.71
	3890.51	12/07/16		46.82		3843.69
	3890.51	03/08/17		46.88		3843.63
MW-3	3889.34	06/03/14		46.35		3842.99
10100-5	3889.34	09/22/14		46.49		3842.85
	3889.34	12/10/14		46.08		3843.26
	3889.34	03/11/15		46.28		3843.06
	3889.34	06/10/15		46.51		3842.83
	3889.34	09/02/15		46.60		3842.74
	3889.34	12/09/15		46.68		3842.66
	3889.34	03/09/16		46.72		3842.62
	3889.34	06/28/16		46.85		3842.49
	3889.34	09/21/16		46.96		3842.38
	3889.34	12/07/16		47.02		3842.32
	3889.34	03/08/17		47.11		3842.23
MW-4	3888.90	06/03/14		46.38		3842.52
	3888.90	09/22/14		46.50		3842.40
	3888.90	12/10/14		46.14		3842.76
	3888.90	03/11/15		46.35		3842.55
	3888.90	06/10/15		46.49		3842.41
	3888.90	09/02/15		46.57		3842.33
	3888.90	12/09/15		46.68		3842.22
	3888.90	03/09/16		46.75		3842.15
	3888.90	06/28/16		46.87		3842.03
	3888.90	09/21/16		46.94		3841.96
	3888.90	12/07/16		47.03		3841.87
	3888.90	03/08/17		47.08		3841.82

#### Received by OCD: 4/25/2024 8:49:58 ATable 3 : Summary of Liquid Level Measurements Chesapeake Energy Corporation, State M Lease (AP-72) Lea County, New Mexico

	Top of	Depth to				
	Casing	Liquid	Depth to	Depth to	LNAPL	Groundwater
Monitoring	Elevation	Measurement	LNAPL	Groundwater	Thickness	Elevation
Well	(AMSL-Feet)	Date	(Feet-TOC)	(Feet-TOC)	(Feet)	(AMSL-Feet)
MW-5	3890.41	06/03/14		46.56		3843.85
	3890.41	09/22/14		46.70		3843.71
	3890.41	12/10/14		46.29		3844.12
	3890.41	03/11/15		46.44		3843.97
	3890.41	06/10/15		46.69		3843.72
	3890.41	09/02/15		46.79		3843.62
	3890.41	12/09/15		46.85		3843.56
	3890.41	03/09/16		46.90		3843.51
	3890.41	06/28/16		47.08		3843.33
	3890.41	09/21/16		47.13		3843.28
	3890.41	12/07/16		47.14		3843.27
	3890.41	03/08/17		47.23		3843.18
MW-6	3888.25	06/03/14		46.25		3842.00
	3888.25	09/22/14		46.39		3841.86
	3888.25	12/10/14		46.09		3842.16
	3888.25	03/11/15		46.23		3842.02
	3888.25	06/10/15		46.32		3841.93
	3888.25	09/02/15		46.48		3841.77
	3888.25	12/09/15		46.57		3841.68
	3888.25	03/09/16		46.62		3841.63
	3888.25	06/28/16		46.74		3841.51
	3888.25	09/21/16		46.81		3841.44
	3888.25	12/07/16		46.90		3841.35
	3888.25	03/08/17		46.93		3841.32
MW-7	3889.23	06/03/14		45.94		3843.29
	3889.23	09/22/14		46.08		3843.15
	3889.23	12/10/14		45.70		3843.53
	3889.23	03/11/15		45.36		3843.87
	3889.23	06/10/15		46.08		3843.15
	3889.23	09/02/15		46.14		3843.09
	3889.23	12/09/15		46.24		3842.99
	3889.23	03/09/16		46.30		3842.93
	3889.23	06/28/16		46.42		3842.81
	3889.23	09/21/16		46.52		3842.71
	3889.23	12/07/16		46.59		3842.64
	3889.23	03/08/17		46.65		3842.58
MW-8	3887.06	06/03/14		44.94		3842.12
	3887.06	09/22/14		45.11		3841.95
	3887.06	12/10/14		44.79		3842.27
	3887.06	03/11/15		44.94		3842.12
	3887.06	06/10/15		45.22		3841.84
	3887.06	09/02/15		45.21		3841.85
	3887.06	12/09/15		45.29		3841.77
	3887.06	03/09/16		45.35		3841.71
	3887.06	06/28/16		45.56		3841.50
	3887.06	09/21/16		45.67		3841.39
	3887.06	12/07/16		45.64		3841.42
	3887.06	03/08/17		45.68		3841.38

#### Notes:

1. TOC : Measured from top of casing.

2. LNAPL : Light non aqueous phase liquid.

3. --: Denotes Not Measured.

4. AMSL: Denotes above mean sea level (AMSL)

# Table 4 : Summary of Laboratory Analytical Results for Groundwater SamplesChesapeake Energy Corporation, State M Lease (AP-72)Lea County, New Mexico

		Chloride (mg/L)										
	June 2014	September 2014	December 2014	March 2015	June 2015	September 2015	December 2015	March 2016	June 2016	September 2016	December 2016	March 2017
MW-1R		51.4	116	39.0	24.6	21.6	23.5	34.8	24.9	28.5	44.8	32.0
MW-2	17.7	17.4	18.3	16.6	16.8	16.6	15.4 *	13.5	18.9	17.6	18.2	15.0
MW-3	59.7	59.7	58.9	57.0	57.1	56.3	50.5 *	49.3	51.5	52.0	55.1	50.0
MW-4	586	534	535	543	556	567	546 *	525	527	569	605	500
MW-5	28.6	27.3	27.9	26.1	26.2	25.8	22.4 *	22.4	26.1	26.2	27.8	23.1
MW-6	282	263	268	261	253	277	197 *	150	128	128	125	94.4
MW-7	42.7	29.6	36.0	39.7	36.2	35.2	28.8 *	27.7	36.0	38.2	39.6	24.2
MW-8	409	442	463	485	558	327	499	504	539	490	768	489

Notes:

1. mg/L : milligrams per liter.

2. < : Analyte not detected at the laboratory reporting limit.

3. All analyses performed by TestAmerica Laboratories in Nashville, Tennessee.

4. Cells shaded in blue indicate results that are above the laboratory reporting limit.

5. Cells with text **bolded** indicate results that exceed the New Mexico Administrative Code

20.6.2.3103, Standards for Groundwater: chloride (250.0 mg/L).

6. --- : Analysis not performed.

7. \* : Analysis performed outside of holding time.

8. December 2016 results for MW-1R and MW-8 were confirmed by laboratory reanalysis.

•

## **FIGURES**

**Released to Imaging: 6/4/2024 2:29:36 PM** 



Released to Imaging: 6/4/2024 2:29:36 PM



## LEGEND

LOCATION OF MONITORING WELL

LOCATION OF PLUGGED AND ABANDONED MONITORING WELL

SVE-1 LOCATION OF SVE SYSTEM WELL



#### SITE BASE MAP

			PROJECT NUMBER	FIGURE NUMBER
BEM			TROCEOTROMBER	
BEM	SCALE	1"= 60'	CHKHSTM101	2
SKG	DATE	5/26/2017		

Page 24 of 183





## LEGEND

MW-5 LOCATION OF MONITORING WELL AND 3843.33 GROUNDWATER ELEVATION 6/28/2016, FEET AMSL

WW-1 LOCATION OF PLUGGED AND ABANDONED MONITORING WELL



TITLE	
GROUNDWATER POTENTIOMET SURFACE, JUNE 28, 2016	<i>TRIC</i>

			PROJECT NUMBER	FIGURE NUMBER	Pag
ВЕМ				TIGORE NOMBER	ee
BEM	SCALE	1"= 60'	CHKHSTM101	4	26
SKG	DATE	5/26/2017			e l
					81.
					ω.



## LEGEND

MW-5 LOCATION OF MONITORING WELL AND 3843.28 GROUNDWATER ELEVATION 9/21/2016, FEET AMSL

WW-1 LOCATION OF PLUGGED AND ABANDONED MONITORING WELL



		DTENTIOMET BER 21, 2016			
			PROJECT NUMBER	FIGURE NUMBER	Page
BEM			TROCEOTROMPER		e
BEM	SCALE	1"= 60'	CHKHSTM101	5	27
SKG	DATE	5/26/2017		-	
					.183



Page 28 of 183

## LEGEND

MW-5 LOCATION OF MONITORING WELL AND 3843.27 GROUNDWATER ELEVATION 12/7/2016, FEET AMSL

WW-1 LOCATION OF PLUGGED AND ABANDONED MONITORING WELL



	IDWATER PO CE, DECEME	DTENTIOMET BER 7, 2016	RIC	
			PROJECT NUMBER	FIGURE NUMBER
BEM				
BEM	SCALE	1"= 60'	CHKHSTM101	6
SKG	DATE	5/26/2017		



## LEGEND

MW-5 LOCATION OF MONITORING WELL AND 3843.18 GROUNDWATER ELEVATION 3/8/2017, FEET AMSL

WW-1 LOCATION OF PLUGGED AND ABANDONED MONITORING WELL



IILE
GROUNDWATER POTENTIOMETRIC
SURFACE, MARCH 8, 2017

		PROJECT NUMBER	FIGURE NUMBER	Pag	
BEM					e
BEM	SCALE	1"= 60'	CHKHSTM101	7	29
SKG	DATE	5/26/2017			of
				129	- 28
					<u> </u>



### LEGEND



MW-5 LOCATION OF MONITORING WELL AND CONCENTRATION OF CHLORIDE IN GROUNDWATER 3/9/2017, mg/L

WW-1 LOCATION OF PLUGGED AND ABANDONED MONITORING WELL



CONTOUR LINE SHOWING EQUAL CONCENTRATIONS OF CHLORIDE IN GROUNDWATER, mg/L. (DASHED WHERE INFERRED)

NS NOT SAMPLED



	TH OF CHLC UNDWATER,		ENTRATIONS 017	
			PROJECT NUMBER	FIGURE NUMBER
BEM				
BEM	SCALE	1"= 60'	CHKHSTM101	8
SKG	DATE	5/26/2017		

Page 30 of 183

	Chloride Co	centration	
800	<ul> <li>An according to the second seco</li></ul>		
700 600 500 400 300 200 100 0 <b>Jurr In</b>	A A A A A A A A A A A A A A A A A A A	X X X X X X X X X X X X X X X X X X X	
	→ MW-1R → MW-2 → MW-3 → MW-4	────MW-5 ───MW-6 ───MW-7 ───MW-8	3
IVIRO CLEAN ARDINAL	DOCUMENT TITLE THIRD ANNUAL GROUNDWATER MONITORING REPORT	FIGURE TITLE CHLORIDE CONCENTRATION TREND GRAPHS	
	CLIENT CHESAPEAKE ENERGY CORPORATION		

## APPENDICES

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## **APPENDIX A**

## **STAGE 2 ABATEMENT PLAN**



Mr. Glenn Von Gonten New Mexico Oil Conservation Division 1220 South St. Francis Drive Santa Fe, New Mexico 87505

Subject: State M-1 AP-072 Stage 2 Abatement Plan

Dear Mr. Von Gonten:

On behalf of Chesapeake Energy Corporation, ARCCADIS U.S. Inc. respectfully submits the enclosed Stage 2 Abatement plan for the State M-1 site (AP-072). A Stage 1 Abatement Plan Report was submitted on March 20, 2012. Your review and approval of this Abatement Plan will be appreciated. The landowner, Darr Angell, is anxious for us to complete soil remediation at this site.

If you have any questions please do not hesitate to contact Bradley Blevins at (575) 391-1462 or via e-mail at bblevins@chkenergy or me at (432) 687-5400, e-mail address shall@aracdis-us.com.

ARCADIS U.S., Inc. 1004 North Big Spring Street Suite 300 Midland Texas 79701 Tel 432 687 5400 Fax 432 687 5401 www.arcadis-us.com

ENVIRONMENT

Date: March 27, 2012

Contact: Sharon Hall

Phone: 432 687-5400

Email: shall@aracdis-us.com

Our ref: MT001088

ARCADIS U.S., Inc. TX Engineering License # F-533

Sincerely,

ARCADIS U.S., Inc.

Sham E. Hael

Sharon E. Hall Associate Vice President

<sub>Copies:</sub> <mark>Bradley Blevins- C</mark>hesapeake, Hobbs

Imagine the result

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Page 35 of 183

Imagine the result

**Chesapeake Energy Corporation** 

State M-1 AP-072 Stage 2 Abatement Plan Proposal

Hobbs, New Mexico

March 27, 2012



State M-1 AP-072

Stage 2 Abatement Plan Proposal

Prepared for: Chesapeake Energy Corporation Hobbs, New Mexico

Prepared by: ARCADIS U.S., Inc. 1004 North Big Spring Street Suite 300 Midland Texas 79701 Tel 432 687 5400 Fax 432 687 5401

Our Ref.: MT001088.0001.00001

Date: March 27, 2012

This document is intended only for the use of the individual or entity for which it was prepared and may contain information that is privileged, confidential and exempt from disclosure under applicable law. Any dissemination, distribution or copying of this document is strictly prohibited.

Sharon Hall Associate Vice President
i

## **Table of Contents**

1.	INTRO	DUCTIO	N	1
2.	SUMM	ARY OF	F STAGE 1 ABATEMENT ACTIVITIES	1
3.	STAGE	2 ABA	TEMENT PLAN PROPOSAL	2
	3.1	Soil Re	emediation	2
	3.2	Ground	dwater Remediation and Monitoring	3
		3.2.1	Chlorides	4
		3.2.2	Hydrocarbons	4
4.	PUBLIC		FICATION	4
5.	REME	NATION	N WORK SCHEDULE	4
<del>6</del> .	REFER	ENCES	6	5

## Figures

Figure 1 Soil and Groundwater Analyte Concentrations

Figure 2 Proposed Excavation

## Appendices

Appendix A Multi-Med Model Inputs and Outputs

State M-1 AP-072

Stage 2 Abatement Plan Proposal

Chesapeake Energy Corporation Hobbs, New Mexico

# **ARCADIS**

#### 1. INTRODUCTION

The subject site is a former tank battery site located east of Buckeye, New Mexico. The site was purchased by Chesapeake Energy Corporation (Chesapeake) in April 2004. Chesapeake did not operate the tank battery or the associated well field and began the process of facility abandonment in 2007.

Seven monitor wells and nine soil borings have been drilled at the site. Elevated chloride concentrations and limited hydrocarbon compounds were detected in soil samples collected from soil borings and monitoring wells. Elevated chlorides were detected in the down gradient monitor wells and light non-aqueous phase liquid (LNAPL) occurs in monitoring well MW-1. LNAPL recovery activities have been piloted at the site and will commence again upon completion of surface reclamation activities.

#### 2. SUMMARY OF STAGE 1 ABATEMENT ACTIVITIES

Initial site investigation activities were conducted in May of 2007 following abandonment of the tank battery. Stage 1 Abatement activities were conducted during the period of May 2007 through September 2011. Stage 1 Abatement activities included drilling and soil sampling of nine boreholes, drilling and sampling of seven monitor wells, EM 31 and EM 34 surveys, conversion of one monitoring well into a recovery well and recovery of phase-separated hydrocarbons from the recovery well.

New Mexico Oil Conservation Division (NMOCD) was notified of impacts to groundwater at the site via e-mail on May 30, 2007. NMOCD notified Chesapeake in a letter dated June 19, 2007 that a Stage 1 Abatement Plan was required for the site in accordance with Rule 19.

The Stage 1 Abatement Plan was submitted to NMOCD on August 22, 2007. The plan summarized site activities taken to date. The plan proposed the drilling and sampling of a minimum of three additional soil borings and installation and sampling of nine groundwater monitoring wells.

BBC contacted NMOCD via email on April 24, 2010 to inquire about the status of the Stage 1 Abatement Plan approval and Chesapeake's desire to conduct the proposed Stage 1 Abatement Plan activities. On May 27, 2010, NMOCD responded via email that the State was not staffed to review the Abatement Plans (APs) in a timely manner. On June 23, 2010, BBC contacted NMOCD via email to request a waiver of the Public Notice requirement and inform NMOCD that Chesapeake and the landowner were

State M-1 AP-072

Stage 2 Abatement Plan Proposal

Chesapeake Energy Corporation Hobbs, New Mexico

**ARCADIS** 

anxious to move forward with the proposed AP activities. NMOCD replied via email on June 23, 2010 stating they were still understaffed to review the AP and could not waive the Public Notice requirement. They advised BBC that Chesapeake could proceed "at risk." On July 12, 2010 BBC informed NMOCD by registered letter that Chesapeake was planning to start the Stage 1 Assessment on or about August 23, 2010. They further informed NMOCD they would be submitting the required Public Notices, a copy of which was attached to the letter. NMOCD did not respond to the registered letter.

The public notices were published in the Hobbs News-Sun and Lovington Leader on July 22, 2010 and the Albuquerque Journal on July 24, 2010. No comments were received from the public or NMOCD during the 30-day comment period and Chesapeake proceeded with the proposed Stage 1 Abatement Plan activities on August 26, 2010. Copies of correspondence and Public Notice are included in Appendix A.

A detailed description of site activities and results can be found in the report submitted to NMOCD dated March 20, 2012 entitled State M-1 AP-072, Stage 1 Abatement Report (Site Assessment Investigation). Analytical results for soil and groundwater sampling are summarized on Figure 1.

#### 3. STAGE 2 ABATEMENT PLAN PROPOSAL

After review of various remedial options, we propose the following Stage 2 Abatement Plan. The plan addresses soil and groundwater remediation.

#### 3.1 Soil Remediation

The selected remedial option will be the excavation of near-surface soils and installation of clay liners. The anticipated extent and depth of excavation is based on assessment activities (laboratory analysis and visual observation) and is shown in Figure 2. Near surface soils (to a depth of 5 feet below ground surface) with chloride concentrations in excess of 1,000 milligrams per kilogram (mg/kg) and a Total Petroleum Hydrocarbons (TPH) concentration in excess of 1,000 mg/kg will be excavated and disposed. Excavated soils will be disposed at Lea Land Landfill.

Areas where chloride or TPH concentrations are expected to exceed 1,000 mg/kg at depths greater than 5 feet below ground surface soils will be excavated to a depth of 5

**ARCADIS** 

State M-1 AP-072

Stage 2 Abatement Plan Proposal

Chesapeake Energy Corporation Hobbs, New Mexico

feet below ground surface. Soils will be screened in the field for chlorides using chloride field test kits and for TPH using a photoionization. Critical samples (samples used to delineate the excavations) will be submitted for laboratory analysis of chlorides and/or TPH. Following excavation, a 12-inch compacted clay layer that meets or exceeds a permeability of equal to or less than  $1 \times 10^{-8}$  centimeters per second will be installed in the excavations. The lined excavations will be backfilled with four feet of locally obtained native soil. All of the excavated areas will be re-seeded with native vegetation. Areas that are supporting vegetation will not be disturbed.

Use of the USEPA Multi-Med model demonstrates that the clay liners will mitigate the leaching of chlorides to groundwater. The model predicts that after 7000 years of infiltration through the liner the maximum concentration of chlorides in groundwater will be 221.8 milligrams per liter (mg/L). The Multi-Med inputs and outputs are included in Appendix A.

#### 3.2 Groundwater Remediation and Monitoring

One additional groundwater monitoring well will be installed downgradient of the site. The monitoring well will be designated MW-8.

Groundwater samples will be collected from all of the monitoring wells and analyzed for chlorides using USEPA method 9056 for each of four quarters. Based on sample results for one year (four quarters), sampling frequency will be reviewed and may be revised.

Sampling will be discontinued when eight quarters of sample results indicate chloride concentrations are below New Mexico Water Quality Control Commission, Title 20, Chapter 6, Part 2 standards. Sample results will be submitted to the NMOCD annually on June 15.

Following removal of LNAPL from MW-1, groundwater samples will be collected from MW-1 and analyzed for benzene, toluene ethylbenzene and xylenes (BTEX) using USEPA method 8260B for each of four quarters. Based on sample results for one year (four quarters), sampling frequency will be reviewed and may be revised.

Sampling of MW-1 for BTEX will be discontinued when eight quarters of sample results indicate BTEX concentrations are below New Mexico Water Quality Control Commission, Title 20, Chapter 6, Part 2 standards. Sample results will be submitted to

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State M-1 AP-072

Stage 2 Abatement Plan Proposal

Chesapeake Energy Corporation Hobbs, New Mexico

the NMOCD annually on June 15. Proposed groundwater remediation is presented in Sections 3.2.1 and 3.2.2.

3.2.1 Chlorides

Chloride concentrations in groundwater exceed New Mexico Water Quality Control Commission standards in two wells (MW-1 411mg/L and MW-4 472mg/L).

Removal of near-surface soils that are a potential source of chlorides and BTEX in groundwater and lining of excavations with chloride and TPH concentrations in excess of 1,000 mg/kg will mitigate leaching of chlorides to groundwater. Considering the relatively low concentrations of chlorides in groundwater and the fact that soil removal and clay liner infiltration barrier installation will be conducted at this site, we propose monitoring the site for a period of two years before considering pumping of groundwater at this site. With the proposed source removal and mitigation and the severe drought conditions being experienced in this area, we believe it prudent to evaluate if chloride mass removal by pumping is warranted at this site.

3.2.2 Hydrocarbons

A pilot LNAPL recovery test will take place over a three week period and will be used to develop long-term recovery procedures. LNAPL will be recovered from MW-1 and disposed in a NMOCD approved facility. Additionally, two soil vent borings equipped with wind turbines will be installed in the area near MW-1.

## 4. PUBLIC NOTIFICATION

Written notification of submittal of the Stage 2 Abatement Plan Proposal and site activities will be sent to all surface owners of record within a one-mile radius of the site. NMOCD will be supplied with a list of parties to be notified. Publication of notice of activities will be published in a state-wide circulated newspaper, the Albuquerque Journal, and two county newspapers, the Hobbs-Daily News Sun and the Lovington Leader.

## 5. REMEDIATION WORK SCHEDULE

Soil remediation activities are expected to be completed in 15 working days (Monday through Friday). Groundwater remediation activities will be ongoing. An estimated completion date for groundwater remediation is not available.

State M-1 AP-072

Stage 2 Abatement Plan Proposal

Chesapeake Energy Corporation Hobbs, New Mexico

#### 6. REFERENCES

Groundwater Handbook; United States Environmental Protection Agency, Office of Research and Development, Center for Environmental Research Information; 1992

New Mexico Water Quality Control Commission, Title 20 Chapter 6, Part 2, Subpart I

State M-1 AP-072 Stage 1 Abatement Report (Site Assessment Investigation); ARCADIS; March 2012

State M-1Salt Water Disposal Tank Battery, Stage 1 Abatement Plan (Ap-072), BBC International; August 2007

New Mexico Water Quality Control Commission, Title 20 Chapter 6, Part 2, Subpart I

#### Page 43 of 183



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Appendix A

Multi-Med Model Inputs and Outputs

#### Chesapeake State M-1 Chesapeake Energy Corporation Buckeye, Lea County, New Mexico Multimed Model Input and Output (With Liner)

MOD	EL INPUT	AND OUT	PUT		MODEL	RANGE
<i>II</i>	VPUT PAF	RAMETERS	S		Minimum	Maximum
	U	Insaturated	d Zone Flo	w Parameters		
Depth of Unsaturated Zone	m	45	feet	13.7 m	0.000000001	None
Hydraulic Conductivity	cm/hr	2	ft/day	2.54 cm/hr	0.00000000001	10,000
Unsaturated Zone Porosity	fraction	0.05	fraction	0.05 fraction	0.000000001	0.99
Residual Water Content	fraction	0.01	fraction	0.010 fraction	0.000000001	1
	Uns	aturated Z	one Trans	port Parameters		
Thickness of Layer	m	45	feet	13.7 m	0.000000001	None
Percent of Organic Matter	%	2.6	%	2.6 %	0	100
Bulk Density	g/cm <sup>3</sup>	1.35	g/cm <sup>3</sup>	1.35 g/cm <sup>3</sup>	0.01	5
Biological Decay Coefficient	1/yr	0	1/yr	0 1/yr	0	None
		Aqu	lifer Paran	ieters		
Aquifer Porosity	fraction	0.25	fraction	0.25 fraction	0.000000001	0.99
Bulk Density	g/cm <sup>3</sup>	1.35	g/cm <sup>3</sup>	1.35 g/cm <sup>3</sup>	0.01	5
Aquifer Thickness	m	50	ft	15.24 m	0.000000001	100,000
Hydraulic Conductivity	m/yr	2	ft/day	223 m/yr	0.0000001	100,000,000
Hydraulic Gradient	m/m	0.007	m/m	0.007 m/m	0.00000001	None
Organic Carbon Content	fraction	0.00315	fraction	0.00315 fraction	0.000001	1
Temperature of Aquifer	°C	14.4	°C	14.4 °C	0.00000001	None
рН		6.2		6.2 · · · · · · · · · · · · · · · · · · ·	0.3	14
x-distance Radial Distance from						
Site to Receptor	m	1	m	1 m	1	None
		Sou	rce Param	eters		
Infiltration Rate from the Facility	m/yr	0.124	in/yr	0.00315 m/yr	0.0000000001	10,000,000,000
Area of Waste Disposal Unit	m <sup>2</sup>	46,800	ft <sup>2</sup>	4348 m <sup>2</sup>	0.01	None
Length Scale of Facility	m	240	feet	73:2 m	0.000000001	10,000,000,000
Width Scale of Facility	m	195	feet	59.4 m	0.000000001	10,000,000,000
Recharge Rate into the Plume	m/yr	16.71	in/yr	0.4244 m/yr	0	10,000,000,000
Duration of Pulse	yr	8,000	yr	8000 yr	0.00000001	None
Initial Concentration at Landfill	mg/L_	6,000	mg/L	6,000 mg/L	0	None
		Addit	ional Para	meters		
Method				Gaussian	Gaussian	Patch
Name of Chemical Specified				Chloride		

 MODEL OUTPUT

 Final Concentration at Landfill
 mg/L
 221.8
 mg/L

	MODEL OUTPUT		
Concentration at Landfill	0.0 mg/L	Time	1 yr
	0.0 mg/L		10 yr
	0.0 mg/L		20 yr
	18.9 mg/L		50 yr
	36.6 mg/L		70 yr
	45.4 mg/L		80 yr
	61.8 mg/L		100 yr
	123.4 mg/L		200 yr
	154.1 mg/L		300 yr
	166.3 mg/L		400 yr
	178.5 mg/L		500 yr
	190.7 mg/L		600 yr
	204.8 mg/L		800 yr 14
	211.1 mg/L		1,000 yr
	220.4 mg/L		2,000 yr
	221.6 mg/L		3,000 yr
	221.8 mg/L		4,000 yr
	221.8 mg/L		5,000 yr
	221.8 mg/L		6,000 yr
	221.8 mg/L		7,000 yr

Chesapeake State M-1 Chesapeake Energy Corporation Buckeye, Lea County, New Mexico



## TABLE 6-3. TOTAL POROSITY OF VARIOUS MATERIALS

	No. of		Arithmetic	
Material	Analyses	Range	Mean	
Igneous Rocks				
Weathered granite	8	0.34-0.57	0.45	
Weathered gabbro	4	0.42-0.45	0.43	
Basalt	94	0.03-0.35	0.17	
Sedimentary Materials				
Sandstone	65	0.14-0.49	0.34	
Siltstone	7	0.21-0.41	0.35	
Sand (fine)	243	0.26-0.53	0.43	
Sand (coarse)	26	0.31-0.46	0.39	
Gravel (fine)	38	0.25-0.38	0.34	
Gravel (coarse)	15	0.24-0.36	0.28	
Silt	281	0.34-0.61	0.46	
Clay	74	0.34-0.57	0.42	
Limestone	74	0.07-0.56	0.3	
Metamorphic Rocks				
Schist	18	0.04-0.49	0.38	

Sources: From Mercer et al. (1982),

McWhorter and Sunada (1977),

Original reference Morris and Johnson, (1967).

Texture	Bulk Density g/cm^3	Average Wilting Point	Plant Available Water Inches/Ft
Sandy loam	1.6	0.057	1.66
Silt Loam	1.45	0.119	2
Loam	1.5	0.097	2.4
Sandy clay loam	1.45	0.137	1.66
Clay loam	1.45	0.157	1.9

TABLE 6-8. MEAN BULK DENSITY (g/cm3) FOR FIVE SOIL TEXTURAL CLASSIFICATIONSa,b

Soil Texture	Mean Value	Range Reported	
Silt Loams	1.32	0.86 - 1.67	
Clay and Clay Loams	1.3	0.94 - 1.54	
Sandy Loams	1.49	1.25 - 1.76	
Gravelly Silt Loams	1.22	1.02 - 1.58	
Loams	1.42	1.16 - 1.58	
All Soils	1.35	0.86 - 1.76	
All Soils	1.35	0.86 - 1.76	

a Baes, C.F., III and R.D. Sharp. 1983. A Proposal for Estimation of Soil Leaching Constants for Use in Assessment Models. J. Environ. Qual. 12(1):17-28 (Original reference).

b From Dean et al. (1989)

TABLE 6-2. DESCRIPTIVE STATISTICS FOR SATURATED HYDRAULIC COM	<b>IDUCTIVITY</b>
(cm hr-1)	

	Hydraulic (	Conductivity	/ (Ks)*			
Soil Type	x	s	ĊV	n		
Clay**	0.2	0.42	210.3	114	cm/hr	17.52
Clay Loam	0.26	0.7	267.2	345	cm/hr	22.776
Loam	1.04	1.82	174.6	735	cm/hr	91.104
Loamy Sand	14.59	11.36	77,9	315	cm/hr	1278.084
Silt	0.25	0.33	129.9	88	cm/hr	21.9
Silt Loam	0.45	1.23	275.1	1093	cm/hr	39.42
Silty Clay	0.02	0.11	453.3	126	cm/hr	1.752
Silty Clay Loam	0.07	0.19	288.7	592	cm/hr	6.132
Sand	29.7	15.6	52.4	246	cm/hr	2601.72
Sandy Clay	0.12	0.28	234.1	46	cm/hr	10.512
Sandy Clay Loam	1.31	2.74	208.6	214	cm/hr	114.756
Sandy Loam	4.42	5.63	127	1183	cm/hr	387.192

\* n = Sample size, = Mean, s = Standard deviation, CV = Coefficient of variation (percent)

\*\* Agricultural soil, less than 60 percent clay

Sources: From Dean et al. (1989), Original reference Carsel and Parrish (1988).

Saturated water content is the maximum volumetric amount of water in the soil when all pores are filled with water. Very often it is assumed that saturated water content equals the porosity n. However, in many cases qS is smaller than n due to the fact that small amounts of air will be trapped in very small pores. Residual water content can be defined as the asymptote of the pF-curve when h gets very high negative values. Usually qR is very small - on the order of 0.001--0.02 for coarse soils but gets as high values as 0.15..0.25 for heavy clay soils. Air entry point ha is

Soil texture. Fine-textured soils can hold much more organic matter than sandy soils for two reasons. First, clay particles form electrochemical bonds that hold organic compounds. Second, decomposition occurs faster in well-aerated sandy soils. A sandy loam rarely holds more than 2% organic matter.

The recharge rate in this model is the net amount of water that percolates directly into the aquifer system outside of the land disposal facility. The recharge is assumed to have no contamination and hence dilutes the groundwater contaminant plume. The recharge rate into the plume can be calculated in a variety of ways. One possibility is to use a model, such as HELP (Hydrologic Evaluation of Landfill Performance) (Schroeder et al., 1984), without any engineering controls (leachate collection system or a liner) to simulate the water balance for natural conditions.

The infiltration rate is the net amount of leachate that percolates into the aquifer system from a land disposal facility. Because of the use of engineering controls and the presence of non-native porous materials in the landfill facility, the infiltration rate will typically be different than the recharge rate. However, it can be estimated by similar

Most soils contain 2-10 percent organic matter. The Importance of Soil Organic Matter: Key to Drought-Resistant Soil and Sustained Food Production. http://www.fao.org

.

# **APPENDIX B**

# NMOCD APPROVAL OF STAGE 2 ABATEMENT PLAN

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From:	Chase Acker
То:	Bruce McKenzie
Subject:	FW: Stage 2 Abatement Plan Approval: AP-72 Former State M-1 Tank Battery located in Unit Letter O of Section 18 in Township 17 South, Range 36 East, NMPM in Lea County, NM
Date:	Monday, April 14, 2014 1:56:01 PM

From: Griswold, Jim, EMNRD [mailto:Jim.Griswold@state.nm.us]
Sent: Thursday, June 27, 2013 5:14 PM
To: Larry Wooten
Cc: Hall, Sharon; Chase Acker
Subject: Stage 2 Abatement Plan Approval: AP-72 Former State M-1 Tank Battery located in Unit Letter O of Section 18 in Township 17 South, Range 36 East, NMPM in Lea County, NM

Mr. Wooten,

The Oil Conservation Division (OCD) has reviewed the Stage 2 Abatement Plan for the abovereferenced site submitted on your behalf by Arcadis and dated 3/27/12. That plan has substantially met the requirements of 19.15.30 NMAC and is hereby approved. Please proceed with field activities.

Be advised this approval does not relieve Chesapeake of responsibility should the situation continue to pose a threat to groundwater, surface water, human health, or the environment. Furthermore, this approval does not relieve your responsibility for compliance with any federal, state, or local laws and/or regulations. Please retain a copy of this email for your files, as no hardcopy will be sent. If you have any questions, please feel free to contact me at any time.

#### Jim Griswold

Senior Hydrologist EMNRD/Oil Conservation Division 1220 South St. Francis Drive Santa Fe, New Mexico 87505 505.476.3465 email: jim.griswold@state.nm.us

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# **APPENDIX C**

# LABORATORY ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY DOCUMENTATION

# Received by OCD: 4/25/2024 8:49:58 AM



THE LEADER IN ENVIRONMENTAL TESTING

# **ANALYTICAL REPORT**

## TestAmerica Laboratories, Inc.

TestAmerica Nashville 2960 Foster Creighton Drive Nashville, TN 37204 Tel: (615)726-0177

## TestAmerica Job ID: 490-106833-1

TestAmerica Sample Delivery Group: Property ID 891077 Client Project/Site: CHK State M-1 Sampling Event: CHK State M-1

## For:

Enviro Clean Services LLC 7060 S. Yale Avenue, Suite 603 Tulsa, Oklahoma 74136

Attn: Ms. Julie Czech

athyGartner

Authorized for release by: 7/15/2016 11:25:17 AM

Cathy Gartner, Project Manager I (615)301-5041 cathy.gartner@testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

..... Links **Review your project** results through **Total** Access Have a Question? Ask-The Expert Visit us at:

www.testamericainc.com

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# **Table of Contents**

Cover Page	1
Table of Contents	2
Sample Summary	3
Case Narrative	4
Definitions	5
Client Sample Results	6
QC Sample Results	16
QC Association	18
Chronicle	19
Method Summary	21
Certification Summary	22
Chain of Custody	23
Receipt Checklists	25

Page 56 of 183

Page 57 of 183

3

Те

Client: Enviro Clean Services LLC Project/Site: CHK State M-1

estAmerica Job ID: 490-106833-	1
SDG: Property ID 89107	7

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	ు
490-106833-1	MW-2	Water	06/28/16 08:15	06/30/16 15:59	
490-106833-2	MW-5	Water	06/28/16 09:15	06/30/16 15:59	
490-106833-3	EQ Blank	Water	06/28/16 09:55	06/30/16 15:59	5
490-106833-4	MW-3	Water	06/28/16 10:50	06/30/16 15:59	C
490-106833-5	MW-4	Water	06/28/16 12:25	06/30/16 15:59	
490-106833-6	MW-8	Water	06/28/16 13:40	06/30/16 15:59	
490-106833-7	MW-6	Water	06/28/16 15:00	06/30/16 15:59	
490-106833-8	MW-7	Water	06/28/16 16:10	06/30/16 15:59	
490-106833-9	Dup	Water	06/28/16 00:01	06/30/16 15:59	
490-106833-10	MW-R1	Water	06/29/16 10:50	06/30/16 15:59	Ö
					9
					13

## **Case Narrative**

## Job ID: 490-106833-1

### Laboratory: TestAmerica Nashville

Narrative

Job Narrative 490-106833-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 6/30/2016 3:59 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.2° C.

#### HPLC/IC

Method(s) 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 490-354709 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) recoveries were within acceptance limits.

Method(s) 300.0: The following samples were diluted due to the nature of the sample matrix: MW-2 (490-106833-1), MW-5 (490-106833-2). MW-3 (490-106833-4), MW-4 (490-106833-5), MW-8 (490-106833-6), MW-6 (490-106833-7), MW-7 (490-106833-8) and Dup (490-106833-9). Elevated reporting limits (RLs) are provided.

Method(s) 300.0: Due to the high concentration of Chloride and Sulfate, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 490-354708 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

## **Definitions/Glossary**

Client: Enviro Clean Services LLC Project/Site: CHK State M-1 TestAmerica Job ID: 490-106833-1 SDG: Property ID 891077

## Qualifiers

HPLC/IC		
Qualifier	Qualifier Description	
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.	5
E	Result exceeded calibration range.	

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.	
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis	 8
%R	Percent Recovery	
CFL	Contains Free Liquid	9
CNF	Contains no Free Liquid	
DER	Duplicate error ratio (normalized absolute difference)	
Dil Fac	Dilution Factor	
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample	
DLC	Decision level concentration	
MDA	Minimum detectable activity	
EDL	Estimated Detection Limit	
MDC	Minimum detectable concentration	
MDL	Method Detection Limit	
ML	Minimum Level (Dioxin)	
NC	Not Calculated	
ND	Not detected at the reporting limit (or MDL or EDL if shown)	
PQL	Practical Quantitation Limit	
QC	Quality Control	
RER	Relative error ratio	
RL	Reporting Limit or Requested Limit (Radiochemistry)	
RPD	Relative Percent Difference, a measure of the relative difference between two points	
TEF	Toxicity Equivalent Factor (Dioxin)	

TEQ Toxicity Equivalent Quotient (Dioxin)

TestAmerica Nashville

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## **Client Sample Results**

Client: Enviro Clean Services LLC Project/Site: CHK State M-1 TestAmerica Job ID: 490-106833-1 SDG: Property ID 891077

#### **Client Sample ID: MW-2** Lab Sample ID: 490-106833-1 Date Collected: 06/28/16 08:15 Matrix: Water Date Received: 06/30/16 15:59 Method: 300.0 - Anions, Ion Chromatography Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chloride 18.9 5.00 mg/L 07/13/16 00:36 5

## **Client Sample Results**

Client: Enviro Clean Services LLC Project/Site: CHK State M-1 TestAmerica Job ID: 490-106833-1 SDG: Property ID 891077

#### **Client Sample ID: MW-5** Lab Sample ID: 490-106833-2 Date Collected: 06/28/16 09:15 Matrix: Water Date Received: 06/30/16 15:59 Method: 300.0 - Anions, Ion Chromatography Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chloride 26.1 5.00 mg/L 07/13/16 00:53 5

## **Client Sample Results**

Client: Enviro Clean Services LLC Project/Site: CHK State M-1 TestAmerica Job ID: 490-106833-1 SDG: Property ID 891077

Client Sample ID: EQ E Date Collected: 06/28/16 09							Lab Sam	ole ID: 490-10 Matrix	6833-3 c: Water	
Date Received: 06/30/16 15								Watib	. water	
Method: 300.0 - Anions, Ic		Qualifier	ы	MDI	Unit	D	Bronarad	Applyzod	Dil Eco	5
Analyte Chloride	ND	Qualifier	<b>RL</b> 1.00	MDL	mg/L		Prepared	Analyzed 07/14/16 06:12	Dil Fac	

## **Client Sample Results**

Client: Enviro Clean Services LLC Project/Site: CHK State M-1 TestAmerica Job ID: 490-106833-1 SDG: Property ID 891077

#### **Client Sample ID: MW-3** Lab Sample ID: 490-106833-4 Date Collected: 06/28/16 10:50 Matrix: Water Date Received: 06/30/16 15:59 Method: 300.0 - Anions, Ion Chromatography Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chloride 51.5 5.00 mg/L 07/14/16 06:52 5

## **Client Sample Results**

Client: Enviro Clean Services LLC Project/Site: CHK State M-1 TestAmerica Job ID: 490-106833-1 SDG: Property ID 891077

#### **Client Sample ID: MW-4** Lab Sample ID: 490-106833-5 Date Collected: 06/28/16 12:25 Matrix: Water Date Received: 06/30/16 15:59 Method: 300.0 - Anions, Ion Chromatography Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chloride 527 50.0 mg/L 07/14/16 07:12 50

## **Client Sample Results**

Client: Enviro Clean Services LLC
Project/Site: CHK State M-1

TestAmerica Job ID: 490-106833-1 SDG: Property ID 891077

Client Sample ID: MW-8 Lab Sample ID: 490-106833- Date Collected: 06/28/16 13:40 Matrix: Wate Date Received: 06/30/16 15:59										
Method: 300.0 - Anions, Io Analyte		Qualifier	RL	MDL	Unif	D	Prepared	Analyzed	Dil Fac	Ę
Chloride	539		50.0		mg/L			07/14/16 07:32	50	6
										-

TestAmerica Nashville

Released to Imaging: 6/4/2024 2:29:36 PM

## **Client Sample Results**

Client: Enviro Clean Services LLC Project/Site: CHK State M-1 TestAmerica Job ID: 490-106833-1 SDG: Property ID 891077

#### **Client Sample ID: MW-6** Lab Sample ID: 490-106833-7 Date Collected: 06/28/16 15:00 Matrix: Water Date Received: 06/30/16 15:59 Method: 300.0 - Anions, Ion Chromatography Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chloride 128 10.0 mg/L 07/14/16 07:52 10

## **Client Sample Results**

Client: Enviro Clean Services LLC Project/Site: CHK State M-1 TestAmerica Job ID: 490-106833-1 SDG: Property ID 891077

#### **Client Sample ID: MW-7** Lab Sample ID: 490-106833-8 Date Collected: 06/28/16 16:10 Matrix: Water Date Received: 06/30/16 15:59 Method: 300.0 - Anions, Ion Chromatography Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chloride 36.0 5.00 mg/L 07/14/16 08:12 5

## **Client Sample Results**

Client: Enviro Clean Services LLC
Project/Site: CHK State M-1

TestAmerica Job ID: 490-106833-1 SDG: Property ID 891077

#### **Client Sample ID: Dup** Lab Sample ID: 490-106833-9 Date Collected: 06/28/16 00:01 Matrix: Water Date Received: 06/30/16 15:59 Method: 300.0 - Anions, Ion Chromatography Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chloride 511 50.0 mg/L 07/14/16 08:32 50

## **Client Sample Results**

Client: Enviro Clean Services LLC Project/Site: CHK State M-1 TestAmerica Job ID: 490-106833-1 SDG: Property ID 891077

#### **Client Sample ID: MW-R1** Lab Sample ID: 490-106833-10 Date Collected: 06/29/16 10:50 Matrix: Water Date Received: 06/30/16 15:59 Method: 300.0 - Anions, Ion Chromatography Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chloride 24.9 5.00 mg/L 07/12/16 22:47 5

## **QC Sample Results**

TestAmerica Job ID: 490-106833-1 SDG: Property ID 891077

### Method: 300.0 - Anions, Ion Chromatography

Matrix: Water											Sample ID: M Prep Ty		
Analysis Batch: 354708													
A	-	MB MB				MDL Unit		-			<b>A</b>		D!!
Analyte Chloride	R	esult Qualifier		RL 1.00				D	PI	repared	Analyze		Dil Fac
		ND		1.00		mg/L					0//12/10 2	1.00	I
Lab Sample ID: LCS 490-354708/7								Cli	ent	Sample	e ID: Lab Co	ntrol S	Sample
Matrix: Water											Prep Ty	/pe: To	otal/NA
Analysis Batch: 354708			Spike		1.08	LCS					%Rec.		
Analyte			Added	F		Qualifier	Unit		D	%Rec	Limits		
Chloride			10.0		10.15		mg/L		_	101	90 - 110		
-							0						
Lab Sample ID: LCSD 490-354708/8 Matrix: Water							CI	ient S	am	ple ID:	Lab Control Prep Ty	-	-
Analysis Batch: 354708													
			Spike			LCSD					%Rec.		RPD
Analyte			Added	F		Qualifier	Unit		D	%Rec	Limits	RPD	Limit
Chloride			10.0		9.975		mg/L			100	90 - 110	2	20
 Lab Sample ID: 490-106833-10 MS											Client Samp	ا ۲۵۰ ما	MW-R1
Matrix: Water											Prep Ty		
Analysis Batch: 354708													
	Sample	Sample	Spike		MS	MS					%Rec.		
Analyte	Result	Qualifier	Added	F	Result	Qualifier	Unit		D	%Rec	Limits		
Chloride	29.1	E	2.00		25.10	E 4	mg/L			-200	80 - 120		
_										Client	Sample ID: N	lothor	Rlank
 Lab Sample ID: MB 490-354709/6										Client	Sample ID: M Prep Ty		
Lab Sample ID: MB 490-354709/6 Matrix: Water										Client	Sample ID: M Prep Ty		
 Lab Sample ID: MB 490-354709/6		MB MB								Client			
Lab Sample ID: MB 490-354709/6 Matrix: Water	R	MB MB esult Qualifier		RL		MDL Unit		D		Client S	Prep Ty Analyze	/pe: To	
Lab Sample ID: MB 490-354709/6 Matrix: Water Analysis Batch: 354709	R			<b>RL</b> 1.00		MDL Unit mg/L		<u>D</u>			Prep Ty	/pe: To	otal/NA
Lab Sample ID: MB 490-354709/6 Matrix: Water Analysis Batch: 354709 Analyte Chloride	R	esult Qualifier							Pı	repared	Prep Ty Analyze 07/12/16 2	/pe: To ed 11:11	Dil Fac
Lab Sample ID: MB 490-354709/6 Matrix: Water Analysis Batch: 354709 Analyte Chloride Lab Sample ID: LCS 490-354709/7	R	esult Qualifier							Pı	repared	Prep Ty 	ype: To ed 11:11	Dil Fac
Lab Sample ID: MB 490-354709/6 Matrix: Water Analysis Batch: 354709 Analyte Chloride Lab Sample ID: LCS 490-354709/7 Matrix: Water	R	esult Qualifier							Pı	repared	Prep Ty Analyze 07/12/16 2	ype: To ed 11:11	Dil Fac
Lab Sample ID: MB 490-354709/6 Matrix: Water Analysis Batch: 354709 Analyte Chloride Lab Sample ID: LCS 490-354709/7	R	esult Qualifier	Spike						Pı	repared	Prep Ty 	ype: To ed 11:11	Dil Fac
Lab Sample ID: MB 490-354709/6 Matrix: Water Analysis Batch: 354709 Analyte Chloride Lab Sample ID: LCS 490-354709/7 Matrix: Water	R	esult Qualifier		1.00	LCS	mg/L	Unit		Pı	repared	Prep Ty Analyze 07/12/16 2 e ID: Lab Co Prep Ty	ype: To ed 11:11	Dil Fac
Lab Sample ID: MB 490-354709/6 Matrix: Water Analysis Batch: 354709 Analyte Chloride Lab Sample ID: LCS 490-354709/7 Matrix: Water Analysis Batch: 354709	R	esult Qualifier	Spike	1.00	LCS	LCS	Unit mg/L		Pı ent	repared Sample	Prep Ty 	ype: To ed 11:11	Dil Fac
Lab Sample ID: MB 490-354709/6 Matrix: Water Analysis Batch: 354709 Analyte Chloride Lab Sample ID: LCS 490-354709/7 Matrix: Water Analysis Batch: 354709 Analyte Chloride		esult Qualifier	Spike Added	1.00	LCS Result	LCS	mg/L	Cli	Pr ent	Sample Sample <u>%Rec</u> 106	Analyze           07/12/16 2           e ID: Lab Co           Prep Ty           %Rec.           Limits           90 - 110	ype: To ed http://www.commons.com/ http://www.commons.com/ ype: To	Dil Fac 1 Sample Dtal/NA
Lab Sample ID: MB 490-354709/6 Matrix: Water Analysis Batch: 354709 Analyte Chloride Lab Sample ID: LCS 490-354709/7 Matrix: Water Analysis Batch: 354709 Analyte Chloride Lab Sample ID: LCSD 490-354709/8		esult Qualifier	Spike Added	1.00	LCS Result	LCS	mg/L	Cli	Pr ent	Sample Sample <u>%Rec</u> 106	Prep Ty 	ype: To ed (1:11) (pe: To ype: To l Samp	Dil Fac 1 Sample Dtal/NA
Lab Sample ID: MB 490-354709/6 Matrix: Water Analysis Batch: 354709 Analyte Chloride Lab Sample ID: LCS 490-354709/7 Matrix: Water Analysis Batch: 354709 Analyte Chloride Lab Sample ID: LCSD 490-354709/8 Matrix: Water		esult Qualifier	Spike Added	1.00	LCS Result	LCS	mg/L	Cli	Pr ent	Sample Sample <u>%Rec</u> 106	Analyze           07/12/16 2           e ID: Lab Co           Prep Ty           %Rec.           Limits           90 - 110	ype: To ed (1:11) (pe: To ype: To l Samp	Dil Fac 1 Sample Dtal/NA
Lab Sample ID: MB 490-354709/6 Matrix: Water Analysis Batch: 354709 Analyte Chloride Lab Sample ID: LCS 490-354709/7 Matrix: Water Analysis Batch: 354709 Analyte Chloride Lab Sample ID: LCSD 490-354709/8		esult Qualifier	Spike Added	1.00 F	LCS Result 10.64	LCS	mg/L	Cli	Pr ent	Sample Sample <u>%Rec</u> 106	Prep Ty 	ype: To ed (1:11) (pe: To ype: To l Samp	Dil Fac 1 Sample Dtal/NA
Lab Sample ID: MB 490-354709/6 Matrix: Water Analysis Batch: 354709 Analyte Chloride Lab Sample ID: LCS 490-354709/7 Matrix: Water Analysis Batch: 354709 Analyte Chloride Lab Sample ID: LCSD 490-354709/8 Matrix: Water		esult Qualifier	Spike Added 10.0	1.00 	LCS Result 10.64 LCSD	LCS Qualifier	mg/L	Cli	Pr ent	Sample Sample <u>%Rec</u> 106	Prep Ty Analyze 07/12/16 2 e ID: Lab Co Prep Ty %Rec. Limits 90 - 110 Lab Control Prep Ty	ype: To ed (1:11) (pe: To ype: To l Samp	Dil Fac 1 Sample Dtal/NA
Lab Sample ID: MB 490-354709/6 Matrix: Water Analysis Batch: 354709 Analyte Chloride Lab Sample ID: LCS 490-354709/7 Matrix: Water Analysis Batch: 354709 Analyte Chloride Lab Sample ID: LCSD 490-354709/8 Matrix: Water Analysis Batch: 354709		esult Qualifier	Spike Added 10.0 Spike	1.00 F	LCS Result 10.64 LCSD	LCS Qualifier	mg/L	Cli	Pr ent	Sample %Rec 106	Prep Ty Analyze 07/12/16 2 e ID: Lab Co Prep Ty %Rec. Limits 90 - 110 Lab Control Prep Ty %Rec.	ype: To ed (1:111 ontrol S ype: To Samp ype: To	Dil Fac 1 Sample Dial/NA Die Dup Dial/NA RPD Limit
Lab Sample ID: MB 490-354709/6 Matrix: Water Analysis Batch: 354709 Analyte Chloride Lab Sample ID: LCS 490-354709/7 Matrix: Water Analysis Batch: 354709 Analyte Chloride Lab Sample ID: LCSD 490-354709/8 Matrix: Water Analysis Batch: 354709 Analyte Chloride		esult Qualifier	Spike Added 10.0 Spike Added	1.00 F	LCS Result 10.64 LCSD Result	LCS Qualifier	mg/L CI Unit	Cli	Pr ent	Sample %Rec 106 ple ID: %Rec 106	Prep Ty 	ype: To ad th:till ontrol S ype: To ype: To RPD 0	Dil Fac 1 Sample Dia J/NA Die Dup Dia J/NA RPD Limit 20
Lab Sample ID: MB 490-354709/6 Matrix: Water Analysis Batch: 354709 Analyte Chloride Lab Sample ID: LCS 490-354709/7 Matrix: Water Analysis Batch: 354709 Analyte Chloride Lab Sample ID: LCSD 490-354709/8 Matrix: Water Analysis Batch: 354709 Analyte Chloride Lab Sample ID: LCSD 490-354709/8 Matrix: Water Analysis Batch: 354709 Analyte Chloride		esult Qualifier	Spike Added 10.0 Spike Added	1.00 F	LCS Result 10.64 LCSD Result	LCS Qualifier	mg/L CI Unit	Cli	Pr ent	Sample %Rec 106 ple ID: %Rec 106	Analyze           07/12/16 2           e ID: Lab Coo           Prep Ty           %Rec.           Limits           90 - 110           Lab Control           Prep Ty           %Rec.           Limits           90 - 110           Kec.           Limits           90 - 110           Sample ID:	ype: To ed (1:11) - ontrol S ype: To ype: To RPD 0 Matrib	Dil Fac 1 Sample Dtal/NA Dle Dup Dtal/NA RPD Limit 20 x Spike
Lab Sample ID: MB 490-354709/6 Matrix: Water Analysis Batch: 354709 Analyte Chloride Lab Sample ID: LCS 490-354709/7 Matrix: Water Analysis Batch: 354709 Analyte Chloride Lab Sample ID: LCSD 490-354709/8 Matrix: Water Analysis Batch: 354709 Analyte Chloride Lab Sample ID: 490-106782-E-9 MS Matrix: Water		esult Qualifier	Spike Added 10.0 Spike Added	1.00 F	LCS Result 10.64 LCSD Result	LCS Qualifier	mg/L CI Unit	Cli	Pr ent	Sample %Rec 106 ple ID: %Rec 106	Prep Ty 	ype: To ed (1:11) - ontrol S ype: To ype: To RPD 0 Matrib	Dil Fac 1 Sample Dtal/NA Dle Dup Dtal/NA RPD Limit 20 x Spike
Lab Sample ID: MB 490-354709/6 Matrix: Water Analysis Batch: 354709 Analyte Chloride Lab Sample ID: LCS 490-354709/7 Matrix: Water Analysis Batch: 354709 Analyte Chloride Lab Sample ID: LCSD 490-354709/8 Matrix: Water Analysis Batch: 354709 Analyte Chloride Lab Sample ID: LCSD 490-354709/8 Matrix: Water Analysis Batch: 354709		esult Qualifier	Spike Added 10.0 Spike Added	1.00 F	LCS Result 10.64 LCSD Result 10.64	LCS Qualifier	mg/L CI Unit	Cli	Pr ent	Sample %Rec 106 ple ID: %Rec 106	Analyze           07/12/16 2           e ID: Lab Coo           Prep Ty           %Rec.           Limits           90 - 110           Lab Control           Prep Ty           %Rec.           Limits           90 - 110           Kec.           Limits           90 - 110           Sample ID:	ype: To ed (1:11) - ontrol S ype: To ype: To RPD 0 Matrib	Dil Fac 1 Sample Dtal/NA Dle Dup Dtal/NA RPD Limit 20 x Spike
Lab Sample ID: MB 490-354709/6 Matrix: Water Analysis Batch: 354709 Analyte Chloride Lab Sample ID: LCS 490-354709/7 Matrix: Water Analysis Batch: 354709 Analyte Chloride Lab Sample ID: LCSD 490-354709/8 Matrix: Water Analysis Batch: 354709 Analyte Chloride Lab Sample ID: 490-106782-E-9 MS Matrix: Water	Sample	esult Qualifier	Spike Added 10.0 Spike Added 10.0	1.00 F	LCS Result 10.64 LCSD Result 10.64	LCS Qualifier Qualifier	mg/L CI Unit	Cli	Pr ent	Sample %Rec 106 ple ID: %Rec 106	Prep Ty Analyze 07/12/16 2 e ID: Lab Co Prep Ty %Rec. Limits 90 - 110 Lab Control Prep Ty %Rec. Limits 90 - 110 t Sample ID: Prep Ty	ype: To ed (1:11) - ontrol S ype: To ype: To RPD 0 Matrib	Dil Fac 1 Sample Dtal/NA Dle Dup Dtal/NA RPD Limit 20 x Spike

			QC	Sam	ple F	Resu	lts								
Client: Enviro Clean Services LLC Project/Site: CHK State M-1											Te		ica Job ID: SDG: Prope		
_ Lab Sample ID: MB 490-354974/3 Matrix: Water												Client S	Sample ID: Pren T	Method ype: To	
Analysis Batch: 354974													i i op i	<b>J</b> po. 10	
-		мв	МВ												
Analyte	Re	esult	Qualifier		RL		MDL	Unit		D	P	repared	Analyz	ed	Dil Fac
Chloride		ND			1.00			mg/L					07/14/16	04:31	1
Lab Sample ID: LCS 490-354974/4										Clie	ent	Sample	D: Lab C	ontrol S	ample
Matrix: Water													Prep T	ype: To	tal/NA
Analysis Batch: 354974															
				Spike		LCS	LCS						%Rec.		
Analyte				Added		Result	Qua	lifier	Unit		D	%Rec	Limits		
Chloride				10.0		10.04			mg/L			100	90 - 110		
Lab Sample ID: LCSD 490-354974/5									С	lient S	am	ple ID:	Lab Contro	I Samp	le Dup
Matrix: Water												· · · ·	Prep T	ype: To	tal/NA
Analysis Batch: 354974															
				Spike		LCSD	LCS	D					%Rec.		RPD
Analyte				Added		Result	Qua	lifier	Unit		D	%Rec	Limits	RPD	Limit
Chloride				10.0		10.19			mg/L		_	102	90 - 110	2	20
 Lab Sample ID: 490-106833-3 MS												Cli	ent Sample	ID: EQ	Blank
Matrix: Water														ype: To	
Analysis Batch: 354974															
-	Sample	Sam	ole	Spike		MS	MS						%Rec.		
Analyte	Result	Qual	ifier	Added		Result	Qua	lifier	Unit		D	%Rec	Limits		
Chloride	ND			2.00		2.578			mg/L		_	83	80 - 120		

## **QC Association Summary**

Client: Enviro Clean Services LLC Project/Site: CHK State M-1 TestAmerica Job ID: 490-106833-1 SDG: Property ID 891077

 Page 72 of 183

 20-106833-1

 y ID 891077

 2

 3

 4

 Prep Batch

 5

 6

 7

 Prep Batch

 8

 9

## HPLC/IC

MB 490-354974/3

Method Blank

#### Analysis Batch: 354708

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-106833-10	MW-R1	Total/NA	Water	300.0	
490-106833-10 MS	MW-R1	Total/NA	Water	300.0	
LCS 490-354708/7	Lab Control Sample	Total/NA	Water	300.0	
LCSD 490-354708/8	Lab Control Sample Dup	Total/NA	Water	300.0	
MB 490-354708/6	Method Blank	Total/NA	Water	300.0	
nalysis Batch: 35470	)9				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-106782-E-9 MS	Matrix Spike	Total/NA	Water	300.0	
490-106833-1	MW-2	Total/NA	Water	300.0	
490-106833-2	MW-5	Total/NA	Water	300.0	
_CS 490-354709/7	Lab Control Sample	Total/NA	Water	300.0	
CSD 490-354709/8	Lab Control Sample Dup	Total/NA	Water	300.0	
MB 490-354709/6	Method Blank	Total/NA	Water	300.0	
nalysis Batch: 35497	74				
				Madh a d	
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
•	Client Sample ID	Prep Type           Total/NA	Water	300.0	Prep Batch
190-106833-3	•				Prep Batch
490-106833-3 490-106833-3 MS	EQ Blank	Total/NA	Water	300.0	Prep Batch
490-106833-3 490-106833-3 MS 490-106833-4	EQ Blank EQ Blank	Total/NA Total/NA	Water Water	300.0 300.0	Prep Batch
190-106833-3 190-106833-3 MS 190-106833-4 190-106833-5	EQ Blank EQ Blank MW-3	Total/NA Total/NA Total/NA	Water Water Water	300.0 300.0 300.0	Prep Batch
190-106833-3 190-106833-3 MS 190-106833-4 190-106833-5 190-106833-6	EQ Blank EQ Blank MW-3 MW-4	Total/NA Total/NA Total/NA Total/NA	Water Water Water Water	300.0 300.0 300.0 300.0	Prep Batch
490-106833-3 490-106833-3 MS 490-106833-4 490-106833-5 490-106833-6 490-106833-7	EQ Blank EQ Blank MW-3 MW-4 MW-8	Total/NA Total/NA Total/NA Total/NA Total/NA	Water Water Water Water Water	300.0 300.0 300.0 300.0 300.0 300.0	Prep Batch
490-106833-3 490-106833-3 MS 490-106833-4 490-106833-5 490-106833-6 490-106833-7 490-106833-8	EQ Blank EQ Blank MW-3 MW-4 MW-8 MW-6	Total/NA Total/NA Total/NA Total/NA Total/NA Total/NA	Water Water Water Water Water Water	300.0 300.0 300.0 300.0 300.0 300.0 300.0	Prep Batch
Lab Sample ID 490-106833-3 490-106833-3 MS 490-106833-4 490-106833-5 490-106833-6 490-106833-7 490-106833-8 490-106833-9 LCS 490-354974/4	EQ Blank EQ Blank MW-3 MW-4 MW-8 MW-6 MW-7	Total/NA Total/NA Total/NA Total/NA Total/NA Total/NA	Water Water Water Water Water Water Water	300.0 300.0 300.0 300.0 300.0 300.0 300.0	Prep Batch

Total/NA

Water

300.0
Client: Enviro Clean Services LLC

TestAmerica Job ID: 490-106833-1 SDG: Property ID 891077

Client Sampl Date Collected: Date Received:	06/28/16 08:	15						Lab Sample		)-106833-1 Iatrix: Water
Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	10 mL		354709	07/13/16 00:36	JHS	TAL NSH
Client Sampl	e ID: MW-5							Lab Sample	e ID: 490	)-106833-2
Date Collected:	06/28/16 09:	15						-	N	latrix: Water
Date Received:	06/30/16 15:5	59								
_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	10 mL		354709	07/13/16 00:53	JHS	TAL NSH
Client Sampl Date Collected: Date Received:	06/28/16 09:	55						Lab Sample		)-106833-3 Iatrix: Water
_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	10 mL		354974	07/14/16 06:12	JHS	TAL NSH
Client Sampl Date Collected: Date Received:	06/28/16 10:	50						Lab Sample		)-106833-4 Iatrix: Water
	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	10 mL		354974	07/14/16 06:52	JHS	TAL NSH
Client Sampl Date Collected: Date Received:	06/28/16 12:2	25						Lab Sample		)-106833-5 Iatrix: Water
_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50	10 mL		354974	07/14/16 07:12	JHS	TAL NSH
Client Sampl Date Collected: Date Received:	06/28/16 13:4	40						Lab Sample		)-106833-6 Iatrix: Water
	Batch	Batch	_	Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab

Analysis

300.0

Total/NA

10 mL

354974

07/14/16 07:32 JHS

50

TAL NSH

Client: Enviro Clean Services LLC

Project/Site: CHK State M-1

TestAmerica Job ID: 490-106833-1 SDG: Property ID 891077

Client Samp	le ID: MW-6							Lab Sampl	e ID: 49	0-106833-7
Date Collected	: 06/28/16 15:0	00						-	Ν	Aatrix: Wate
Date Received:	06/30/16 15:5	59								
_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		10	10 mL		354974	07/14/16 07:52	JHS	TAL NSH
Client Samp	le ID: MW-7							Lab Sampl	e ID: 49	0-106833-
Date Collected:										Aatrix: Wate
Date Received:	06/30/16 15:5	59								
_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	10 mL		354974	07/14/16 08:12	JHS	TAL NSH
Client Samp	e ID: Dup							Lab Sampl	e ID: 49	0-106833-9
Date Collected		01								Atrix: Wate
Date Received:	06/30/16 15:5	59								
_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50	10 mL		354974	07/14/16 08:32	JHS	TAL NSH
Client Samp	le ID: MW-R	81						Lab Sample	ID: 490-	-106833-1(
Date Collected										Atrix: Wate

Date Received: 06/30/16 15:59

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type Total/NA	Type Analysis	Method 300.0	Run	Factor 5	Amount 10 mL	Amount	Number 354708	or Analyzed	Analyst JHS	- Lab TAL NSH

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

#### **Method Summary**

#### Client: Enviro Clean Services LLC Project/Site: CHK State M-1

TestAmerica Job ID: 490-106833-1 SDG: Property ID 891077

Method	Method Description	Protocol	Laboratory	
300.0	Anions, Ion Chromatography	MCAWW	TAL NSH	- 2

#### Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

#### Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

#### **Certification Summary**

Client: Enviro Clean Services LLC
Project/Site: CHK State M-1

TestAmerica Job ID: 490-106833-1 SDG: Property ID 891077

#### Laboratory: TestAmerica Nashville The certifications listed below are applicable to this report.

ſ	_				
	Authority	Program	EPA Region	Certification ID	Expiration Date
	Oklahoma	State Program	6	9412	08-31-16
l	_				

T.

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1

12

TestAmerica	
THE LEADER IN ENVIRONMENTAL TESTING Nashville, TN COOLER RECEIPT FORM	490-106833 Chain of Custody
Cooler Received/Opened On_6/30/2016 @ 1030	
Time Samples Removed From Cooler Time Samples Placed In Storage	(2 Hour Window)
1. Tracking #	Ex_
IR Gun ID <u>17610176</u> pH Strip Lot <u>HC564992</u> Chlorine Strip Lot <u>012516A</u>	
2. Temperature of rep. sample or temp blank when opened: <u>5.</u> Degrees Celsius	$\sim$
3. If Item #2 temperature is $0^{\circ}$ C or less, was the representative sample or temp blank fr	rozen? YES_NO.(.NA
4. Were custody seals on outside of cooler?	ES. NONA
If yes, how many and where: ON [Now.tON	Back
5. Were the seals intact, signed, and dated correctly?	YES NONA
6. Were custody papers inside cooler?	YESNONA
I certify that I opened the cooler and answered questions 1-6 (intial)	
7. Were custody seals on containers: YES NO and Intact	YESNONA
Were these signed and dated correctly?	YESNO.
8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert	Paper Other None
9. Cooling process: Ice Ice-pack (ce (direct contact))	Dry ice Other None
10. Did all containers arrive in good condition (unbroken)?	VES.NONA
11. Were all container labels complete (#, date, signed, pres., etc)?	YES NO NA
12. Did all container labels and tags agree with custody papers?	YESNONA
13a. Were VOA vials received?	YES NONA
b. Was there any observable headspace present in any VOA vial?	YESNO.
14. Was there a Trip Blank in this cooler? YES. NO. If multiple coolers, s	equence #
I certify that I unloaded the cooler and answered questions 7-14 (initial)	•••·
15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH	level? YESNO
b. Did the bottle labels indicate that the correct preservatives were used	(YES).NONA
16. Was residual chlorine present?	YESNO. (NA)
I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (i	intial) <u>DA</u>
17. Were custody papers properly filled out (ink, signed, etc)?	YESNONA
18. Did you sign the custody papers in the appropriate place?	YESNONA
19. Were correct containers used for the analysis requested?	(YES).NONA
20. Was sufficient amount of sample sent in each container?	YESNONA
I certify that I entered this project into LIMS and answered questions 17-20 (intial)	
I certify that I attached a label with the unique LIMS number to each container (intial)	DA
21. Were there Non-Conformance issues at login? YES. NO Was a NCM generated?	YES. NO

BIS = Broken in shipment Cooler Receipt Form.doc

	G	LABC	RECI	METI	RE L		TOT	10 10-	1	_	€ 6-2	<b>د-9</b> کر	66.2	<b>C-)</b> S	4 6-2	36-3	2 6-2	6-2		SAMI	SAMI T		-	]	
POINT	(615) 726-0177	ORATORY	EIVED IN L	METHOD OF SHIPMENT:	KELINQUISHE BY:			1-29-16	ļ	6-28-16				•		91-85-9	6-28-16	6-28-16	Date	SAMPLER'S SIGNATURE	PLER'S PRI		Π		2
Point of Origin:	0177	LABORATORY CONTACT:	RECEIVED IN LABORATORY BY:	HIPMENT:	BY:		TOTAL NUMBER OF CONTAINERS	וואבט	]	1	1610	1200	1340	الكلا	1050	955	915	815	Time		SAMPLER'S PRINTED NAME: TERRY Fisher				4
C OKLAHOMA CITY			RY BY:	FED-EX		1	TAINERS	MW-R	Temp	0-0	mw-7		mw-8	mw-4	MW-3	EQ Blonk		MW-J	Sample ID		nE:	SERVICES, LLC   918) 794-7828	IROCLEAN		
□ NORMAN			DATE		TIME	~0		<i>W</i>	ت	W	W	E	W	E	٤	٤	٤	r	Sample	e Matrix	¢	SHIPPED TO: T과 Nas	PROJECT NUMBER: CHKHSTM10	-	1
						1.17-		-	k	1	1	1	1	1	1	1	-		# of Sample	e Conta	iners	PED TO: TA Nashville	CHKHSTM101	с <del>Г</del>	1
	2960	LABOR/	Send PD	AIRBILL	несеічер вү:			X	×	X	X	X	X	X	メ	7.	*	<b>*</b>	CHLORIDI Temp		)	<u>70</u>	<u>6</u> 8	AIN OF	
ß	l Fostei	ATORY A	OF, EDD,	AIRBILL NUMBER:	ер вү:														lenp	<u> </u>				CUST	
	on Dr., I	LABORATORY ADDRESS:	Send PDF, EDD, and INVOICE (if applicable) to:	R:		GH																PROJECT MANAGER: Bruce MicKenzie	PROJECT NAME: CHK STATE M-1	CHAIN OF CUSTODY RECORD	ан талар
MIDLAND	Nashvile, TN 37204		ble) to:			NH	-															iER: Genzie	토 1		
D OTHER:	4 37204	r južeci je	tinzanh@c		TIME									-											
Ŗ		SI VII OCIERI	hviroclea		m	TIME 1030											;	hote			ASOW:				
		ibs.com				ר <u>ל</u> בי											Ye	note: free o				TAT:		-	
] OTHER:						Temp. 3. C						106833	1 oc. 490				Hor	3	REMARKS		GEWSUB: 750-521 PROP ID: 891077	STANDA RD	COC of	No. 00916	

## Received by OCD: 4/25/2024 8:49:58 AM

Page 78 of 183

2

7/15/2016

Page 24 of 25

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#### Login Sample Receipt Checklist

Client: Enviro Clean Services LLC

#### Login Number: 106833 List Number: 1

Creator: Armstrong, Daniel

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.2C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Job Number: 490-106833-1 SDG Number: Property ID 891077

## Received by OCD: 4/25/2024 8:49:58 AM



THE LEADER IN ENVIRONMENTAL TESTING

# **ANALYTICAL REPORT**

#### TestAmerica Laboratories, Inc.

TestAmerica Nashville 2960 Foster Creighton Drive Nashville, TN 37204 Tel: (615)726-0177

## TestAmerica Job ID: 490-112467-1

TestAmerica Sample Delivery Group: Property ID 891077 Client Project/Site: CHK STATE M-1 Sampling Event: CHK State M-1

## For:

Enviro Clean Services LLC 7060 S. Yale Avenue, Suite 603 Tulsa, Oklahoma 74136

Attn: Ms. Julie Czech

athyGartner

Authorized for release by: 10/7/2016 3:24:00 PM

Cathy Gartner, Project Manager I (615)301-5041 cathy.gartner@testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

..... Links **Review your project** results through **Total** Access Have a Question? Ask-The Expert Visit us at: www.testamericainc.com Released to Imaging: 6/4/2024 2:29:36 PM

TestAmerica Job ID: 490-112467-1 SDG: Property ID 891077

# **Table of Contents**

Cover Page	1
Table of Contents	2
Sample Summary	3
Case Narrative	4
Definitions	5
Client Sample Results	6
QC Sample Results	16
QC Association	18
Chronicle	19
Method Summary	21
Certification Summary	22
Chain of Custody	23
Receipt Checklists	25

2

#### Sample Summary

Page 82 of 183

TestAmerica Job ID: 490-112467-1

Client: Enviro Clean Services LLC Project/Site: CHK STATE M-1

Collected	Received	3
 SDG: Prope	erty ID 891077	2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	
490-112467-1	MW-2	Water	09/21/16 08:31	09/23/16 18:24	
490-112467-2	MW-5	Water	09/21/16 10:00	09/23/16 18:24	
490-112467-3	MW-3	Water	09/21/16 11:14	09/23/16 18:24	5
490-112467-4	MW-4	Water	09/21/16 12:39	09/23/16 18:24	J
490-112467-5	MW-8	Water	09/21/16 13:50	09/23/16 18:24	
490-112467-6	MW-6	Water	09/21/16 14:55	09/23/16 18:24	
490-112467-7	MW-7	Water	09/21/16 16:10	09/23/16 18:24	
490-112467-8	EQ Blank	Water	09/21/16 07:40	09/23/16 18:24	
490-112467-9	Dup	Water	09/21/16 00:01	09/23/16 18:24	
490-112467-10	MW-1R	Water	09/22/16 08:30	09/23/16 18:24	8
					9
					13

5

TestAmerica Job ID: 490-112467-1 SDG: Property ID 891077

#### Job ID: 490-112467-1

#### Laboratory: TestAmerica Nashville

Client: Enviro Clean Services LLC

Project/Site: CHK STATE M-1

Narrative

Job Narrative 490-112467-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 9/23/2016 9:25 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.5° C.

#### HPLC/IC

Method(s) 300.0: The matrix spike (MS) recoveries for analytical batch 490-375625 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) recoveries were within the acceptance limits.

Method(s) 300.0: The following samples was diluted due to the nature of the sample matrix: MW-5 (490-112467-2), MW-3 (490-112467-3), MW-4 (490-112467-4), MW-8 (490-112467-5), MW-6 (490-112467-6), MW-7 (490-112467-7), Dup (490-112467-9) and MW-1R (490-112467-10). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **Definitions/Glossary**

Client: Enviro Clean Services LLC Project/Site: CHK STATE M-1 Page 84 of 183

#### TestAmerica Job ID: 490-112467-1 SDG: Property ID 891077

Quaimers		
HPLC/IC		
Qualifier	Qualifier Description	
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.	5
E	Result exceeded calibration range.	
Glossary		
Abbreviation	These commonly used abbreviations may or may not be present in this report.	

Abbreviation	These commonly used abbreviations may or may not be present in this report.	
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis	8
%R	Percent Recovery	
CFL	Contains Free Liquid	9
CNF	Contains no Free Liquid	
DER	Duplicate error ratio (normalized absolute difference)	
Dil Fac	Dilution Factor	
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample	
DLC	Decision level concentration	
MDA	Minimum detectable activity	
EDL	Estimated Detection Limit	
MDC	Minimum detectable concentration	
MDL	Method Detection Limit	
ML	Minimum Level (Dioxin)	
NC	Not Calculated	
ND	Not detected at the reporting limit (or MDL or EDL if shown)	
PQL	Practical Quantitation Limit	
QC	Quality Control	
RER	Relative error ratio	
RL	Reporting Limit or Requested Limit (Radiochemistry)	
RPD	Relative Percent Difference, a measure of the relative difference between two points	
TEF	Toxicity Equivalent Factor (Dioxin)	
TEQ	Toxicity Equivalent Quotient (Dioxin)	

TestAmerica Nashville

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#### **Client Sample Results**

Client: Enviro Clean Services LLC Project/Site: CHK STATE M-1 TestAmerica Job ID: 490-112467-1 SDG: Property ID 891077

#### **Client Sample ID: MW-2** Lab Sample ID: 490-112467-1 Date Collected: 09/21/16 08:31 Matrix: Water Date Received: 09/23/16 18:24 Method: 300.0 - Anions, Ion Chromatography Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chloride 17.6 1.00 mg/L 10/05/16 16:21 1

#### **Client Sample Results**

Client: Enviro Clean Services LLC Project/Site: CHK STATE M-1 TestAmerica Job ID: 490-112467-1 SDG: Property ID 891077

#### **Client Sample ID: MW-5** Lab Sample ID: 490-112467-2 Date Collected: 09/21/16 10:00 Matrix: Water Date Received: 09/23/16 18:24 Method: 300.0 - Anions, Ion Chromatography Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chloride 26.2 2.00 mg/L 10/07/16 04:30 2

TestAmerica Nashville

### **Client Sample Results**

Client: Enviro Clean Services LLC
Project/Site: CHK STATE M-1

TestAmerica Job ID: 490-112467-1 SDG: Property ID 891077

#### **Client Sample ID: MW-3** Lab Sample ID: 490-112467-3 Date Collected: 09/21/16 11:14 Matrix: Water Date Received: 09/23/16 18:24 Method: 300.0 - Anions, Ion Chromatography Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chloride 52.0 5.00 mg/L 10/07/16 05:04 5

#### **Client Sample Results**

Client: Enviro Clean Services LLC Project/Site: CHK STATE M-1 TestAmerica Job ID: 490-112467-1 SDG: Property ID 891077

#### **Client Sample ID: MW-4** Lab Sample ID: 490-112467-4 Date Collected: 09/21/16 12:39 Matrix: Water Date Received: 09/23/16 18:24 Method: 300.0 - Anions, Ion Chromatography Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chloride 569 50.0 mg/L 10/07/16 05:38 50

#### **Client Sample Results**

Client: Enviro Clean Services LLC Project/Site: CHK STATE M-1 TestAmerica Job ID: 490-112467-1 SDG: Property ID 891077

#### **Client Sample ID: MW-8** Lab Sample ID: 490-112467-5 Date Collected: 09/21/16 13:50 Matrix: Water Date Received: 09/23/16 18:24 Method: 300.0 - Anions, Ion Chromatography Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chloride 490 50.0 mg/L 10/07/16 07:38 50

#### **Client Sample Results**

Client: Enviro Clean Services LLC Project/Site: CHK STATE M-1 TestAmerica Job ID: 490-112467-1 SDG: Property ID 891077

#### **Client Sample ID: MW-6** Lab Sample ID: 490-112467-6 Date Collected: 09/21/16 14:55 Matrix: Water Date Received: 09/23/16 18:24 Method: 300.0 - Anions, Ion Chromatography Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chloride 128 10.0 mg/L 10/07/16 08:12 10

#### **Client Sample Results**

Client: Enviro Clean Services LLC Project/Site: CHK STATE M-1 TestAmerica Job ID: 490-112467-1 SDG: Property ID 891077

#### **Client Sample ID: MW-7** Lab Sample ID: 490-112467-7 Date Collected: 09/21/16 16:10 Matrix: Water Date Received: 09/23/16 18:24 Method: 300.0 - Anions, Ion Chromatography Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chloride 38.2 5.00 mg/L 10/07/16 08:46 5

#### **Client Sample Results**

Client: Enviro Clean Services LLC Project/Site: CHK STATE M-1 TestAmerica Job ID: 490-112467-1 SDG: Property ID 891077

#### **Client Sample ID: EQ Blank** Lab Sample ID: 490-112467-8 Date Collected: 09/21/16 07:40 Matrix: Water Date Received: 09/23/16 18:24 Method: 300.0 - Anions, Ion Chromatography Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chloride ND 1.00 mg/L 10/05/16 19:12 1

#### **Client Sample Results**

Client: Enviro Clean Services LLC Project/Site: CHK STATE M-1 TestAmerica Job ID: 490-112467-1 SDG: Property ID 891077

Client Sample ID: Dup Date Collected: 09/21/16 00							Lab Sam	Die ID: 490-11 Matrix	2467-9 c: Water	
Date Received: 09/23/16 18	:24									
Method: 300.0 - Anions, Io Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	5
Chloride	504		50.0		mg/L			10/07/16 09:20	50	6
										7
										8
										9
										10
										13

#### **Client Sample Results**

Client: Enviro Clean Services LLC
Project/Site: CHK STATE M-1

TestAmerica Job ID: 490-112467-1 SDG: Property ID 891077

#### **Client Sample ID: MW-1R** Lab Sample ID: 490-112467-10 Date Collected: 09/22/16 08:30 Matrix: Water Date Received: 09/23/16 18:24 Method: 300.0 - Anions, Ion Chromatography Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chloride 28.5 2.00 mg/L 10/07/16 09:54 2

### **QC Sample Results**

Client: Enviro Clean Services LLC Project/Site: CHK STATE M-1

TestAmerica Job ID: 490-112467-1 SDG: Property ID 891077

#### Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 490-375625/6 Matrix: Water												Client S	ample ID: M Prep Ty		
Analysis Batch: 375625															
-		MB	MB												
Analyte	R	esult	Qualifier		RL		MDL	Unit		D	Pr	epared	Analyzed	I	Dil Fac
Chloride		ND			1.00		i	mg/L					10/05/16 12	:56	
Lab Sample ID: LCS 490-375625/7										CI	ient	Sample	ID: Lab Cor		
Matrix: Water Analysis Batch: 375625													Prep Tyj		otal/NA
,, <b>,</b>				Spike		LCS	LCS						%Rec.		
Analyte				Added		Result	Qualif	ier	Unit		<u>D</u>	%Rec	Limits		
Chloride				10.0		9.817			mg/L			98	90 - 110		
Lab Sample ID: LCSD 490-375625/8 Matrix: Water									CI	ient \$	Sam	ple ID: I	Lab Control : Prep Tyj		
Analysis Batch: 375625															
				Spike			LCSD				_	~ <b>-</b>	%Rec.		RPI
Analyte Chloride				Added 10.0		9.982	Qualit	ier	Unit		D	%Rec 100	Limits 90 - 110	<b>RPD</b> 2	2
Chionde				10.0		9.902			mg/L			100	90 - 110	2	20
Lab Sample ID: 490-112467-A-3 MS Matrix: Water												Client	Sample ID: I Prep Tyj		
Analysis Batch: 375625	Sample	Sam	nlo	Spike		ме	MS						%Rec.		
Analyte	Result		•	Added		Result		ior	Unit		D	%Rec	Limits		
Chloride	61.3														
	01.5	E		2.00		50.90	E 4		mg/L			-522	80 - 120	othod	l Plan
Lab Sample ID: MB 490-376306/3 Matrix: Water Analysis Batch: 376306	01.3		МВ	2.00		50.90	E 4		mg/L				ample ID: M Prep Tyj		
Lab Sample ID: MB 490-376306/3 Matrix: Water				2.00	RL	50.90		Unit	mg/L	D			Sample ID: M	be: To	otal/NA
Lab Sample ID: MB 490-376306/3 Matrix: Water Analysis Batch: 376306		МВ		2.00	<b>RL</b> 1.00	50.90	MDL	Unit mg/L	mg/L	D		Client S	ample ID: M Prep Tyj		Dil Fa
Lab Sample ID: MB 490-376306/3 Matrix: Water Analysis Batch: 376306 Analyte Chloride Lab Sample ID: MB 490-376306/30		MB esult		2.00		50.90	MDL		mg/L	<u>D</u>	Pr	Client S repared	Sample ID: M Prep Tyj  10/06/16 23 Sample ID: M	oe: To I :05	Dil Fa
Lab Sample ID: MB 490-376306/3 Matrix: Water Analysis Batch: 376306 Analyte Chloride Lab Sample ID: MB 490-376306/30 Matrix: Water		MB esult		2.00		50.90	MDL		mg/L	<u>D</u>	Pr	Client S repared	Sample ID: M Prep Tyj 	oe: To I :05	Dil Fa
Lab Sample ID: MB 490-376306/3 Matrix: Water Analysis Batch: 376306 Analyte Chloride Lab Sample ID: MB 490-376306/30		MB esult ND		2.00			MDL		mg/L	<u>D</u>	Pr	Client S repared	Sample ID: M Prep Tyj  10/06/16 23 Sample ID: M	oe: To I :05	Dil Fa
Lab Sample ID: MB 490-376306/3 Matrix: Water Analysis Batch: 376306 Analyte Chloride Lab Sample ID: MB 490-376306/30 Matrix: Water	R	MB esult ND	Qualifier	2.00			MDL	mg/L	mg/L	D	Pr	Client S repared	Sample ID: M Prep Tyj  10/06/16 23 Sample ID: M	ethod	Dil Fa Dil Fa I Blanl Dtal/NA
Lab Sample ID: MB 490-376306/3 Matrix: Water Analysis Batch: 376306 Analyte Chloride Lab Sample ID: MB 490-376306/30 Matrix: Water Analysis Batch: 376306	R	MB esult ND	Qualifier	2.00	1.00	50.90	MDL	mg/L	mg/L		Pr	Client S epared Client S	Cample ID: M Prep Ty Analyzed 10/06/16 23 Cample ID: M Prep Ty	ethod	Dil Fac Dil Fac I Blani Dtal/NA Dil Fac
Lab Sample ID: MB 490-376306/3 Matrix: Water Analysis Batch: 376306 Analyte Chloride Lab Sample ID: MB 490-376306/30 Matrix: Water Analysis Batch: 376306 Analyte Chloride	R	MB esult ND MB esult	Qualifier	2.00	1.00 RL	50.90	MDL	mg/L Unit	mg/L	D	Pr Pr	Client S epared Client S epared	Cample ID: M Prep Tyj Analyzed 10/06/16 23 Cample ID: M Prep Tyj Analyzed 10/07/16 06	ethod 1 205 - 205 - - - - - - - - - - - - -	Dil Fa Dil Fa I Blanl Dtal/NA Dil Fa
Lab Sample ID: MB 490-376306/3 Matrix: Water Analysis Batch: 376306 Analyte Chloride Lab Sample ID: MB 490-376306/30 Matrix: Water Analysis Batch: 376306 Analyte Chloride Lab Sample ID: LCS 490-376306/31	R	MB esult ND MB esult	Qualifier	2.00	1.00 RL	50.90	MDL	mg/L Unit	mg/L	D	Pr Pr	Client S epared Client S epared	Cample ID: M Prep Tyj - Analyzed 10/06/16 23 Cample ID: M Prep Tyj - Analyzed 10/07/16 06	ethod coe: To :47	Dil Fa Dil Fa I Blanl Dtal/NA Dil Fa
Lab Sample ID: MB 490-376306/3 Matrix: Water Analysis Batch: 376306 Analyte Chloride Lab Sample ID: MB 490-376306/30 Matrix: Water Analysis Batch: 376306 Analyte Chloride Lab Sample ID: LCS 490-376306/31 Matrix: Water	R	MB esult ND MB esult	Qualifier	2.00	1.00 RL	50.90	MDL	mg/L Unit	mg/L	D	Pr Pr	Client S epared Client S epared	Cample ID: M Prep Tyj Analyzed 10/06/16 23 Cample ID: M Prep Tyj Analyzed 10/07/16 06	ethod coe: To :47	Dil Fa Dil Fa I Blani Dtal/NA Dil Fa
Lab Sample ID: MB 490-376306/3 Matrix: Water Analysis Batch: 376306 Analyte Chloride Lab Sample ID: MB 490-376306/30 Matrix: Water Analysis Batch: 376306 Analyte Chloride Lab Sample ID: LCS 490-376306/31	R	MB esult ND MB esult	Qualifier	2.00	1.00 RL		MDL	mg/L Unit	mg/L	D	Pr Pr	Client S epared Client S epared	Cample ID: M Prep Tyj - Analyzed 10/06/16 23 Cample ID: M Prep Tyj - Analyzed 10/07/16 06	ethod coe: To :47	Dil Fa Dil Fa I Blani Dtal/NA Dil Fa
Lab Sample ID: MB 490-376306/3 Matrix: Water Analysis Batch: 376306 Analyte Chloride Lab Sample ID: MB 490-376306/30 Matrix: Water Analysis Batch: 376306 Analyte Chloride Lab Sample ID: LCS 490-376306/31 Matrix: Water Analysis Batch: 376306 Analyte	R	MB esult ND MB esult	Qualifier	Spike Added	1.00 RL	LCS Result	MDL	mg/L Unit mg/L	Unit	D	Pr Pr	Client S epared Client S epared	Sample ID: M Prep Tyj Analyzed 10/06/16 23 Sample ID: M Prep Tyj Analyzed 10/07/16 06 9 ID: Lab Cor Prep Tyj %Rec. Limits	ethod coe: To :47	Dil Fa Dil Fa I Blani Dtal/NA Dil Fa
Lab Sample ID: MB 490-376306/3 Matrix: Water Analysis Batch: 376306 Analyte Chloride Lab Sample ID: MB 490-376306/30 Matrix: Water Analysis Batch: 376306 Analyte Chloride Lab Sample ID: LCS 490-376306/31 Matrix: Water Analysis Batch: 376306	R	MB esult ND MB esult	Qualifier	  Spike	1.00 RL	LCS	MDL	mg/L Unit mg/L		D	Pr Pr	Client S epared Client S epared Sample	Sample ID: M Prep Tyj 	ethod coe: To :47	Dil Fa Dil Fa I Blani Dtal/NA Dil Fa
Lab Sample ID: MB 490-376306/3 Matrix: Water Analysis Batch: 376306 Analyte Chloride Lab Sample ID: MB 490-376306/30 Matrix: Water Analysis Batch: 376306 Analyte Chloride Lab Sample ID: LCS 490-376306/31 Matrix: Water Analysis Batch: 376306 Analyte Chloride	R	MB esult ND MB esult	Qualifier	Spike Added	1.00 RL	LCS Result	MDL	mg/L Unit mg/L	Unit	CI	Pr Pr ent	Client S epared Client S epared Sample	Sample ID: M Prep Tyj - Analyzec 10/06/16 23 Sample ID: M Prep Tyj - Analyzec 10/07/16 06 e ID: Lab Cor Prep Tyj %Rec. Limits 90 - 110	1 :05 = thod be: Tc 1 :47 = Tc	Dil Fa Dil Fa I Blan Dil Fa Dil Fa Sample Dtal/N/
Lab Sample ID: MB 490-376306/3 Matrix: Water Analysis Batch: 376306 Analyte Chloride Lab Sample ID: MB 490-376306/30 Matrix: Water Analysis Batch: 376306 Analyte Chloride Lab Sample ID: LCS 490-376306/31 Matrix: Water Analysis Batch: 376306 Analyte	R	MB esult ND MB esult	Qualifier	Spike Added	1.00 RL	LCS Result	MDL	mg/L Unit mg/L	Unit	CI	Pr Pr ent	Client S epared Client S epared Sample	Sample ID: M Prep Tyj Analyzed 10/06/16 23 Sample ID: M Prep Tyj Analyzed 10/07/16 06 9 ID: Lab Cor Prep Tyj %Rec. Limits	ethod ethod i	Dil Fa Dil Fa I Blan Dil Fa Dil Fa Sample Dial/N/
Lab Sample ID: MB 490-376306/3 Matrix: Water Analysis Batch: 376306 Analyte Chloride Lab Sample ID: MB 490-376306/30 Matrix: Water Analysis Batch: 376306 Analyte Chloride Lab Sample ID: LCS 490-376306/31 Matrix: Water Analysis Batch: 376306 Analyte Chloride	R	MB esult ND MB esult	Qualifier	Spike Added	1.00 RL	LCS Result	MDL	mg/L Unit mg/L	Unit	CI	Pr Pr ent	Client S epared Client S epared Sample	Sample ID: M           Prep Tyl	ethod ethod i	Dil Fac Dil Fac I Blank Dtal/NA Dil Fac Sample Stal/NA
Lab Sample ID: MB 490-376306/3 Matrix: Water Analysis Batch: 376306 Analyte Chloride Lab Sample ID: MB 490-376306/30 Matrix: Water Analysis Batch: 376306 Analyte Chloride Lab Sample ID: LCS 490-376306/31 Matrix: Water Analysis Batch: 376306 Analyte Chloride Lab Sample ID: LCS 490-376306/4 Matrix: Water	R	MB esult ND MB esult	Qualifier	Spike Added	1.00 RL	LCS Result 9.875	MDL	Unit mg/L	Unit	CI	Pr Pr ent	Client S epared Client S epared Sample	Sample ID: M           Prep Tyl	ethod ethod i	Dil Fac Dil Fac I Blank Dil Fac Dil Fac Sample Dtal/NA

Lab Sample ID: LCSD 490-376306/32

#### **QC Sample Results**

#### Client: Enviro Clean Services LLC Project/Site: CHK STATE M-1

Matrix: Water

TestAmerica Job ID: 490-112467-1 SDG: Property ID 891077

#### Client Sample ID: Lab Control Sample Dup Prep Type: Total/NA

Analysis Batch: 376306										
	Spike	LCSD	LCSD				%Rec.		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Chloride	10.0	10.08		mg/L		101	90 - 110	2	20	
Lab Sample ID: LCSD 490-376306/5 Matrix: Water Analysis Batch: 376306				Clie	ent Sam	ple ID:		ol Sampl ype: To	tal/NA	
	Spike	LCSD	LCSD				%Rec.		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Chloride	10.0	9.716		mg/L		97	90 - 110	1	20	

TestAmerica Nashville

 ample Dup
 3

 ample Dup
 3

 p: Total/NA
 4

 RPD
 4

 RPD
 1

 2
 20

 ample Dup
 6

 p: Total/NA
 7

 RPD
 6

 p: Total/NA
 7

 RPD
 1

 2
 20

 3
 9

 1
 20

 9
 10

 11
 12

 13
 13

Client Sample ID

### **QC** Association Summary

Prep Type

Client: Enviro Clean Services LLC Project/Site: CHK STATE M-1

TestAmerica Job ID: 490-112467-1 SDG: Property ID 891077

5 6 7

Page 97 of 183

# Method Prep Batch Matrix

## HPLC/IC

Lab Sample ID

490-112467-1	MW-2	Total/NA	Water	300.0		5
490-112467-8	EQ Blank	Total/NA	Water	300.0		
MB 490-375625/6	Method Blank	Total/NA	Water	300.0		
LCS 490-375625/7	Lab Control Sample	Total/NA	Water	300.0		
LCSD 490-375625/8	Lab Control Sample Dup	Total/NA	Water	300.0		
490-112467-A-3 MS	Matrix Spike	Total/NA	Water	300.0		
Analysis Batch: 37630	6					8
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch	•
490-112467-2	MW-5	Total/NA	Water	300.0		9
490-112467-3	MW-3	Total/NA	Water	300.0		
490-112467-4	MW-4	Total/NA	Water	300.0		
490-112467-5	MW-8	Total/NA	Water	300.0		
490-112467-6	MW-6	Total/NA	Water	300.0		
490-112467-7	MW-7	Total/NA	Water	300.0		
490-112467-9	Dup	Total/NA	Water	300.0		
490-112467-10	MW-1R	Total/NA	Water	300.0		
MB 490-376306/3	Method Blank	Total/NA	Water	300.0		
MB 490-376306/30	Method Blank	Total/NA	Water	300.0		
LCS 490-376306/31	Lab Control Sample	Total/NA	Water	300.0		
LCS 490-376306/4	Lab Control Sample	Total/NA	Water	300.0		
LCSD 490-376306/32	Lab Control Sample Dup	Total/NA	Water	300.0		
LCSD 490-376306/5	Lab Control Sample Dup	Total/NA	Water	300.0		

Client: Enviro Clean Services LLC

Project/Site: CHK STATE M-1

Lab Chronicle

Page 98 of 183

TestAmerica Job ID: 490-112467-1

SDG: Property ID 891077

9

	le ID: MW-2 : 09/21/16 08:31 : 09/23/16 18:24							Lab Sample		0-112467-1 Matrix: Water
Ргер Туре	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			375625	10/05/16 16:21	KS	TAL NSH
Client Samp	le ID: MW-5							Lab Sample	e ID: 490	0-112467-2
	: 09/21/16 10:00 : 09/23/16 18:24								Ν	Aatrix: Wate
	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type		Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0	Kuii	2	Amount	Amount	376306	10/07/16 04:30	JHS	TAL NSH
Client Samp	le ID: MW-3							Lab Sample	e ID: 49	0-112467-3
Date Collected	: 09/21/16 11:14 : 09/23/16 18:24									Aatrix: Wate
	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5			376306	10/07/16 05:04	JHS	TAL NSH
	le ID: MW-4 : 09/21/16 12:39 : 09/23/16 18:24							Lab Sample		0-112467-4 Matrix: Wate
Γ	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50			376306	10/07/16 05:38	JHS	TAL NSH
Client Samp	le ID: MW-8							Lab Sample	e ID: 490	0-112467-5
	: 09/21/16 13:50 : 09/23/16 18:24								Ν	Matrix: Wate
	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50			376306	10/07/16 07:38	JHS	TAL NSH
Client Samp	le ID: MW-6							Lab Sample	e ID: 490	0-112467-6
	: 09/21/16 14:55 : 09/23/16 18:24								N	Aatrix: Wate
	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab

TestAmerica Nashville

Analysis

Total/NA

300.0

10

376306

10/07/16 08:12

JHS

TAL NSH

Client: Enviro Clean Services LLC

Project/Site: CHK STATE M-1

TestAmerica Job ID: 490-112467-1 SDG: Property ID 891077

Client Samp	le ID: MW-7							Lab Sample	e ID: 490	)-112467-7
Date Collected	: 09/21/16 16:1	0							Ν	Aatrix: Wate
Date Received:	09/23/16 18:24	4								
-	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5			376306	10/07/16 08:46	JHS	TAL NSH
Client Samp	le ID: EQ Bla	ank						Lab Sample	e ID: 490	0-112467-8
- Date Collected:	: 09/21/16 07:4	0							Ν	Aatrix: Wate
Date Received:	09/23/16 18:24	4								
_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			375625	10/05/16 19:12	KS	TAL NSH
Client Samp	le ID: Dup							Lab Sample	e ID: 490	0-112467-9
Date Collected		1						•		Atrix: Wate
Date Received:	09/23/16 18:24	4								
_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50			376306	10/07/16 09:20	JHS	TAL NSH
Client Samp	le ID: MW-1F	र						Lab Sample	ID: 490-	112467-1
- Date Collected:									Ν	Aatrix: Wate
Date Received:	09/23/16 18:24	4								
_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2			376306	10/07/16 09:54	JHS	TAL NSH

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

#### **Method Summary**

#### Client: Enviro Clean Services LLC Project/Site: CHK STATE M-1

TestAmerica Job ID: 490-112467-1 SDG: Property ID 891077

				- 3
Method	Method Description	Protocol	Laboratory	_
300.0	Anions, Ion Chromatography	MCAWW	TAL NSH	

#### Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

#### Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

#### **Certification Summary**

Client: Enviro Clean Services LLC
Project/Site: CHK STATE M-1

TestAmerica Job ID: 490-112467-1 SDG: Property ID 891077

#### Laboratory: TestAmerica Nashville The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Oklahoma	State Program	6	9412	08-31-17

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**12** 13

THE LEADER IN ENVIRONMENTAL TESTING Nashville, TN	COOLER RECEIPT	FORM	90-112467 Chain of Custod)
Cooler Received/Opened On_9/23/20	016 @ 0925	4	90-112407
Time Samples Removed From Coole	er Time Samples Plac	ed In Storage	(2 Hour Window)
1. Tracking # <u>309.5</u>	(last 4 digits, FedEx)	Courier: _FedEx_	
IR Gun ID <u>17610176</u> pH Stri	ip Lot_HC58117_ Chlorine Strip Lot	71130	
2. Temperature of rep. sample or te	emp blank when opened: <u>1.5</u> De	egrees Celsius	
3. If Item #2 temperature is 0°C or le	ess, was the representative sample o	or temp blank frozen	? YES NO NA
4. Were custody seals on outside of	f cooler?		YESNONA
If yes, how many and where:		A front	+ back
5. Were the seals intact, signed, and	d dated correctly?		EsNONA
6. Were custody papers inside cool	ler?	NM O	YESNONA
I certify that I opened the cooler and	d answered questions 1-6 (intial)	ACCY	
7. Were custody seals on container	rs: YES (NO)	and Intact	YESNO.
Were these signed and dated cor	rrectly?		YESNO.
8. Packing mat'l used? Bubblewrap	p (Plastic bag) Peanuts Vermiculit	e Foam Insert Pap	er Other None
9. Cooling process:	(Ice) Ice-pack Ice (dir	ect contact) Dry i	e Other None
10. Did all containers arrive in good	d condition (unbroken)?		(YESNONA
11. Were all container labels complete	ete (#, date, signed, pres., etc)?		ESNONA
12. Did all container labels and tags	s agree with custody papers?		YESNONA
13a. Were VOA vials received?			YES. (NO.).NA
b. Was there any observable hea	dspace present in any VOA vial?		YESNO. (NA)
14. Was there a Trip Blank in this co	ooler? YESNONA If mul	Itiple coolers, seque	nce #
14. Was there a mp blank in this co			
I certify that I unloaded the cooler a	nd answered questions 7-14 (intial)	AT_	
I certify that I unloaded the cooler a	nd answered questions 7-14 (intial) strips suggest preservation reached	the correct pH leve	? YESNO.(NA)
<u>I certify that I unloaded the cooler a</u> 15a. On pres'd bottles, did pH test s			? YESNO.(NA) YESNO(NA)
<u>I certify that I unloaded the cooler a</u> 15a. On pres'd bottles, did pH test s	strips suggest preservation reached that the correct preservatives were u		V
<u>I certify that I unloaded the cooler an</u> 15a. On pres'd bottles, did pH test s b. Did the bottle labels indicate t 16. Was residual chlorine present?	strips suggest preservation reached that the correct preservatives were u	ised	YESNONA YESNONA
<u>I certify that I unloaded the cooler an</u> 15a. On pres'd bottles, did pH test s b. Did the bottle labels indicate t 16. Was residual chlorine present?	strips suggest preservation reached that the correct preservatives were u and pH as per SOP and answered qu	ised	YESNONA YESNONA
I certify that I unloaded the cooler and 15a. On pres'd bottles, did pH test s b. Did the bottle labels indicate t 16. Was residual chlorine present? I certify that I checked for chlorine a	strips suggest preservation reached that the correct preservatives were u and pH as per SOP and answered qu filled out (ink, signed, etc)?	ised	YESNONA YESNONA
<u>I certify that I unloaded the cooler an</u> 15a. On pres'd bottles, did pH test s b. Did the bottle labels indicate t 16. Was residual chlorine present? <u>I certify that I checked for chlorine a</u> 17. Were custody papers properly f	strips suggest preservation reached that the correct preservatives were u and pH as per SOP and answered qu filled out (ink, signed, etc)? s in the appropriate place?	ised	YESNONA YESNONA PA
<u>I certify that I unloaded the cooler an</u> 15a. On pres'd bottles, did pH test s b. Did the bottle labels indicate t 16. Was residual chlorine present? <u>I certify that I checked for chlorine a</u> 17. Were custody papers properly f 18. Did you sign the custody papers	strips suggest preservation reached that the correct preservatives were u and pH as per SOP and answered qu filled out (ink, signed, etc)? s in the appropriate place? or the analysis requested?	ised	YESNONA YESNONA (ESNONA (ESNONA
I certify that I unloaded the cooler an 15a. On pres'd bottles, did pH test s b. Did the bottle labels indicate t 16. Was residual chlorine present? I certify that I checked for chlorine a 17. Were custody papers properly f 18. Did you sign the custody papers 19. Were correct containers used fo 20. Was sufficient amount of sampl	strips suggest preservation reached that the correct preservatives were u and pH as per SOP and answered qu filled out (ink, signed, etc)? s in the appropriate place? or the analysis requested?	ised <u>estions 15-16 (intial</u>	YESNONA YESNONA (ESNONA (ESNONA (ESNONA

BIS = Broken in shipment Cooler Receipt Form.doc

Revised 12/15/15

#### Received by OCD: 4/25/2024 8:49:58 AM

#### **RELINQUISHED BY:** 1-15-6 9-21-16 METHOD OF SHIPMENT: RELINQUISHED BY: 9-21-16 RECEIVED IN LABORATORY BY: 9-22-16 9-21-16 9-1-16 1-12-16 11-12-6 LABORATORY CONTACT: TOTAL NUMBER OF CONTAINERS **パーパー** 9-21-16083 AMPLER'S PRINTED NAME (615) 728-0177 Date POINT OF ORIGIN: R'S SIGNATURI **ENVIRO**CLEAN 2000 0740 1455 1610 1000 350 u S A 7 Time sher EQ Blank 251 NE -MUmw-ヨヒー Mw-4 RW-Smw - 8 (918) 794-7828 1 c p OKLAHOMA CITY PAGE #1 - RECEIVING LAB FEP-EX ) SERVICES, LLC L ω 6 ろ Sample ID NTULSA NORMAN TIME TIME DATE DATE 3 3 DATE 9 ٤ ٤ SHIPPED TO: PROJECT NUMBER 3 ξ ٤ ٤ ٤ ٤ Sample Matrix CHKHSTM101 TA Nashville 600 PAGE #2 - ENVIRO CLEAN PROJECT FILE Ņ 0 # of Sample Containers ς. CHAIN OF CUSTODY RECORD C WOODWARD Send PDF, EDD, and INVOICE (if applicable) to: AIRBILL NUMBER: RECEIVED BY: LABORATORY ADDRESS RECEIVED BY: × × CHLORIDE (300) × × × × XX $\succ$ ≻ 2960 Foster Creighton Dr., Nashville, TN 37204 ARLINGTON PROJECT MANAGER: PROJECT NAME: Loc: 490 112467 Bruce NicKenzie CHK STATE M 1 JULIE CZECH at jczech@envirocleanps.com I MIDLAND OTHER: DATE 9/2 PAGE #3 - ENVIRO CLEAN QA/QC DEPT DATE ASOW: JOTE ₹ 5 tre TAT: MW-GEWSUB: 750-521 PROP ID: 891077 Uha õ REMARKS <u>No.</u> STANDA RD 00935 앜

#### Released to Imaging: 6/4/2024 2:29:36 PM

Page 103 of 183

#### Login Sample Receipt Checklist

Client: Enviro Clean Services LLC

#### Login Number: 112467 List Number: 1

Creator: Ngo, Phiet

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

List Source: TestAmerica Nashville

## Received by OCD: 4/25/2024 8:49:58 AM

..... Links

Review your project results through

**Total** Access

Have a Question?

Ask-

The

www.testamericainc.com

Visit us at:

Expert

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THE LEADER IN ENVIRONMENTAL TESTING

# **ANALYTICAL REPORT**

#### TestAmerica Laboratories, Inc.

TestAmerica Nashville 2960 Foster Creighton Drive Nashville, TN 37204 Tel: (615)726-0177

## TestAmerica Job ID: 490-117951-1

TestAmerica Sample Delivery Group: Property ID 891077 Client Project/Site: CHK State M-1 Sampling Event: CHK State M-1

## For:

Enviro Clean Services LLC 7060 S. Yale Avenue, Suite 603 Tulsa, Oklahoma 74136

Attn: Ms. Julie Czech

athyGartner

Authorized for release by: 12/28/2016 12:35:03 PM

Cathy Gartner, Project Manager I (615)301-5041 cathy.gartner@testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

# **Table of Contents**

Cover Page	1
Table of Contents	2
Sample Summary	3
Case Narrative	4
Definitions	5
Client Sample Results	6
QC Sample Results	16
QC Association	18
Chronicle	19
Method Summary	21
Certification Summary	22
Chain of Custody	23
Receipt Checklists	25

Page 106 of 183

## **Sample Summary**

Page 107 of 183

Client: Enviro Clean Services LLC Project/Site: CHK State M-1

_ab Sample ID	Client Sample ID	Matrix	Collected	Received
190-117951-1	MW-2	Water	12/07/16 08:40	12/09/16 19:35
190-117951-2	MW-5	Water	12/07/16 09:48	12/09/16 19:35
490-117951-3	MW-3	Water	12/07/16 10:46	12/09/16 19:35
190-117951-4	MW-4	Water	12/07/16 11:58	12/09/16 19:35
90-117951-5	MW-8	Water	12/07/16 13:09	12/09/16 19:35
90-117951-6	MW-6	Water	12/07/16 14:39	12/09/16 19:35
490-117951-7	MW-7	Water	12/07/16 15:56	12/09/16 19:35
190-117951-8	MW-1R	Water	12/07/16 16:45	12/09/16 19:35
90-117951-9	EQ Blank	Water	12/07/16 10:52	12/09/16 19:35
190-117951-10	Dup	Water	12/07/16 00:01	12/09/16 19:35

#### **Case Narrative**

#### Job ID: 490-117951-1

#### Laboratory: TestAmerica Nashville

Narrative

Job Narrative 490-117951-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 12/9/2016 10:25 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.6° C.

#### HPLC/IC

Method(s) 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 490-395658 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) recovery was within acceptance limits.

Method(s) 300.0: The following samples was diluted due to the nature of the sample matrix: MW-3 (490-117951-3) and MW-6 (490-117951-6). MW-4 (490-117951-4), MW-8 (490-117951-5), MW-1R (490-117951-8) and Dup (490-117951-10). Elevated reporting limits (RLs) are provided.

Method(s) 300.0: Due to sample, matrix spike/ matrix spike duplicate (MS/MSD) was not analyzed in 490-397072. However, the laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) recoveries were within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TestAmerica Job ID: 490-117951-1 SDG: Property ID 891077
# **Definitions/Glossary**

Client: Enviro Clean Services LLC Project/Site: CHK State M-1

Glossary			
Abbreviation	These commonly used abbreviations may or may not be present in this report.		
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis		
%R	Percent Recovery	l	5
CFL	Contains Free Liquid		5
CNF	Contains no Free Liquid		
DER	Duplicate error ratio (normalized absolute difference)		
Dil Fac	Dilution Factor		
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample		
DLC	Decision level concentration		
MDA	Minimum detectable activity		8
EDL	Estimated Detection Limit		
MDC	Minimum detectable concentration		9
MDL	Method Detection Limit		
ML	Minimum Level (Dioxin)		
NC	Not Calculated		
ND	Not detected at the reporting limit (or MDL or EDL if shown)		
PQL	Practical Quantitation Limit		
QC	Quality Control		
RER	Relative error ratio		
RL	Reporting Limit or Requested Limit (Radiochemistry)		13
RPD	Relative Percent Difference, a measure of the relative difference between two points		-13
TEF	Toxicity Equivalent Factor (Dioxin)		

TEQ Toxicity Equivalent Quotient (Dioxin)

Matrix: Water

6

# **Client Sample Results**

TestAmerica Job ID: 490-117951-1 SDG: Property ID 891077

Lab Sample ID: 490-117951-1

# Project/Site: CHK State M-1

Client: Enviro Clean Services LLC

#### **Client Sample ID: MW-2** Date Collected: 12/07/16 08:40 Date

Date Received: 12/09/16 19:35	Date Received: 12/09/16 19:35							
Method: 300.0 - Anions, Ion Ch Analyte Chloride	romatography Result Qualifier 18.2	<b>RL</b> 1.00	MDL Unit	<u>D</u>	Prepared	Analyzed 12/20/16 00:18	Dil Fac	

TestAmerica Job ID: 490-117951-1 SDG: Property ID 891077

#### Client: Enviro Clean Services LLC Project/Site: CHK State M-1

#### Client Sample ID: MW-5 Date Collected: 12/07/16 09:48 Date Received: 12/09/16 19:35

Lab Sample	ID: 490-117951-2
	Matrix: Water

Method: 300.0 - Anions,	Ion Chromatography								-
Analyte	Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	D
Chloride	27.8	1.00		mg/L			12/20/16 01:03	1	6

TestAmerica Nashville

Matrix: Water

# **Client Sample Results**

TestAmerica Job ID: 490-117951-1 SDG: Property ID 891077

Lab Sample ID: 490-117951-3

# Project/Site: CHK State M-1

Client: Enviro Clean Services LLC

#### Client Sample ID: MW-3 Date Collected: 12/07/16 10:46 Date Received: 12/09/16 19:35

Date Received	1. 12/09/16 19:35							
Method: 300. Analyte	0 - Anions, Ion Chromatogra Result	n <mark>phy</mark> Qualifier RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	55.1	10.0		mg/L			12/23/16 16:51	10

TestAmerica Job ID: 490-117951-1 SDG: Property ID 891077

#### Client: Enviro Clean Services LLC Project/Site: CHK State M-1

#### Client Sample ID: MW-4 Date Collected: 12/07/16 11:58 Date Received: 12/09/16 19:35

#### Lab Sample ID: 490-117951-4 Matrix: Water

Method: 300.0 - Anions, Ion	Chromatography							
Analyte	Result Qualit	fier RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	605	20.0		mg/L			12/24/16 22:08	20

TestAmerica Nashville

TestAmerica Job ID: 490-117951-1 SDG: Property ID 891077

#### Client: Enviro Clean Services LLC Project/Site: CHK State M-1

#### Client Sample ID: MW-8 Date Collected: 12/07/16 13:09 Date Received: 12/09/16 19:35

Lab Sample ID: 490-117951-5
Matrix: Water

Analyte	Result Qualifier		MDL Unit	D	Prepared	Analyzed	Dil Fac	J
Chloride	768	20.0	mg/L			12/24/16 22:30	20	6

TestAmerica Job ID: 490-117951-1 SDG: Property ID 891077

#### Client: Enviro Clean Services LLC Project/Site: CHK State M-1

#### Client Sample ID: MW-6 Date Collected: 12/07/16 14:39 Date Received: 12/09/16 19:35

Lab Sample ID:	490-117951-6
	Matrix: Water

	, Ion Chromatogra					_				5
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	125		10.0		mg/L			12/23/16 17:24	10	

TestAmerica Nashville

TestAmerica Job ID: 490-117951-1 SDG: Property ID 891077

#### Client: Enviro Clean Services LLC Project/Site: CHK State M-1

#### Client Sample ID: MW-7 Date Collected: 12/07/16 15:56 Date Received: 12/09/16 19:35

#### Lab Sample ID: 490-117951-7 Matrix: Water

Method: 300.0 - Anions	s, Ion Chromatogra	phy							
Analyte	Result	Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	39.6		1.00	mg/L			12/20/16 03:16	1	

TestAmerica Nashville

Client: Enviro Clean Services LLC

Project/Site: CHK State M-1

6

## **Client Sample Results**

-

TestAmerica Job ID: 490-117951-1 SDG: Property ID 891077

#### **Client Sample ID: MW-1R** Lab Sample ID: 490-117951-8 Date Collected: 12/07/16 16:45 Matrix: Water Date Received: 12/09/16 19:35 Method: 300.0 - Anions, Ion Chromatography Result Qualifier Analyte RL MDL Unit D Prepared Analyzed Dil Fac 10.0 12/24/16 22:41 Chloride 44.8 mg/L 10

TestAmerica Nashville

Released to Imaging: 6/4/2024 2:29:36 PM

Client: Enviro Clean Services LLC Project/Site: CHK State M-1

TestAmerica Job ID: 490-117951-1 SDG: Property ID 891077

#### **Client Sample ID: EQ Blank** Lab Sample ID: 490-117951-9 Date Collected: 12/07/16 10:52 Matrix: Water Date Received: 12/09/16 19:35 Method: 300.0 - Anions, Ion Chromatography Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chloride ND 1.00 12/20/16 04:00 mg/L

TestAmerica Nashville

6

Client: Enviro Clean Services LLC Project/Site: CHK State M-1 TestAmerica Job ID: 490-117951-1 SDG: Property ID 891077

Client Sample ID: Du Date Collected: 12/07/16				Lab Sa	ID: 490-1179 Matrix	951-10 : Water		
Date Received: 12/09/16								
Method: 300.0 - Anions Analyte	, Ion Chromatography Result Qualifier	RL	MDL Unit	D Pr	epared	Analyzed	Dil Fac	5
Chloride	606	20.0	mg/L			12/24/16 23:14	20	6
								7
								8
								9
								10
								11
								12
								13

#### **QC Sample Results**

Client: Enviro Clean Services LLC Project/Site: CHK State M-1

Method: 300.0 - Anions, Ion Chromatography

_ Lab Sample ID: MB 490-395 Matrix: Water	658/3								Cli	ent San	ple ID: M Prep Ty		
Analysis Batch: 395658											i icp i y	<i>.</i>	
		MB MB											
Analyte	Re	sult Qualifier		RL		MDL	Unit		DI	Prepared	Analyz	ed	Dil Fac
Chloride		ND		1.00			mg/L			•	12/19/16	23:45	1
_ Lab Sample ID: LCS 490-39	5658/4							Clie	ent Sa	mnle ID	: Lab Cor	trol S	Samnle
Matrix: Water	0000/4							UII			Prep Ty		
Analysis Batch: 395658			• •								~ -		
Analyta			Spike Added		LCS Result	LCS		Unit		%Rec	%Rec. Limits		
Analyte Chloride			10.0		10.81	Qua	inter	mg/L	D	108	90 - 110		
			10.0		10.01			mg/L		100	00-110		
Lab Sample ID: LCSD 490-3	895658/5						C	lient S	ample	D: Lab	Control		
Matrix: Water											Prep Ty	be: To	otal/NA
Analysis Batch: 395658			Spike		LCSD	109	п				%Rec.		RPD
Analyte			Added		Result			Unit	р	%Rec	Limits	RPD	
Chloride			10.0		10.95			mg/L		109	90 - 110	1	
_								-					
Lab Sample ID: 490-117951	-A-1 MS								C	lient Sa	mple ID: I		
Matrix: Water											Prep Ty	be: To	otal/NA
Analysis Batch: 395658	Samplo	Sample	Spike		МЗ	MS					%Rec.		
Analyte	•	Qualifier	Added		Result	-	lifier	Unit	D	%Rec	Limits		
Chloride	18.2		2.00		16.62			mg/L					
Lob Comple ID: 400 447054	A 4 MOD							Oliont	<b>C</b>		Latrix Onil	D	ullasta
Lab Sample ID: 490-117951 Matrix: Water	-A-1 WISD							Client	Sam		latrix Spil Prep Ty		
Analysis Batch: 395658											гіер і у	<i>Je.</i> 10	
	Sample	Sample	Spike		MSD	MSE	)				%Rec.		RPD
Analyte	Result	Qualifier	Added		Result	Qua	lifier	Unit	D	%Rec	Limits	RPD	) Limit
Chloride	18.2		2.00		16.71			mg/L				1	20
_ Lab Sample ID: MB 490-396	870/11								Cli	ent San	nple ID: M	ethod	l Blank
Matrix: Water											Prep Ty		
Analysis Batch: 396870													
		MB MB											
Analyte	Re	sult Qualifier		RL		MDL			D I	Prepared	Analyz		Dil Fac
Chloride		ND		1.00			mg/L				12/23/16	14:26	1
Lab Sample ID: LCS 490-39	6870/12							Clie	ent Sa	mple ID	: Lab Cor	trol S	Sample
Matrix: Water											Prep Typ		
Analysis Batch: 396870													
			Spike			LCS			_		%Rec.		
Analyte Chloride			Added 10.0		Result 10.90	Qua	lifier	Unit mg/L	D	%Rec 109	Limits		
			10.0		10.00			g/∟		100	00-110		
Lab Sample ID: LCSD 490-3	896870/13						C	lient S	ample	D: Lab	Control		
Matrix: Water											Prep Ty	be: To	otal/NA
Analysis Batch: 396870			Crille			1.00	n				%Rec.		RPD
Analyte			Spike Added		LCSD Result			Unit	D	%Rec	%Rec. Limits	RPD	
			10.0		10.96					100	00 110		

TestAmerica Nashville

90 - 110

5

7

10.86

mg/L

109

10.0

0

		QC	Sam	ole	Resı	ults								1
Client: Enviro Clean Services LLC Project/Site: CHK State M-1									Test		Job ID: 4 G: Proper			2
Lab Sample ID: MB 490-397072/3 Matrix: Water									Clie	ent Sam	ple ID: M Prep Typ			3
Analysis Batch: 397072	мв	МВ												4
Analyte		Qualifier		RL	I	MDL Ui	nit	D	P	repared	Analyz	ed:	Dil Fac	-
Chloride	ND			1.00		m	g/L				12/24/16	21:23	1	Э
Lab Sample ID: LCS 490-397072/4 Matrix: Water								Clien	t Sa	mple ID	: Lab Con Prep Typ			6
Analysis Batch: 397072			Calles		1.00	LCS					%Rec.			7
Analyte			Spike Added		-	Qualifi	er Ur	nit	D	%Rec	%Rec. Limits			0
Chloride			10.0		10.92		m	g/L		109	90 - 110			0
Lab Sample ID: LCSD 490-397072/5 Matrix: Water	;						Clie	nt Sar	nple	ID: Lab	Control			9
Analysis Batch: 397072											Prep Typ		al/NA	10
			Spike		LCSD	LCSD					%Rec.		RPD	
Analyte			Added			Qualifi			D		Limits	RPD	Limit	11
Chloride			10.0		10.90		m	g/L		109	90 - 110	0	20	12
														13

#### Client: Enviro Clean Services LLC Project/Site: CHK State M-1

**Client Sample ID** 

MW-2

MW-5

MW-7

EQ Blank

Method Blank

Matrix Spike

Lab Control Sample

Lab Control Sample Dup

Matrix Spike Duplicate

Analysis Batch: 395658

HPLC/IC

Lab Sample ID

490-117951-1

490-117951-2

490-117951-7

490-117951-9

MB 490-395658/3

LCS 490-395658/4

LCSD 490-395658/5

490-117951-A-1 MS

490-117951-A-1 MSD

# Page 18 of 25

# **QC** Association Summary

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

TestAmerica Job ID: 490-117951-1 SDG: Property ID 891077

# 8

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batcl
490-117951-3	MW-3	Total/NA	Water	300.0	
490-117951-6	MW-6	Total/NA	Water	300.0	
MB 490-396870/11	Method Blank	Total/NA	Water	300.0	
LCS 490-396870/12	Lab Control Sample	Total/NA	Water	300.0	
LCSD 490-396870/13	Lab Control Sample Dup	Total/NA	Water	300.0	

#### Analysis Batch: 397072

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-117951-4	MW-4	Total/NA	Water	300.0	
490-117951-5	MW-8	Total/NA	Water	300.0	
490-117951-8	MW-1R	Total/NA	Water	300.0	
490-117951-10	Dup	Total/NA	Water	300.0	
MB 490-397072/3	Method Blank	Total/NA	Water	300.0	
LCS 490-397072/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 490-397072/5	Lab Control Sample Dup	Total/NA	Water	300.0	

#### Method Prep Type Matrix **Prep Batch** 300.0 Water Water 300.0 Water 300.0 Water 300.0 Water 300.0

300.0

300.0

300.0

300.0

Water

Water

Water

Water



Client: Enviro Clean Services LLC

Project/Site: CHK State M-1

Lab Chronicle

Page 123 of 183

TestAmerica Job ID: 490-117951-1

SDG: Property ID 891077

Client Sam Date Collecte Date Receive	d: 12/07/16 0	8:40					La	b Sample ID: 4		117951-1 trix: Water
	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed Ana	lyst	Lab
Total/NA	Analysis	300.0		1			395658	12/20/16 00:18 LDC		TAL NSH
Client Sam	•						La	b Sample ID: 4		
Date Collecte Date Receive									Ma	trix: Water
	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed Ana	lyst	Lab
Total/NA	Analysis	300.0		1			395658	12/20/16 01:03 LDC		TAL NSH
Client Sam	ple ID: MW	-3					La	b Sample ID: 4	90-	117951-3
Date Collecte Date Receive									Ма	trix: Water
	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed Ana	lyst	Lab
Total/NA	Analysis	300.0		10			396870	12/23/16 16:51 LDC		TAL NSH
Client Sam Date Collecte Date Receive	d: 12/07/16 1	1:58					La	b Sample ID: 4		117951-4 trix: Water
	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed Ana	lyst	Lab
Total/NA	Analysis	300.0		20			397072	12/24/16 22:08 LDC	-	TAL NSH
Client Sam	•						La	b Sample ID: 4	90-	117951-5
Date Collecte Date Receive									Ма	trix: Water
	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed Ana	lyst	Lab
Prep Type							397072	12/24/16 22:30 LDC		TAL NSH
Prep Type Total/NA	Analysis	300.0		20						
Total/NA Client Sam	ple ID: MW	/-6		20			La	b Sample ID: 4		
Total/NA	ple ID: MW ed: 12/07/16 1	<b>/-6</b> 4:39		20			La	b Sample ID: 4		117951-6 trix: Water
Total/NA Client Sam Date Collecte	ple ID: MW ed: 12/07/16 1	<b>/-6</b> 4:39		Dil	Initial	Final	La	b Sample ID: 4 Prepared		
Total/NA Client Sam Date Collecte	ple ID: MW ed: 12/07/16 1 ed: 12/09/16 1	4:39 9:35	Run		Initial Amount	Final Amount		-	Ma lyst	

Client: Enviro Clean Services LLC

Project/Site: CHK State M-1

Lab Chronicle

TestAmerica Job ID: 490-117951-1 SDG: Property ID 891077

Date Collecte Date Receive									Wid	trix: Wate
_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			395658	12/20/16 03:16	LDC	TAL NSH
Client Sam	ple ID: MW	/-1R					La	b Sample II	D: 490-	117951-{
Date Collecte	d: 12/07/16 1	6:45								trix: Wate
Date Received										
D	Batch	Batch	<b>B</b>	Dil	Initial	Final	Batch	Prepared	A	1.1
	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	TAL NSH
Prep Type Total/NA		300.0		10			397072	1//24/10 /2.41	111.	
Total/NA	Analysis	300.0		10			397072	12/24/16 22:41	LDC	TAL NSH
Total/NA	Analysis	Blank		10				b Sample II	D: 490-	117951-9
Total/NA Client Sam	Analysis ple ID: EQ d: 12/07/16 1	Blank 0:52		10					D: 490-	117951-9
Total/NA Client Sam	Analysis ple ID: EQ d: 12/07/16 1	Blank 0:52		Dil	Initial	Final			D: 490-	117951-9
Total/NA Client Samp Date Collected	Analysis ple ID: EQ d: 12/07/16 1 d: 12/09/16 1	Blank 0:52 9:35	Run		Initial Amount	Final Amount	La	b Sample II	D: 490-	117951-9
Total/NA Client Sam Date Collecte Date Received	Analysis ple ID: EQ d: 12/07/16 1 d: 12/09/16 1 Batch	Blank 0:52 9:35 Batch	<u>Run</u>	Dil			La Batch	b Sample II Prepared	D: <b>490-</b> Ma	117951-9 trix: Wate
Total/NA Client Sam Date Collecter Date Received Prep Type Total/NA	Analysis ple ID: EQ d: 12/07/16 1 d: 12/09/16 1 Batch Type Analysis	Blank 0:52 9:35 Batch <u>Method</u> 300.0	<u>Run</u>	Dil Factor			La Batch Number 395658	b Sample II Prepared or Analyzed 12/20/16 04:00	D: 490- Ma Analyst LDC	trix: Wate
Total/NA Client Sam Date Collecter Date Received Prep Type Total/NA Client Sam Date Collecter	Analysis ple ID: EQ d: 12/07/16 1 d: 12/09/16 1 Batch Type Analysis ple ID: Dup d: 12/07/16 0	Blank 0:52 9:35 Batch Method 300.0	Run	Dil Factor			La Batch Number 395658	b Sample II Prepared or Analyzed	D: 490- Ma Analyst LDC : 490-1	117951-S trix: Wate Lab TAL NSH
Total/NA Client Sam Date Collecter Date Received Prep Type Total/NA Client Sam	Analysis ple ID: EQ d: 12/07/16 1 d: 12/09/16 1 Batch Type Analysis ple ID: Dup d: 12/07/16 0	Blank 0:52 9:35 Batch Method 300.0 0:01 9:35	Run	Dil Factor	Amount	Amount	La Batch Number 395658 Lab	b Sample II Prepared or Analyzed 12/20/16 04:00 Sample ID	D: 490- Ma Analyst LDC : 490-1	117951-9 trix: Wate Lab TAL NSH
Total/NA Client Sam Date Collecter Date Received Prep Type Total/NA Client Sam Date Collecter	Analysis ple ID: EQ d: 12/07/16 1 d: 12/09/16 1 Batch Type Analysis ple ID: Dup d: 12/07/16 0	Blank 0:52 9:35 Batch Method 300.0	Run	Dil Factor			La Batch Number 395658	b Sample II Prepared or Analyzed 12/20/16 04:00	D: 490- Ma Analyst LDC : 490-1	117951-9 trix: Wate Lab TAL NSH

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

10 11 12

# **Method Summary**

#### Client: Enviro Clean Services LLC Project/Site: CHK State M-1

TestAmerica Job ID: 490-117951-1 SDG: Property ID 891077

lethod	Method Description	Protocol	Laboratory	
00.0	Anions, Ion Chromatography	MCAWW	TAL NSH	
Protocol F	References:			E
MCAW	W = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-	020, March 1983 And Subsequent Revisions		
Laborator	y References:			
TAL NS	6H = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 3720	04, TEL (615)726-0177		
				5
				9

#### Laboratory References:

# **Certification Summary**

Client: Enviro Clean Services LLC Project/Site: CHK State M-1 TestAmerica Job ID: 490-117951-1 SDG: Property ID 891077

Laboratory	r: TestAmerica Nashville
The certifications	listed below are applicable to this report.

Oklahoma         State Program         6         9412         08-31-17
--

TestAmerica Nashville

- \*

TestAmerica		45	90-117951 Chain of Custody
Nashville, TN	COOLER RECE	IPF FORM	Custody
Cooler Received/Opened On 12/9/2016			
Time Samples Removed From Cooler_	FSL5_ Time Sample	s Placed in Storage	1947 (2 Hour Window)
	<u>n (last 4 digits, FedEx)</u>	Courier: _Fe	~
IR Gun ID <u>17610176</u> pH Strip L	.ot <u>H C68979</u> Chic	rine Strip Lot	G8WLG1(.
2. Temperature of rep. sample or temp	blank when opened:	Degrees Celsiu	s
3. If Item #2 temperature is 0°C or less,	was the representative sar	nple or temp blank	frozen? YES NO.(.NA)
4. Were custody seals on outside of co	oler?		YES NO NA
If yes, how many and where:			that
5. Were the seals intact, signed, and da	ated correctly?		YES NO NA
6. Were custody papers inside cooler?			ESNONA
I certify that I opened the cooler and an	swered questions 1-6 (initi	al)	PN.
7. Were custody seals on containers:	YES	No and Intac	t YESNO(NA
Were these signed and dated correct	tly?		YESNONA
8. Packing mat'l used? Bubblewrap F	lastic bag Peanuts Verm	iculite Foam Inse	rt Paper Other None
9. Cooling process:	Ice Ice-pack (c	e (direct contact)	Dry ice Other None
10. Did all containers arrive in good co	ndition (unbroken)?		YESNONA
11. Were all container labels complete	(#, date, signed, pres., etc)	?	(YESNONA
12. Did all container labels and tags ag	ree with custody papers?		EsNONA
13a. Were VOA vials received?			YESNO,NA
b. Was there any observable headsp	ace present in any VOA via	1?	YESNO(NA)
14. Was there a Trip Blank in this coole	r? YESNO.).NA	If multiple coolers,	sequence #
I certify that I unloaded the cooler and a	inswered questions 7-14 (in	nitial)	PN
15a. On pres'd bottles, did pH test strip	s suggest preservation rea	ached the correct p	H level? YESNONA
b. Did the bottle labels indicate that	the correct preservatives v	vere used	YESNO.
16. Was residual chlorine present?			YESNONA
I certify that I checked for chlorine and	pH as per SOP and answer	ed questions 15-16	(initial)
17. Were custody papers properly filled	l out (ink, signed, etc)?		YES NO NA
18. Did you sign the custody papers in	the appropriate place?		YESNONA
19. Were correct containers used for th	e analysis requested?		TESNONA
20. Was sufficient amount of sample se	ent in each container?		VESNONA
I certify that I entered this project into L	IMS and answered questio	ns 17-20 (initial)	PN
I certify that I attached a label with the u	inique LIMS number to eac	<u>h container (initial)</u>	PM
21. Were there Non-Conformance issue	es at login? YESNo Wa	s a NCM generated	? YES

BIS = Broken in shipment Cooler Receipt Form.doc

LF-1 End of Form

Revised 12/15/15

.



#### Login Sample Receipt Checklist

Client: Enviro Clean Services LLC

#### Login Number: 117951 List Number: 1 Creator: Ngo, Phiet

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

#### Job Number: 490-117951-1 SDG Number: Property ID 891077

List Source: TestAmerica Nashville

# Received by OCD: 4/25/2024 8:49:58 AM



THE LEADER IN ENVIRONMENTAL TESTING

# **ANALYTICAL REPORT**

#### TestAmerica Laboratories, Inc.

TestAmerica Nashville 2960 Foster Creighton Drive Nashville, TN 37204 Tel: (615)726-0177

#### TestAmerica Job ID: 490-123503-1

TestAmerica Sample Delivery Group: Property ID 891077 Client Project/Site: STATE M-1 Sampling Event: CHK State M-1

# For:

Enviro Clean Services LLC 7060 S. Yale Avenue, Suite 603 Tulsa, Oklahoma 74136

Attn: Ms. Julie Czech

athyGartner

Authorized for release by: 3/28/2017 9:57:07 AM

Cathy Gartner, Project Manager I (615)301-5041 cathy.gartner@testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

..... Links **Review your project** results through **Total** Access Have a Question? Ask-The Expert Visit us at:

www.testamericainc.com

Released to Imaging: 6/4/2024 2:29:36 PM

TestAmerica Job ID: 490-123503-1 SDG: Property ID 891077

# Table of Contents

Cover Page	1
Table of Contents	2
Sample Summary	3
Case Narrative	4
Definitions	5
Client Sample Results	6
QC Sample Results	16
QC Association	18
Chronicle	19
Method Summary	21
Certification Summary	22
Chain of Custody	23
Receipt Checklists	25

Page 131 of 183

# **Sample Summary**

Page 132 of 183

3

Client: Enviro Clean Services LLC Project/Site: STATE M-1

TestAmerica Job ID: 490-123503-	1
SDG: Property ID 89107	7

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	5
490-123503-1	MW-2	Water	03/08/17 08:35	03/10/17 10:05	
490-123503-2	MW-3	Water	03/08/17 10:55	03/10/17 10:05	
490-123503-3	MW-5	Water	03/08/17 09:45	03/10/17 10:05	5
490-123503-4	MW-4	Water	03/08/17 12:35	03/10/17 10:05	J
490-123503-5	MW-8	Water	03/08/17 14:20	03/10/17 10:05	
490-123503-6	MW-6	Water	03/08/17 15:55	03/10/17 10:05	
490-123503-7	MW-7	Water	03/08/17 16:45	03/10/17 10:05	
490-123503-8	EQ Blank	Water	03/08/17 10:35	03/10/17 10:05	
190-123503-9	Dup	Water	03/08/17 00:01	03/10/17 10:05	
490-123503-10	MW-1R	Water	03/09/17 09:30	03/10/17 10:05	8
					Q
					13

#### **Case Narrative**

TestAmerica Job ID: 490-123503-1

SDG: Property ID 891077

Client: Enviro Clean Services LLC Project/Site: STATE M-1

#### Job ID: 490-123503-1

#### Laboratory: TestAmerica Nashville

Narrative

Job Narrative 490-123503-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 3/10/2017 10:05 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.6° C.

#### HPLC/IC

Method(s) 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 490-416275 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 490-416955 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) recoveries were within the acceptance limits.

Method(s) 300.0: Due to the high concentration of Chloride, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 490-416955 could not be evaluated for accuracy and precision. More than a 5 times dilution was needed for the sample therefore the data is not reportable. The associated laboratory control sample (LCS) met acceptance criteria.

Method(s) 300.0: Due to the high concentration of Sulfate, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 490-416275 could not be evaluated for accuracy and precision. More than a 5 times dilution was needed for the sample therefore the data is not reportable. The associated laboratory control sample (LCS) met acceptance criteria.

Method(s) 300.0: The following samples was diluted due to the nature of the sample matrix: MW-2 (490-123503-1), MW-3 (490-123503-2), MW-5 (490-123503-3), MW-4 (490-123503-4), MW-8 (490-123503-5), MW-6 (490-123503-6), MW-7 (490-123503-7) and Dup (490-123503-9). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **Definitions/Glossary**

Client: Enviro Clean Services LLC Project/Site: STATE M-1

#### Qualifiers

#### HPLC/IC

HPLC/IC		
Qualifier	Qualifier Description	
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.	5

#### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.	
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis	
%R	Percent Recovery	8
CFL	Contains Free Liquid	
CNF	Contains no Free Liquid	Q
DER	Duplicate error ratio (normalized absolute difference)	
Dil Fac	Dilution Factor	
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample	
DLC	Decision level concentration	
MDA	Minimum detectable activity	
EDL	Estimated Detection Limit	
MDC	Minimum detectable concentration	
MDL	Method Detection Limit	
ML	Minimum Level (Dioxin)	
NC	Not Calculated	
ND	Not detected at the reporting limit (or MDL or EDL if shown)	
PQL	Practical Quantitation Limit	
QC	Quality Control	
RER	Relative error ratio	
RL	Reporting Limit or Requested Limit (Radiochemistry)	
RPD	Relative Percent Difference, a measure of the relative difference between two points	
TEF	Toxicity Equivalent Factor (Dioxin)	

TEQ Toxicity Equivalent Quotient (Dioxin)

Matrix: Water

# **Client Sample Results**

TestAmerica Job ID: 490-123503-1 SDG: Property ID 891077

Lab Sample ID: 490-123503-1

# Project/Site: STATE M-1 Client Sample ID: MW-2 Date Collected: 03/08/17 08:35

Date Received: 03/10/17 10:05

Client: Enviro Clean Services LLC

Method: 300.0 - Anions	, Ion Chromatogra	phy							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15.0		5.00		mg/L			03/23/17 18:42	5

TestAmerica Nashville

8/2017

Matrix: Water

Dil Fac

5

# **Client Sample Results**

5.00

mg/L

TestAmerica Job ID: 490-123503-1 SDG: Property ID 891077

Lab Sample ID: 490-123503-2

Analyzed

03/23/17 19:00

# Project/Site: STATE M-1

Client: Enviro Clean Services LLC

#### **Client Sample ID: MW-3** D

Chloride

	ted: 03/08/17 10:55 ed: 03/10/17 10:05					
Method: 3	0.0 - Anions, Ion Chromatography	,				
Analyte	Result Qua	alifier RL	MDL Unit	D	Prepared	

50.0

TestAmerica Job ID: 490-123503-1 SDG: Property ID 891077

# Project/Site: STATE M-1

Client: Enviro Clean Services LLC

#### Client Sample ID: MW-5 Date Collected: 03/08/17 09:45 Date Received: 03/10/17 10:05

#### Lab Sample ID: 490-123503-3 Matrix: Water

Method: 300.0 - Anions, Ion Ch	romatogra	phy								ī
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	23.1		5.00		mg/L			03/23/17 19:18	5	

TestAmerica Job ID: 490-123503-1 SDG: Property ID 891077

#### Client: Enviro Clean Services LLC Project/Site: STATE M-1

#### Client Sample ID: MW-4 Date Collected: 03/08/17 12:35 Date Received: 03/10/17 10:05

Lab Sample	ID: 490-123503-4
	Matrix: Water

Analvte	s, Ion Chromatograp Result 0	•	RL MC	)L Unit	D	Prepared	Analvzed	Dil Fac
Chloride	500	5	0.0	mg/L			03/23/17 19:36	Ę

TestAmerica Nashville

TestAmerica Job ID: 490-123503-1 SDG: Property ID 891077

#### Client: Enviro Clean Services LLC Project/Site: STATE M-1

Chloride

# Lab Sample ID: 490-123503-5 Matrix: Water

Client Sample ID: MW-8				Lab
Date Collected: 03/08/17 14:20				
Date Received: 03/10/17 10:05				
Method: 300.0 - Anions, Ion Cl	hromatography			
Analyte	Result Qualifier	RL	MDL Unit	D

on Chromatogra	iphy								
Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	5
489		50.0		mg/L			03/23/17 19:54	50	6
									7
									8
									9
									10
									11
									12

TestAmerica Job ID: 490-123503-1 SDG: Property ID 891077

# Client: Enviro Clean Services LLC Project/Site: STATE M-1

#### Client Sample ID: MW-6 Date Collected: 03/08/17 15:55 Date Received: 03/10/17 10:05

Lab Sample	ID:	490-123503-6
		Matrix: Water

Analyte	Result Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Chloride	94.4	10.0	mg/L		•	03/23/17 20:12	10

TestAmerica Nashville

Matrix: Water

# **Client Sample Results**

TestAmerica Jo SDG:

TestAmerica Job ID: 490-123503-1 SDG: Property ID 891077

Lab Sample ID: 490-123503-7

#### Client Sample ID: MW-7 Date Collected: 03/08/17 16:45 Date Received: 03/10/17 10:05

Client: Enviro Clean Services LLC

Project/Site: STATE M-1

Date Received. 03/10/17/10	.05								
	on Chromatogra	phy							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	24.2		5.00		mg/L			03/23/17 21:05	5
					•				

TestAmerica Nashville

Matrix: Water

Dil Fac

1

# **Client Sample Results**

Client: Enviro Clean Services LLC Project/Site: STATE M-1

TestAmerica Job ID: 490-123503-1 SDG: Property ID 891077

Analyzed

#### **Client Sample ID: EQ Blank** Lab Sample ID: 490-123503-8 Date Collected: 03/08/17 10:35 Date Received: 03/10/17 10:05 Method: 300.0 - Anions, Ion Chromatography Analyte Result Qualifier RL MDL Unit D Prepared Chloride ND 1.00 03/23/17 21:23 mg/L

TestAmerica Job ID: 490-123503-1 SDG: Property ID 891077

Client: Enviro Clean Services L	LC
Project/Site: STATE M-1	

#### Lab Sample ID: 490-123503-9 Matrix: Water

Client Sample ID: Dup Date Collected: 03/08/17 00:01 Date Received: 03/10/17 10:05

Method: 300.0 - Anions, Ior	n Chromatograp	hy							
Analyte	Result Q	Qualifier R	L MD	L Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	516	20	0	mg/L			03/23/17 21:41	20	6

TestAmerica Nashville

6

## **Client Sample Results**

Client: Enviro Clean Services LLC Project/Site: STATE M-1 TestAmerica Job ID: 490-123503-1 SDG: Property ID 891077

Client Sample ID: M Date Collected: 03/09/17						Lab	Sample	D: 490-1235 Matrix:	
Date Received: 03/10/17									
Method: 300.0 - Anion	s, Ion Chromatograph	ıy							
Analyte	Result Q	ualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	32.0		1.00		mg/L			03/22/17 03:18	1
Client: Enviro Clean Services LLC Project/Site: STATE M-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 490-41 Matrix: Water	6275/3						Clie	ent Sam	ple ID: Met Prep Type		
Analysis Batch: 416275											
		MB MB									
Analyte	Re	sult Qualifier			MDL Unit		D P	repared	Analyzeo		Dil Fac
Chloride		ND		1.00	mg/L				03/22/17 02	2:01	1
Lab Sample ID: LCS 490-4 Matrix: Water	16275/4					Clie	nt Sai	mple ID	: Lab Contr Prep Type		
Analysis Batch: 416275											
			Spike	LCS	LCS				%Rec.		
Analyte			Added		Qualifier	Unit	D	%Rec	Limits		
Chloride			10.0	9.765		mg/L		98	90 - 110		
Lab Sample ID: LCSD 490 Matrix: Water	-416275/5				C	Client Sa	mple	ID: Lab	Control Sa Prep Type		
Analysis Batch: 416275									1100 1900		
· · · · · <b>,</b> · · · · · · · · · · · · · · · · · · ·			Spike	LCSD	LCSD				%Rec.		RPD
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride			10.0	10.05		mg/L		100	90 - 110	3	20
Lab Sample ID: 580-66491 Matrix: Water	-H-1 MS						СІ	lient Sa	mple ID: Ma Prep Type		
Analysis Batch: 416275	•	<b>.</b> .	•						~		
Analysis	Sample	•	Spike	_	MS	11	-	0/ <b>D</b> = =	%Rec.		
Analyte Chloride	11.0	Qualifier	<b>Added</b> 2.00	10.57	Qualifier	Unit mg/L	D	%Rec -22	Limits 80 - 120		
- - 							• • • • •	1. ID. N	latrix Spike	<b>D</b>	
	-H-1 WSD					Client	Samn	1 <b>6 11). I</b> V			licato
Lab Sample ID: 580-66491 Matrix: Water						Glieffe	oump		Prep Type		
		Sample	Snike	MSD	MSD	Cheff	oump		Prep Type		al/NA
Matrix: Water Analysis Batch: 416275	Sample	-	Spike Added	-	MSD Qualifier				Prep Type %Rec.	: Tot	al/NA RPD
Matrix: Water	Sample	Sample Qualifier	Spike Added	-	Qualifier	Unit mg/L	D	%Rec -24	Prep Type		al/NA
Matrix: Water Analysis Batch: 416275 Analyte Chloride Lab Sample ID: MB 490-41	Sample Result 11.0	-	Added	Result	Qualifier	Unit	D	%Rec -24	Prep Type %Rec. Limits 80 - 120	RPD 0	al/NA RPD Limit 20 Blank
Matrix: Water Analysis Batch: 416275 Analyte Chloride Lab Sample ID: MB 490-41 Matrix: Water	Sample Result 11.0	-	Added	Result	Qualifier	Unit	D	%Rec -24	Prep Type %Rec. Limits 80 - 120	RPD 0	al/NA RPD Limit 20 Blank
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Matrix: Water Analysis Batch: 416275 Analyte Chloride Lab Sample ID: MB 490-41 Matrix: Water	Sample <u>Result</u> 11.0 6955/3	-	Added	<b>Result</b> 10.53	Qualifier	Unit mg/L	D Clie	%Rec -24	Prep Type %Rec. Limits 80 - 120	RPD 0 hod I : Tot	al/NA RPD Limit 20 Blank
Matrix: Water Analysis Batch: 416275 Analyte Chloride Lab Sample ID: MB 490-41 Matrix: Water Analysis Batch: 416955	Sample <u>Result</u> 11.0 6955/3	Qualifier	Added	<b>Result</b> 10.53	Qualifier 4	Unit mg/L	D Clie	<mark>≪Rec</mark> -24 ent Sam	Prep Type %Rec. Limits 80 - 120 aple ID: Met Prep Type	RPD 0 hod I o: Tot	al/NA RPD Limit 20 Blank al/NA
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Matrix: Water Analysis Batch: 416275 Analyte Chloride Lab Sample ID: MB 490-41 Matrix: Water Analysis Batch: 416955 Analyte Chloride Lab Sample ID: LCS 490-4	Sample <u>Result</u> 11.0 6955/3 <u>Re</u>	Qualifier MB MB esult Qualifier	Added	Result 10.53	Qualifier 4 MDL Unit	Unit mg/L	D Clie	<u>%Rec</u> -24 ent Sam	Prep Type %Rec. Limits 80 - 120 aple ID: Met Prep Type 	RPD 0 hod I : Tot 0 : Tot	al/NA RPD Limit 20 Blank al/NA Dil Fac 1 ample
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Matrix: Water Analysis Batch: 416275 Analyte Chloride Lab Sample ID: MB 490-41 Matrix: Water Analysis Batch: 416955 Analyte Chloride Lab Sample ID: LCS 490-4 Matrix: Water Analysis Batch: 416955	Sample <u>Result</u> 11.0 6955/3 <u>Re</u>	Qualifier MB MB esult Qualifier	Added 2.00	Result 10.53 RL 1.00	Qualifier 4 MDL Unit mg/L LCS	Unit mg/L	D Clie DP nt Sar	%Rec -24 ent Sam repared	Prep Type %Rec. Limits 80 - 120 Prep Type Analyzed 03/23/17 16 : Lab Contr Prep Type %Rec.	RPD 0 hod I : Tot 0 : Tot	al/NA RPD Limit 20 Blank al/NA Dil Fac 1 ample
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Matrix: Water Analysis Batch: 416275 Analyte Chloride Lab Sample ID: MB 490-41 Matrix: Water Analysis Batch: 416955 Analyte Chloride Lab Sample ID: LCS 490-4 Matrix: Water Analysis Batch: 416955 Analyte Chloride Lab Sample ID: LCSD 490-4 Matrix: Water	Sample Result 11.0 6955/3 Re 16955/4	Qualifier MB MB esult Qualifier	Added 2.00 Spike Added	Result           10.53           RL           1.00           LCS           Result	Qualifier 4 MDL Unit mg/L LCS Qualifier	Unit mg/L	D Clie DP nt Sar D	<u>%Rec</u> -24 ent Sam repared mple ID <u>%Rec</u> 106	Prep Type %Rec. Limits 80 - 120 Prep Type Analyzed 03/23/17 16 : Lab Contr Prep Type %Rec. Limits 90 - 110	e: Tot RPD 0 hod I :: Tot d :: Tot col Sa :: Tot	al/NA RPD Limit 20 Blank al/NA Dil Fac 1 ample al/NA e Dup
Matrix: Water Analysis Batch: 416275 Analyte Chloride Lab Sample ID: MB 490-41 Matrix: Water Analysis Batch: 416955 Analyte Chloride Lab Sample ID: LCS 490-4 Matrix: Water Analysis Batch: 416955 Analyte Chloride Lab Sample ID: LCSD 490	Sample Result 11.0 6955/3 Re 16955/4	Qualifier MB MB esult Qualifier	Added 2.00 Spike Added	Result           10.53           RL           1.00           LCS           Result           10.61	Qualifier 4 MDL Unit mg/L LCS Qualifier	Unit mg/L	D Clie DP nt Sar D	<u>%Rec</u> -24 ent Sam repared mple ID <u>%Rec</u> 106	Prep Type %Rec. Limits 80 - 120 aple ID: Met Prep Type Analyzed 03/23/17 16 : Lab Contr Prep Type %Rec. Limits 90 - 110	e: Tot RPD 0 hod I :: Tot d :: Tot col Sa :: Tot	al/NA RPD Limit 20 Blank al/NA Dil Fac 1 ample al/NA e Dup
Matrix: Water Analysis Batch: 416275 Analyte Chloride Lab Sample ID: MB 490-41 Matrix: Water Analysis Batch: 416955 Analyte Chloride Lab Sample ID: LCS 490-4 Matrix: Water Analysis Batch: 416955 Analyte Chloride Lab Sample ID: LCSD 490 Matrix: Water	Sample Result 11.0 6955/3 Re 16955/4	Qualifier MB MB esult Qualifier	Added 2.00 Spike Added 10.0	Result           10.53           RL           1.00           LCS           Result           10.61	Qualifier 4 MDL Unit mg/L LCS Qualifier	Unit mg/L	D Clie DP nt Sar D	<u>%Rec</u> -24 ent Sam repared mple ID <u>%Rec</u> 106	Prep Type %Rec. Limits 80 - 120 Prep Type Analyzed 03/23/17 16 : Lab Contr Prep Type %Rec. Limits 90 - 110 O Control Sa Prep Type	e: Tot RPD 0 hod I :: Tot d :: Tot col Sa :: Tot	al/NA RPD Limit 20 Blank al/NA Dil Fac 1 ample al/NA e Dup al/NA

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TestAmerica Nashville

TestAmerica Job ID: 490-123503-1 SDG: Property ID 891077

TestAmerica Nashville

Client: Enviro Clean Services LLC Project/Site: STATE M-1

### **QC** Association Summary

#### TestAmerica Job ID: 490-123503-1 SDG: Property ID 891077

	0		
		3	

HPLC/IC Analysis Batch: 416275

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-123503-10	MW-1R	Total/NA	Water	300.0	
/IB 490-416275/3	Method Blank	Total/NA	Water	300.0	
_CS 490-416275/4	Lab Control Sample	Total/NA	Water	300.0	
_CSD 490-416275/5	Lab Control Sample Dup	Total/NA	Water	300.0	
580-66491-H-1 MS	Matrix Spike	Total/NA	Water	300.0	
580-66491-H-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
nalysis Batch: 416	955				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-123503-1	MW-2	Total/NA	Water	300.0	
490-123503-2	MW-3	Total/NA	Water	300.0	
490-123503-3	MW-5	Total/NA	Water	300.0	
490-123503-4	MW-4	Total/NA	Water	300.0	
490-123503-5	MW-8	Total/NA	Water	300.0	
490-123503-6	MW-6	Total/NA	Water	300.0	
490-123503-7	MW-7	Total/NA	Water	300.0	
490-123503-8	EQ Blank	Total/NA	Water	300.0	
490-123503-9	Dup	Total/NA	Water	300.0	
VB 490-416955/3	Method Blank	Total/NA	Water	300.0	
_CS 490-416955/4	Lab Control Sample	Total/NA	Water	300.0	
_CSD 490-416955/5	Lab Control Sample Dup	Total/NA	Water	300.0	

Lab Chronicle

Page 148 of 183

5
8
9

Client: Enviro Clean Services LLC Project/Site: STATE M-1 TestAmerica Job ID: 490-123503-1 SDG: Property ID 891077

Client Sam Date Collecte Date Receive	d: 03/08/17 0	8:35					La	b Sample I		123503- trix: Wate
	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5			416955	03/23/17 18:42	JHS	TAL NSH
Client Sam	-						La	b Sample I		
Date Collecte Date Receive									Ma	trix: Wate
_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5			416955	03/23/17 19:00	JHS	TAL NSH
Client Sam	ple ID: MW	-5					La	b Sample I	D: 490-	123503.
Date Collecte Date Receive										trix: Wate
_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5			416955	03/23/17 19:18	-	TAL NSH
Client Sam Date Collecte Date Receive	d: 03/08/17 1	2:35					La	b Sample I		123503- trix: Wate
	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50			416955	03/23/17 19:36	-	TAL NSH
Client Sam	ple ID: MW	-8					La	b Sample I	D: 490-	123503-
Date Collecte Date Receive								-	Ма	trix: Wate
_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50			416955	03/23/17 19:54	-	TAL NSH
Client Sam	ple ID: MW	-6					La	b Sample I	D: 490-	123503-
Date Collecte Date Receive								-	Ма	trix: Wate
_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
· · · · <b>/ · ·</b>										

TestAmerica Nashville

Analysis

300.0

Total/NA

10

416955

03/23/17 20:12 JHS

TAL NSH

Client: Enviro Clean Services LLC

Project/Site: STATE M-1

Lab Chronicle

TestAmerica Job ID: 490-123503-1 SDG: Property ID 891077

	ple ID: MW						La	b Sample II		
Date Collecte									Ma	trix: Wate
_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5			416955	03/23/17 21:05	JHS	TAL NSH
Client Sam	ple ID: EQ	Blank					La	b Sample II	D: 490-	123503-
) ate Collecte										trix: Wate
Date Receive	d: 03/10/17 1	0:05								
-	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
								00/00/47 04 00	1110	TAL NSH
Total/NA	Analysis	300.0		1			416955	03/23/17 21:23	JHS	TAL NOR
Total/NA				1				b Sample II		
Total/NA Client Sam Date Collecte	ple ID: Dup d: 03/08/17 0	) 0:01		1					D: 490-	123503-
Total/NA Client Sam Date Collecte	ple ID: Dup d: 03/08/17 0	) 0:01		Dil	Initial	Final			D: 490-	123503-
Total/NA Client Sam Date Collecte Date Received	ple ID: Dup d: 03/08/17 0 d: 03/10/17 1	) 0:01 0:05	Run	·	Initial Amount	Final Amount	La	b Sample II	D: 490-	123503-
Total/NA Client Sam Date Collecte	ple ID: Dup d: 03/08/17 0 d: 03/10/17 1 Batch	) 0:01 0:05 Batch	Run	Dil			La Batch	b Sample II Prepared	D: 490- Ma	123503- trix: Wate
Total/NA Client Sam Date Collecte Date Received Prep Type Total/NA	ple ID: Dup d: 03/08/17 0 d: 03/10/17 1 Batch Type Analysis	) 0:01 0:05 Batch Method 300.0	Run	Dil Factor			La Batch Number 416955	b Sample II Prepared or Analyzed	D: 490- Ma <u>Analyst</u> JHS	123503- trix: Wate Lab TAL NSH
Total/NA Client Sam Date Collecte Date Received Prep Type Total/NA Client Sam	ple ID: Dup d: 03/08/17 0 d: 03/10/17 1 Batch Type Analysis ple ID: MW	0:01 0:05 Batch Method 300.0	Run	Dil Factor			La Batch Number 416955	b Sample II Prepared or Analyzed 03/23/17 21:41	D: 490- Ma <u>Analyst</u> JHS : 490-12	123503- trix: Wate Lab TAL NSH
Total/NA Client Sam Date Collecte Date Received Prep Type	ple ID: Dup d: 03/08/17 0 d: 03/10/17 1 Batch Type Analysis ple ID: MW d: 03/09/17 0	0:01 0:05 Batch Method 300.0	Run	Dil Factor			La Batch Number 416955	b Sample II Prepared or Analyzed 03/23/17 21:41	D: 490- Ma <u>Analyst</u> JHS : 490-12	123503- trix: Wate Lab TAL NSH 23503-1
Total/NA Client Sam Date Collecte Date Received Prep Type Total/NA Client Sam Date Collecte	ple ID: Dup d: 03/08/17 0 d: 03/10/17 1 Batch Type Analysis ple ID: MW d: 03/09/17 0	0:01 0:05 Batch Method 300.0	Run	Dil Factor			La Batch Number 416955	b Sample II Prepared or Analyzed 03/23/17 21:41	D: 490- Ma <u>Analyst</u> JHS : 490-12	123503- trix: Wate Lab TAL NSH 23503-1
Total/NA Client Sam Date Collecte Date Received Prep Type Total/NA Client Sam Date Collecte	ple ID: Dup d: 03/08/17 0 d: 03/10/17 1 Batch Type Analysis ple ID: MW d: 03/09/17 0 d: 03/10/17 1	D 0:01 0:05 Batch Method 300.0 7-1R 9:30 0:05	Run Run	Dil Factor 20	Amount	Amount	La Batch <u>Number</u> 416955 Lab	b Sample II Prepared or Analyzed 03/23/17 21:41 Sample ID	D: 490- Ma <u>Analyst</u> JHS : 490-12	123503- trix: Wate Lab TAL NSH 23503-1

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

TestAmerica Nashville

### **Method Summary**

#### Client: Enviro Clean Services LLC Project/Site: STATE M-1

TestAmerica Job ID: 490-123503-1 SDG: Property ID 891077

Method	Method Description	Protocol	Laboratory	
300.0	Anions, Ion Chromatography	MCAWW	TAL NSH	
	eferences: N = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020,	March 1983 And Subsequent Revisions.		
Laborator	/ References:			

### **Certification Summary**

Client: Enviro Clean Services LLC Project/Site: STATE M-1 TestAmerica Job ID: 490-123503-1 SDG: Property ID 891077

Laborator	y: TestAmerica Nashville
The certification	s listed below are applicable to this report.

Oklahoma         State Program         6         9412         08-31-17	Authority	Program	EPA Region	Certification ID	Expiration Date
	Oklahoma	State Program	6	9412	08-31-17

TestAmerica Nashville

Pa

TestAmerica	
THE LEADER IN ENVIRONMENTAL TESTING Nashville, TN COOLER RECEIPT FORM	490-123503 Chain of Custody
Cooler Received/Opened On_3/10/2017 @ 1005	
Time Samples Removed From Cooler Time Samples Placed In Storage	(2 Hour Window)
1. Tracking #	
IR Gun ID_160406069_ pH Strip LotChlorine Strip Lot	1.4
2. Temperature of rep. sample or temp blank when opened: 26 Degrees Celsius	
3. If Item #2 temperatures is 0°C or less, was the representative sample or temp blank froz	en? YES NONA
4. Were custody seals on outside of cooler?	VESNONA
If yes, how many and where:	E
5. Were the seals intact, signed, and dated correctly?	YESNONA
6. Were custody papers inside cooler?	YESNONA
I certify that I opened the cooler and answered questions 1-6 (initial)	
7. Were custody seals on containers: YES (NO) and Intact	YESNO
Were these signed and dated correctly?	YESNONA
8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Pa	per Othe None
9. Cooling process: (ice) Ice-pack Ice (direct contact) Dry i	ice Other None
10. Did all containers arrive in good condition (unbroken)?	ENONA
11. Were all container labels complete (#, date, signed, pres., etc)?	YES NO NA
12. Did all container labels and tags agree with custody papers?	(E)NONA
13a. Were VOA vials received?	YESNA
b. Was there any observable headspace present in any VOA vial?	YESNO.
14. Was there a Trip Blank in this cooler? YESNONA If multiple coolers, seque	
I certify that I unloaded the cooler and answered guestions 7-14 (initial)	But
15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level	? YESNO.NA
b. Did the bottle labels indicate that the correct preservatives were used	ESNONA
16. was residual chlorine present?	YESNO. MA
I certify that I checked for chlorine and pH as per SOP and answered guestions 15-16 (initia	1 MAY
17. Were custody papers properly filled out (ink, signed, etc)?	ESNONA
18. Did you sign the custody papers in the appropriate place?	EsNONA
19. Were correct containers used for the analysis requested?	ENONA
20. Was sufficient amount of sample sent in each container?	E. NONA
I certify that I entered this project into LIMS and answered questions 17-20 (initial)	4
I certify that I attached a label with the unique LIMS number to each container (initial)	201
21. Were there Non-Conformance issues at login? YES(NO) Was a NCM generated? YES.	
$\sim$	

BIS ≈ Broken in shipment Cooler Receipt Form.doc

LF-1 End of Form

Revised 12 15 15

POINT OF ORIGIN: COKLAHOMA CITY	(815) 726-0177	LABORATORY CONTACT:	METHOD OF SHIPMENT: FED-EX	HELINQUISHED BY:	RELINQUISHED BY:	TOTAL NUMBER OF CONTAINERS		- Tenp	3-9-17 930 MW-1R	3-8-17 - 0-0		3-8-17 1645 m 4-7	3-8-17 1555 mw-6	1420	3-8-17 1235 Mw-4	3-8-17 945 mm-5		3-8-17 835 MW-2	Date Time Sample ID	14 2	2-s	918) 794-7828	ENVIROCLEAN	
□ NORMAN □ WOODWARD □ ARLINGTO	2960 Foster Creighton Dr.,	TIME LABORATORY ADDRESS:		TIME RECEIVED BY:	1600	E		5			<b>ド</b> - X	۶ 	ج ۲	E	E ×	3 ×	3  X		Sample # of Sample CHLORID	e Conta	ainers	SHIPPED TO: TA Nashville	CHKHSTM101	
	reighton Dr., Nashville, TN 37204	Send PUF, EDD, and INVOICE (If applicable) to: JULIE CZECH at jczech@envirocleanps.com LABORATORY ADDRESS:	84566480 2216	DATE														12300	Loc: 490		ASC	PROJECT MANAGER: Bruce luc Kenzie	CHK STATE M-1	
J OTHER: PAGE #3 - ENVIRO CLEAN QA/QC DEPT	Q. (J	ocleanps.com	S .		<u>599</u>										-		ba 120+"	MW-IR Has free phase	REMARKS		ASOW: GEWSUB: 750-521 PROP ID: 891077	TAT:	coc d of	No. UUZJ4

3/28/2017

Page 153 of 183

5

Job Number: 490-123503-1 SDG Number: Property ID 891077 List Source: TestAmerica Nashville

#### Login Sample Receipt Checklist

Client: Enviro Clean Services LLC

#### Login Number: 123503 List Number: 1 Creator: Abernathy, Eric

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	

True

N/A

Samples do not require splitting or compositing.

Residual Chlorine Checked.

Data File:	\\ChromNA\Sacra	TestAmerica S amento\ChromI	Sacrar Data\A	ATMS6\20	20170201	I-39400.k	b\MS60									
Injection Date: Lims ID: Client ID:	02-Feb-2017 00:2 320-25393-A-1 34001452	22:30		Instrumer Lab Sam		ATMS 320-2	S6 25393-1	I					ator ID: list Smp#:	LHS 14		
Purge Vol: Method:	25.000 mL TO15_ATMS6 blatiles ( 0.32 mm)			Dil. Facto Limit Gro		1.000 MSA		5 - ICAL			,	ALS E	Bottle#:	9		
					MS6020 <sup>2</sup>	114[MS SC		o]:Total	<u></u>							
				-Difluorobenzene( 15.243)			▶ 1 010ene-a8 (>urr)( 18.699)+		Chlorobenzene-d5 (IS)( 21.990)			4-bromoliuoropenzene (Surr)( 24.551)+				
10-			3.102)	obenzen		(			ne-d5 (IS		'C und	V(IIIIC) al				
9			ne (IS)( 1	4-Difluor		<u>}</u>	Oluciic		robenzei			LODELIZEI				
8			nometha	14.307) * 1,		÷	÷		* Chlc			IOIIIUI				
7			Chlorobromomethane (IS)( 13.102)	4 (Surr)(								↔ 4				
Ч (X10000) Ф			0 * 	ethane-d												
				<mark>2-D</mark> ichloroethane-d4 (Surr)( 14.307) * 1												
5				\$ 1,2												
4																
3	9.586)	2.104)								{ 22.404)			26.754)			
2		(MEK)(1					18.888)			<del>j(.X3</del> 18AU)	.329)		Sopropyltoluene( 26.			
	Acetone( 8.266) Carbon disulfide(	- 2-Butanone (MEK)(12.1					Toluene(18.			E F.HX.YBBREER 6- 2312A2( 22	- o-Xylene( 23.329)		4-Isopropy		۱	
4.0 6.0	₩ <u>₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩</u>	<del>4,/ (Фыньца чила) (У) (- на</del> Т 10.0 12.0	<u>Harl Harl</u>	14.0	16.0	18.0 Mir	<u>Y</u> Y	<b>1</b> 20.0	22		24.C		1 26.0	28.0	30.0	32.0

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### Received by OCD: 4/25/2024 8:49:58 AM

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THE LEADER IN ENVIRONMENTAL TESTING

# **ANALYTICAL REPORT**

#### TestAmerica Laboratories, Inc.

TestAmerica Sacramento 880 Riverside Parkway West Sacramento, CA 95605 Tel: (916)373-5600

### TestAmerica Job ID: 320-26484-1

TestAmerica Sample Delivery Group: Property ID: 891077 Client Project/Site: STATE M-1 Revision: 1

### For:

Enviro Clean Services LLC 7060 S. Yale Avenue, Suite 603 Tulsa, Oklahoma 74136

Attn: Ms. Julie Czech

athyGartner

Authorized for release by: 3/23/2017 2:51:54 PM

Cathy Gartner, Project Manager I (615)301-5041 cathy.gartner@testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

## **Table of Contents**

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Detection Summary	5
Client Sample Results	6
Surrogate Summary	8
QC Sample Results	9
QC Association Summary	13
Lab Chronicle	14
Certification Summary	15
Method Summary	16
Sample Summary	17
Chain of Custody	18
Receipt Checklists	19
Clean Canister Certification	20
Pre-Ship Certification	20
Clean Canister Data	21

### **Definitions/Glossary**

Client: Enviro Clean Services LLC Project/Site: STATE M-1

3

TestAmerica Job ID: 320-26484-1 SDG: Property ID: 891077

#### Qualifiers

#### Air - GC/MS VOA

Qualifier	Qualifier Description
В	Compound was found in the blank and sample.

#### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.	
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis	
%R	Percent Recovery	
CFL	Contains Free Liquid	
CNF	Contains no Free Liquid	
DER	Duplicate error ratio (normalized absolute difference)	
Dil Fac	Dilution Factor	
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample	
DLC	Decision level concentration	
MDA	Minimum detectable activity	
EDL	Estimated Detection Limit	
MDC	Minimum detectable concentration	
MDL	Method Detection Limit	
ML	Minimum Level (Dioxin)	
NC	Not Calculated	
ND	Not detected at the reporting limit (or MDL or EDL if shown)	
PQL	Practical Quantitation Limit	
QC	Quality Control	
RER	Relative error ratio	
RL	Reporting Limit or Requested Limit (Radiochemistry)	
RPD	Relative Percent Difference, a measure of the relative difference between two points	
TEF	Toxicity Equivalent Factor (Dioxin)	
TEQ	Toxicity Equivalent Quotient (Dioxin)	

#### **Case Narrative**

#### Job ID: 320-26484-1

#### Laboratory: TestAmerica Sacramento

Narrative

Job Narrative 320-26484-1

#### Comments

No additional comments.

#### Receipt

The sample was received on 3/10/2017 10:00 AM; the sample arrived in good condition, properly preserved and, where required, on ice.

#### Air - GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

### **Detection Summary**

Client: Enviro Clean Services LLC Project/Site: STATE M-1

#### Client Sample ID: 20170309 M SVE

Page 163 of 183

### Lab Sample ID: 320-26484-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D Method	Prep Type	
Benzene	550		16.2		ppb v/v	40.5	TO-15	Total/NA	
Ethylbenzene	908		16.2		ppb v/v	40.5	TO-15	Total/NA	
4-Ethyltoluene	263		16.2		ppb v/v	40.5	TO-15	Total/NA	
1,1,2,2-Tetrachloroethane	20.0		16.2		ppb v/v	40.5	TO-15	Total/NA	
Toluene	193		16.2		ppb v/v	40.5	TO-15	Total/NA	
1,2,4-Trimethylbenzene	411		32.4		ppb v/v	40.5	TO-15	Total/NA	
1,3,5-Trimethylbenzene	397		16.2		ppb v/v	40.5	TO-15	Total/NA	
m,p-Xylene	1510		32.4		ppb v/v	40.5	TO-15	Total/NA	
o-Xylene	337		16.2		ppb v/v	40.5	TO-15	Total/NA	
Total VOC as Hexane (C6-C12)	985000	В	4050		ppb v/v	40.5	TO-15	Total/NA	

This Detection Summary does not include radiochemical test results.

Client: Enviro Clean Services LLC

Project/Site: STATE M-1

### **Client Sample Results**

TestAmerica Job ID: 320-26484-1 SDG: Property ID: 891077

### Client Sample ID: 20170309 M SVE Date Collected: 03/09/17 12:13

### Lab Sample ID: 320-26484-1

Matrix: Air

Date Received: 03/10/17 18:21 Sample Container: Summa Canister 6L

Analyte	c Compounds Result Quali		MDL Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND	203	ppb v/v			03/15/17 18:11	40.5
Benzene	550	16.2	ppb v/v			03/15/17 18:11	40.5
Benzyl chloride	ND	32.4	ppb v/v			03/15/17 18:11	40.5
Bromodichloromethane	ND	12.2	ppb v/v			03/15/17 18:11	40.5
Bromoform	ND	16.2	ppb v/v			03/15/17 18:11	40.5
Bromomethane	ND	32.4	ppb v/v			03/15/17 18:11	40.5
2-Butanone (MEK)	ND	32.4	ppb v/v			03/15/17 18:11	40.5
Carbon disulfide	ND	32.4	ppb v/v			03/15/17 18:11	40.5
Carbon tetrachloride	ND	32.4	ppb v/v			03/15/17 18:11	40.5
Chlorobenzene	ND	12.2	ppb v/v			03/15/17 18:11	40.5
Dibromochloromethane	ND	16.2	ppb v/v			03/15/17 18:11	40.5
Chloroethane	ND	32.4	ppb v/v			03/15/17 18:11	40.5
Chloroform	ND	12.2	ppb v/v			03/15/17 18:11	40.5
Chloromethane	ND	32.4	ppb v/v			03/15/17 18:11	40.5
1,2-Dibromoethane (EDB)	ND	32.4	ppb v/v			03/15/17 18:11	40.5
1,2-Dichlorobenzene	ND	16.2	ppb v/v ppb v/v			03/15/17 18:11	40.5
1,3-Dichlorobenzene	ND	16.2	ppb v/v			03/15/17 18:11	40.5
1,4-Dichlorobenzene	ND	16.2	ppb v/v ppb v/v			03/15/17 18:11	40.5
Dichlorodifluoromethane	ND	16.2	ppb v/v ppb v/v			03/15/17 18:11	40.5
		10.2				03/15/17 18:11	
1,1-Dichloroethane	ND ND	32.4	ppb v/v				40.5
1,2-Dichloroethane			ppb v/v			03/15/17 18:11	40.5
1,1-Dichloroethene	ND	32.4	ppb v/v			03/15/17 18:11	40.5
cis-1,2-Dichloroethene	ND	16.2	ppb v/v			03/15/17 18:11	40.5
rans-1,2-Dichloroethene	ND	16.2	ppb v/v			03/15/17 18:11	40.5
1,2-Dichloropropane	ND	16.2	ppb v/v			03/15/17 18:11	40.5
cis-1,3-Dichloropropene	ND	16.2	ppb v/v			03/15/17 18:11	40.5
rans-1,3-Dichloropropene	ND	16.2	ppb v/v			03/15/17 18:11	40.5
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	16.2	ppb v/v			03/15/17 18:11	40.5
Ethylbenzene	<b>90</b> 8	16.2	ppb v/v			03/15/17 18:11	40.5
4-Ethyltoluene	263	16.2	ppb v/v			03/15/17 18:11	40.5
Hexachlorobutadiene	ND	81.0	ppb v/v			03/15/17 18:11	40.5
2-Hexanone	ND	16.2	ppb v/v			03/15/17 18:11	40.5
Methylene Chloride	ND	16.2	ppb v/v			03/15/17 18:11	40.5
4-Methyl-2-pentanone (MIBK)	ND	16.2	ppb v/v			03/15/17 18:11	40.5
Styrene	ND	16.2	ppb v/v			03/15/17 18:11	40.5
1,1,2,2-Tetrachloroethane	20.0	16.2	ppb v/v			03/15/17 18:11	40.5
Tetrachloroethene	ND	16.2	ppb v/v			03/15/17 18:11	40.5
Toluene	193	16.2	ppb v/v			03/15/17 18:11	40.5
1,2,4-Trichlorobenzene	ND	81.0	ppb v/v			03/15/17 18:11	40.5
I,1,1-Trichloroethane	ND	12.2	ppb v/v			03/15/17 18:11	40.5
1,1,2-Trichloroethane	ND	16.2	ppb v/v			03/15/17 18:11	40.5
Trichloroethene	ND	16.2	ppb v/v			03/15/17 18:11	40.5
Trichlorofluoromethane	ND	16.2	ppb v/v			03/15/17 18:11	40.5
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	16.2	ppb v/v			03/15/17 18:11	40.5
1,2,4-Trimethylbenzene	411	32.4	ppb v/v			03/15/17 18:11	40.5
1,3,5-Trimethylbenzene	397	16.2	ppb v/v			03/15/17 18:11	40.5
Vinyl acetate	ND	32.4	ppb v/v			03/15/17 18:11	40.5
Vinyl chloride	ND	16.2	ppb v/v ppb v/v			03/15/17 18:11	40.5

TestAmerica Sacramento

### **Client Sample Results**

Client: Enviro Clean Services LLC Project/Site: STATE M-1 TestAmerica Job ID: 320-26484-1 SDG: Property ID: 891077

Lab Sample ID: 320-26484-1

#### Client Sample ID: 20170309 M SVE Date Collected: 03/09/17 12:13 Date Received: 03/10/17 18:21 Sample Container: Summa Canister 6L

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m,p-Xylene	1510		32.4		ppb v/v			03/15/17 18:11	40.5
o-Xylene	337		16.2		ppb v/v			03/15/17 18:11	40.5
Total VOC as Hexane (C6-C12)	985000	В	4050		ppb v/v			03/15/17 18:11	40.5
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130					03/15/17 18:11	40.5
1,2-Dichloroethane-d4 (Surr)	92		70 - 130					03/15/17 18:11	40.5
Toluene-d8 (Surr)	96		70 - 130					03/15/17 18:11	40.5

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Matrix: Air

#### **Surrogate Summary**

Client: Enviro Clean Services LLC Project/Site: STATE M-1 Page 166 of 183

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

Matrix: Air					Prep Type: Total/NA						
		Percent Surrogate Recovery (Acceptance Limits)									
		BFB	12DCE	TOL							
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)							
320-26484-1	20170309 M SVE	101	92	96							
LCS 320-155067/7	Lab Control Sample	110	86	96							
LCSD 320-155067/4	Lab Control Sample Dup	109	87	97							
MB 320-155067/6	Method Blank	87	91	97							
Surrogate Legend		07	51	57							

BFB = 4-Bromofluorobenzene (Surr) 12DCE = 1,2-Dichloroethane-d4 (Surr) TOL = Toluene-d8 (Surr)

Client Sample ID: Method Blank

Prep Type: Total/NA

#### Method: TO-15 - Volatile Organic Compounds in Ambient Air

#### Lab Sample ID: MB 320-155067/6

Matrix: Air Analysis Batch: 155067

Analyte		MB Qualifier	RL	мы	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		5.00		ppb v/v		Flepaleu	- 03/15/17 17:21	1
Benzene	ND		0.400		ppb v/v ppb v/v			03/15/17 17:21	1
Benzyl chloride	ND		0.800		ppb v/v ppb v/v			03/15/17 17:21	1
Bromodichloromethane	ND		0.300		ppb v/v			03/15/17 17:21	1
Bromoform	ND		0.400		ppb v/v ppb v/v			03/15/17 17:21	1
Bromomethane	ND		0.800		ppb v/v ppb v/v			03/15/17 17:21	1
2-Butanone (MEK)	ND		0.800		ppb v/v			03/15/17 17:21	1
Carbon disulfide	ND		0.800		ppb v/v ppb v/v			03/15/17 17:21	1
Carbon tetrachloride	ND		0.800		ppb v/v ppb v/v			03/15/17 17:21	1
Chlorobenzene	ND		0.300		ppb v/v			03/15/17 17:21	1
Dibromochloromethane	ND		0.300		ppb v/v ppb v/v			03/15/17 17:21	1
Chloroethane	ND		0.400		ppb v/v ppb v/v			03/15/17 17:21	1
Chloroform	ND		0.300					03/15/17 17:21	1
Chloromethane	ND		0.300		ppb v/v			03/15/17 17:21	1
					ppb v/v				
1,2-Dibromoethane (EDB)	ND ND		0.800 0.400		ppb v/v			03/15/17 17:21 03/15/17 17:21	1
1,2-Dichlorobenzene					ppb v/v				
1,3-Dichlorobenzene	ND		0.400		ppb v/v			03/15/17 17:21	1
1,4-Dichlorobenzene	ND		0.400		ppb v/v			03/15/17 17:21	1
Dichlorodifluoromethane	ND		0.400		ppb v/v			03/15/17 17:21	1
1,1-Dichloroethane	ND		0.300		ppb v/v			03/15/17 17:21	1
1,2-Dichloroethane	ND		0.800		ppb v/v			03/15/17 17:21	1
1,1-Dichloroethene	ND		0.800		ppb v/v			03/15/17 17:21	1
cis-1,2-Dichloroethene	ND		0.400		ppb v/v			03/15/17 17:21	1
trans-1,2-Dichloroethene	ND		0.400		ppb v/v			03/15/17 17:21	1
1,2-Dichloropropane	ND		0.400		ppb v/v			03/15/17 17:21	1
cis-1,3-Dichloropropene	ND		0.400		ppb v/v			03/15/17 17:21	1
trans-1,3-Dichloropropene	ND		0.400		ppb v/v			03/15/17 17:21	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		0.400		ppb v/v			03/15/17 17:21	1
Ethylbenzene	ND		0.400		ppb v/v			03/15/17 17:21	1
4-Ethyltoluene	ND		0.400		ppb v/v			03/15/17 17:21	1
Hexachlorobutadiene	ND		2.00		ppb v/v			03/15/17 17:21	1
2-Hexanone	ND		0.400		ppb v/v			03/15/17 17:21	1
Methylene Chloride	ND		0.400		ppb v/v			03/15/17 17:21	1
4-Methyl-2-pentanone (MIBK)	ND		0.400		ppb v/v			03/15/17 17:21	1
Styrene	ND		0.400		ppb v/v			03/15/17 17:21	1
1,1,2,2-Tetrachloroethane	ND		0.400		ppb v/v			03/15/17 17:21	1
Tetrachloroethene	ND		0.400		ppb v/v			03/15/17 17:21	1
Toluene	ND		0.400		ppb v/v			03/15/17 17:21	1
1,2,4-Trichlorobenzene	ND		2.00		ppb v/v			03/15/17 17:21	1
1,1,1-Trichloroethane	ND		0.300		ppb v/v			03/15/17 17:21	1
1,1,2-Trichloroethane	ND		0.400		ppb v/v			03/15/17 17:21	1
Trichloroethene	ND		0.400		ppb v/v			03/15/17 17:21	1
Trichlorofluoromethane	ND		0.400		ppb v/v			03/15/17 17:21	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.400		ppb v/v			03/15/17 17:21	1
1,2,4-Trimethylbenzene	ND		0.800		ppb v/v			03/15/17 17:21	1
1,3,5-Trimethylbenzene	ND		0.400		ppb v/v			03/15/17 17:21	1
Vinyl acetate	ND		0.800		ppb v/v			03/15/17 17:21	1
Vinyl chloride	ND		0.400		ppb v/v			03/15/17 17:21	1

TestAmerica Sacramento

Client: Enviro Clean Services LLC Project/Site: STATE M-1

TestAmerica Job ID: 320-26484-1 SDG: Property ID: 891077

#### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: MB 320-155 Matrix: Air Analysis Batch: 155067	067/6					1	Client Sam	ple ID: Method Prep Type: To	
· ····· <b>,</b> ··· · ······	MB	МВ							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m,p-Xylene	ND		0.800		ppb v/v			03/15/17 17:21	1
o-Xylene	ND		0.400		ppb v/v			03/15/17 17:21	1
Total VOC as Hexane (C6-C12)	318.2		100		ppb v/v			03/15/17 17:21	1
	МВ	МВ							
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		70 - 130					03/15/17 17:21	1
1,2-Dichloroethane-d4 (Surr)	91		70 - 130					03/15/17 17:21	1
Toluene-d8 (Surr)	97		70 - 130					03/15/17 17:21	1

#### Lab Sample ID: LCS 320-155067/7 Matrix: Air

#### Analysis Batch: 155067 Spike LCS LCS %Rec. Analyte Added **Result Qualifier** Unit D %Rec Limits Acetone 20.0 15.96 80 71 - 131 ppb v/v 20.0 Benzene 19.30 96 68 - 128 ppb v/v 20.0 58 - 120 Benzyl chloride 18.97 ppb v/v 95 Bromodichloromethane 20.0 19.48 ppb v/v 97 65 - 130 Bromoform 20.0 21.24 ppb v/v 106 64 - 144 Bromomethane 20.0 20.39 102 70 - 131 ppb v/v 2-Butanone (MEK) 20.0 17.69 88 71 - 131 ppb v/v Carbon disulfide 20.0 89 17 81 63 - 123 ppb v/v Carbon tetrachloride 20.0 21.22 106 67 - 127 ppb v/v Chlorobenzene 20.0 20.53 103 70 - 132 ppb v/v Dibromochloromethane 20.0 20.39 ppb v/v 102 68 - 128 Chloroethane 20.0 19.63 ppb v/v 98 70 - 131 Chloroform 20.0 18.31 ppb v/v 92 69 - 129 Chloromethane 20.0 19.81 99 67 - 127 ppb v/v 102 1,2-Dibromoethane (EDB) 20.0 20.48 68 - 131 ppb v/v 116 1,2-Dichlorobenzene 20.0 73 - 143 23.21 ppb v/v 1,3-Dichlorobenzene 20.0 22.83 77 - 136 ppb v/v 114 1.4-Dichlorobenzene 20.0 22.71 114 73 - 143 ppb v/v 20.0 Dichlorodifluoromethane 19.00 ppb v/v 95 69 - 129 1,1-Dichloroethane 20.0 18.06 ppb v/v 90 65 - 125 1.2-Dichloroethane 20.0 18.55 93 71 - 131 ppb v/v 1,1-Dichloroethene 20.0 16.34 82 53 - 128 ppb v/v cis-1,2-Dichloroethene 20.0 18.65 93 68 - 128 ppb v/v trans-1,2-Dichloroethene 20.0 17.55 ppb v/v 88 70 - 130 1,2-Dichloropropane 20.0 20.61 103 74 - 128 ppb v/v cis-1,3-Dichloropropene 20.0 21.45 ppb v/v 107 78 - 132 trans-1,3-Dichloropropene 20.0 18.77 ppb v/v 94 56 - 136 20.0 19.95 100 64 - 124 1,2-Dichloro-1,1,2,2-tetrafluoroet ppb v/v hane 20.0 102 Ethylbenzene 20.46 ppb v/v 76 - 136 4-Ethyltoluene 20.0 21.72 109 62 - 136 ppb v/v Hexachlorobutadiene 20.0 99 42 - 150 1971 ppb v/v 2-Hexanone 20.0 18.93 ppb v/v 95 70 - 128 Methylene Chloride 20.0 16.20 81 65 - 125 ppb v/v

8

**TestAmerica Sacramento** 

Released to Imaging: 6/4/2024 2:29:36 PM

SDG: Property ID: 891077

Prep Type: Total/NA

**Client Sample ID: Lab Control Sample** 

**Client Sample ID: Lab Control Sample Dup** 

Prep Type: Total/NA

#### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

## Lab Sample ID: LCS 320-155067/7

matrix:	AIr	
Analys	is Batch:	155067

Analysis Baton. 100001	Spike	LCS	LCS				%Rec.	
Analyte	Added		Qualifier	Unit	D	%Rec	Limits	
4-Methyl-2-pentanone (MIBK)	20.0	18.47		ppb v/v		92	73 - 133	
Styrene	20.0	21.53		ppb v/v		108	76 <sub>-</sub> 144	
1,1,2,2-Tetrachloroethane	20.0	22.41		ppb v/v		112	75 <sub>-</sub> 135	
Tetrachloroethene	20.0	19.89		ppb v/v		99	56 <sub>-</sub> 138	
Toluene	20.0	19.81		ppb v/v		99	71 - 132	
1,2,4-Trichlorobenzene	20.0	17.81		ppb v/v		89	59 - 150	
1,1,1-Trichloroethane	20.0	18.27		ppb v/v		91	65 - 124	
1,1,2-Trichloroethane	20.0	20.61		ppb v/v		103	71 <sub>-</sub> 131	
Trichloroethene	20.0	19.89		ppb v/v		99	64 - 127	
Trichlorofluoromethane	20.0	18.70		ppb v/v		93	68 - 128	
1,1,2-Trichloro-1,2,2-trifluoroetha	20.0	17.30		ppb v/v		87	50 - 132	
ne 1,2,4-Trimethylbenzene	20.0	22.77		ppb v/v		114	61 - 145	
1,3,5-Trimethylbenzene	20.0	22.52		ppb v/v		113	65 - 136	
Vinyl acetate	20.0	19.80		ppb v/v		99	77 <sub>-</sub> 134	
Vinyl chloride	20.0	20.16		ppb v/v		101	69 - 129	
Hexane	20.0	16.09		ppb v/v		80	63 - 123	
m,p-Xylene	40.0	42.23		ppb v/v		106	75 - 138	
o-Xylene	20.0	21.59		ppb v/v		108	77 - 132	
-								

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	110		70 - 130
1,2-Dichloroethane-d4 (Surr)	86		70 - 130
Toluene-d8 (Surr)	96		70 - 130

#### Lab Sample ID: LCSD 320-155067/4 Matrix: Air Analysis Batch: 155067

	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Acetone	20.0	16.05		ppb v/v		80	71 - 131	1	25
Benzene	20.0	19.21		ppb v/v		96	68 - 128	0	25
Benzyl chloride	20.0	19.45		ppb v/v		97	58 - 120	3	25
Bromodichloromethane	20.0	19.57		ppb v/v		98	65 - 130	0	25
Bromoform	20.0	21.34		ppb v/v		107	64 - 144	0	25
Bromomethane	20.0	20.86		ppb v/v		104	70 - 131	2	25
2-Butanone (MEK)	20.0	18.26		ppb v/v		91	71 - 131	3	25
Carbon disulfide	20.0	18.02		ppb v/v		90	63 - 123	1	25
Carbon tetrachloride	20.0	21.20		ppb v/v		106	67 - 127	0	25
Chlorobenzene	20.0	20.66		ppb v/v		103	70 - 132	1	25
Dibromochloromethane	20.0	20.42		ppb v/v		102	68 - 128	0	25
Chloroethane	20.0	20.09		ppb v/v		100	70 - 131	2	25
Chloroform	20.0	18.64		ppb v/v		93	69 - 129	2	25
Chloromethane	20.0	20.16		ppb v/v		101	67 - 127	2	25
1,2-Dibromoethane (EDB)	20.0	20.72		ppb v/v		104	68 - 131	1	25
1,2-Dichlorobenzene	20.0	23.45		ppb v/v		117	73 - 143	1	25
1,3-Dichlorobenzene	20.0	23.15		ppb v/v		116	77 - 136	1	25
1,4-Dichlorobenzene	20.0	23.12		ppb v/v		116	73 - 143	2	25

#### TestAmerica Sacramento

5

Page 170 of 183

#### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

#### Lab Sample ID: LCSD 320-155067/4 Matrix: Air

#### Client Sample ID: Lab Control Sample Dup Prep Type: Total/NA

Wath A. All									герту	Je. 101	aiinA
Analysis Batch: 155067			Spike		LCSD				%Rec.		RPD
Analyte			Added		Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Dichlorodifluoromethane			20.0	19.23		ppb v/v		96	69 - 129	1	25
1,1-Dichloroethane			20.0	18.25		ppb v/v		91	65 - 125	1	25
1,2-Dichloroethane			20.0	18.52		ppb v/v		93	71 <u>-</u> 131	0	25
1,1-Dichloroethene			20.0	16.45		ppb v/v		82	53 <sub>-</sub> 128	1	25
cis-1,2-Dichloroethene			20.0	18.77		ppb v/v		94	68 - 128	1	25
trans-1,2-Dichloroethene			20.0	17.64		ppb v/v		88	70 - 130	0	25
1,2-Dichloropropane			20.0	20.37		ppb v/v		102	74 - 128	1	25
cis-1,3-Dichloropropene			20.0	21.48		ppb v/v		107	78 - 132	0	25
trans-1,3-Dichloropropene			20.0	18.78		ppb v/v		94	56 - 136	0	25
1,2-Dichloro-1,1,2,2-tetrafluoroet			20.0	20.45		ppb v/v		102	64 - 124	2	25
hane											
Ethylbenzene			20.0	20.45		ppb v/v		102	76 - 136	0	25
4-Ethyltoluene			20.0	21.95		ppb v/v		110	62 - 136	1	25
Hexachlorobutadiene			20.0	19.50		ppb v/v		98	42 - 150	1	25
2-Hexanone			20.0	18.93		ppb v/v		95	70 - 128	0	25
Methylene Chloride			20.0	16.47		ppb v/v		82	65 - 125	2	25
4-Methyl-2-pentanone (MIBK)			20.0	18.47		ppb v/v		92	73 - 133	0	25
Styrene			20.0	21.42		ppb v/v		107	76 - 144	0	25
1,1,2,2-Tetrachloroethane			20.0	22.37		ppb v/v		112	75 - 135	0	25
Tetrachloroethene			20.0	19.98		ppb v/v		100	56 - 138	0	25
Toluene			20.0	19.85		ppb v/v		99	71 - 132	0	25
1,2,4-Trichlorobenzene			20.0	17.84		ppb v/v		89	59 - 150	0	25
1,1,1-Trichloroethane			20.0	18.59		ppb v/v		93	65 - 124	2	25
1,1,2-Trichloroethane			20.0	20.64		ppb v/v		103	71 - 131	0	25
Trichloroethene			20.0	19.95		ppb v/v		100	64 - 127	0	25
Trichlorofluoromethane			20.0	19.08		ppb v/v		95	68 - 128	2	25
1,1,2-Trichloro-1,2,2-trifluoroetha ne			20.0	17.42		ppb v/v		87	50 - 132	1	25
1,2,4-Trimethylbenzene			20.0	23.20		ppb v/v		116	61 - 145	2	25
1,3,5-Trimethylbenzene			20.0	22.90		ppb v/v		114	65 - 136	2	25
Vinyl acetate			20.0	19.89		ppb v/v		99	77 - 134	0	25
Vinyl chloride			20.0	20.27		ppb v/v		101	69 - 129	1	25
Hexane			20.0	16.31		ppb v/v		82	63 - 123	1	25
m,p-Xylene			40.0	42.16		ppb v/v		105	75 - 138	0	25
o-Xylene			20.0	21.53		ppb v/v		108	77 - 132	0	25
	LCSD	LCSD									
Surrogate	%Recovery	Qualifier	Limits								

4-Bromofluorobenzene (Surr) 1,2-Dichloroethane-d4 (Surr)

Toluene-d8 (Surr)

109

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97

70 - 130

70 - 130 70 - 130

### **QC** Association Summary

Client: Enviro Clean Services LLC Project/Site: STATE M-1 TestAmerica Job ID: 320-26484-1 SDG: Property ID: 891077

#### Air - GC/MS VOA

#### Analysis Batch: 155067

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-26484-1	20170309 M SVE	Total/NA	Air	TO-15	
MB 320-155067/6	Method Blank	Total/NA	Air	TO-15	
LCS 320-155067/7	Lab Control Sample	Total/NA	Air	TO-15	
LCSD 320-155067/4	Lab Control Sample Dup	Total/NA	Air	TO-15	

Client: Enviro Clean Services LLC

Project/Site: STATE M-1

Lab Chronicle

TestAmerica Job ID: 320-26484-1 SDG: Property ID: 891077

## Client Sample ID: 20170200 M SVE

Batab	Potoh		Initial	Final	Potob
Date Received: 03/10/17	18:21				
Date Collected: 03/09/17	12:13				
Client Sample ID: 20	110303 141 245				

	Batch	Batch		Dil	Initial	Final	Batch	Prepared			
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab	
Total/NA	Analysis	TO-15		40.5	11 mL	250 mL	155067	03/15/17 18:11	AP1	TAL SAC	

#### Laboratory References:

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Lab Sample ID: 320-26484-1 Matrix: Air 5 6 7 8 10

### **Certification Summary**

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EPA Region

**Certification ID** 

**UST-055** 

AZ0708

88-0691

CA00044

PH-0691

E87570

200060

E-10375

L2468

30612

9947

CA0004

CA00044

CA005

11666

68-01272

T104704399

LE148388-0

CA00044

CA00044

460278

C581

9930C

8TMS-L

P330-11-00436

4040

N/A

2897

Client: Enviro Clean Services LLC Project/Site: STATE M-1

Authority

Arizona

California

Colorado

Florida

Hawaii

Illinois

Kansas

Louisiana

Michigan

Nevada

New Jersey

Pennsylvania

US Fish & Wildlife

**USEPA UCMR** 

New York

Oregon

Texas

USDA

Utah

Virginia

Washington

Wyoming

West Virginia (DW)

L-A-B

Maine

Connecticut

Alaska (UST)

Arkansas DEQ

#### Laboratory: TestAmerica Sacramento

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

State Program

NELAP

NELAP

NELAP

NELAP

NELAP

NELAP

NELAP

NELAP

NELAP

Federal

Federal

Federal

NELAP

NELAP

State Program

State Program

State Program

DoD ELAP

State Program

State Program

State Program

Program

Expiration Date

12-18-17

08-11-17

06-17-17

01-31-18

08-31-17

06-30-17

06-30-17

01-29-18

03-17-18

10-31-17

01-20-18

06-30-17

04-18-18

01-31-18

07-31-17

06-30-17

04-01-17

01-28-18

03-31-17

07-31-17

10-31-17

12-30-17

11-06-18

02-28-18

03-14-18

05-05-17

12-31-17

01-29-17 \*

	1
20-26484-1 ID: 891077	2
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16

#### Laboratory: TestAmerica Nashville

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Oklahoma	State Program	6	9412	08-31-17

\* Certification renewal pending - certification considered valid.

### **Method Summary**

#### Client: Enviro Clean Services LLC Project/Site: STATE M-1

TestAmerica Job ID: 320-26484-1 SDG: Property ID: 891077

Method	Method Description	Protocol	Laboratory
O-15	Volatile Organic Compounds in Ambient Air	EPA	TAL SAC
Protocol I	References:		
EPA =	US Environmental Protection Agency		
Laborator	ry References:		
TALO	AC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5	5600	

### **Received by OCD:** 4/25/2024 8:49:58 AM

### Sample Summary

TestAmerica Job ID: 320-26484-1 SDG: Property ID: 891077

Client: Enviro Clean Services LLC Project/Site: STATE M-1

Lab Sample 320-26484-1

e ID	Client Sample ID	Matrix	Collected	Received
1	20170309 M SVE	Air	03/09/17 12:13	03/10/17 18:21

	5
	8
	9
1	3
	4

Ripped To:     Sample IO       Ia) 764-7868     TA- SACKAMENTO       B) 764-7868     TA- SACKAMENTO       B) 764-7868     Sample IO       Sample ID     AIR       III     X       III     X       III     X       IIII     X       IIIII     X       IIIII     X       IIIII     X       IIIII     X       IIIIII     X       IIIIII     X       IIIIII     IIIIII       IIIIII     X       IIIIIII     X       IIIIII     X       IIIIII     X	Services. Lic     Supremons     TAL SACKAMENTO     PROMEE AL KENZLE     MI.E.       10.104.7223     TAL SACKAMENTO     BAUCE AL KENZLE     MORE       10.104.7224     MARNA     MARNA     MORE       10.104.7224     MARNA     MARNA     MORE       10.104.7224     MARNA     MARNA     MORE       10.104.7224     MARNA     MARNA     MORE       11.104.7224     MARNA     MARNA     MARNA       11.104.7224     MARNA     MARNA     MARNA       11.104.724     MARNA     MARNA     MARNA       11.104.724     MARNA     MARNA     MARNA       11.107.717     MARNA <td< th=""><th>18) 794-7828</th><th>CHKHSIMIZAI</th><th>CHK STATE M-1</th><th>coc l of l</th></td<>	18) 794-7828	CHKHSIMIZAI	CHK STATE M-1	coc l of l
Sample to main the set of t	Sample ID         Sample ID <t< th=""><th></th><th>HIPPED TO: TA - SACRAMENTO</th><th>PROJECT MANAGER: BRUCE MC KENZIE</th><th>TAT:</th></t<>		HIPPED TO: TA - SACRAMENTO	PROJECT MANAGER: BRUCE MC KENZIE	TAT:
Sample ID     Sample ID     Sample ID       Sample ID     Sample ID     Sample ID       Sample ID     AIR     1	Rempte ID         Sample ID         Sample ID         Sample ID           Sample ID         Sample ID         Sample ID         Sample ID         Sample ID           C1 12 03 CF1 M SUE         AIR         1         X         X         RR           C1 12 03 CF1 M SUE         AIR         1         X         X         RR           Rempte Conta         AIR         1         X         X         RR           Rempte Conta         AIR         1         X         X         RR           Rempte Conta         AIR         X         X         RR         RR           Rempte Conta         R         X         X         X         RR           Rempte Conta         R         X         X         X         X           Rempte Conta         R         R         R         R         R           R         AIR         R         R         R         R         R           R         AIR         R         R         R         R         R           R         AIR         R         R         R         R         R         R           R         AIR         R         R         R<	"S SIGNATURE:	iners t		ASOW: N/A.
Sample ID         Sample ID         Sample ID         Sample ID         S4002123           1 7/0301 M.S.U.E         A IR         1         X         34002123           1 7/0301 M.S.U.E         A IR         1         X         34002123           1 7/0301 M.S.U.E         A IR         1         X         1         X           1 7/0301 M.S.U.E         A IR         1         X         1         X           1 7/0301 M.S.U.E         A IR         1         X         1         X           1 7/0301 M.S.U.E         A IR         1         X         1         X           1 7/0301 M.S.U.E         A IR         1         X         1         X         1           1 7/0301 M.S.U.E         A IR         1         X         1         1         X         1         1         X         1         1         X         1<	Sample ID         Sample ID         Sample ID         Sample ID         S4002123           1 7 23 20 11 5 / 7 42         1 × ×         1 × ×         1 × ×         34002123           1 7 03 20 11 5 / 7 42         1 × ×         1 × ×         1 × ×         1 × ×           1 7 03 20 11 5 / 7 42         1 × ×         1 × ×         1 × ×         1 × ×           1 7 03 20 11 5 / 7 10 / 7 ×         1 × ×         1 × ×         1 × ×         1 × ×           1 7 03 20 11 5 / 7 ×         1 × ×         1 × ×         1 × ×         1 × ×           1 7 03 20 11 7 ×         1 × ×         1 × ×         1 × ×         1 × ×           1 1 × ×         1 × ×         1 × ×         1 × ×         1 × ×         1 × ×           1 1 × ×         1 × ×         1 × ×         1 × ×         1 × ×         1 × ×           1 1 × ×         1 × ×         1 × ×         1 × ×         1 × ×         1 × ×           1 1 × ×         1 × ×         1 × ×         1 × ×         1 × ×         1 × ×         1 × ×           1 1 × ×         1 × ×         1 × ×         1 × ×         1 × ×         1 × ×         1 × ×         1 × ×           1 1 × ×         1 × ×         1 × ×         1 × ×         1 × × <td>n the</td> <td>etno0 :</td> <td></td> <td>TAGS/#SON SUMMA:</td>	n the	etno0 :		TAGS/#SON SUMMA:
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A TA-NASHVILLE     BØØ RIVERSIDE PARKWAY     N. SACRAMENTO, CA	A TA-NASHVILLE     A MILNET     A MILNET     A MILNET				
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Parte     Date     Date     Date     Date       Image     Image     Image     Image     Image       Image     Image     Image	Addition     Addition     Addition	X			
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Date         Date <thdate< th="">         Date         Date         <thd< td=""><td>Date     Date     Date     Date     Date     Date       20.26484 Chain of Custody     20.26484 Chain of Custody       20.26484 Chain of Custody     20.2648</td><td></td><td></td><td></td><td></td></thd<></thdate<>	Date     Date     Date     Date     Date     Date       20.26484 Chain of Custody     20.26484 Chain of Custody       20.26484 Chain of Custody     20.2648				
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A TA-NASHVILLE     Date 3-17     ReceiveD BY:     Date 3-101A       Date 3-17     ReceiveD BY:     TIME 10:50       TIME     Date 3-17     ReceiveD BY:       TIME     Date 3-17     ReceiveD BY:       TIME     ReceiveD BY:     TIME 10:50       Date 3-17     ReceiveD BY:     Date 3-101A       Image: Date 3-17     ReceiveD BY:     TIME 10:50       Date 3-17     ReceiveD BY:     Date 3-101A       Date 3-17     ReceiveD BY:     Date 3-101A       Are     ReceiveD BY:     Date 3-101A       Anservice 1     Numbers:     Jacech@envirocleanps.com       Anservice 1     SACRAMENTO, CA     CA	Parte				320-26484 Chain of Custody
DATE 3-9,17     RECEIVED BY:     DATE 3.101A       TIME     JOOR     TIME     DATE 3.101A       TIME     JOOR     TIME     DATE       TIME     ARBILL NUMBER:     TIME     DATE       ARBILL NUMBER:     DATE     DATE     DATE       ARBILL NUMBER:     DATE     DATE     DATE       ARBILL NUMBER:     ARBILL NUMBER:     DATE     DATE       ARBILL NUMBER:     ARBILL NUMBER:     DATE     DATE       ARBILL NUMBER:     Send PDF, EDD, and INVOICE (If applicable) to:     TIME       TIME     BATE     Send PDF, EDD, and INVOICE (If applicable) to:       TIME     BATE     JULIE CZECH at iczech@envirocleanps.com       A TA-NASHVILLE     B&ØØ RIVERSI DE PARKWAY     W. SACRAMENTO, CA	Date 3-17     ReceiveD BY:     Date 3-101A       TIME     TIME     TIME     Date 3-101A       TIME     TIME     TIME     Date 3-101A       TIME     TIME     ReceiveD BY:     Date 3-101A       Date     ReceiveD BY:     Date 3-101A       Afbeck     ReceiveD BY:     Date 3-101A       Arres     ReceiveD BY:     Date 3-101A       Arres     ReceiveD BY:     Date 3-101A       Arres     Send PDF, EDD, and INVOC     UNDER:       Adviso     Date     Send PDF, EDD, and INVOC       JA-NASH/ILE     B&ØØ RIVERSI     ULLE CZECH at izzech@envirocleanps.com       Mathematic     JA-NASH/ILE     B&ØØ RIVERSI	JMBER OF CONTAINERS			
Date     Date     Date       Date     Date     Date       Date     Date     Date       Date     AIRBILL NUMBER:     Date       AIRBILL NUMBER:     Date     Date       AIRBILL NUMBER:     Date     Date       AIRBILL NUMBER:     JULIE czech@envirocleanps.com       AA-NASHVILLE     B&Ø RIVERSI DE PARKWAY W.SACRAMENTO, CA	DATE     DATE     DATE       TIME     DATE     DATE       TIME     DATE     DATE       AIRBILL NUMBER:     DATE       ABRILL NUMBER:     DATE       AA-NASHVILLE     Send PDF, EDD, and INVOICE (if applicable) to:       TIME     Send PDF, EDD, and INVOICE (if applicable) to:       TIME     Send PDF, EDD, and INVOICE (if applicable) to:       TIME     Send PDF, EDD, and INVOICE (if applicable) to:       INNE     Send PDF, EDD, and INVOICE (if applicable) to:       INNE     Send PDF, EDD, and INVOICE (if applicable) to:       INNE     Send PDF, EDD, and INVOICE (if applicable) to:       INNE     Send PDF, EDD, and INVOICE (if applicable) to:       OKLAHOM CITY     MULSA       OKLAHOM CITY     MULSA       ONCHAMA     MULSA       ONCHAMA     MULSA		2-6-2		VTE
AIRBILL NUMBER:     AIRBILL NUMBER:       DATE     AIRBILL NUMBER:       Imme     DATE       Send PDF, EDD, and INVOICE (if applicable) to:       JULIE CZECH at jczech@envirocleanps.com       Imme       ABORATORY ADDRESS:       ATA-NASHVILLE	AIRBILL NUMBER:     AIRBILL NUMBER:       DATE     AIRBILL NUMBER:       ITME     BATE       Send PDF, EDD, and INVOICE (if applicable) to:       JULIE CZECH at jczech@envirocleanps.com       JULIE CZECH at jczech@envirocleanps.com       AIRBILL NUMBER:		1000		VIE V. V.
Date     Date     Send PDF, EDD, and INVICE (if applicable) to: JULIE CZECH at jczech@envirocleanps.com       (A TA-NASHVILLE     88Ø RIVERSI DE PARKWAY W.SACRAMENTO, CA	Date     Date     Send PDF, EDD, and INVOICE (if applicable) to: JULIE CZECH at jczech@envirocleanps.com       (A TA-NASHVILLE     LABORATORY ADDRESS:       OKLAHOMA CITY     MTULSA       OKLAHOMA CITY     MTULSA				4
NER (2 TA-NASHVILLE 880 RIVERSIDE PARKWAY W.SACRAMENTO, CA	NER (P TA-NASHVILLE BORATORY ADDRESS: COMMENTO, CA COMMENTO, CA COMME			id INVOICE (if applicable) to: JULIE CZECH at iczech(	∂envirocleanbs.com
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#### Received by OCD: 4/25/2024 8:49:58 AM

#### Page 176 of 183

#### Login Sample Receipt Checklist

Client: Enviro Clean Services LLC

#### Login Number: 26484 List Number: 1 Creator: Ortiz, Ana M

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerico The leader in environmental testin		Sacramento Canister QC Certification Batch Certification
Certification Type Date Cleaned/Batch ID Date of QC Data File Number	TO-15 Scan 1/30/17 320-25393 2/1/17 C: (m5000000) DATA (17020 M56 020/14. d CANISTER ID NUMBERS	320-25393 Chain of Custody
34001452 *	34002127	
34000877	3400397	
80 11	34000301	
34002059	8154	
7836		
7969		
34000420		
7527		

The above canisters were cleaned as a batch. This certifies this batch contains no target analyte concentration greater than or equal to the method criteria for the "*Certification Type*" indicated above.

**\*\***" INDICATES THE CAN OR CANS WHICH WERE SCREENED.

1<sup>st</sup> level Reviewed By:

n 1 18

2nd level Reviewed By:

2/4/17 Date:

Date:

2/2/17

Q:\FORMS\QA-814 BATCH CAN QC 20130729.DOC QA-814

ERS 7/29/2013

FORM I AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: <u>320-25393-1</u>				
SDG No.:					
Client Sample ID: <u>34001452</u>	Lab Sample ID: <u>320-25393-1</u>				
Matrix: Air	Lab File ID: MS6020114.D				
Analysis Method: TO-15	Date Collected: 01/30/2017 00:00				
Sample wt/vol: 500(mL)	Date Analyzed: 02/02/2017 00:22				
Soil Aliquot Vol:	Dilution Factor: 1				
Soil Extract Vol.:	GC Column: <u>RTX-Volatiles</u> ID: 0.32(mm)				
% Moisture:	Level: (low/med) Low				
Analysis Batch No.: 148573	Units: ppb v/v				

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	0.41	J	5.0	0.18
107-02-8	Acrolein	ND		2.0	0.22
107-13-1	Acrylonitrile	ND		2.0	0.19
107-05-1	Allyl chloride	ND		0.80	0.11
71-43-2	Benzene	ND		0.40	0.079
100-44-7	Benzyl chloride	ND		0.80	0.16
75-27-4	Bromodichloromethane	ND		0.30	0.066
75-25-2	Bromoform	ND		0.40	0.070
74-83-9	Bromomethane	ND		0.80	0.34
106-99-0	1,3-Butadiene	ND		0.80	0.15
106-97-8	n-Butane	ND		0.40	0.15
78-93-3	2-Butanone (MEK)	ND		0.80	0.20
75-65-0	tert-Butyl alcohol (TBA)	ND		2.0	0.11
104-51-8	n-Butylbenzene	ND		0.40	0.18
135-98-8	sec-Butylbenzene	ND		0.40	0.070
98-06-6	tert-Butylbenzene	ND		0.80	0.068
75-15-0	Carbon disulfide	0.32	J	0.80	0.078
56-23-5	Carbon tetrachloride	ND		0.80	0.064
108-90-7	Chlorobenzene	ND		0.30	0.064
75-45-6	Chlorodifluoromethane	ND		0.80	0.27
75-00-3	Chloroethane	ND		0.80	0.31
67-66-3	Chloroform	ND		0.30	0.095
74-87-3	Chloromethane	ND		0.80	0.20
95-49-8	2-Chlorotoluene	ND		0.40	0.080
110-82-7	Cyclohexane	ND		0.40	0.084
124-48-1	Dibromochloromethane	ND		0.40	0.079
106-93-4	1,2-Dibromoethane (EDB)	ND		0.80	0.075
74-95-3	Dibromomethane	ND		0.40	0.057
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroetha ne	ND		0.40	0.16
95-50-1	1,2-Dichlorobenzene	ND		0.40	0.13
541-73-1	1,3-Dichlorobenzene	ND		0.40	0.11
106-46-7	1,4-Dichlorobenzene	ND		0.40	0.15
75-71-8	Dichlorodifluoromethane	ND		0.40	0.15
75-34-3	1,1-Dichloroethane	ND		0.30	0.072
107-06-2	1,2-Dichloroethane	ND		0.80	0.088

FORM I TO-15

FORM I AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: <u>320-25393-1</u>					
SDG No.:						
Client Sample ID: <u>34001452</u>	Lab Sample ID: <u>320-25393-1</u>					
Matrix: Air	Lab File ID: MS6020114.D					
Analysis Method: TO-15	Date Collected: 01/30/2017 00:00					
Sample wt/vol: 500(mL)	Date Analyzed: 02/02/2017 00:22					
Soil Aliquot Vol:	Dilution Factor: 1					
Soil Extract Vol.:	GC Column: <u>RTX-Volatiles</u> ID: <u>0.32(mm)</u>					
% Moisture:	Level: (low/med) Low					
Analysis Batch No.: 148573	Units: ppb v/v					

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-35-4	1,1-Dichloroethene	ND		0.80	0.13
156-59-2	cis-1,2-Dichloroethene	ND		0.40	0.089
156-60-5	trans-1,2-Dichloroethene	ND		0.40	0.10
78-87-5	1,2-Dichloropropane	ND		0.40	0.24
10061-01-5	cis-1,3-Dichloropropene	ND		0.40	0.10
10061-02-6	trans-1,3-Dichloropropene	ND		0.40	0.088
123-91-1	1,4-Dioxane	ND		0.80	0.10
141-78-6	Ethyl acetate	ND		0.30	0.18
100-41-4	Ethylbenzene	ND		0.40	0.063
622-96-8	4-Ethyltoluene	ND		0.40	0.19
142-82-5	n-Heptane	ND		0.80	0.063
87-68-3	Hexachlorobutadiene	ND		2.0	0.43
110-54-3	n-Hexane	ND		0.80	0.075
591-78-6	2-Hexanone	ND		0.40	0.087
98-82-8	Isopropylbenzene	ND		0.80	0.10
99-87-6	4-Isopropyltoluene	ND		0.80	0.12
1634-04-4	Methyl-t-Butyl Ether (MTBE)	ND		0.80	0.12
80-62-6	Methyl methacrylate	ND		0.80	0.16
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		0.40	0.14
75-09-2	Methylene Chloride	ND		0.40	0.072
98-83-9	alpha-Methylstyrene	ND		0.40	0.065
91-20-3	Naphthalene	ND		0.80	0.56
111-65-9	n-Octane	ND		0.40	0.055
109-66-0	n-Pentane	ND		0.80	0.26
115-07-1	Propylene	ND		0.40	0.099
103-65-1	N-Propylbenzene	ND		0.40	0.059
100-42-5	Styrene	ND		0.40	0.059
79-34-5	1,1,2,2-Tetrachloroethane	ND		0.40	0.069
127-18-4	Tetrachloroethene	ND		0.40	0.051
109-99-9	Tetrahydrofuran	ND		0.80	0.21
108-88-3	Toluene	0.056	J	0.40	0.051
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethan e	ND		0.40	0.16
120-82-1	1,2,4-Trichlorobenzene	ND		2.0	0.43
71-55-6	1,1,1-Trichloroethane	ND		0.30	0.065
79-00-5	1,1,2-Trichloroethane	ND		0.40	0.067

FORM I TO-15

FORM I AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: <u>320-25393-1</u>				
SDG No.:					
Client Sample ID: <u>34001452</u>	Lab Sample ID: <u>320-25393-1</u>				
Matrix: Air	Lab File ID: MS6020114.D				
Analysis Method: TO-15	Date Collected: 01/30/2017 00:00				
Sample wt/vol: 500(mL)	Date Analyzed: 02/02/2017 00:22				
Soil Aliquot Vol:	Dilution Factor: 1				
Soil Extract Vol.:	GC Column: <u>RTX-Volatiles</u> ID: 0.32(mm)				
% Moisture:	Level: (low/med) Low				
Analysis Batch No.: <u>148573</u>	Units: ppb v/v				

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-01-6	Trichloroethene	ND		0.40	0.11
75-69-4	Trichlorofluoromethane	ND		0.40	0.20
96-18-4	1,2,3-Trichloropropane	ND		0.40	0.17
95-63-6	1,2,4-Trimethylbenzene	ND		0.80	0.16
108-67-8	1,3,5-Trimethylbenzene	ND		0.40	0.13
540-84-1	2,2,4-Trimethylpentane	ND		0.40	0.071
108-05-4	Vinyl acetate	ND		0.80	0.15
593-60-2	Vinyl bromide	ND		0.80	0.26
75-01-4	Vinyl chloride	ND		0.40	0.12
179601-23-1	m,p-Xylene	ND		0.80	0.10
95-47-6	o-Xylene	ND		0.40	0.054

CAS NO.	SURROGATE	%REC	Q	LIMITS
460-00-4	4-Bromofluorobenzene (Surr)	97		70-130
17060-07-0	1,2-Dichloroethane-d4 (Surr)	108		70-130
2037-26-5	Toluene-d8 (Surr)	105		70-130

.

02-Feb-2017 16:05:19

#### TestAmerica Sacramento Target Compound Quantitation Report

Data File: Lims ID: Client ID:	\\ChromNA\Sacramento\ChromDat 320-25393-A-1 34001452	a\ATMS6\20170201	-39400.b\MS	56020114.D	
Sample Type:	Client				
Inject. Date:	02-Feb-2017 00:22:30	ALS Bottle#:	9	Worklist Smp#:	14
Purge Vol:	25.000 mL	Dil. Factor:	1.0000		
Sample Info:	320-25393-A-1				
Misc. Info.:	500 mL CAN CERT	Instrument ID:			
Operator ID:	LHS	Instrument ID:	ATMS6		
Method: Limit Group:	\\ChromNA\Sacramento\ChromData MSA - TO15 - ICAL	a\ATMS6\20170201	-39400.b\TC	015_ATMS6.m	
Last Update:	02-Feb-2017 16:05:19	Calib Date:	06-Jan-20	017 14:12:30	
Integrator:	RTE	ID Type:	Deconvol	ution ID	
Quant Method:	Internal Standard	Quant By:	Initial Cal	ibration	
Last ICal File:	\\ChromNA\Sacramento\ChromDat	a\ATMS6\20170105	-38520.b\MS	6010523.D	
Column 1 : Process Host:	RTX Volatiles ( 0.32 mm) XAWRK010		Det: MS S	SCAN	

Date:

First Level Reviewer: phanthasena

		= =			02 1 05 2017 10100117			
Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ppb v/v	Flags
<ul> <li>* 1 Chlorobromomethane (IS)</li> </ul>	130	13.102	13.096	0.006	97	38197	4.00	
* 2 1,4-Difluorobenzene	114	15.243	15.244	-0.001	96	145248	4.00	
* 3 Chlorobenzene-d5 (IS)	117	21.990	21.984	0.006	89	111310	4.00	
\$ 41,2-Dichloroethane-d4 (Sur	65	14.307	14.301	0.006	98	61589	4.34	
\$ 5 Toluene-d8 (Surr)	100	18.705	18.699	0.006	97	79593	4.21	
\$ 6 4-Bromofluorobenzene (Surr	95	24.551	24.552	-0.001	88	59254	3.90	
11 Propene	41	4.488	4.476	0.012	27	416	0.0418	
32 Acetone	43	8.272	8.272	0.122	43	9203	0.4068	
40 Carbon disulfide	76	9.586	9.586	0.000	96	9218	0.3212	
48 2-Butanone (MEK)	72	12.086	12.019	0.067	94	897	0.1597	
75 Toluene	91	18.875	18.881	-0.006	97	2424	0.0555	
86 Ethylbenzene	91	22.233	22.227	0.006	91	1609	0.0256	
87 m-Xylene & p-Xylene	91	22.422	22.410	0.012	1	3005	0.0616	
88 o-Xylene	91	23.341	23.329	0.012	1	1667	0.0341	
109 4-Isopropyltoluene	119	26.760	26.754	0.006	96	5051	0.0670	
Reagents:								
VAMSIS20_00002		Amount	Added: 5	0.00	L	Inits: mL	Run Reager	nt

District I 1625 N. French Dr., Hobbs, NM 88240 Phone:(575) 393-6161 Fax:(575) 393-0720 District II

811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505 Phone: (505) 476-3470 Fax: (505) 476-3462

### **State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division** 1220 S. St Francis Dr. Santa Fe, NM 87505

CONDITIONS

Action 337534

CONDITIONS					
Operator:	OGRID:				
CHESAPEAKE OPERATING, INC.	147179				
6100 NORTH WESTERN AVE	Action Number:				
OKC, OK 73118	337534				
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)				

#### CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	Third Annual Groundwater Monitoring Report for CHESAPEAKE ENERGY CORPORATION STATE M LEASE (AP-72) has been accepted as part of the record.	6/4/2024