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

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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 32.828061º latitude, -103.391012º 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),

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

- Fifth Event - June 10 - 11, 2015,
- Sixth Event - September 2, 2015,
- Seventh Event - December 9 - 10, 2015, and
- Eighth Event - March 9 - 10, 2016.

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 discharge-air 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 March 2016, the field PID data suggest that approximately 3,415 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 laboratory-provided 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 first quarter, discharge-air sample Canister #8408 2015-06-11 Air Sample was collected on June 11, 2015. On this date, the System had been running for a total of 8,538 hours, was operating at 172 ACFM and had a field reading of 398 PPM from the discharge air stream. Laboratory analytical results for this discharge-air sample indicated a total VOC as Hexane concentration of 351,000 PPB volume/volume (351 PPM V/V). During the second quarter, discharge-air sample Canister #5451 Batch #320-14155 9-3-15 was collected on September 3, 2015. On this date, the System had been running for a total of 10,550 hours, was operating at 116 ACFM and had a field reading of 249 PPM from the discharge air stream.

Laboratory analytical results for this discharge-air sample indicated a total VOC as Hexane concentration of 190,000 PPB V/V (190 PPM V/V). During the third quarter period, discharge-air sample CANISTER #34000512 BATCH ID #320-15930 was collected on December 10, 2015. On this date, the System had been running for a total of 12,903 hours, was operating at 172 ACFM and had a field reading of 398 PPM from the discharge air stream. Laboratory analytical results for this discharge-air sample indicated a total VOC as Hexane concentration of 140,000 PPB V/V (140 PPM V/V). During the fourth quarter, discharge-air sample STATE M-1 LEASE was collected on March 10, 2016. On this date, the System had been running for a total of 13,787 hours, was operating at 172 ACFM and had a field reading of 398 PPM from the discharge air stream. It should be noted that due to an electrical power outage experienced in the area, the System had not been operating for approximately 5 weeks prior to collection of discharge-air sample STATE M-1 LEASE. This discharge-air sample was a startup sample after the outage. Laboratory analytical results for discharge-air sample STATE M-1 LEASE indicated a total VOC as Hexane concentration of 371,000 PPB V/V (371 PPM V/V). These analytical data indicate that, in general, the discharge-air VOC concentrations were not elevated upon restart of the System. 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 4,964 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.

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 4 drums (220 gallons) of LNAPL were recovered from monitoring well MW-1R. Since start-up of the Genie LNAPL recovery pump, a total of approximately 8 drums (440 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.

3.0 QUARTERLY GROUNDWATER MONITORING

This Report describes the findings from four quarterly groundwater sampling events conducted at the Site from June 10, 2015 through March 10, 2016.

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 low-flow purging/sampling methodologies. Field parameters consisting of pH, specific conductivity, temperature, and dissolved oxygen (DO) were measured during field activities utilizing a multi-parameter 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.

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 FIFTH QUARTERLY GROUNDWATER SAMPLING RESULTS

The fifth groundwater sampling event was conducted at the Site during the period June 10-11, 2015. As can be seen in **Table 4**, the groundwater samples collected from monitoring wells MW-4 (556 mg/L), MW-6 (253 mg/L) and MW-8 (558 mg/L) during this sampling event contained concentrations of chloride that exceed the Limit of 250 mg/L.

During the fifth quarterly groundwater sampling event, LNAPL was observed in monitoring well MW-1R at a thickness of 0.77 feet. The LNAPL skimmer pump within monitoring well MW-1R was adjusted after sampling to maximize the efficiency of LNAPL removal.

3.3 SIXTH QUARTERLY GROUNDWATER SAMPLING RESULTS

The sixth quarterly groundwater sampling event was conducted at the Site on September 2, 2015. As can be seen in **Table 4**, the groundwater samples collected from monitoring wells MW-4 (567 mg/L), MW-6 (277 mg/L) and MW-8 (327 mg/L) during this sampling event contained concentrations of chloride that exceed the Limit of 250 mg/L.

During the sixth quarterly groundwater sampling event, LNAPL was observed in monitoring well MW-1R at a thickness of 1.56 feet. The measurement from this event indicates an increase of 0.79 feet in the observed LNAPL thickness from the previous event. The increase in LNAPL observed in monitoring well MW-1R during this period is likely the result of the LNAPL skimmer pump being inoperable due to pump controller issues within the System Building. The pump controller was replaced and the LNAPL skimmer pump within monitoring well MW-1R was adjusted after sampling to maximize the efficiency of LNAPL removal.

3.4 SEVENTH QUARTERLY GROUNDWATER SAMPLING RESULTS

The seventh quarterly groundwater sampling event was conducted at the Site during the period December 9-10, 2015. As can be seen in **Table 4**, the groundwater samples collected from monitoring wells MW-4 (546 mg/L) and MW-8 (499 mg/L) during this sampling event contained concentrations of chloride that exceed the Limit of 250 mg/L.

During the seventh quarterly groundwater sampling event, LNAPL was observed in monitoring well MW-1R at a thickness of 3.85 feet. The measurement from this event indicates an increase of 2.29 feet in the observed LNAPL thickness from the previous event. The increase in LNAPL observed in monitoring well MW-1R during this period is likely the result of the LNAPL skimmer pump being inoperable due to air source issues within the System Building. The air compressor was replaced and the LNAPL skimmer pump within monitoring well MW-1R was adjusted after sampling to maximize the efficiency of LNAPL removal.

3.5 EIGHTH QUARTERLY GROUNDWATER SAMPLING RESULTS

The eighth quarterly groundwater sampling event was conducted at the Site during the period March 9-10, 2016. As can be seen in **Table 4**, the groundwater samples collected from monitoring wells MW-4 (525 mg/L) and MW-8 (504 mg/L) during this sampling event contained 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 the groundwater are located 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 levels of chloride observed in the groundwater samples are decreasing in two wells and stable in six wells. 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. Removal of the source has allowed the chloride concentrations already present in the Site groundwater to naturally attenuate via the physical attenuation mechanisms of dispersion and dilution.

During the eighth quarterly groundwater sampling event, LNAPL was observed in monitoring well MW-1R at a thickness of 1.88 feet. The measurement from this event indicates a decrease of 1.97 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 525 mg/L to 567 mg/L), MW-6 (ranging from 253 mg/L to 277 mg/L) and MW-8 (ranging from 327 mg/L to 558 mg/L).
- The SVE System is operating as designed and has removed approximately 4,964 pounds of VOCs since start-up on June 6, 2014.
- During the reporting period, approximately 4 drums (220 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 2016.

- 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.

TABLES

Table 1 : Summary of SVE System Field Readings
Chesapeake Energy Corporation, State M Lease (AP-72)
Lea County, New Mexico

Date	Time	Run Time Reading	Operating Hours		Discharge Readings		VOC Discharge				Calculated Correlation Factor
			since last reading	Total	PPM	CFM	lbs/Hr	lbs since last Reading	Total lbs	Total Tons	
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	---	---	---	---	---	---	
06/26/14	12:40	4591.01	165.01	479.01	1970	127	1.844	304.28	770.20	0.39	
06/26/14	12:42	4593.20	2.19	481.20	1968	120	1.741	3.81	774.02	0.39	
07/03/14	9:35	4755.92	162.72	643.92	1650	126	1.532	249.34	1023.36	0.51	1.86
07/03/14	9:37	4757.95	2.03	645.95	1318	126	1.224	2.48	1025.84	0.51	
07/09/14	11:40	4901.77	143.82	789.77	874.5	126	0.812	116.80	1142.64	0.57	
07/09/14	11:42	4903.69	1.92	791.69	795.1	124	0.727	1.40	1144.04	0.57	
07/17/14	12:33	5094.48	190.79	982.48	*790*	124	0.722	137.75	1281.79	0.64	
07/17/14	12:34	5095.13	0.65	983.13	*790*	127	0.739	0.48	1282.27	0.64	
07/17/14	12:36	5097.75	2.62	985.75	*790*	127	0.739	1.94	1284.21	0.64	
08/01/14	11:00	5452.10	354.35	1340.10	1078	139	1.104	391.35	1675.55	0.84	
08/01/14	11:42	5454.03	1.93	1342.03	938	150	1.037	2.00	1677.56	0.84	
08/01/14	11:44	5456.32	2.29	1344.32	2314	14	0.239	0.55	1678.10	0.84	
10/10/14	13:00	7118.38	1662.06	3006.38	130	51.3	0.049	81.70	1759.80	0.88	
10/10/14	13:02	7120.15	1.77	3008.15	216	58.2	0.093	0.16	1759.96	0.88	
10/31/14	13:00	7622.85	502.70	3510.85	161	48	0.057	28.63	1788.60	0.89	
10/31/14	13:04	7624.49	1.64	3512.49	78	53.7	0.031	0.05	1788.65	0.89	
12/11/14	13:50	8607.53	983.04	4495.53	352	131	0.340	334.10	2122.75	1.06	

Table 1 : Summary of SVE System Field Readings
Chesapeake Energy Corporation, State M Lease (AP-72)
Lea County, New Mexico

Date	Time	Run Time Reading	Operating Hours		Discharge Readings		VOC Discharge				Calculated Correlation Factor
			since last reading	Total	PPM	CFM	lbs/Hr	lbs since last Reading	Total lbs	Total Tons	
01/15/15	10:11	9441.32	833.79	5329.32	46.7	131	0.045	37.60	2160.35	1.08	0.21
01/15/15	10:12	9442.31	0.99	5330.31	173	152	0.194	0.19	2160.54	1.08	
01/15/15	10:15	9445.26	2.95	5333.26	388	136	0.389	1.15	2161.68	1.08	
01/29/15	11:50	9778.04	332.78	5666.04	240	53.5	0.095	31.49	2193.18	1.10	
01/29/15	11:52	9780.13	2.09	5668.13	239	50	0.088	0.18	2193.36	1.10	
02/26/15	11:00	10448.98	668.85	6336.98	72	137	0.073	48.63	2241.99	1.12	
02/26/15	11:02	10450.10	1.12	6338.10	178.2	155	0.204	0.23	2242.22	1.12	
03/12/15	10:15	10780.66	330.56	6668.66	483	155	0.552	182.40	2424.62	1.21	
04/28/15	8:30	11907.42	1126.76	7795.42	132.4	125.7	0.123	138.21	2562.83	1.28	0.88
05/14/15	9:05	12290.03	382.61	8178.03	105.2	58.2	0.045	17.27	2580.10	1.29	
05/28/15	11:30	12623.71	333.68	8511.71	17	150	0.019	6.27	2586.37	1.29	
06/10/15	10:39	12624.47	0.76	8512.47	237	193.1	0.337	0.26	2586.62	1.29	
06/11/15	10:45	12650.76	26.29	8538.76	398	172.1	0.505	13.27	2599.90	1.30	
07/02/15	11:00	13158.14	507.38	9046.14	102	110	0.083	41.96	2641.85	1.32	0.76
09/03/15	11:00	14662.17	1504.03	10550.17	249	116	0.213	320.19	2962.05	1.48	
12/10/15	11:30	17015.28	2353.11	12903.28	162.7	110	0.132	310.40	3272.44	1.64	0.86
03/10/16	11:59	17899.38	884.10	13787.38	209	105	0.162	143.00	3415.44	1.71	1.78
							Corrected Total:		4,963.98	0.92	

Notes:

During the July 17, 2014 site visit the discharge concentrations in PPM were inadvertantly not recorded. The italicized discharge concentration readings presented above for this date are conservative estimated values based upon the last known reading.

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

Parameters	Sample ID: / Sample Date:	SVE 1-Aug-14	Canister #34000823 Serial C8528 2014-12-11 11-Dec-14	CANISTER #C8522 12-Mar-15	Canister #8408 2015-06-11 Air Sample 11-Jun-15	Canister #5451 Batch #320-14155 9-3-15 3-Sep-15	CANISTER #34000512 BATCH ID #320-15930 10-Dec-15	STATE M-1 LEASE 10-Mar-16
Volatile Organic Compounds by TO-15								
Acetone	ppb v/v	<2000	<615	<965	<860	<615	<370	<915
Benzene	ppb v/v	**8,820**	**2,960**	**533**	**3,630**	**312**	**194**	**1,070**
Benzyl chloride	ppb v/v	<320	<98.4	<154	<138	<98.4	<59.2	<146
Bromodichloromethane	ppb v/v	<120	<36.9	<57.9	<51.6	<36.9	<22.2	<54.9
Bromoform	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2
Bromomethane	ppb v/v	<320	<98.4	<154	<138	<98.4	<59.2	<146
2-Butanone (MEK)	ppb v/v	<320	<98.4	<154	<138	<98.4	<59.2	<146
Carbon disulfide	ppb v/v	**1,800**	**272**	<154	<138	<98.4	<59.2	<146
Carbon tetrachloride	ppb v/v	<320	<98.4	<154	<138	<98.4	<59.2	<146
Chlorobenzene	ppb v/v	<120	<36.9	<57.9	<51.6	<36.9	<22.2	<54.9
Dibromochloromethane	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2
Chloroethane	ppb v/v	<320	<98.4	<154	<138	<98.4	<59.2	<146
Chloroform	ppb v/v	<120	<36.9	<57.9	<51.6	<36.9	<22.2	<54.9
Chloromethane	ppb v/v	<320	<98.4	<154	<138	<98.4	<59.2	<146
1,2-Dibromoethane	ppb v/v	<320	<98.4	<154	<138	<98.4	<59.2	<146
1,2-Dichlorobenzene	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2
1,3-Dichlorobenzene	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2
1,4-Dichlorobenzene	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2
Dichlorodifluoromethane	ppb v/v	**1,980**	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2
1,1-Dichloroethane	ppb v/v	<120	<36.9	<57.9	<51.6	<36.9	<22.2	<54.9
1,2-Dichloroethane	ppb v/v	<320	<98.4	<154	<138	<98.4	<59.2	<146
1,1-Dichloroethene	ppb v/v	<320	<98.4	<154	<138	<98.4	<59.2	<146
cis-1,2-Dichloroethene	ppb v/v	<160	<49.2	**84.5**	<68.8	<49.2	<29.6	<73.2
trans-1,2-Dichloroethene	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2
1,2-Dichloropropane	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2
cis-1,3-Dichloropropene	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2
trans-1,3-Dichloropropene	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2
Ethylbenzene	ppb v/v	**13,500**	**3,830**	**799**	**2,890**	**731**	**723**	**446**
4-Ethyltoluene	ppb v/v	**974**	**533**	**164**	**299**	**256**	**186**	<73.2
Hexachlorobutadiene	ppb v/v	<800	<246	<386	<344	<246	<148	<366
2-Hexanone	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2
Methylene Chloride	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2
4-Methyl-2-pentanone	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2
Styrene	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2
1,1,2,2-Tetrachloroethane	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2
Tetrachloroethene	ppb v/v	<160	**71.9**	<77.2	<68.8	<49.2	<29.6	**92.9**
Toluene	ppb v/v	**4,020**	**1,040**	**228**	**1,480**	<49.2	<29.6	**120**
1,2,4-Trichlorobenzene	ppb v/v	<800	<246	<386	<344	<246	<148	<366
1,1,1-Trichloroethane	ppb v/v	<120	<36.9	<57.9	<51.6	<36.9	<22.2	<54.9
1,1,2-Trichloroethane	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2
Trichloroethene	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2
Trichlorofluoromethane	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2
1,1,2-Trichloro-1,2,2-trifluoroethane	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2
1,2,4-Trimethylbenzene	ppb v/v	**2,020**	**648**	**299**	**774**	<98.4	**355**	<146
1,3,5-Trimethylbenzene	ppb v/v	**820**	**385**	**172**	**353**	**73.0**	**247**	<73.2
Vinyl acetate	ppb v/v	<320	<98.4	<154	<138	<98.4	<59.2	<146
Vinyl chloride	ppb v/v	<160	<49.2	<77.2	<68.8	<49.2	<29.6	<73.2
m,p-Xylene	ppb v/v	**12,700**	**4,680**	**1,110**	**3,920**	**1,140**	**1,380**	**609**
o-Xylene	ppb v/v	**4,520**	**1,190**	**286**	**1,120**	**164**	**194**	**107**
Total VOC as Hexane (C6-C12)	ppb v/v	**1,060,000**	**655,000**	**99,400**	**351,000**	**190,000**	**140,000**	**371,000**

Table 3 : Summary of Liquid Level Measurements
Chesapeake Energy Corporation, State M Lease (AP-72)
Lea County, New Mexico

Monitoring Well	Top of Casing Elevation (AMSL-Feet)	Depth to Liquid Measurement Date	Depth to LNAPL (Feet-TOC)	Depth to Groundwater (Feet-TOC)	LNAPL Thickness (Feet)	Groundwater Elevation (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
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
MW-3	3889.34	06/03/14	--	46.35	--	3842.99
	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
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
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
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

Table 3 : Summary of Liquid Level Measurements
Chesapeake Energy Corporation, State M Lease (AP-72)
Lea County, New Mexico

Monitoring Well	Top of Casing Elevation (AMSL-Feet)	Depth to Liquid Measurement Date	Depth to LNAPL (Feet-TOC)	Depth to Groundwater (Feet-TOC)	LNAPL Thickness (Feet)	Groundwater Elevation (AMSL-Feet)
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
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

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)

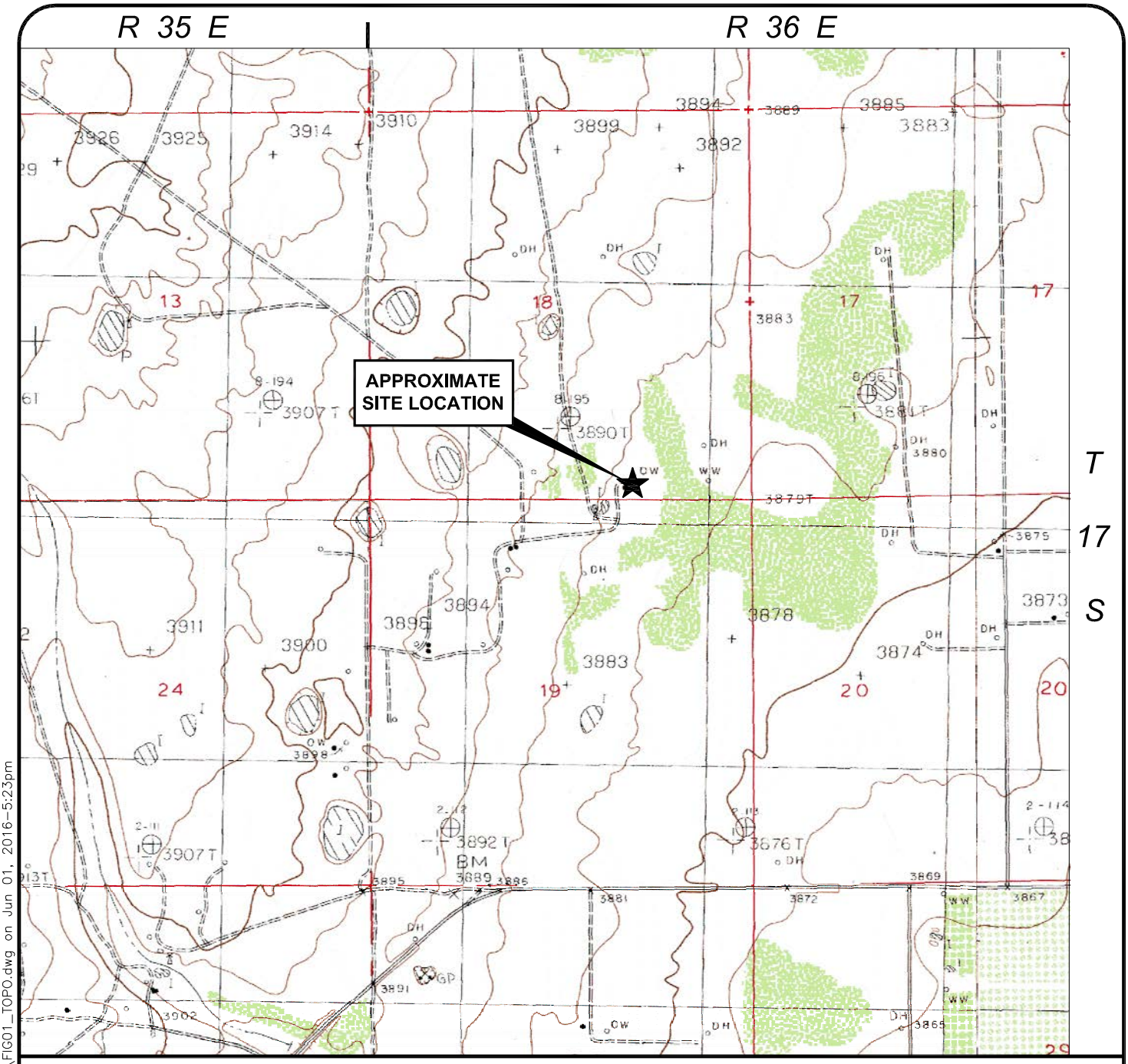
Table 4 : Summary of Laboratory Analytical Results for Groundwater Samples
Chesapeake Energy Corporation, State M Lease (AP-72)
Lea County, New Mexico

	Chloride (mg/L)							
	June 2014	September 2014	December 2014	March 2015	June 2015	September 2015	December 2015	March 2016
MW-1R	---	51.4	116	39.0	24.6	21.6	23.5	34.8
MW-2	17.7	17.4	18.3	16.6	16.8	16.6	15.4 *	13.5
MW-3	59.7	59.7	58.9	57.0	57.1	56.3	50.5 *	49.3
MW-4	**586**	**534**	**535**	**543**	**556**	**567**	**546 ***	**525**
MW-5	28.6	27.3	27.9	26.1	26.2	25.8	22.4 *	22.4
MW-6	**282**	**263**	**268**	**261**	**253**	**277**	197 *	150
MW-7	42.7	29.6	36.0	39.7	36.2	35.2	28.8 *	27.7
MW-8	**409**	**442**	**463**	**485**	**558**	**327**	**499**	**504**

Notes:

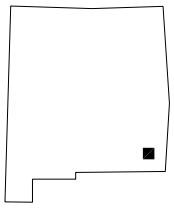
1. mg/L : milligrams per liter.
2. < : Analyte not detected at the laboratory reporting limit.
3. All analyses performed by TestAmerica Laboratories in Nashville, Tennessee.
4. Cells shaded in blue indicate results that are above the laboratory reporting limit.
5. Cells with text **bolded** indicate results that exceed the New Mexico Administrative Code 20.6.2, Standards for Groundwater, for chloride of 250 mg/L.
6. --- : Analysis not performed.
7. * : A review of the initial groundwater analytical results for this sampling event indicated that the laboratory cross-reported those analytical data. To resolve this issue, it was necessary to reanalyze the groundwater samples from this event. The reanalysis of these samples was performed out of holding time.

FIGURES



SOURCE: U.S.G.S. 7.5 MINUTE TOPOGRAPHIC QUADRANGLES
LOVINGTON SW, NEW MEXICO - PROVISIONAL EDITION 1985 AND
LOVINGTON SE, NEW MEXICO - PROVISIONAL EDITION 1985

NEW MEXICO



SCALE
0 1/2 1 MILE

N

CLIENT CHESAPEAKE ENERGY CORPORATION, LLC OKLAHOMA CITY, OKLAHOMA	FIGURE TITLE ***SITE LOCATION AND TOPOGRAPHIC FEATURES***
LOCATION STATE M LEASE (AP-73) SEC. 18, T17S, R36E, LEA COUNTY, NEW MEXICO	DOCUMENT TITLE SECOND ANNUAL GROUNDWATER MONITORING REPORT

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Tulsa, Oklahoma 74136
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		DESIGNED BY	BEM
DATE	6/1/2016	APPROVED BY	BEM
SCALE	AS SHOWN	DRAWN BY	SKG
PROJECT NUMBER		FIGURE NUMBER	
CHKHSTM101		1	

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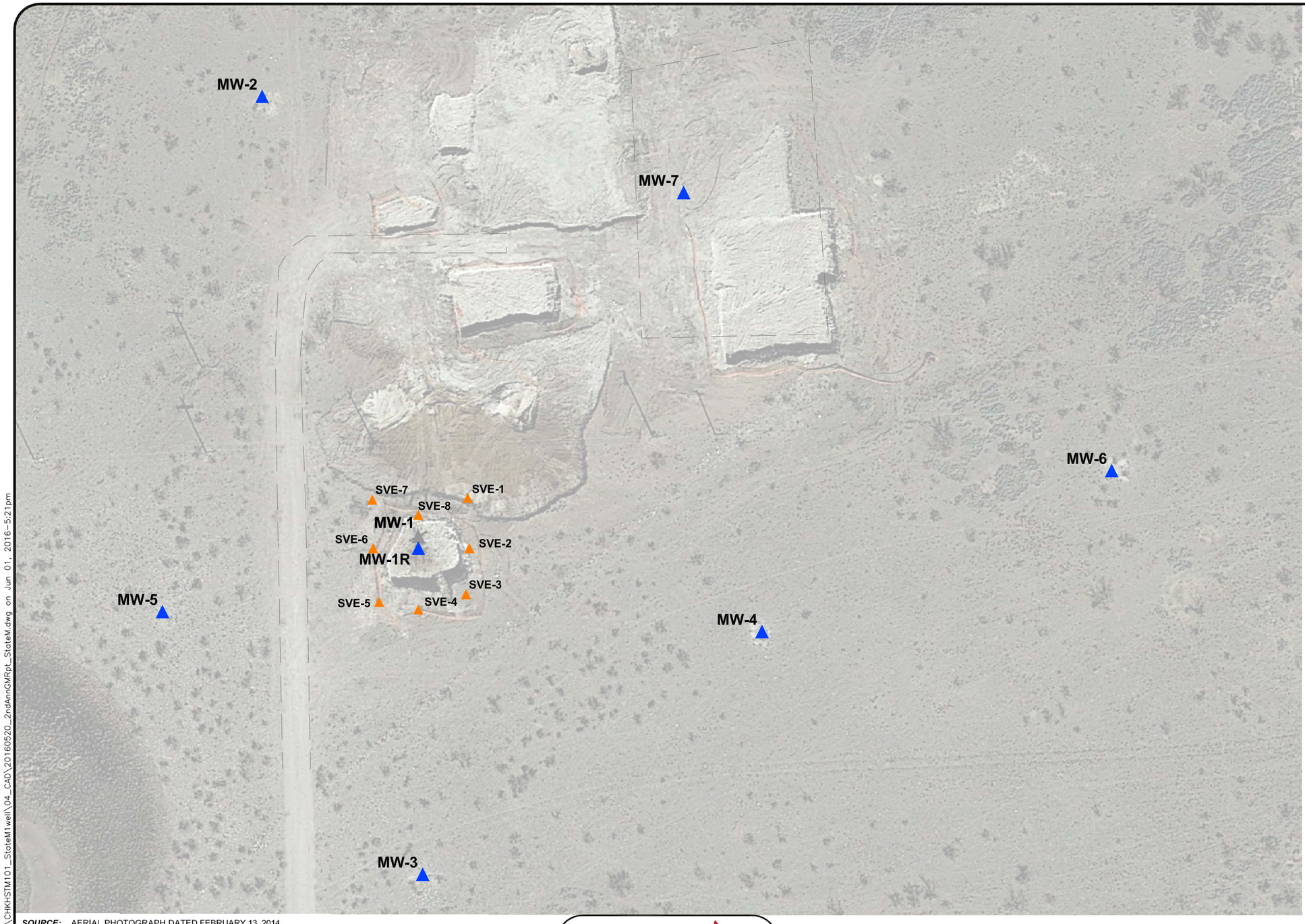

LEGEND

- MW-5 — LOCATION OF MONITORING WELL
- MW-1 — LOCATION OF PLUGGED AND ABANDONED MONITORING WELL
- SVE-1 — LOCATION OF SVE SYSTEM WELL

N

30 0 30 60
SCALE FEET

SOURCE: AERIAL PHOTOGRAPH DATED FEBRUARY 13, 2014, GOOGLE EARTH PRO SCREEN CAPTURE

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DOCUMENT TITLE: SECOND ANNUAL GROUNDWATER MONITORING REPORT

FIGURE TITLE: ***SITE BASE MAP***

CLIENT: CHESAPEAKE ENERGY CORPORATION
OKLAHOMA CITY, OKLAHOMA

LOCATION: STATE M LEASE (AP-72)
SEC. 18, T17S, R36E, LEA COUNTY, NEW MEXICO

DESIGNED BY	BEM		
APPROVED BY	BEM	SCALE	1"= 60'
DRAWN BY	SKG	DATE	6/1/2016

PROJECT NUMBER	FIGURE NUMBER
CHKHSTM101	2

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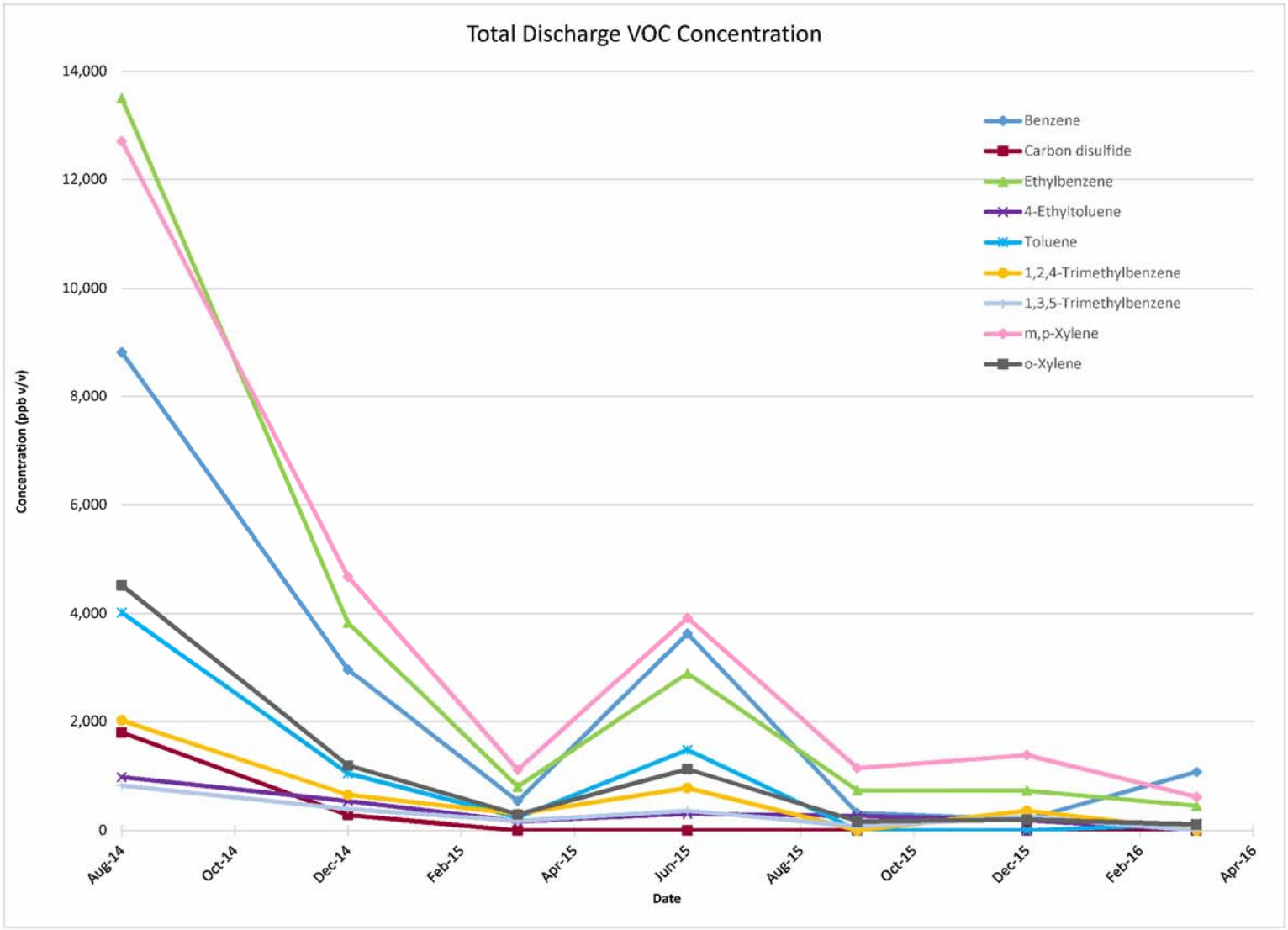

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DOCUMENT TITLE
SECOND ANNUAL GROUNDWATER MONITORING REPORT

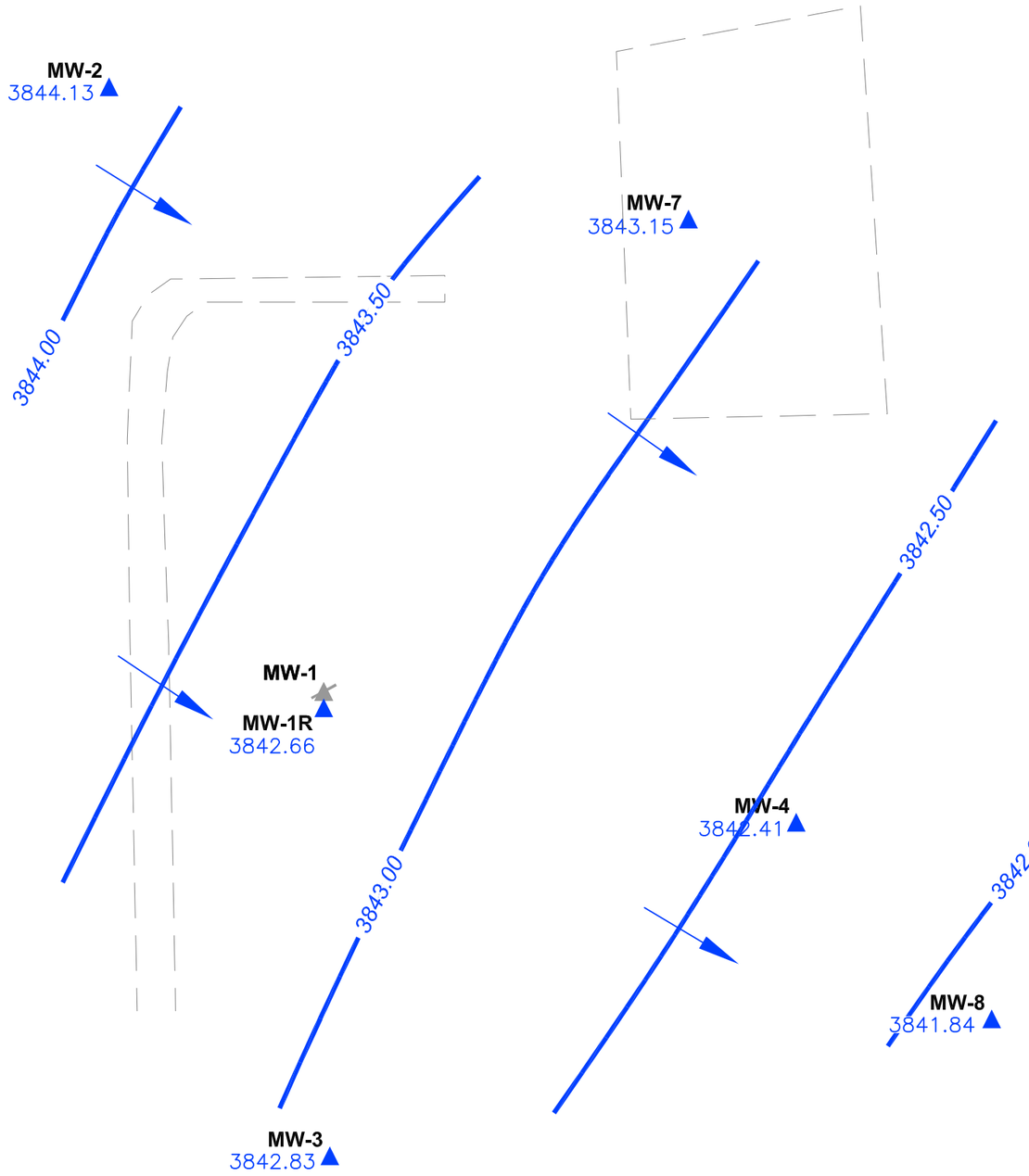
FIGURE TITLE
SVE SYSTEM VOC DISCHARGE CONCENTRATIONS VERSUS TIME

CLIENT CHESAPEAKE ENERGY CORPORATION
OKLAHOMA CITY, OKLAHOMA

LOCATION STATE M LEASE (AP-72)
SEC. 18, T17S, R36E, LEA COUNTY, NEW MEXICO

DESIGNED BY	CNA		
APPROVED BY	BEM	SCALE	NTS
DRAWN BY	SKG	DATE	6/1/2016

PROJECT NUMBER	FIGURE NUMBER
CHKHSTM101	3



LEGEND

- **MW-5** 3843.72 — LOCATION OF MONITORING WELL AND GROUNDWATER ELEVATION 6/10/2015, FEET AMSL
- MW-1 — LOCATION OF PLUGGED AND ABANDONED MONITORING WELL
- 3842.00 — GROUNDWATER POTENTIOMETRIC SURFACE

NOTES:
1) MW-1R NOT HONORED DUE TO LNAPL DEPRESSION.

N

30 0 30 60
SCALE FEET

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DOCUMENT TITLE: SECOND ANNUAL GROUNDWATER MONITORING REPORT

FIGURE TITLE: ***GROUNDWATER POTENTIOMETRIC SURFACE, JUNE 10,2015***

CLIENT: CHESAPEAKE ENERGY CORPORATION, OKLAHOMA CITY, OKLAHOMA

LOCATION: STATE M LEASE (AP-72), SEC. 18, T17S, R36E, LEA COUNTY, NEW MEXICO

DESIGNED BY	BEM		
APPROVED BY	BEM	SCALE	1"= 60'
DRAWN BY	SKG	DATE	6/1/2016

PROJECT NUMBER	FIGURE NUMBER
CHKHSTM101	4

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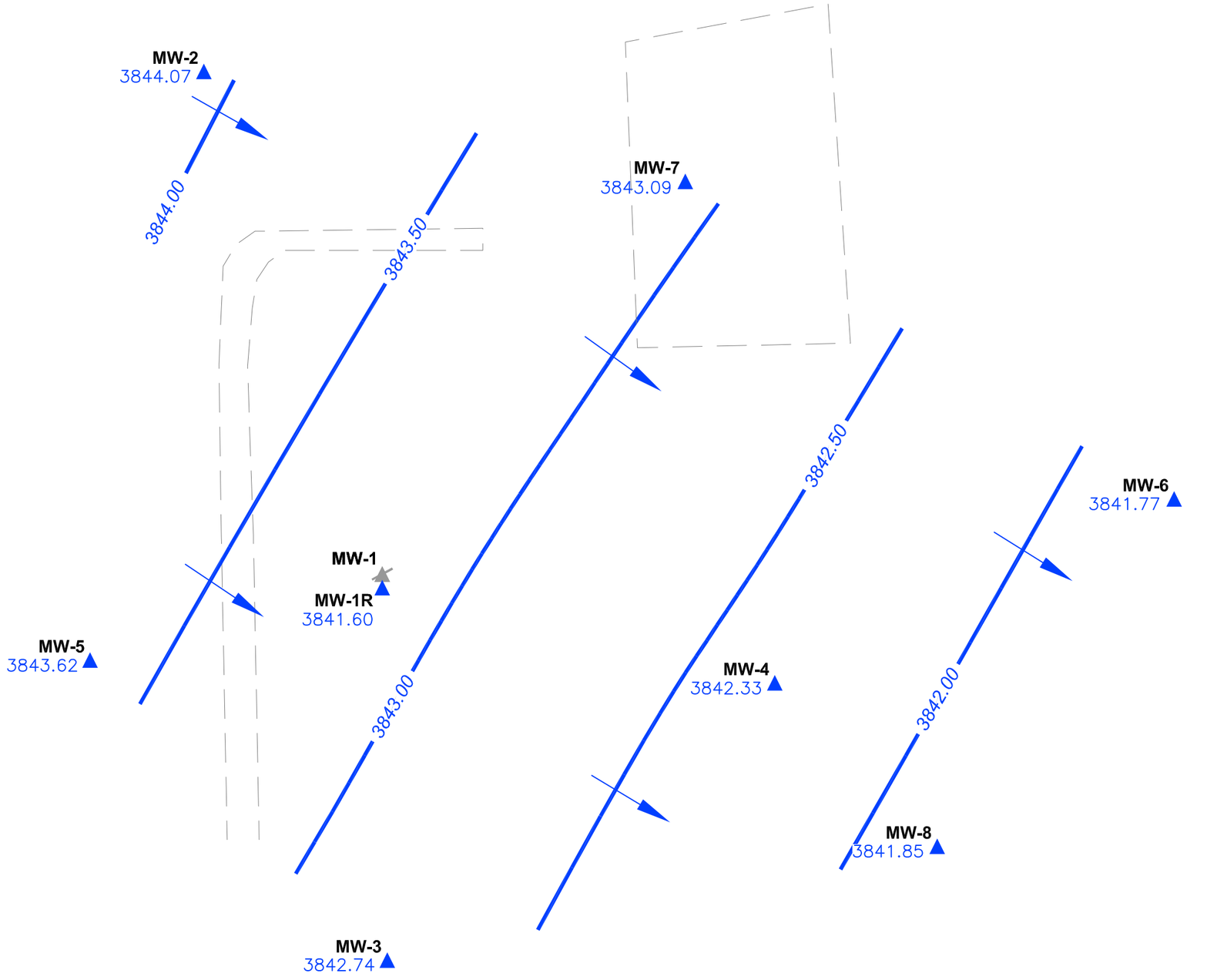

LEGEND

- **MW-5** 3843.62 — LOCATION OF MONITORING WELL AND GROUNDWATER ELEVATION 9/2/2015, FEET AMSL
- MW-1 — LOCATION OF PLUGGED AND ABANDONED MONITORING WELL
- 3842.00 — GROUNDWATER POTENTIOMETRIC SURFACE

NOTES:
1) MW-1R NOT HONORED DUE TO LNAPL DEPRESSION.

N

30 0 30 60
SCALE FEET

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DOCUMENT TITLE: SECOND ANNUAL GROUNDWATER MONITORING REPORT

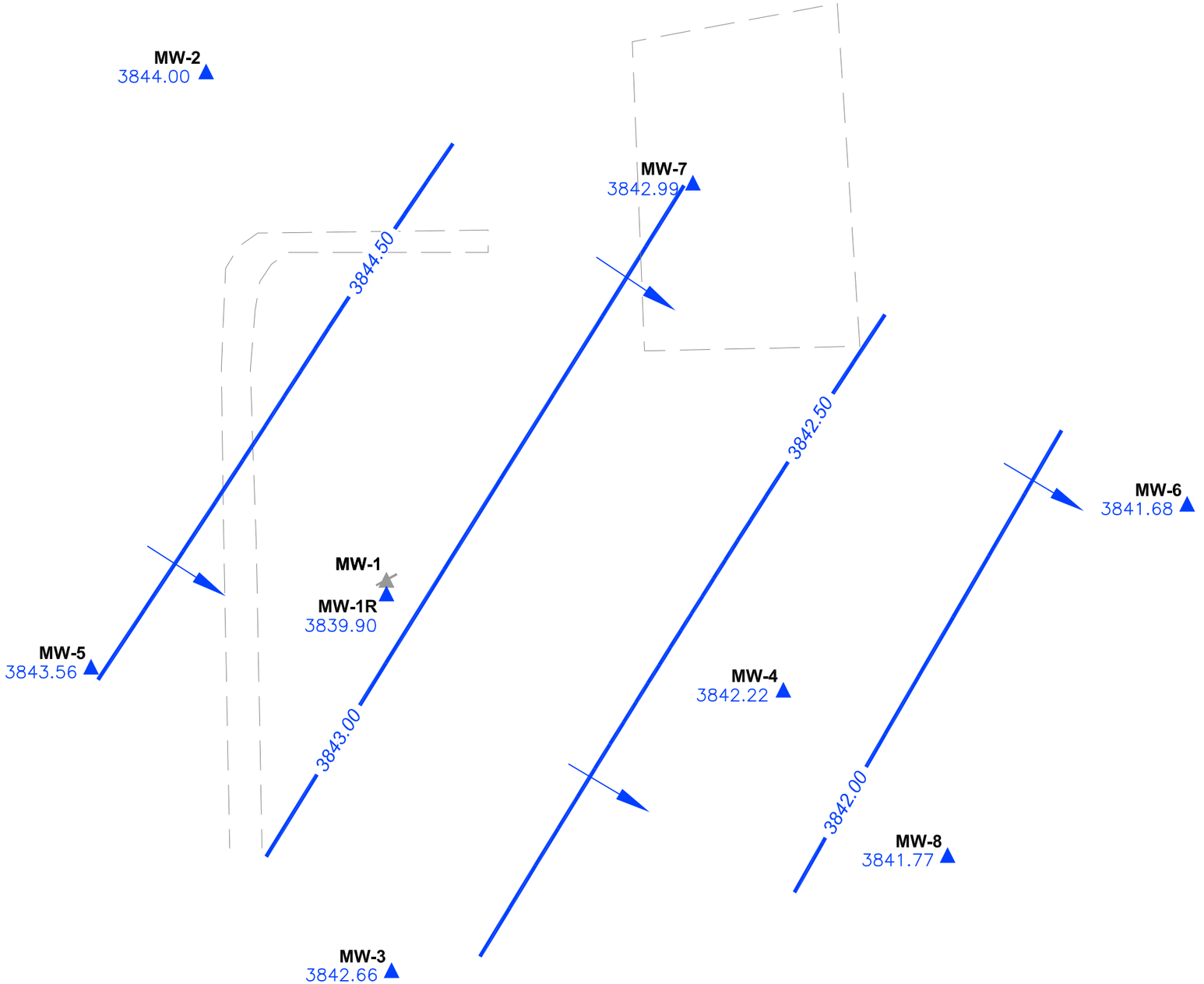
FIGURE TITLE: ***GROUNDWATER POTENTIOMETRIC SURFACE, SEPTEMBER 9, 2015***

CLIENT: CHESAPEAKE ENERGY CORPORATION, OKLAHOMA CITY, OKLAHOMA

LOCATION: STATE M LEASE (AP-72), SEC. 18, T17S, R36E, LEA COUNTY, NEW MEXICO

DESIGNED BY	BEM		
APPROVED BY	BEM	SCALE	1"= 60'
DRAWN BY	SKG	DATE	6/1/2016

PROJECT NUMBER	FIGURE NUMBER
CHKHSTM101	5



LEGEND

- **MW-5** 3843.56 — LOCATION OF MONITORING WELL AND GROUNDWATER ELEVATION 12/9/2015, FEET AMSL
- MW-1 — LOCATION OF PLUGGED AND ABANDONED MONITORING WELL
- 3842.00 — GROUNDWATER POTENTIOMETRIC SURFACE

NOTES:
1) MW-1R NOT HONORED DUE TO LNAPL DEPRESSION.

N

30 0 30 60
SCALE FEET

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DOCUMENT TITLE: SECOND ANNUAL GROUNDWATER MONITORING REPORT

FIGURE TITLE: ***GROUNDWATER POTENTIOMETRIC SURFACE, DECEMBER 9, 2015***

CLIENT: CHESAPEAKE ENERGY CORPORATION, OKLAHOMA CITY, OKLAHOMA

LOCATION: STATE M LEASE (AP-72), SEC. 18, T17S, R36E, LEA COUNTY, NEW MEXICO

DESIGNED BY	BEM		
APPROVED BY	BEM	SCALE	1"= 60'
DRAWN BY	SKG	DATE	6/1/2016

PROJECT NUMBER	FIGURE NUMBER
CHKHSTM101	6

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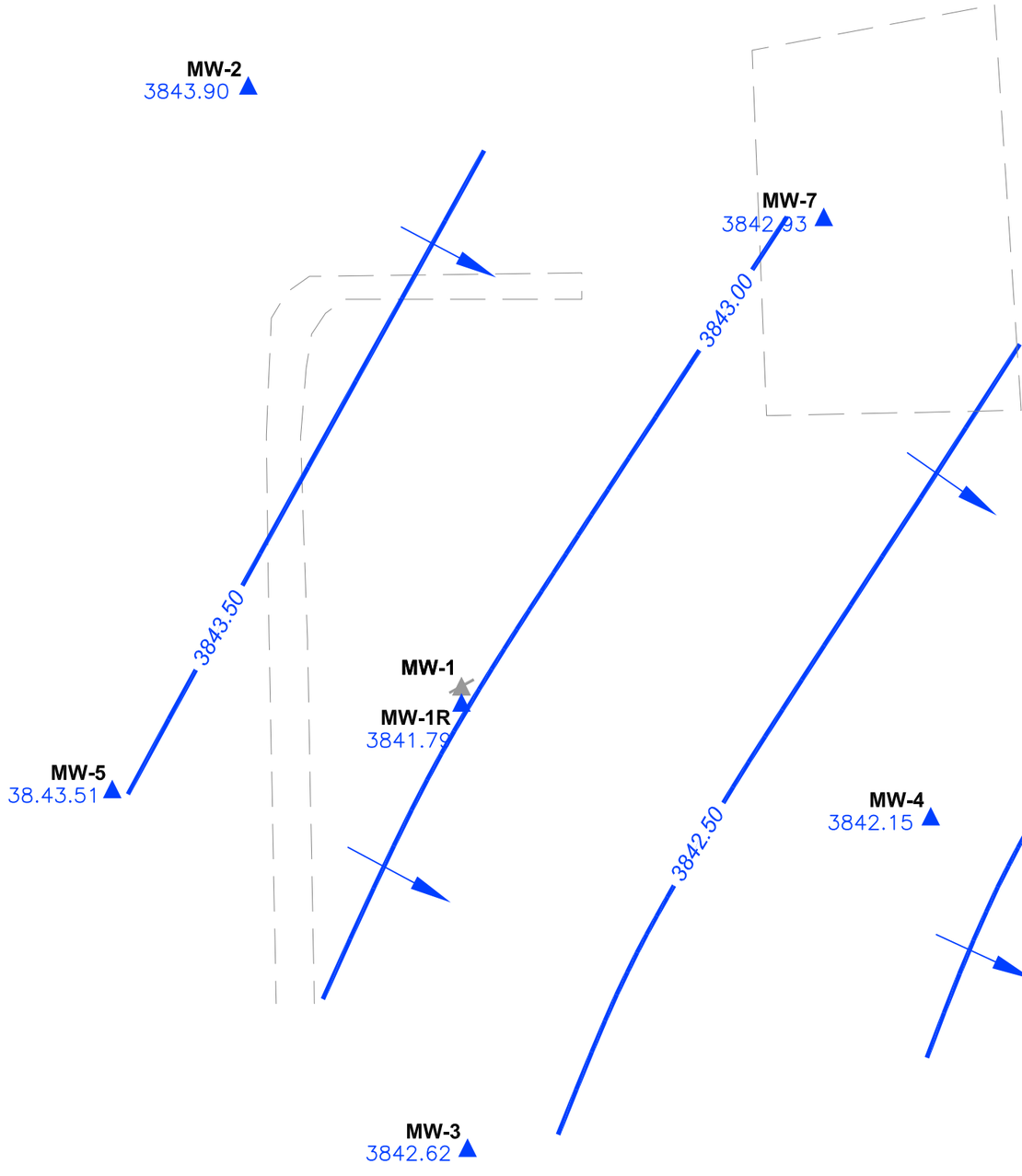

LEGEND

- **MW-5** 3843.51 — LOCATION OF MONITORING WELL AND GROUNDWATER ELEVATION 3/9/2016, FEET AMSL
- MW-1 — LOCATION OF PLUGGED AND ABANDONED MONITORING WELL
- 3842.00 — GROUNDWATER POTENTIOMETRIC SURFACE

NOTES:
1) MW-1R NOT HONORED DUE TO LNAPL DEPRESSION.

N

30 0 30 60
SCALE FEET

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DOCUMENT TITLE: SECOND ANNUAL GROUNDWATER MONITORING REPORT

FIGURE TITLE: ***GROUNDWATER POTENTIOMETRIC SURFACE, MARCH 9, 2016***

CLIENT: CHESAPEAKE ENERGY CORPORATION, OKLAHOMA CITY, OKLAHOMA

LOCATION: STATE M LEASE (AP-72), SEC. 18, T17S, R36E, LEA COUNTY, NEW MEXICO

DESIGNED BY	BEM		
APPROVED BY	BEM	SCALE	1"= 60'
DRAWN BY	SKG	DATE	6/1/2016

PROJECT NUMBER	FIGURE NUMBER
CHKHSTM101	7

LEGEND

- MW-5 22.4 — LOCATION OF MONITORING WELL AND CONCENTRATION OF CHLORIDE IN GROUNDWATER 3/9–10/2016, mg/L
- MW-1 — LOCATION OF PLUGGED AND ABANDONED MONITORING WELL
- 250 — CONTOUR LINE SHOWING EQUAL CONCENTRATIONS OF CHLORIDE IN GROUNDWATER, mg/L. (DASHED WHERE INFERRED)
- NS — NOT SAMPLED

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DOCUMENT TITLE: SECOND ANNUAL GROUNDWATER MONITORING REPORT

FIGURE TITLE: *ISOPLETH OF CHLORIDE CONCENTRATIONS IN GROUNDWATER, MARCH 11-12, 2015*

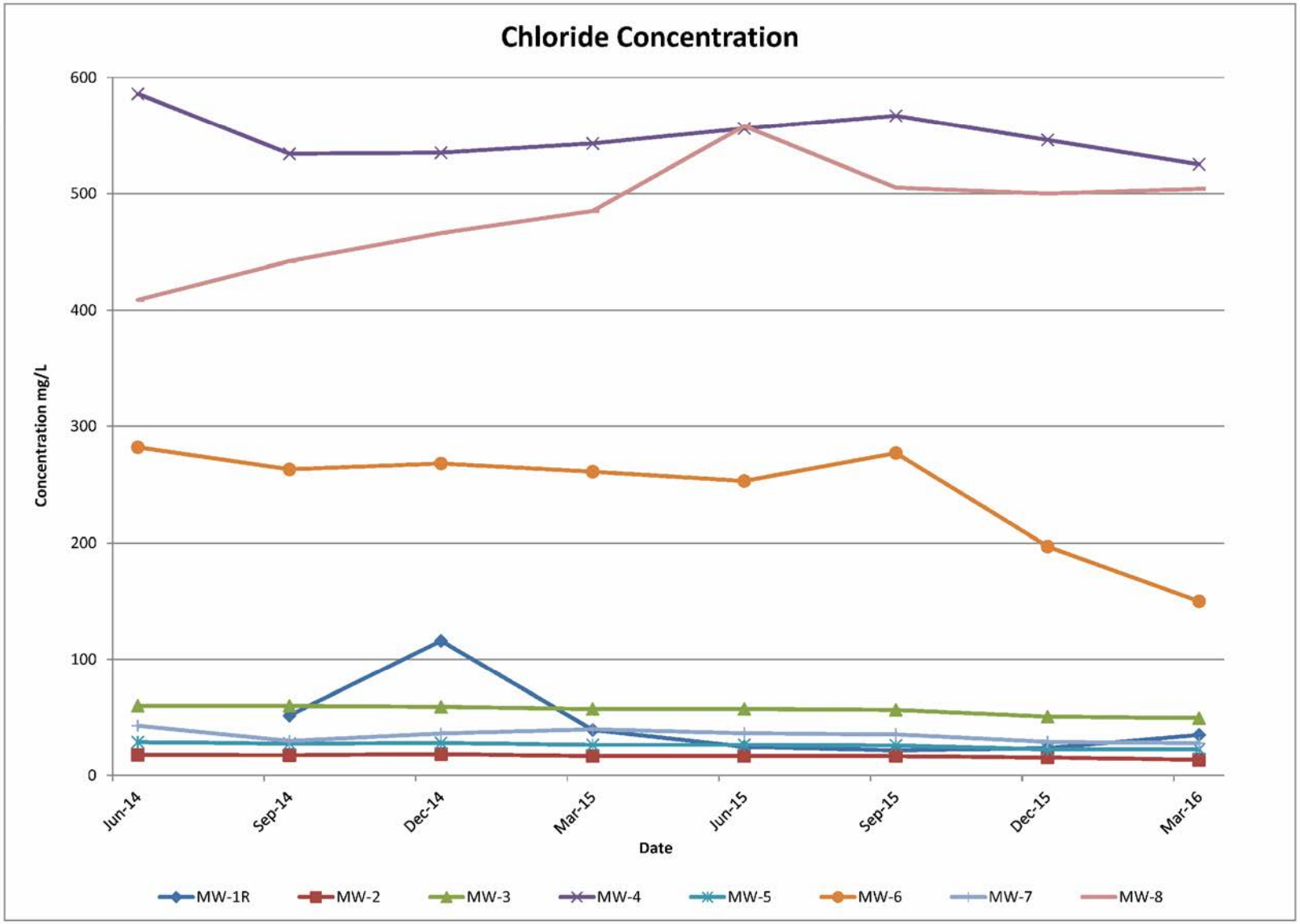
CLIENT: CHESAPEAKE ENERGY CORPORATION, OKLAHOMA CITY, OKLAHOMA

LOCATION: STATE M LEASE (AP-72), SEC. 18, T17S, R36E, LEA COUNTY, NEW MEXICO

DESIGNED BY	BEM		
APPROVED BY	BEM	SCALE	1"= 60'
DRAWN BY	SKG	DATE	6/1/2016

PROJECT NUMBER	FIGURE NUMBER
CHKHSTM101	8

D:\Projects\Chesapeake\CHKHSTM101_StateM1well\04_CAD\20160520_2ndAnnGMRpt_StateM.dwg on Jun 01, 2016-5:19pm



ENVIRO CLEAN CARDINAL
Enviro Clean Cardinal, LLC
7060 South Yale Avenue, Suite 603
Tulsa, Oklahoma 74136
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DOCUMENT TITLE
SECOND ANNUAL GROUNDWATER MONITORING REPORT

FIGURE TITLE
CHLORIDE CONCENTRATION TREND GRAPHS

CLIENT
CHESAPEAKE ENERGY CORPORATION
OKLAHOMA CITY, OKLAHOMA

LOCATION
STATE M LEASE (AP-72)
SEC. 18, T17S, R36E, LEA COUNTY, NEW MEXICO

DESIGNED BY	CNA		
APPROVED BY	BEM	SCALE	NTS
DRAWN BY	SKG	DATE	6/1/2016

PROJECT NUMBER	FIGURE NUMBER
CHKHSTM101	9

APPENDICES

APPENDIX A

STAGE 2 ABATEMENT PLAN

ARCADIS
Infrastructure · Water · Environment · Buildings

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

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

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

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.

Sincerely,

ARCADIS U.S., Inc.

Sharon E. Hall

Sharon E. Hall
Associate Vice President

Copies:
Bradley Blevins- Chesapeake, Hobbs

Imagine the result

g:\aproject\chesapeake\m-1 stage 2 plan\transmitall letter.doc

ARCADIS
Infrastructure · Water · Environment · Buildings

Imagine the result

Chesapeake Energy Corporation

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

Hobbs, New Mexico

March 27, 2012

ARCADIS

Sharon Hall
Associate Vice President

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
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Midland
Texas 79701
Tel 432 687 5400
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Our Ref.:
MT001088.0001.00001

Date:
March 27, 2012

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Appendices

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

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

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 1×10^{-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

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.

6. REFERENCES

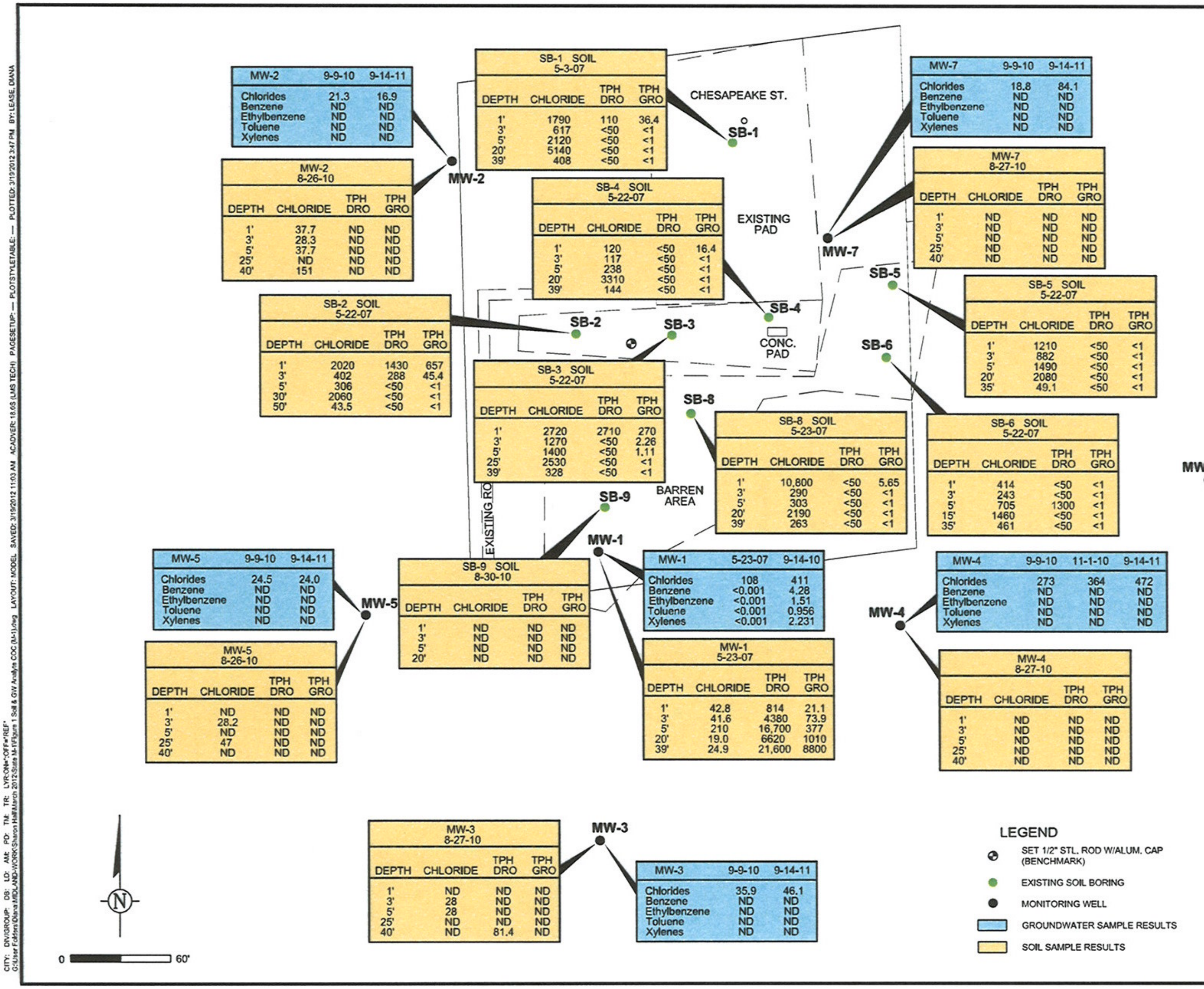
Groundwater Handbook; United States Environmental Protection Agency, Office of Research and Development, Center for Environmental Research Information; 1992

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



MW-2	9-9-10	9-14-11
Chlorides	21.3	16.9
Benzene	ND	ND
Ethylbenzene	ND	ND
Toluene	ND	ND
Xylenes	ND	ND

MW-2 8-26-10

DEPTH	CHLORIDE	TPH DRO	TPH GRO
1'	37.7	ND	ND
3'	28.3	ND	ND
5'	37.7	ND	ND
25'	ND	ND	ND
40'	151	ND	ND

SB-2 SOIL 5-22-07

DEPTH	CHLORIDE	TPH DRO	TPH GRO
1'	2020	1430	657
3'	402	288	45.4
5'	306	<50	<1
30'	2060	<50	<1
50'	43.5	<50	<1

SB-1 SOIL 5-3-07

DEPTH	CHLORIDE	TPH DRO	TPH GRO
1'	1790	110	36.4
3'	617	<50	<1
5'	2120	<50	<1
20'	5140	<50	<1
39'	408	<50	<1

SB-4 SOIL 5-22-07

DEPTH	CHLORIDE	TPH DRO	TPH GRO
1'	120	<50	16.4
3'	117	<50	<1
5'	238	<50	<1
20'	3310	<50	<1
39'	144	<50	<1

SB-3 SOIL 5-22-07

DEPTH	CHLORIDE	TPH DRO	TPH GRO
1'	2720	2710	270
3'	1270	<50	2.26
5'	1400	<50	1.11
25'	2530	<50	<1
39'	328	<50	<1

MW-7	9-9-10	9-14-11
Chlorides	18.8	84.1
Benzene	ND	ND
Ethylbenzene	ND	ND
Toluene	ND	ND
Xylenes	ND	ND

MW-7 8-27-10

DEPTH	CHLORIDE	TPH DRO	TPH GRO
1'	ND	ND	ND
3'	ND	ND	ND
5'	ND	ND	ND
25'	ND	ND	ND
40'	ND	ND	ND

SB-5 SOIL 5-22-07

DEPTH	CHLORIDE	TPH DRO	TPH GRO
1'	1210	<50	<1
3'	882	<50	<1
5'	1490	<50	<1
20'	2080	<50	<1
35'	49.1	<50	<1

SB-8 SOIL 5-23-07

DEPTH	CHLORIDE	TPH DRO	TPH GRO
1'	10,800	<50	5.65
3'	290	<50	<1
5'	303	<50	<1
20'	2190	<50	<1
39'	263	<50	<1

SB-6 SOIL 5-22-07

DEPTH	CHLORIDE	TPH DRO	TPH GRO
1'	414	<50	<1
3'	243	<50	<1
5'	705	1300	<1
15'	1460	<50	<1
35'	461	<50	<1

MW-6	9-9-10	11-1-10	9-14-11
Chlorides	193	239	164
Benzene	ND	ND	ND
Ethylbenzene	ND	ND	ND
Toluene	ND	ND	ND
Xylenes	ND	ND	ND

MW-6 8-26-10

DEPTH	CHLORIDE	TPH DRO	TPH GRO
1'	ND	ND	ND
3'	ND	ND	ND
5'	ND	ND	ND
25'	ND	ND	ND
40'	28.2	ND	ND

MW-5	9-9-10	9-14-11
Chlorides	24.5	24.0
Benzene	ND	ND
Ethylbenzene	ND	ND
Toluene	ND	ND
Xylenes	ND	ND

MW-5 8-26-10

DEPTH	CHLORIDE	TPH DRO	TPH GRO
1'	ND	ND	ND
3'	28.2	ND	ND
5'	ND	ND	ND
25'	47	ND	ND
40'	ND	ND	ND

SB-9 SOIL 8-30-10

DEPTH	CHLORIDE	TPH DRO	TPH GRO
1'	ND	ND	ND
3'	ND	ND	ND
5'	ND	ND	ND
20'	ND	ND	ND

MW-1	5-23-07	9-14-10
Chlorides	108	411
Benzene	<0.001	4.28
Ethylbenzene	<0.001	1.51
Toluene	<0.001	0.956
Xylenes	<0.001	2.231

MW-1 5-23-07

DEPTH	CHLORIDE	TPH DRO	TPH GRO
1'	42.8	814	21.1
3'	41.6	4380	73.9
5'	210	16,700	377
20'	19.0	6620	1010
39'	24.9	21,600	8800

MW-4	9-9-10	11-1-10	9-14-11
Chlorides	273	364	472
Benzene	ND	ND	ND
Ethylbenzene	ND	ND	ND
Toluene	ND	ND	ND
Xylenes	ND	ND	ND

MW-4 8-27-10

DEPTH	CHLORIDE	TPH DRO	TPH GRO
1'	ND	ND	ND
3'	ND	ND	ND
5'	ND	ND	ND
25'	ND	ND	ND
40'	ND	ND	ND

MW-3 8-27-10

DEPTH	CHLORIDE	TPH DRO	TPH GRO
1'	ND	ND	ND
3'	28	ND	ND
5'	28	ND	ND
25'	ND	ND	ND
40'	ND	81.4	ND

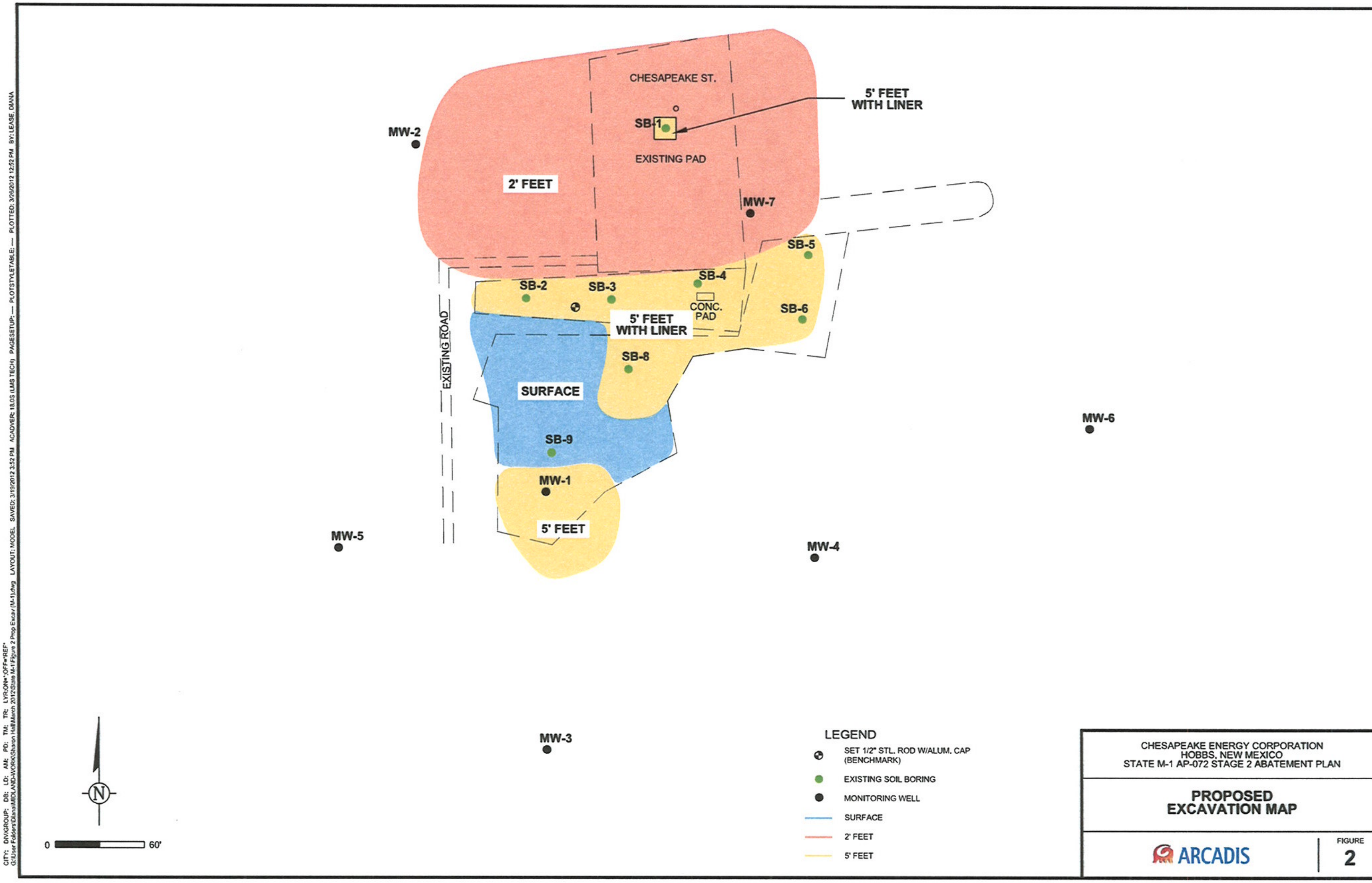
MW-3	9-9-10	9-14-11
Chlorides	35.9	46.1
Benzene	ND	ND
Ethylbenzene	ND	ND
Toluene	ND	ND
Xylenes	ND	ND

CHESAPEAKE ENERGY CORPORATION
HOBBS, NEW MEXICO
STATE M-1 AP-072 STAGE 2 ABATEMENT PLAN

SOIL & GROUNDWATER ANALYTE CONCENTRATIONS (Milligrams Per Kilogram & Milligrams Per Liter)

ARCADIS

FIGURE 1


CHESAPEAKE ST.
SB-1
EXISTING PAD
5' FEET
WITH LINER
2' FEET
MW-2
MW-7
SB-5
SB-4
SB-2
SB-3
CONC.
PAD
SB-6
5' FEET
WITH LINER
EXISTING ROAD
SB-8
SURFACE
SB-9
MW-1
5' FEET
MW-5
MW-4
MW-6
MW-3
N
0
60'
LEGEND
SET 1/2" STL. ROD W/ALUM. CAP (BENCHMARK)
EXISTING SOIL BORING
MONITORING WELL
SURFACE
2' FEET
5' FEET
CHESAPEAKE ENERGY CORPORATION
HOBBS, NEW MEXICO
STATE M-1 AP-072 STAGE 2 ABATEMENT PLAN
PROPOSED
EXCAVATION MAP
ARCADIS
FIGURE
2

ARCADIS

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)

MODEL INPUT AND OUTPUT						MODEL RANGE	
INPUT PARAMETERS						Minimum	Maximum
Unsaturated Zone Flow 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
Unsaturated Zone Transport 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^3	1.35	g/cm^3	1.35	g/cm^3	0.01	5
Biological Decay Coefficient	1/yr	0	1/yr	0	1/yr	0	None
Aquifer Parameters							
Aquifer Porosity	fraction	0.25	fraction	0.25	fraction	0.000000001	0.99
Bulk Density	g/cm^3	1.35	g/cm^3	1.35	g/cm^3	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
pH		6.2		6.2		0.3	14
x-distance Radial Distance from Site to Receptor	m	1	m	1	m	1	None
Source Parameters							
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^2	46,800	ft^2	4348	m^2	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	0.000000001	None
Initial Concentration at Landfill	mg/L	6,000	mg/L	6,000	mg/L	0	None
Additional Parameters							
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
	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

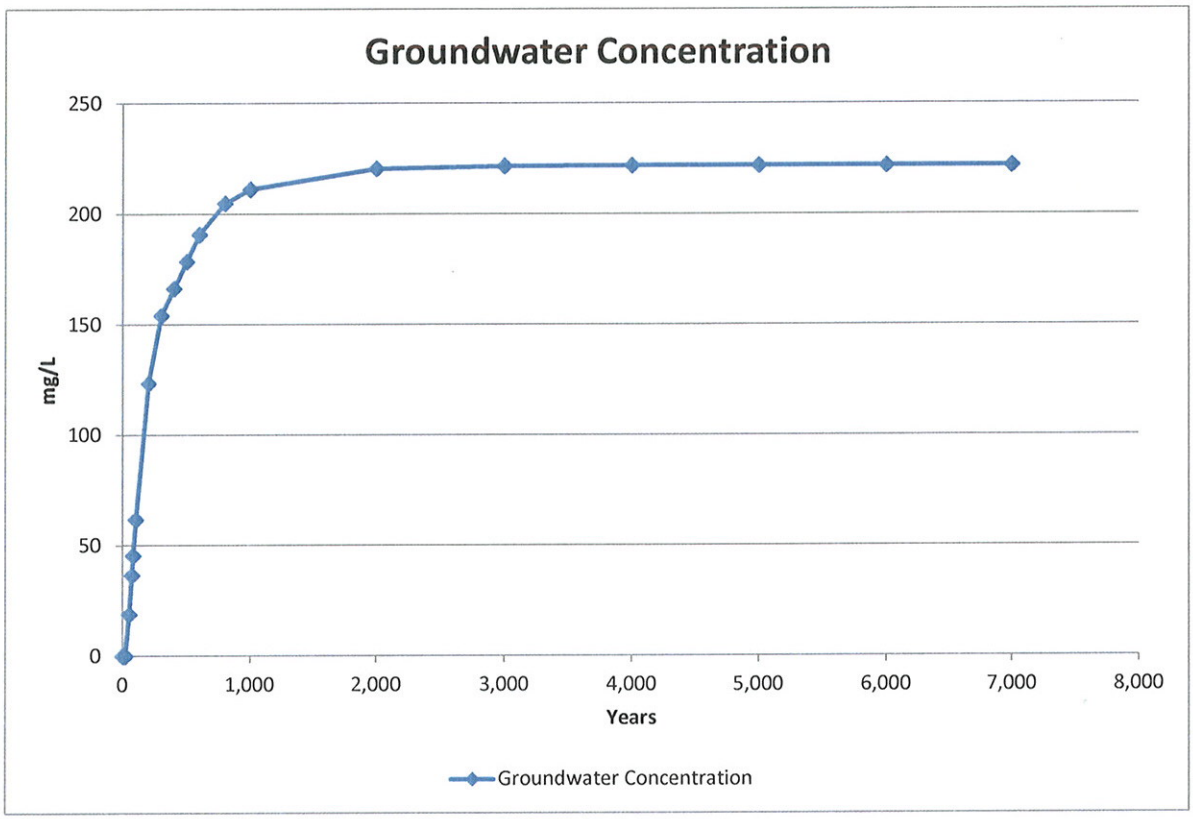


TABLE 6-3. TOTAL POROSITY OF VARIOUS MATERIALS

Material	No. of Analyses	Range	Arithmetic 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

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 CONDUCTIVITY (cm hr-1)

Soil Type	Hydraulic Conductivity (Ks)* x	s	CV	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

From:	Chase Acker
To:	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 above-referenced 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

APPENDIX C

LABORATORY ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY DOCUMENTATION

TestAmerica

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: 320-13463-1
Client Project/Site: State M-1 Lease

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

Attn: Ms. Julie Czech

Cathy Gartner

Authorized for release by:
6/23/2015 9:34:28 AM

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

Table of Contents

Definitions/Glossary

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

TestAmerica Job ID: 320-13463-1

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
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

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

TestAmerica Job ID: 320-13463-1

Job ID: 320-13463-1

Laboratory: TestAmerica Sacramento

Narrative

Job Narrative
320-13463-1

Comments
No additional comments.

Receipt
The sample was received on 6/12/2015 9:40 AM; the sample arrived in good condition, properly preserved and, where required, on ice.

Air - GC/MS VOA
Method(s) TO-15: Surrogate 1,2-Dichloroethane-d4 recovery for the following samples was outside control limits high: (490-80346-A-1) and (490-80346-A-1 DU). Re-extraction and/or re-analysis was performed with concurring results. The samples are duplicate of each other and the out-of-control surrogate confirms.

No additional analytical or quality issues were noted, other than those described above or 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 Lease

TestAmerica Job ID: 320-13463-1

Client Sample ID: Canister #8408 2015-06-11 Air Sample — Lab Sample ID: 320-13463-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	3630		68.8		ppb v/v	172		TO-15	Total/NA
Ethylbenzene	2890		68.8		ppb v/v	172		TO-15	Total/NA
4-Ethyltoluene	299		68.8		ppb v/v	172		TO-15	Total/NA
Toluene	1480		68.8		ppb v/v	172		TO-15	Total/NA
1,2,4-Trimethylbenzene	774		138		ppb v/v	172		TO-15	Total/NA
1,3,5-Trimethylbenzene	353		68.8		ppb v/v	172		TO-15	Total/NA
m,p-Xylene	3920		138		ppb v/v	172		TO-15	Total/NA
o-Xylene	1120		68.8		ppb v/v	172		TO-15	Total/NA
Total VOC as Hexane (C6-C12)	351000		17200		ppb v/v	172		TO-15	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

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

TestAmerica Job ID: 320-13463-1

Client Sample ID: Canister #8408 2015-06-11 Air Sample **Lab Sample ID: 320-13463-1**
Date Collected: 06/11/15 11:00 **Matrix: Air**
Date Received: 06/12/15 09:40
Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		860		ppb v/v			06/21/15 16:09	172
Benzene	**3630**		68.8		ppb v/v			06/21/15 16:09	172
Benzyl chloride	ND		138		ppb v/v			06/21/15 16:09	172
Bromodichloromethane	ND		51.6		ppb v/v			06/21/15 16:09	172
Bromoform	ND		68.8		ppb v/v			06/21/15 16:09	172
Bromomethane	ND		138		ppb v/v			06/21/15 16:09	172
2-Butanone (MEK)	ND		138		ppb v/v			06/21/15 16:09	172
Carbon disulfide	ND		138		ppb v/v			06/21/15 16:09	172
Carbon tetrachloride	ND		138		ppb v/v			06/21/15 16:09	172
Chlorobenzene	ND		51.6		ppb v/v			06/21/15 16:09	172
Dibromochloromethane	ND		68.8		ppb v/v			06/21/15 16:09	172
Chloroethane	ND		138		ppb v/v			06/21/15 16:09	172
Chloroform	ND		51.6		ppb v/v			06/21/15 16:09	172
Chloromethane	ND		138		ppb v/v			06/21/15 16:09	172
1,2-Dibromoethane (EDB)	ND		138		ppb v/v			06/21/15 16:09	172
1,2-Dichlorobenzene	ND		68.8		ppb v/v			06/21/15 16:09	172
1,3-Dichlorobenzene	ND		68.8		ppb v/v			06/21/15 16:09	172
1,4-Dichlorobenzene	ND		68.8		ppb v/v			06/21/15 16:09	172
Dichlorodifluoromethane	ND		68.8		ppb v/v			06/21/15 16:09	172
1,1-Dichloroethane	ND		51.6		ppb v/v			06/21/15 16:09	172
1,2-Dichloroethane	ND		138		ppb v/v			06/21/15 16:09	172
1,1-Dichloroethene	ND		138		ppb v/v			06/21/15 16:09	172
cis-1,2-Dichloroethene	ND		68.8		ppb v/v			06/21/15 16:09	172
trans-1,2-Dichloroethene	ND		68.8		ppb v/v			06/21/15 16:09	172
1,2-Dichloropropane	ND		68.8		ppb v/v			06/21/15 16:09	172
cis-1,3-Dichloropropene	ND		68.8		ppb v/v			06/21/15 16:09	172
trans-1,3-Dichloropropene	ND		68.8		ppb v/v			06/21/15 16:09	172
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		68.8		ppb v/v			06/21/15 16:09	172
Ethylbenzene	**2890**		68.8		ppb v/v			06/21/15 16:09	172
4-Ethyltoluene	**299**		68.8		ppb v/v			06/21/15 16:09	172
Hexachlorobutadiene	ND		344		ppb v/v			06/21/15 16:09	172
2-Hexanone	ND		68.8		ppb v/v			06/21/15 16:09	172
Methylene Chloride	ND		68.8		ppb v/v			06/21/15 16:09	172
4-Methyl-2-pentanone (MIBK)	ND		68.8		ppb v/v			06/21/15 16:09	172
Styrene	ND		68.8		ppb v/v			06/21/15 16:09	172
1,1,2,2-Tetrachloroethane	ND		68.8		ppb v/v			06/21/15 16:09	172
Tetrachloroethene	ND		68.8		ppb v/v			06/21/15 16:09	172
Toluene	**1480**		68.8		ppb v/v			06/21/15 16:09	172
1,2,4-Trichlorobenzene	ND		344		ppb v/v			06/21/15 16:09	172
1,1,1-Trichloroethane	ND		51.6		ppb v/v			06/21/15 16:09	172
1,1,2-Trichloroethane	ND		68.8		ppb v/v			06/21/15 16:09	172
Trichloroethene	ND		68.8		ppb v/v			06/21/15 16:09	172
Trichlorofluoromethane	ND		68.8		ppb v/v			06/21/15 16:09	172
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		68.8		ppb v/v			06/21/15 16:09	172
1,2,4-Trimethylbenzene	**774**		138		ppb v/v			06/21/15 16:09	172
1,3,5-Trimethylbenzene	**353**		68.8		ppb v/v			06/21/15 16:09	172
Vinyl acetate	ND		138		ppb v/v			06/21/15 16:09	172
Vinyl chloride	ND		68.8		ppb v/v			06/21/15 16:09	172

Client Sample Results

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

TestAmerica Job ID: 320-13463-1

Client Sample ID: Canister #8408 2015-06-11 Air Sample
Lab Sample ID: 320-13463-1
Date Collected: 06/11/15 11:00
Matrix: Air
Date Received: 06/12/15 09:40
Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m,p-Xylene	3920		138		ppb v/v			06/21/15 16:09	172
o-Xylene	1120		68.8		ppb v/v			06/21/15 16:09	172
Total VOC as Hexane (C6-C12)	351000		17200		ppb v/v			06/21/15 16:09	172

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*		*06/21/15 16:09*	*172*
1,2-Dichloroethane-d4 (Surr)	*105*		*70 - 130*		*06/21/15 16:09*	*172*
Toluene-d8 (Surr)	*103*		*70 - 130*		*06/21/15 16:09*	*172*

Surrogate Summary

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

TestAmerica Job ID: 320-13463-1

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)
320-13463-1	Canister #8408 2015-06-11 Air S	96	105	103
LCS 320-77354/3	Lab Control Sample	109	114	96
LCSD 320-77354/4	Lab Control Sample Dup	108	114	98
MB 320-77354/6	Method Blank	88	103	98

Surrogate Legend

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

QC Sample Results

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

TestAmerica Job ID: 320-13463-1

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

Lab Sample ID: MB 320-77354/6
Matrix: Air
Analysis Batch: 77354

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		5.00		ppb v/v			06/21/15 12:37	1
Benzene	ND		0.400		ppb v/v			06/21/15 12:37	1
Benzyl chloride	ND		0.800		ppb v/v			06/21/15 12:37	1
Bromodichloromethane	ND		0.300		ppb v/v			06/21/15 12:37	1
Bromoform	ND		0.400		ppb v/v			06/21/15 12:37	1
Bromomethane	ND		0.800		ppb v/v			06/21/15 12:37	1
2-Butanone (MEK)	ND		0.800		ppb v/v			06/21/15 12:37	1
Carbon disulfide	ND		0.800		ppb v/v			06/21/15 12:37	1
Carbon tetrachloride	ND		0.800		ppb v/v			06/21/15 12:37	1
Chlorobenzene	ND		0.300		ppb v/v			06/21/15 12:37	1
Dibromochloromethane	ND		0.400		ppb v/v			06/21/15 12:37	1
Chloroethane	ND		0.800		ppb v/v			06/21/15 12:37	1
Chloroform	ND		0.300		ppb v/v			06/21/15 12:37	1
Chloromethane	ND		0.800		ppb v/v			06/21/15 12:37	1
1,2-Dibromoethane (EDB)	ND		0.800		ppb v/v			06/21/15 12:37	1
1,2-Dichlorobenzene	ND		0.400		ppb v/v			06/21/15 12:37	1
1,3-Dichlorobenzene	ND		0.400		ppb v/v			06/21/15 12:37	1
1,4-Dichlorobenzene	ND		0.400		ppb v/v			06/21/15 12:37	1
Dichlorodifluoromethane	ND		0.400		ppb v/v			06/21/15 12:37	1
1,1-Dichloroethane	ND		0.300		ppb v/v			06/21/15 12:37	1
1,2-Dichloroethane	ND		0.800		ppb v/v			06/21/15 12:37	1
1,1-Dichloroethene	ND		0.800		ppb v/v			06/21/15 12:37	1
cis-1,2-Dichloroethene	ND		0.400		ppb v/v			06/21/15 12:37	1
trans-1,2-Dichloroethene	ND		0.400		ppb v/v			06/21/15 12:37	1
1,2-Dichloropropane	ND		0.400		ppb v/v			06/21/15 12:37	1
cis-1,3-Dichloropropene	ND		0.400		ppb v/v			06/21/15 12:37	1
trans-1,3-Dichloropropene	ND		0.400		ppb v/v			06/21/15 12:37	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		0.400		ppb v/v			06/21/15 12:37	1
Ethylbenzene	ND		0.400		ppb v/v			06/21/15 12:37	1
4-Ethyltoluene	ND		0.400		ppb v/v			06/21/15 12:37	1
Hexachlorobutadiene	ND		2.00		ppb v/v			06/21/15 12:37	1
2-Hexanone	ND		0.400		ppb v/v			06/21/15 12:37	1
Methylene Chloride	ND		0.400		ppb v/v			06/21/15 12:37	1
4-Methyl-2-pentanone (MIBK)	ND		0.400		ppb v/v			06/21/15 12:37	1
Styrene	ND		0.400		ppb v/v			06/21/15 12:37	1
1,1,2,2-Tetrachloroethane	ND		0.400		ppb v/v			06/21/15 12:37	1
Tetrachloroethene	ND		0.400		ppb v/v			06/21/15 12:37	1
Toluene	ND		0.400		ppb v/v			06/21/15 12:37	1
1,2,4-Trichlorobenzene	ND		2.00		ppb v/v			06/21/15 12:37	1
1,1,1-Trichloroethane	ND		0.300		ppb v/v			06/21/15 12:37	1
1,1,2-Trichloroethane	ND		0.400		ppb v/v			06/21/15 12:37	1
Trichloroethene	ND		0.400		ppb v/v			06/21/15 12:37	1
Trichlorofluoromethane	ND		0.400		ppb v/v			06/21/15 12:37	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.400		ppb v/v			06/21/15 12:37	1
1,2,4-Trimethylbenzene	ND		0.800		ppb v/v			06/21/15 12:37	1
1,3,5-Trimethylbenzene	ND		0.400		ppb v/v			06/21/15 12:37	1
Vinyl acetate	ND		0.800		ppb v/v			06/21/15 12:37	1
Vinyl chloride	ND		0.400		ppb v/v			06/21/15 12:37	1

QC Sample Results

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

TestAmerica Job ID: 320-13463-1

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

Lab Sample ID: MB 320-77354/6
Matrix: Air
Analysis Batch: 77354

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m,p-Xylene	ND		0.800		ppb v/v			06/21/15 12:37	1
o-Xylene	ND		0.400		ppb v/v			06/21/15 12:37	1
Total VOC as Hexane (C6-C12)	ND		100		ppb v/v			06/21/15 12:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*		*06/21/15 12:37*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 130*		*06/21/15 12:37*	*1*
Toluene-d8 (Surr)	*98*		*70 - 130*		*06/21/15 12:37*	*1*

Lab Sample ID: LCS 320-77354/3
Matrix: Air
Analysis Batch: 77354

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	20.0	16.22		ppb v/v		81	71 - 131
Benzene	20.0	17.30		ppb v/v		87	68 - 128
Benzyl chloride	20.0	22.32		ppb v/v		112	58 - 120
Bromodichloromethane	20.0	20.16		ppb v/v		101	65 - 130
Bromoform	20.0	25.79		ppb v/v		129	64 - 144
Bromomethane	20.0	21.82		ppb v/v		109	70 - 131
2-Butanone (MEK)	20.0	18.37		ppb v/v		92	71 - 131
Carbon disulfide	20.0	16.49		ppb v/v		82	63 - 123
Carbon tetrachloride	20.0	22.54		ppb v/v		113	67 - 127
Chlorobenzene	20.0	21.96		ppb v/v		110	70 - 132
Dibromochloromethane	20.0	23.15		ppb v/v		116	68 - 128
Chloroethane	20.0	20.23		ppb v/v		101	70 - 131
Chloroform	20.0	18.77		ppb v/v		94	69 - 129
Chloromethane	20.0	16.28		ppb v/v		81	67 - 127
1,2-Dibromoethane (EDB)	20.0	21.40		ppb v/v		107	68 - 131
1,2-Dichlorobenzene	20.0	25.07		ppb v/v		125	73 - 143
1,3-Dichlorobenzene	20.0	25.46		ppb v/v		127	77 - 136
1,4-Dichlorobenzene	20.0	26.74		ppb v/v		134	73 - 143
Dichlorodifluoromethane	20.0	20.54		ppb v/v		103	69 - 129
1,1-Dichloroethane	20.0	17.05		ppb v/v		85	65 - 125
1,2-Dichloroethane	20.0	20.81		ppb v/v		104	71 - 131
1,1-Dichloroethene	20.0	16.30		ppb v/v		82	53 - 128
cis-1,2-Dichloroethene	20.0	17.55		ppb v/v		88	68 - 128
trans-1,2-Dichloroethene	20.0	17.33		ppb v/v		87	70 - 130
1,2-Dichloropropane	20.0	21.99		ppb v/v		110	74 - 128
cis-1,3-Dichloropropene	20.0	21.15		ppb v/v		106	78 - 132
trans-1,3-Dichloropropene	20.0	20.38		ppb v/v		102	56 - 136
1,2-Dichloro-1,1,2,2-tetrafluoroethane	20.0	19.22		ppb v/v		96	64 - 124
Ethylbenzene	20.0	22.82		ppb v/v		114	76 - 136
4-Ethyltoluene	20.0	20.54		ppb v/v		103	62 - 136
Hexachlorobutadiene	20.0	23.45		ppb v/v		117	42 - 150
2-Hexanone	20.0	21.72		ppb v/v		109	70 - 128
Methylene Chloride	20.0	14.49		ppb v/v		72	65 - 125

QC Sample Results

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

TestAmerica Job ID: 320-13463-1

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

Lab Sample ID: LCS 320-77354/3
Matrix: Air
Analysis Batch: 77354

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Methyl-2-pentanone (MIBK)	20.0	17.89		ppb v/v		89	73 - 133
Styrene	20.0	25.51		ppb v/v		128	76 - 144
1,1,2,2-Tetrachloroethane	20.0	21.45		ppb v/v		107	75 - 135
Tetrachloroethene	20.0	21.11		ppb v/v		106	56 - 138
Toluene	20.0	18.82		ppb v/v		94	71 - 132
1,2,4-Trichlorobenzene	20.0	25.00		ppb v/v		125	59 - 150
1,1,1-Trichloroethane	20.0	20.49		ppb v/v		102	65 - 124
1,1,2-Trichloroethane	20.0	20.56		ppb v/v		103	71 - 131
Trichloroethene	20.0	18.76		ppb v/v		94	64 - 127
Trichlorofluoromethane	20.0	20.90		ppb v/v		104	68 - 128
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	16.61		ppb v/v		83	50 - 132
1,2,4-Trimethylbenzene	20.0	23.88		ppb v/v		119	61 - 145
1,3,5-Trimethylbenzene	20.0	22.03		ppb v/v		110	65 - 136
Vinyl acetate	20.0	18.61		ppb v/v		93	77 - 134
Vinyl chloride	20.0	19.27		ppb v/v		96	69 - 129
Hexane	20.0	15.89		ppb v/v		79	63 - 123
m,p-Xylene	40.0	47.98		ppb v/v		120	75 - 138
o-Xylene	20.0	24.45		ppb v/v		122	77 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*114*		*70 - 130*
Toluene-d8 (Surr)	*96*		*70 - 130*

Lab Sample ID: LCSD 320-77354/4
Matrix: Air
Analysis Batch: 77354

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	20.0	16.07		ppb v/v		80	71 - 131	1	25
Benzene	20.0	17.55		ppb v/v		88	68 - 128	1	25
Benzyl chloride	20.0	22.49		ppb v/v		112	58 - 120	1	25
Bromodichloromethane	20.0	20.42		ppb v/v		102	65 - 130	1	25
Bromoform	20.0	25.62		ppb v/v		128	64 - 144	1	25
Bromomethane	20.0	22.17		ppb v/v		111	70 - 131	2	25
2-Butanone (MEK)	20.0	18.15		ppb v/v		91	71 - 131	1	25
Carbon disulfide	20.0	16.52		ppb v/v		83	63 - 123	0	25
Carbon tetrachloride	20.0	22.66		ppb v/v		113	67 - 127	1	25
Chlorobenzene	20.0	21.65		ppb v/v		108	70 - 132	1	25
Dibromochloromethane	20.0	22.74		ppb v/v		114	68 - 128	2	25
Chloroethane	20.0	20.11		ppb v/v		101	70 - 131	1	25
Chloroform	20.0	18.80		ppb v/v		94	69 - 129	0	25
Chloromethane	20.0	16.47		ppb v/v		82	67 - 127	1	25
1,2-Dibromoethane (EDB)	20.0	21.37		ppb v/v		107	68 - 131	0	25
1,2-Dichlorobenzene	20.0	25.08		ppb v/v		125	73 - 143	0	25
1,3-Dichlorobenzene	20.0	25.78		ppb v/v		129	77 - 136	1	25
1,4-Dichlorobenzene	20.0	26.74		ppb v/v		134	73 - 143	0	25

QC Sample Results

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

TestAmerica Job ID: 320-13463-1

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

Lab Sample ID: LCSD 320-77354/4
Matrix: Air
Analysis Batch: 77354

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane			20.0	20.98		ppb v/v		105	69 - 129	2	25
1,1-Dichloroethane			20.0	17.05		ppb v/v		85	65 - 125	0	25
1,2-Dichloroethane			20.0	21.00		ppb v/v		105	71 - 131	1	25
1,1-Dichloroethene			20.0	16.35		ppb v/v		82	53 - 128	0	25
cis-1,2-Dichloroethene			20.0	17.53		ppb v/v		88	68 - 128	0	25
trans-1,2-Dichloroethene			20.0	17.19		ppb v/v		86	70 - 130	1	25
1,2-Dichloropropane			20.0	22.59		ppb v/v		113	74 - 128	3	25
cis-1,3-Dichloropropene			20.0	21.45		ppb v/v		107	78 - 132	1	25
trans-1,3-Dichloropropene			20.0	20.24		ppb v/v		101	56 - 136	1	25
1,2-Dichloro-1,1,2,2-tetrafluoroethane			20.0	19.71		ppb v/v		99	64 - 124	3	25
Ethylbenzene			20.0	22.73		ppb v/v		114	76 - 136	0	25
4-Ethyltoluene			20.0	20.46		ppb v/v		102	62 - 136	0	25
Hexachlorobutadiene			20.0	23.51		ppb v/v		118	42 - 150	0	25
2-Hexanone			20.0	21.44		ppb v/v		107	70 - 128	1	25
Methylene Chloride			20.0	14.20		ppb v/v		71	65 - 125	2	25
4-Methyl-2-pentanone (MIBK)			20.0	17.62		ppb v/v		88	73 - 133	2	25
Styrene			20.0	25.48		ppb v/v		127	76 - 144	0	25
1,1,2,2-Tetrachloroethane			20.0	21.56		ppb v/v		108	75 - 135	0	25
Tetrachloroethene			20.0	20.88		ppb v/v		104	56 - 138	1	25
Toluene			20.0	19.08		ppb v/v		95	71 - 132	1	25
1,2,4-Trichlorobenzene			20.0	25.22		ppb v/v		126	59 - 150	1	25
1,1,1-Trichloroethane			20.0	20.49		ppb v/v		102	65 - 124	0	25
1,1,2-Trichloroethane			20.0	20.51		ppb v/v		103	71 - 131	0	25
Trichloroethene			20.0	18.97		ppb v/v		95	64 - 127	1	25
Trichlorofluoromethane			20.0	20.89		ppb v/v		104	68 - 128	0	25
1,1,2-Trichloro-1,2,2-trifluoroethane			20.0	16.59		ppb v/v		83	50 - 132	0	25
1,2,4-Trimethylbenzene			20.0	24.27		ppb v/v		121	61 - 145	2	25
1,3,5-Trimethylbenzene			20.0	21.82		ppb v/v		109	65 - 136	1	25
Vinyl acetate			20.0	18.28		ppb v/v		91	77 - 134	2	25
Vinyl chloride			20.0	19.73		ppb v/v		99	69 - 129	2	25
Hexane			20.0	15.65		ppb v/v		78	63 - 123	2	25
m,p-Xylene			40.0	47.97		ppb v/v		120	75 - 138	0	25
o-Xylene			20.0	24.46		ppb v/v		122	77 - 132	0	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*114*		*70 - 130*
Toluene-d8 (Surr)	*98*		*70 - 130*

QC Association Summary

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

TestAmerica Job ID: 320-13463-1

Air - GC/MS VOA

Analysis Batch: 77354

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-13463-1	Canister #8408 2015-06-11 Air Sample	Total/NA	Air	TO-15	
LCS 320-77354/3	Lab Control Sample	Total/NA	Air	TO-15	
LCSD 320-77354/4	Lab Control Sample Dup	Total/NA	Air	TO-15	
MB 320-77354/6	Method Blank	Total/NA	Air	TO-15	

Lab Chronicle

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

TestAmerica Job ID: 320-13463-1

Client Sample ID: Canister #8408 2015-06-11 Air Sample **Lab Sample ID: 320-13463-1**
Date Collected: 06/11/15 11:00 **Matrix: Air**
Date Received: 06/12/15 09:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		172	2.76 mL	250 mL	77354	06/21/15 16:09	HL1	TAL SAC

Laboratory References:

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

Certification Summary

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

TestAmerica Job ID: 320-13463-1

Laboratory: TestAmerica Sacramento

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

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2928-01	01-31-16
Alaska (UST)	State Program	10	UST-055	12-18-15
Arizona	State Program	9	AZ0708	08-11-15
Arkansas DEQ	State Program	6	88-0691	06-17-16
California	State Program	9	2897	01-31-16
Colorado	State Program	8	N/A	08-31-15
Connecticut	State Program	1	PH-0691	06-30-15 *
Florida	NELAP	4	E87570	06-30-15 *
Hawaii	State Program	9	N/A	01-29-16
Illinois	NELAP	5	200060	03-17-16
Kansas	NELAP	7	E-10375	10-31-15
Louisiana	NELAP	6	30612	06-30-16
Michigan	State Program	5	9947	01-31-16
Nevada	State Program	9	CA44	07-31-15
New Jersey	NELAP	2	CA005	06-30-15 *
New York	NELAP	2	11666	04-01-16
Oregon	NELAP	10	CA200005	01-29-16
Oregon	NELAP Secondary AB	10	E87570	06-30-15
Pennsylvania	NELAP	3	9947	03-31-16
Texas	NELAP	6	T104704399-08-TX	05-31-16
US Fish & Wildlife	Federal		LE148388-0	02-28-16
USDA	Federal		P330-11-00436	12-30-17
USEPA UCMR	Federal	1	CA00044	11-06-16
Utah	NELAP	8	QUAN1	02-28-16
Washington	State Program	10	C581	05-04-16
West Virginia (DW)	State Program	3	9930C	12-31-15
Wyoming	State Program	8	8TMS-Q	01-29-16

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	08-31-15

* Certification renewal pending - certification considered valid.

Method Summary

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

TestAmerica Job ID: 320-13463-1

Method	Method Description	Protocol	Laboratory
TO-15	Volatile Organic Compounds in Ambient Air	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

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

Sample Summary

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

TestAmerica Job ID: 320-13463-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-13463-1	Canister #8408 2015-06-11 Air Sample	Air	06/11/15 11:00	06/12/15 09:40

TestAmerica Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
phone 916 374 4378 fax 916.372.1059

Canister Samples Chain of Custody Record

TestAmerica Laboratories, Inc assumes no liability with respect to the collection and shipment of these samples

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact Information	**Project Manager:** Bruce McKenzie	**Samples Collected By:** Terry Fisher
Company Name. Envirosclean	**Phone:** 918 906 6780	
Address: 7060 S Yale STE 603	**Email:**	
City/State/Zip Tulsa, OK 74136		
Phone 918 794 7828	**Site Contact:** Bruce McKenzie	
FAX.	**TA Contact:**	
Project Name: State M-1 Lease	**Anaylsis Turnaround Time**	
Site/Location	Standard (Specific) Standard	
P O #	Rush (Specifiy)	

COC No
____ of ____ COCs

For Lab Use Only:
Walk-in Client
Lab Sampling

Job / SDG No :
(See below for Add'l Items)

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, 'Hg (Start)'	Canister Vacuum in Field, 'Hg (Stop)'	Flow Controller ID	Canister ID	TO-15 (Med / Std / Low / SIM)	MA-APH	EPA 3C	EPA 25C / 25.3	ASTM D-1946 / 1945 / 3588	EPA 15/16	TO-3	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)	Sample Specific Notes:
CANISTER # 8408	6-11-15	1050	1100	—	—	—	8408	X														Total VOC
2015-06-11																						Hexane
Air Sample																						

	Temperature (Fahrenheit)		
	Start	Interior	Ambient
	Stop		

	Temperature (Fahrenheit)		
	Start	Interior	Ambient
	Stop		

320-13463 Chain of Custody

Special Instructions/QC Requirements & Comments:

Samples Shipped by: Terry Fisher	**Date / Time:** 6-11-15 1600	**Samples Received by:**
Samples Relinquished by:	**Date / Time:**	**Received by:**
Relinquished by:	**Date / Time:**	**Received by:**

Lab Use Only: **Shipper Name:** **Opened by:** **Condition:**

Form No. CA-C-WI-003, Rev. 1, dated 05/10/2013

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

CANISTER FIELD DATA RECORD

Sacramento

JOB # 320-13463
Sample # 1

Client/Project:		VFR ID:		
Canister Serial #:	8408	Duration:		☐ Hrs ☐ Min
Cleaning Job:		Flow:		mL/min
Client ID:		Initials:		
Site Location:				

FIELD				
READING	TIME	PRESS.	DATE	INITIALS
INITIAL FIELD VACUUM				
FINAL FIELD READING				

LABORATORY			
READING	PRESS.	DATE	INITIALS
INITIAL VACUUM CHECK (INCHES Hg)			JMT
☐ Helium Pre-dilution - Final Pressure (INCHES Hg)			
INITIAL PRESSURE (PSIA)	12.43	06/16/15	KY
FINAL PRESSURE (PSIA)	23.56	06/16/15	KY
Pressurization Gas: ☐ N2 ☐ He	SCREENED ☐	SCRN DIL. VS 250mLs:	
Initial Canister Dilution Factor = 1.90			

CANISTER REPRESSURIZATION

Date	Pi (PSIA)	Pf (PSIA)	Initial DF	Initials	NEW DF
			1.90		#DIV/0!
			#DIV/0!		#DIV/0!
			#DIV/0!		#DIV/0!

Analytical Dilution Factors

Date	Instr.	File #
6/17/2015	MS7	

Canister DF = 1.90 X Load DF = 2.5 (LVf (mLs) 250, LVi (mLs) 100) X Bag DF = 50 (BVf (mLs) 1000, Bvi (mLs) 20) = FINAL DF 236.92679 * Bag

Date	Instr.	File #
6/21/2015	MS7	

Canister DF = 1.90 X Load DF = 12.5 (LVf (mLs) 250, LVi (mLs) 20) X Bag DF = 7.24 (BVf (mLs) 7.24, Bvi (mLs) 1) = FINAL DF 171.534996 * CAN

Date	Instr.	File #

Canister DF = 1.90 X Load DF = #DIV/0! (LVf (mLs), LVi (mLs)) X Bag DF = 1 (BVf (mLs), Bvi (mLs)) = FINAL DF #DIV/0!

Login Sample Receipt Checklist

Client: Enviro Clean Services LLC Job Number: 320-13463-1

Login Number: 13463 **List Source: TestAmerica Sacramento**
List Number: 1
Creator: Nelson, Kym D

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
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.	N/A	
Cooler Temperature is acceptable.	N/A	
Cooler Temperature is recorded.	N/A	
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.	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	

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

320-12945 Chain of Custody

Canister QC Certification

Certification Type: TO-15 SCAN

Date Cleaned/Batch ID: 5/11/15 320-12945

Date of QC: 5/13/15

Data File Number: 1505132\

CANISTER ID NUMBERS

34000520	7903	
1389	8430	
0382	8408 *	
1395	8232	
1200		
8257		
8436		
8301		

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.

1st level Reviewed By: Date: 5/14/15

2nd level Reviewed By: Date: 5/14/15

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

ERS 7/29/2013

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

Lab Name: TestAmerica Sacramento Job No.: 320-12945-1

SDG No.: 6L SCAN Batch

Client Sample ID: 8408 Lab Sample ID: 320-12945-11

Matrix: Air Lab File ID: 15051321.D

Analysis Method: TO-15 Date Collected: 05/11/2015 00:00

Sample wt/vol: 500(mL) Date Analyzed: 05/14/2015 03:17

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-Volatiles ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 73822 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	ND		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	ND		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	0.11
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-tetrafluoroethane	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
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-12945-1

SDG No.: 6L SCAN Batch

Client Sample ID: 8408 Lab Sample ID: 320-12945-11

Matrix: Air Lab File ID: 15051321.D

Analysis Method: TO-15 Date Collected: 05/11/2015 00:00

Sample wt/vol: 500(mL) Date Analyzed: 05/14/2015 03:17

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-Volatiles ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 73822 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	0.050
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	0.079
108-88-3	Toluene	ND		0.40	0.051
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	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
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-12945-1

SDG No.: 6L SCAN Batch

Client Sample ID: 8408 Lab Sample ID: 320-12945-11

Matrix: Air Lab File ID: 15051321.D

Analysis Method: TO-15 Date Collected: 05/11/2015 00:00

Sample wt/vol: 500(mL) Date Analyzed: 05/14/2015 03:17

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-Volatiles ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 73822 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)	98		70-130
17060-07-0	1,2-Dichloroethane-d4 (Surr)	114		70-130
2037-26-5	Toluene-d8 (Surr)	96		70-130

Report Date: 14-May-2015 11:42:19 Chrom Revision: 2.2 05-May-2015 11:39:10

TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\SACCHROM\ChromData\ATMS2\20150513-21779.b\15051321.D				
Lims ID:	320-12945-A-11	Lab Sample ID:	320-12945-11		
Client ID:	8408				
Sample Type:	Client				
Inject. Date:	14-May-2015 03:17:30	ALS Bottle#:	15	Worklist Smp#:	40
Purge Vol:	250.000 mL	Dil. Factor:	1.0000		
Sample Info:	320-12945-A-11				
Misc. Info.:	500mL				
Operator ID:	srs	Instrument ID:	ATMS2		
Method:	\\SACCHROM\ChromData\ATMS2\20150513-21779.b\TO15_ATMS2N.m				
Limit Group:	MSA - TO15 - ICAL				
Last Update:	14-May-2015 11:42:18	Calib Date:	18-Mar-2015 18:13:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\SACCHROM\ChromData\ATMS2\20150317-20264.b\15031726.D				
Column 1 :	RTX Volatiles (0.32 mm)		Det: MS SCAN		
Process Host:	XAWRK011				
First Level Reviewer: ortizam		Date:	14-May-2015 11:42:18		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ppb v/v	Flags
* 1 Chlorobromomethane (IS)	130	10.285	10.285	0.000	98	41645	4.00	
* 2 1,4-Difluorobenzene	114	11.630	11.635	-0.005	95	164224	4.00	
* 3 Chlorobenzene-d5 (IS)	117	15.943	15.943	0.000	87	135793	4.00	
$ 4 1,2-Dichloroethane-d4 (Sur	65	11.046	11.051	-0.005	97	62295	4.57	
$ 5 Toluene-d8 (Surr)	100	13.808	13.807	0.001	98	92848	3.84	
$ 6 4-Bromofluorobenzene (Surr	174	17.695	17.695	0.000	95	77557	3.90	
31 Acetone	43	7.012	6.939	0.073	21	830	0.0544	
88 n-Octane	43	13.808	13.771	0.037	42	837	0.0225	
107 N-Propylbenzene	91	17.975	17.975	0.000	1	74	0.001319	
114 tert-Butylbenzene	91	18.760	18.747	0.013	1	484	0.0162	
116 sec-Butylbenzene	105	19.076	19.076	0.000	1	419	0.007258	
121 4-Isopropyltoluene	119	19.283	19.270	0.013	1	477	0.0099	
118 Benzyl chloride	91	19.654	19.648	0.006	1	829	0.0211	
122 1,2-Dichlorobenzene	146	20.092	20.092	0.000	49	314	0.0115	
128 Hexachlorobutadiene	225	23.274	23.261	0.013	1	771	0.0440	
127 Naphthalene	128	23.371	23.389	-0.018	1	352	0.0107	

Reagents:

VASUISIM_00171 Amount Added: 50.00 Units: mL Run Reagent

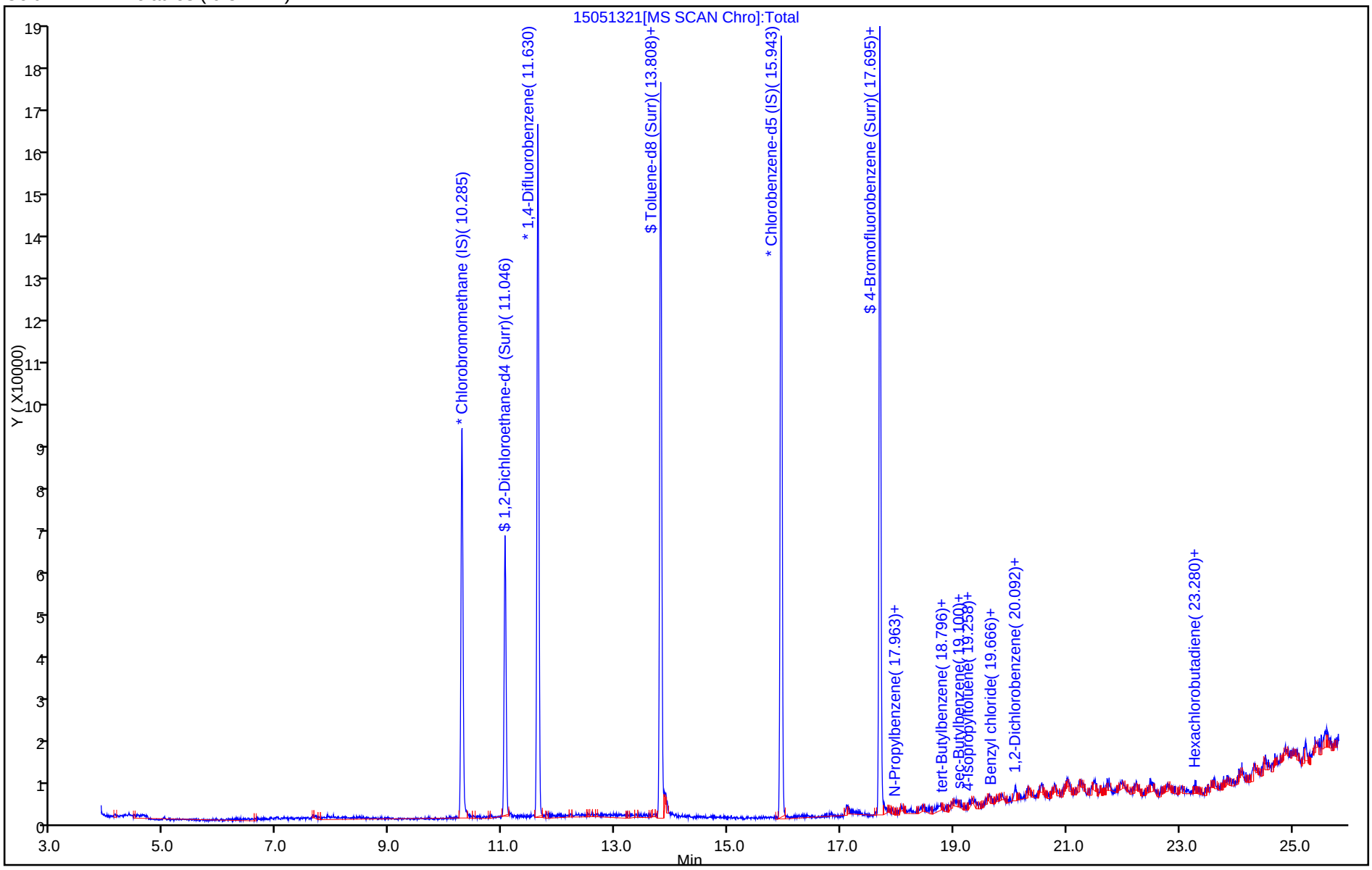
Report Date: 14-May-2015 11:42:19 Chrom Revision: 2.2 05-May-2015 11:39:10

TestAmerica Sacramento

Data File: \\SACCHROM\ChromData\ATMS2\20150513-21779.b\15051321.D

Injection Date:	14-May-2015 03:17:30	Instrument ID:	ATMS2	Operator ID:	srs
Lims ID:	320-12945-A-11	Lab Sample ID:	320-12945-11	Worklist Smp#:	40
Client ID:	8408				
Purge Vol:	250.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	15
Method:	TO15_ATMS2N	Limit Group:	MSA - TO15 - ICAL		

Column: RTX Volatiles (0.32 mm)



TestAmerica

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: 320-14771-1
Client Project/Site: State M-1 lease

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

Attn: Ms. Julie Czech

CathyGartner

Authorized for release by:
9/21/2015 5:02:19 PM

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

Table of Contents

Definitions/Glossary

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

TestAmerica Job ID: 320-14771-1

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
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

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

TestAmerica Job ID: 320-14771-1

Job ID: 320-14771-1

Laboratory: TestAmerica Sacramento

Narrative

Job Narrative
320-14771-1

Comments
No additional comments.

Receipt
The sample was received on 9/4/2015 9:40 AM; the sample arrived in good condition, properly preserved and, where required, on ice.

Receipt Exceptions

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): Canister #5451 Batch #320-14155 9-3-15 (320-14771-1). The canister ID lists 8351, while the COC lists 5451.

Air - GC/MS VOA
Method(s) TO-15: The following sample was diluted due to the abundance of non-target analytes: Canister #5451 Batch #320-14155 9-3-15 (320-14771-1). 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.

Detection Summary

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

TestAmerica Job ID: 320-14771-1

Client Sample ID: Canister #5451 Batch #320-14155 9-3-15 — Lab Sample ID: 320-14771-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	312		49.2		ppb v/v	123		TO-15	Total/NA
Ethylbenzene	731		49.2		ppb v/v	123		TO-15	Total/NA
4-Ethyltoluene	256		49.2		ppb v/v	123		TO-15	Total/NA
1,3,5-Trimethylbenzene	73.0		49.2		ppb v/v	123		TO-15	Total/NA
m,p-Xylene	1140		98.4		ppb v/v	123		TO-15	Total/NA
o-Xylene	164		49.2		ppb v/v	123		TO-15	Total/NA
Total VOC as Hexane (C6-C12)	190000		12300		ppb v/v	123		TO-15	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

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

TestAmerica Job ID: 320-14771-1

Client Sample ID: Canister #5451 Batch #320-14155 9-3-15 **Lab Sample ID: 320-14771-1**
Date Collected: 09/03/15 11:23 **Matrix: Air**
Date Received: 09/04/15 09:40
Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		615		ppb v/v			09/18/15 22:05	123
Benzene	**312**		49.2		ppb v/v			09/18/15 22:05	123
Benzyl chloride	ND		98.4		ppb v/v			09/18/15 22:05	123
Bromodichloromethane	ND		36.9		ppb v/v			09/18/15 22:05	123
Bromoform	ND		49.2		ppb v/v			09/18/15 22:05	123
Bromomethane	ND		98.4		ppb v/v			09/18/15 22:05	123
2-Butanone (MEK)	ND		98.4		ppb v/v			09/18/15 22:05	123
Carbon disulfide	ND		98.4		ppb v/v			09/18/15 22:05	123
Carbon tetrachloride	ND		98.4		ppb v/v			09/18/15 22:05	123
Chlorobenzene	ND		36.9		ppb v/v			09/18/15 22:05	123
Dibromochloromethane	ND		49.2		ppb v/v			09/18/15 22:05	123
Chloroethane	ND		98.4		ppb v/v			09/18/15 22:05	123
Chloroform	ND		36.9		ppb v/v			09/18/15 22:05	123
Chloromethane	ND		98.4		ppb v/v			09/18/15 22:05	123
1,2-Dibromoethane (EDB)	ND		98.4		ppb v/v			09/18/15 22:05	123
1,2-Dichlorobenzene	ND		49.2		ppb v/v			09/18/15 22:05	123
1,3-Dichlorobenzene	ND		49.2		ppb v/v			09/18/15 22:05	123
1,4-Dichlorobenzene	ND		49.2		ppb v/v			09/18/15 22:05	123
Dichlorodifluoromethane	ND		49.2		ppb v/v			09/18/15 22:05	123
1,1-Dichloroethane	ND		36.9		ppb v/v			09/18/15 22:05	123
1,2-Dichloroethane	ND		98.4		ppb v/v			09/18/15 22:05	123
1,1-Dichloroethene	ND		98.4		ppb v/v			09/18/15 22:05	123
cis-1,2-Dichloroethene	ND		49.2		ppb v/v			09/18/15 22:05	123
trans-1,2-Dichloroethene	ND		49.2		ppb v/v			09/18/15 22:05	123
1,2-Dichloropropane	ND		49.2		ppb v/v			09/18/15 22:05	123
cis-1,3-Dichloropropene	ND		49.2		ppb v/v			09/18/15 22:05	123
trans-1,3-Dichloropropene	ND		49.2		ppb v/v			09/18/15 22:05	123
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		49.2		ppb v/v			09/18/15 22:05	123
Ethylbenzene	**731**		49.2		ppb v/v			09/18/15 22:05	123
4-Ethyltoluene	**256**		49.2		ppb v/v			09/18/15 22:05	123
Hexachlorobutadiene	ND		246		ppb v/v			09/18/15 22:05	123
2-Hexanone	ND		49.2		ppb v/v			09/18/15 22:05	123
Methylene Chloride	ND		49.2		ppb v/v			09/18/15 22:05	123
4-Methyl-2-pentanone (MIBK)	ND		49.2		ppb v/v			09/18/15 22:05	123
Styrene	ND		49.2		ppb v/v			09/18/15 22:05	123
1,1,2,2-Tetrachloroethane	ND		49.2		ppb v/v			09/18/15 22:05	123
Tetrachloroethene	ND		49.2		ppb v/v			09/18/15 22:05	123
Toluene	ND		49.2		ppb v/v			09/18/15 22:05	123
1,2,4-Trichlorobenzene	ND		246		ppb v/v			09/18/15 22:05	123
1,1,1-Trichloroethane	ND		36.9		ppb v/v			09/18/15 22:05	123
1,1,2-Trichloroethane	ND		49.2		ppb v/v			09/18/15 22:05	123
Trichloroethene	ND		49.2		ppb v/v			09/18/15 22:05	123
Trichlorofluoromethane	ND		49.2		ppb v/v			09/18/15 22:05	123
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		49.2		ppb v/v			09/18/15 22:05	123
1,2,4-Trimethylbenzene	ND		98.4		ppb v/v			09/18/15 22:05	123
1,3,5-Trimethylbenzene	**73.0**		49.2		ppb v/v			09/18/15 22:05	123
Vinyl acetate	ND		98.4		ppb v/v			09/18/15 22:05	123
Vinyl chloride	ND		49.2		ppb v/v			09/18/15 22:05	123

TestAmerica Sacramento

Client Sample Results

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

TestAmerica Job ID: 320-14771-1

Client Sample ID: Canister #5451 Batch #320-14155 9-3-15 **Lab Sample ID: 320-14771-1**
Date Collected: 09/03/15 11:23 **Matrix: Air**
Date Received: 09/04/15 09:40
Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m,p-Xylene	1140		98.4		ppb v/v			09/18/15 22:05	123
o-Xylene	164		49.2		ppb v/v			09/18/15 22:05	123
Total VOC as Hexane (C6-C12)	190000		12300		ppb v/v			09/18/15 22:05	123

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*		*09/18/15 22:05*	*123*
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 130*		*09/18/15 22:05*	*123*
Toluene-d8 (Surr)	*103*		*70 - 130*		*09/18/15 22:05*	*123*

Surrogate Summary

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

TestAmerica Job ID: 320-14771-1

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)
320-14771-1	Canister #5451 Batch #320-141	109	104	103
LCS 320-86443/3	Lab Control Sample	114	105	98
LCSD 320-86443/22	Lab Control Sample Dup	118	114	101
MB 320-86443/6	Method Blank	87	93	96

Surrogate Legend

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

QC Sample Results

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

TestAmerica Job ID: 320-14771-1

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

Lab Sample ID: MB 320-86443/6
Matrix: Air
Analysis Batch: 86443

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		5.00		ppb v/v			09/18/15 12:56	1
Benzene	ND		0.400		ppb v/v			09/18/15 12:56	1
Benzyl chloride	ND		0.800		ppb v/v			09/18/15 12:56	1
Bromodichloromethane	ND		0.300		ppb v/v			09/18/15 12:56	1
Bromoform	ND		0.400		ppb v/v			09/18/15 12:56	1
Bromomethane	ND		0.800		ppb v/v			09/18/15 12:56	1
2-Butanone (MEK)	ND		0.800		ppb v/v			09/18/15 12:56	1
Carbon disulfide	ND		0.800		ppb v/v			09/18/15 12:56	1
Carbon tetrachloride	ND		0.800		ppb v/v			09/18/15 12:56	1
Chlorobenzene	ND		0.300		ppb v/v			09/18/15 12:56	1
Dibromochloromethane	ND		0.400		ppb v/v			09/18/15 12:56	1
Chloroethane	ND		0.800		ppb v/v			09/18/15 12:56	1
Chloroform	ND		0.300		ppb v/v			09/18/15 12:56	1
Chloromethane	ND		0.800		ppb v/v			09/18/15 12:56	1
1,2-Dibromoethane (EDB)	ND		0.800		ppb v/v			09/18/15 12:56	1
1,2-Dichlorobenzene	ND		0.400		ppb v/v			09/18/15 12:56	1
1,3-Dichlorobenzene	ND		0.400		ppb v/v			09/18/15 12:56	1
1,4-Dichlorobenzene	ND		0.400		ppb v/v			09/18/15 12:56	1
Dichlorodifluoromethane	ND		0.400		ppb v/v			09/18/15 12:56	1
1,1-Dichloroethane	ND		0.300		ppb v/v			09/18/15 12:56	1
1,2-Dichloroethane	ND		0.800		ppb v/v			09/18/15 12:56	1
1,1-Dichloroethene	ND		0.800		ppb v/v			09/18/15 12:56	1
cis-1,2-Dichloroethene	ND		0.400		ppb v/v			09/18/15 12:56	1
trans-1,2-Dichloroethene	ND		0.400		ppb v/v			09/18/15 12:56	1
1,2-Dichloropropane	ND		0.400		ppb v/v			09/18/15 12:56	1
cis-1,3-Dichloropropene	ND		0.400		ppb v/v			09/18/15 12:56	1
trans-1,3-Dichloropropene	ND		0.400		ppb v/v			09/18/15 12:56	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		0.400		ppb v/v			09/18/15 12:56	1
Ethylbenzene	ND		0.400		ppb v/v			09/18/15 12:56	1
4-Ethyltoluene	ND		0.400		ppb v/v			09/18/15 12:56	1
Hexachlorobutadiene	ND		2.00		ppb v/v			09/18/15 12:56	1
2-Hexanone	ND		0.400		ppb v/v			09/18/15 12:56	1
Methylene Chloride	ND		0.400		ppb v/v			09/18/15 12:56	1
4-Methyl-2-pentanone (MIBK)	ND		0.400		ppb v/v			09/18/15 12:56	1
Styrene	ND		0.400		ppb v/v			09/18/15 12:56	1
1,1,2,2-Tetrachloroethane	ND		0.400		ppb v/v			09/18/15 12:56	1
Tetrachloroethene	ND		0.400		ppb v/v			09/18/15 12:56	1
Toluene	ND		0.400		ppb v/v			09/18/15 12:56	1
1,2,4-Trichlorobenzene	ND		2.00		ppb v/v			09/18/15 12:56	1
1,1,1-Trichloroethane	ND		0.300		ppb v/v			09/18/15 12:56	1
1,1,2-Trichloroethane	ND		0.400		ppb v/v			09/18/15 12:56	1
Trichloroethene	ND		0.400		ppb v/v			09/18/15 12:56	1
Trichlorofluoromethane	ND		0.400		ppb v/v			09/18/15 12:56	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.400		ppb v/v			09/18/15 12:56	1
1,2,4-Trimethylbenzene	ND		0.800		ppb v/v			09/18/15 12:56	1
1,3,5-Trimethylbenzene	ND		0.400		ppb v/v			09/18/15 12:56	1
Vinyl acetate	ND		0.800		ppb v/v			09/18/15 12:56	1
Vinyl chloride	ND		0.400		ppb v/v			09/18/15 12:56	1

QC Sample Results

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

TestAmerica Job ID: 320-14771-1

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

Lab Sample ID: MB 320-86443/6
Matrix: Air
Analysis Batch: 86443

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m,p-Xylene	ND		0.800		ppb v/v			09/18/15 12:56	1
o-Xylene	ND		0.400		ppb v/v			09/18/15 12:56	1
Total VOC as Hexane (C6-C12)	ND		100		ppb v/v			09/18/15 12:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*		*09/18/15 12:56*	*1*
1,2-Dichloroethane-d4 (Surr)	*93*		*70 - 130*		*09/18/15 12:56*	*1*
Toluene-d8 (Surr)	*96*		*70 - 130*		*09/18/15 12:56*	*1*

Lab Sample ID: LCS 320-86443/3
Matrix: Air
Analysis Batch: 86443

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	20.0	16.10		ppb v/v		81	71 - 131
Benzene	20.0	16.25		ppb v/v		81	68 - 128
Benzyl chloride	20.0	18.91		ppb v/v		95	58 - 120
Bromodichloromethane	20.0	16.49		ppb v/v		82	65 - 130
Bromoform	20.0	17.49		ppb v/v		87	64 - 144
Bromomethane	20.0	19.57		ppb v/v		98	70 - 131
2-Butanone (MEK)	20.0	16.44		ppb v/v		82	71 - 131
Carbon disulfide	20.0	16.25		ppb v/v		81	63 - 123
Carbon tetrachloride	20.0	15.75		ppb v/v		79	67 - 127
Chlorobenzene	20.0	18.01		ppb v/v		90	70 - 132
Dibromochloromethane	20.0	16.37		ppb v/v		82	68 - 128
Chloroethane	20.0	20.86		ppb v/v		104	70 - 131
Chloroform	20.0	16.55		ppb v/v		83	69 - 129
Chloromethane	20.0	17.66		ppb v/v		88	67 - 127
1,2-Dibromoethane (EDB)	20.0	16.81		ppb v/v		84	68 - 131
1,2-Dichlorobenzene	20.0	20.80		ppb v/v		104	73 - 143
1,3-Dichlorobenzene	20.0	21.40		ppb v/v		107	77 - 136
1,4-Dichlorobenzene	20.0	24.29		ppb v/v		121	73 - 143
Dichlorodifluoromethane	20.0	18.95		ppb v/v		95	69 - 129
1,1-Dichloroethane	20.0	16.24		ppb v/v		81	65 - 125
1,2-Dichloroethane	20.0	16.83		ppb v/v		84	71 - 131
1,1-Dichloroethene	20.0	15.84		ppb v/v		79	53 - 128
cis-1,2-Dichloroethene	20.0	16.27		ppb v/v		81	68 - 128
trans-1,2-Dichloroethene	20.0	16.48		ppb v/v		82	70 - 130
1,2-Dichloropropane	20.0	17.35		ppb v/v		87	74 - 128
cis-1,3-Dichloropropene	20.0	17.98		ppb v/v		90	78 - 132
trans-1,3-Dichloropropene	20.0	15.29		ppb v/v		76	56 - 136
1,2-Dichloro-1,1,2,2-tetrafluoroethane	20.0	19.16		ppb v/v		96	64 - 124
Ethylbenzene	20.0	18.70		ppb v/v		94	76 - 136
4-Ethyltoluene	20.0	19.49		ppb v/v		97	62 - 136
Hexachlorobutadiene	20.0	16.49		ppb v/v		82	42 - 150
2-Hexanone	20.0	16.88		ppb v/v		84	70 - 128
Methylene Chloride	20.0	15.30		ppb v/v		77	65 - 125

QC Sample Results

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

TestAmerica Job ID: 320-14771-1

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

Lab Sample ID: LCS 320-86443/3
Matrix: Air
Analysis Batch: 86443

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
4-Methyl-2-pentanone (MIBK)			20.0	16.42		ppb v/v		82	73 - 133		
Styrene			20.0	21.66		ppb v/v		108	76 - 144		
1,1,2,2-Tetrachloroethane			20.0	17.15		ppb v/v		86	75 - 135		
Tetrachloroethene			20.0	17.13		ppb v/v		86	56 - 138		
Toluene			20.0	16.96		ppb v/v		85	71 - 132		
1,2,4-Trichlorobenzene			20.0	23.90		ppb v/v		119	59 - 150		
1,1,1-Trichloroethane			20.0	16.63		ppb v/v		83	65 - 124		
1,1,2-Trichloroethane			20.0	16.48		ppb v/v		82	71 - 131		
Trichloroethene			20.0	16.98		ppb v/v		85	64 - 127		
Trichlorofluoromethane			20.0	18.74		ppb v/v		94	68 - 128		
1,1,2-Trichloro-1,2,2-trifluoroethane			20.0	15.67		ppb v/v		78	50 - 132		
1,2,4-Trimethylbenzene			20.0	20.86		ppb v/v		104	61 - 145		
1,3,5-Trimethylbenzene			20.0	19.42		ppb v/v		97	65 - 136		
Vinyl acetate			20.0	15.45		ppb v/v		77	77 - 134		
Vinyl chloride			20.0	20.04		ppb v/v		100	69 - 129		
Hexane			20.0	15.16		ppb v/v		76	63 - 123		
m,p-Xylene			40.0	40.31		ppb v/v		101	75 - 138		
o-Xylene			20.0	20.65		ppb v/v		103	77 - 132		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*105*		*70 - 130*
Toluene-d8 (Surr)	*98*		*70 - 130*

Lab Sample ID: LCSD 320-86443/22
Matrix: Air
Analysis Batch: 86443

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone			20.0	17.31		ppb v/v		87	71 - 131	7	25
Benzene			20.0	15.95		ppb v/v		80	68 - 128	2	25
Benzyl chloride			20.0	19.97		ppb v/v		100	58 - 120	5	25
Bromodichloromethane			20.0	17.26		ppb v/v		86	65 - 130	5	25
Bromoform			20.0	18.04		ppb v/v		90	64 - 144	3	25
Bromomethane			20.0	20.66		ppb v/v		103	70 - 131	5	25
2-Butanone (MEK)			20.0	15.93		ppb v/v		80	71 - 131	3	25
Carbon disulfide			20.0	16.53		ppb v/v		83	63 - 123	2	25
Carbon tetrachloride			20.0	17.12		ppb v/v		86	67 - 127	8	25
Chlorobenzene			20.0	17.58		ppb v/v		88	70 - 132	2	25
Dibromochloromethane			20.0	16.24		ppb v/v		81	68 - 128	1	25
Chloroethane			20.0	17.78		ppb v/v		89	70 - 131	16	25
Chloroform			20.0	17.45		ppb v/v		87	69 - 129	5	25
Chloromethane			20.0	19.19		ppb v/v		96	67 - 127	8	25
1,2-Dibromoethane (EDB)			20.0	16.11		ppb v/v		81	68 - 131	4	25
1,2-Dichlorobenzene			20.0	22.23		ppb v/v		111	73 - 143	7	25
1,3-Dichlorobenzene			20.0	22.68		ppb v/v		113	77 - 136	6	25
1,4-Dichlorobenzene			20.0	25.81		ppb v/v		129	73 - 143	6	25

QC Sample Results

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

TestAmerica Job ID: 320-14771-1

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

Lab Sample ID: LCSD 320-86443/22
Matrix: Air
Analysis Batch: 86443

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane			20.0	22.83		ppb v/v		114	69 - 129	19	25
1,1-Dichloroethane			20.0	16.70		ppb v/v		84	65 - 125	3	25
1,2-Dichloroethane			20.0	18.46		ppb v/v		92	71 - 131	9	25
1,1-Dichloroethene			20.0	16.85		ppb v/v		84	53 - 128	6	25
cis-1,2-Dichloroethene			20.0	16.47		ppb v/v		82	68 - 128	1	25
trans-1,2-Dichloroethene			20.0	17.01		ppb v/v		85	70 - 130	3	25
1,2-Dichloropropane			20.0	19.05		ppb v/v		95	74 - 128	9	25
cis-1,3-Dichloropropene			20.0	18.34		ppb v/v		92	78 - 132	2	25
trans-1,3-Dichloropropene			20.0	14.81		ppb v/v		74	56 - 136	3	25
1,2-Dichloro-1,1,2,2-tetrafluoroethane			20.0	21.33		ppb v/v		107	64 - 124	11	25
Ethylbenzene			20.0	18.55		ppb v/v		93	76 - 136	1	25
4-Ethyltoluene			20.0	20.30		ppb v/v		102	62 - 136	4	25
Hexachlorobutadiene			20.0	18.59		ppb v/v		93	42 - 150	12	25
2-Hexanone			20.0	15.89		ppb v/v		79	70 - 128	6	25
Methylene Chloride			20.0	16.40		ppb v/v		82	65 - 125	7	25
4-Methyl-2-pentanone (MIBK)			20.0	16.89		ppb v/v		84	73 - 133	3	25
Styrene			20.0	21.54		ppb v/v		108	76 - 144	1	25
1,1,2,2-Tetrachloroethane			20.0	17.20		ppb v/v		86	75 - 135	0	25
Tetrachloroethene			20.0	16.54		ppb v/v		83	56 - 138	3	25
Toluene			20.0	17.24		ppb v/v		86	71 - 132	2	25
1,2,4-Trichlorobenzene			20.0	25.89		ppb v/v		129	59 - 150	8	25
1,1,1-Trichloroethane			20.0	18.04		ppb v/v		90	65 - 124	8	25
1,1,2-Trichloroethane			20.0	15.66		ppb v/v		78	71 - 131	5	25
Trichloroethene			20.0	17.04		ppb v/v		85	64 - 127	0	25
Trichlorofluoromethane			20.0	20.98		ppb v/v		105	68 - 128	11	25
1,1,2-Trichloro-1,2,2-trifluoroethane			20.0	16.18		ppb v/v		81	50 - 132	3	25
1,2,4-Trimethylbenzene			20.0	21.68		ppb v/v		108	61 - 145	4	25
1,3,5-Trimethylbenzene			20.0	20.29		ppb v/v		101	65 - 136	4	25
Vinyl acetate			20.0	15.55		ppb v/v		78	77 - 134	1	25
Vinyl chloride			20.0	21.58		ppb v/v		108	69 - 129	7	25
Hexane			20.0	16.18		ppb v/v		81	63 - 123	7	25
m,p-Xylene			40.0	40.35		ppb v/v		101	75 - 138	0	25
o-Xylene			20.0	20.72		ppb v/v		104	77 - 132	0	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*114*		*70 - 130*
Toluene-d8 (Surr)	*101*		*70 - 130*

QC Association Summary

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

TestAmerica Job ID: 320-14771-1

Air - GC/MS VOA

Analysis Batch: 86443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-14771-1	Canister #5451 Batch #320-14155 9-3-15	Total/NA	Air	TO-15	
LCS 320-86443/3	Lab Control Sample	Total/NA	Air	TO-15	
LCSD 320-86443/22	Lab Control Sample Dup	Total/NA	Air	TO-15	
MB 320-86443/6	Method Blank	Total/NA	Air	TO-15	

Lab Chronicle

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

TestAmerica Job ID: 320-14771-1

Client Sample ID: Canister #5451 Batch #320-14155 9-3-15 **Lab Sample ID: 320-14771-1**
Date Collected: 09/03/15 11:23 **Matrix: Air**
Date Received: 09/04/15 09:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		123	3.695 mL	250 mL	86443	09/18/15 22:05	AP1	TAL SAC

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

Certification Summary

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

TestAmerica Job ID: 320-14771-1

Laboratory: TestAmerica Sacramento

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

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2928-01	01-31-16
Alaska (UST)	State Program	10	UST-055	12-18-15
Arizona	State Program	9	AZ0708	08-11-16
Arkansas DEQ	State Program	6	88-0691	06-17-16
California	State Program	9	2897	01-31-16
Colorado	State Program	8	N/A	08-31-16
Connecticut	State Program	1	PH-0691	06-30-17
Florida	NELAP	4	E87570	06-30-16
Hawaii	State Program	9	N/A	01-29-16
Illinois	NELAP	5	200060	03-17-16
Kansas	NELAP	7	E-10375	10-31-15
Louisiana	NELAP	6	30612	06-30-16
Michigan	State Program	5	9947	01-31-16
Nevada	State Program	9	CA44	07-31-16
New Jersey	NELAP	2	CA005	09-30-15
New York	NELAP	2	11666	04-01-16
Oregon	NELAP	10	CA200005	01-29-16
Pennsylvania	NELAP	3	9947	03-31-16
Texas	NELAP	6	T104704399-15-9	05-31-16
US Fish & Wildlife	Federal		LE148388-0	02-28-16
USDA	Federal		P330-11-00436	12-30-17
USEPA UCMR	Federal	1	CA00044	11-06-16
Utah	NELAP	8	QUAN1	02-28-16
Virginia	NELAP Secondary AB	3	460278	03-14-16
Washington	State Program	10	C581	05-04-16
West Virginia (DW)	State Program	3	9930C	12-31-15
Wyoming	State Program	8	8TMS-Q	01-29-16

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	08-31-16

Method Summary

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

TestAmerica Job ID: 320-14771-1

Method	Method Description	Protocol	Laboratory
TO-15	Volatile Organic Compounds in Ambient Air	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

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

Sample Summary

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

TestAmerica Job ID: 320-14771-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-14771-1	Canister #5451 Batch #320-14155 9-3-15	Air	09/03/15 11:23	09/04/15 09:40

TestAmerica Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
phone 916.374.4378 fax 916 372.1059

Canister Samples Chain of Custody Record

TestAmerica Laboratories, Inc assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact Information: Cathy	Project Manager: Bruce McKenzie	Samples Collected By: Terry Fisher	COC No:
Company Name: Enviroclean	Phone: 918 794 7828		____ of ____ COCs
Address: 7060 S. Yale Ste 603	Email: BMcKenzie@cleanPS.com		
City/State/Zip: Tulsa OK 74136			For Lab Use Only: Walk-in Client: Lab Sampling:
Phone: 918 794 7828	Site Contact: Bruce McKenzie		
FAX:	TA Contact: Cathy Gartner		Job / SDG No:
Project Name: Stoke M-1 Lease	Anaylsis Turnaround Time		(See below for Add'l Items)
Site/Location	Standard (Specific): Standard		
P O #	Rush (Specifiy):		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, 'Hg (Start)'	Canister Vacuum in Field, 'Hg (Stop)'	Flow Controller ID	Canister ID	TO-15 (Med / Std / Low / SIM)	MA-APH	EPA 3C	EPA 25C / 25.3	ASTM D-1946 / 1945 / 3588	EPA 15/16	TO-3	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)	Sample Specific Notes:
Canister # 5451	9-3-15	1115	1123	—	—	—	5451															Total VOC
Batch # 320-14155																						Hexane
9-3-15																						

	Temperature (Fahrenheit)		
Start	Interior	Ambient	
Stop			

	Temperature (Fahrenheit)		
Start	Interior	Ambient	
Stop			

320-14771 Chain of Custody

Special Instructions/QC Requirements & Comments:
Cathy Gartner

Samples Shipped by: Terry Fisher	Date / Time: 9-3-15 1600	Samples Received by:	9/4/15 940
Samples Relinquished by:	Date / Time:	Received by:	
Relinquished by:	Date / Time:	Received by:	
Lab Use Only: Shipper Name:	Opened by:	Condition:	

Form No. CA-C-WI-003, Rev. 1, dated 05/10/2013

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

CANISTER FIELD DATA RECORD

Sacramento

JOB # 320-14771
Sample # 1

Client/Project:		VFR ID:		
Canister Serial #:	8351	Duration:		☐ Hrs ☐ Min
Cleaning Job:		Flow:		mL/min
Client ID:		Initials:		
Site Location:				

FIELD				
READING	TIME	PRESS.	DATE	INITIALS
INITIAL FIELD VACUUM				
FINAL FIELD READING				

LABORATORY			
READING	PRESS.	DATE	INITIALS
INITIAL VACUUM CHECK (INCHES Hg)			JMT
☐ Helium Pre-dilution - Final Pressure (INCHES Hg)			
INITIAL PRESSURE (PSIA)	12.47	09/08/15	srs
FINAL PRESSURE (PSIA)	22.70	09/08/15	srs
Pressurization Gas: ☐ N2 ☐ He	SCREENED ☐	SCRN DIL. VS 250mLs:	
Initial Canister Dilution Factor = 1.82			

CANISTER REPRESSURIZATION

Date	Pi (PSIA)	Pf (PSIA)	Initial DF	Initials	NEW DF
			1.82		#DIV/0!
			#DIV/0!		#DIV/0!
			#DIV/0!		#DIV/0!

Analytical Dilution Factors

Date	Instr.	File #
9/18/2015	MS7	

Canister DF = 1.82 X Load DF = 1.6666667 (LVf (mLs) 250, LVi (mLs) 150) X Bag DF = 40.59 (BVf (mLs) 40.59, Bvi (mLs) 1) = FINAL DF 123.1479551

Date	Instr.	File #

Canister DF = 1.82 X Load DF = #DIV/0! X Bag DF = 1 = FINAL DF #DIV/0!

Date	Instr.	File #

Canister DF = 1.82 X Load DF = #DIV/0! X Bag DF = 1 = FINAL DF #DIV/0!

Login Sample Receipt Checklist

Client: Enviro Clean Services LLC Job Number: 320-14771-1

Login Number: 14771 **List Source: TestAmerica Sacramento**
List Number: 1
Creator: Nelson, Kym D

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
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.	N/A	
Cooler Temperature is acceptable.	N/A	
Cooler Temperature is recorded.	N/A	
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.	False	Refer to Job Narrative for details.
Samples are received within Holding Time.	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	

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sacramento
Canister QC Certification

Certification Type: TO-15 SCAN

Date Cleaned/Batch ID D72715 320-14155

Date of QC 7/29/15

Data File Number 150729Z2

320-14155 Chain of Custody

CANISTER ID NUMBERS

34000837	* 34000142	
1279	7838	
0465	7903	
2034	8351	
1524		
0599		
1124		
1439		

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.

1st level Reviewed By: Date: 7/31/15

2nd level Reviewed By: Date: 8/3/15

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

ERS 7/29/2013

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Canister C

320-14763 Chain of Custody

Certification Type: TO-15 SCAN

Date Cleaned/Batch ID: 9/3/15 320-14763

Date of QC: 9/4/15

Data File Number: 150904r18

85110

CANISTER ID NUMBERS

34001895	34000956	
1715	0998	
1912 *	1918	
1928	1686	
0682	7535	
1100	7539	
1625	8320	
1653	7507	

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.

1st level Reviewed By: _____ Date: 9/10/15

2nd level Reviewed By: _____ Date: 9/10/15

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QA-814

ERS 7/29/2013

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

Lab Name: TestAmerica Sacramento Job No.: 320-14155-1

SDG No.:

Client Sample ID: 34000142 Lab Sample ID: 320-14155-9

Matrix: Air Lab File ID: 15072922.D

Analysis Method: TO-15 Date Collected: 07/27/2015 00:00

Sample wt/vol: 250(mL) Date Analyzed: 07/30/2015 02:57

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-Volatiles ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 81201 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	0.42	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	ND		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	0.11
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-tetrafluoroethane	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
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-14155-1

SDG No.:

Client Sample ID: 34000142 Lab Sample ID: 320-14155-9

Matrix: Air Lab File ID: 15072922.D

Analysis Method: TO-15 Date Collected: 07/27/2015 00:00

Sample wt/vol: 250(mL) Date Analyzed: 07/30/2015 02:57

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-Volatiles ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 81201 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	0.050
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	0.12	J B	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	0.079
108-88-3	Toluene	ND		0.40	0.051
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	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
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-14155-1

SDG No.:

Client Sample ID: 34000142 Lab Sample ID: 320-14155-9

Matrix: Air Lab File ID: 15072922.D

Analysis Method: TO-15 Date Collected: 07/27/2015 00:00

Sample wt/vol: 250(mL) Date Analyzed: 07/30/2015 02:57

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-Volatiles ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 81201 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)	117		70-130
2037-26-5	Toluene-d8 (Surr)	95		70-130

Report Date: 31-Jul-2015 15:06:39 Chrom Revision: 2.2 23-Jul-2015 08:26:08

TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\ChromNA\Sacramento\ChromData\ATMS2\20150729-23791.b\15072922.D				
Lims ID:	320-14155-A-9	Lab Sample ID:	320-14155-9		
Client ID:	34000142				
Sample Type:	Client				
Inject. Date:	30-Jul-2015 02:57:30	ALS Bottle#:	14	Worklist Smp#:	37
Purge Vol:	250.000 mL	Dil. Factor:	1.0000		
Sample Info:	320-14155-A-9				
Misc. Info.:	500mL				
Operator ID:	SRS	Instrument ID:	ATMS2		
Method:	\\ChromNA\Sacramento\ChromData\ATMS2\20150729-23791.b\TO15_ATMS2N.m				
Limit Group:	MSA - TO15 - ICAL				
Last Update:	30-Jul-2015 11:00:00	Calib Date:	11-Jun-2015 07:16:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\ATMS2\20150610-22452.b\15061026.D				
Column 1 :	RTX Volatiles (0.32 mm)		Det: MS SCAN		
Process Host:	XAWRK052				

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ppb v/v	Flags
* 1 Chlorobromomethane (IS)	130	10.236	10.236	0.000	93	40109	4.00	
* 2 1,4-Difluorobenzene	114	11.587	11.581	0.006	95	167051	4.00	
* 3 Chlorobenzene-d5 (IS)	117	15.888	15.888	0.000	88	136951	4.00	
$ 4 1,2-Dichloroethane-d4 (Sur	65	11.003	10.997	0.006	94	65332	4.68	
$ 5 Toluene-d8 (Surr)	100	13.759	13.759	0.000	98	92971	3.78	
$ 6 4-Bromofluorobenzene (Surr	174	17.646	17.640	0.006	93	82915	3.87	
14 Propene	41	4.122	4.122	0.000	35	1204	0.1236	
31 Acetone	43	6.945	6.903	0.042	98	5992	0.4161	
88 n-Octane	43	13.747	13.728	0.019	42	837	0.0258	
85 Toluene	91	13.862	13.868	-0.006	82	1870	0.0495	
97 Ethylbenzene	91	16.046	16.046	0.000	1	541	0.0126	
98 m-Xylene & p-Xylene	91	16.162	16.168	-0.006	1	1648	0.0493	
101 o-Xylene	91	16.801	16.794	0.007	1	822	0.0241	
107 N-Propylbenzene	91	17.920	17.926	-0.006	1	1092	0.0201	
110 4-Ethyltoluene	120	18.163	18.096	0.067	1	712	0.0474	
111 1,3,5-Trimethylbenzene	120	18.163	18.157	0.006	1	712	0.0344	
114 tert-Butylbenzene	91	18.705	18.699	0.006	1	788	0.0262	
115 1,2,4-Trimethylbenzene	120	18.759	18.747	0.012	1	890	0.0447	
116 sec-Butylbenzene	105	19.033	19.027	0.006	95	1914	0.0323	
121 4-Isopropyltoluene	119	19.222	19.222	0.000	93	4189	0.0822	
117 1,3-Dichlorobenzene	146	19.331	19.337	-0.006	70	992	0.0322	
118 Benzyl chloride	91	19.611	19.593	0.018	1	835	0.0212	
123 n-Butylbenzene	92	19.836	19.836	0.000	1	495	0.0239	
122 1,2-Dichlorobenzene	146	20.037	20.037	0.000	14	1120	0.0394	
128 Hexachlorobutadiene	225	23.194	23.188	0.006	84	2739	0.1230	
127 Naphthalene	128	23.310	23.310	0.000	1	811	0.0214	

Reagents:

VASUISIM_00195 Amount Added: 50.00 Units: mL Run Reagent

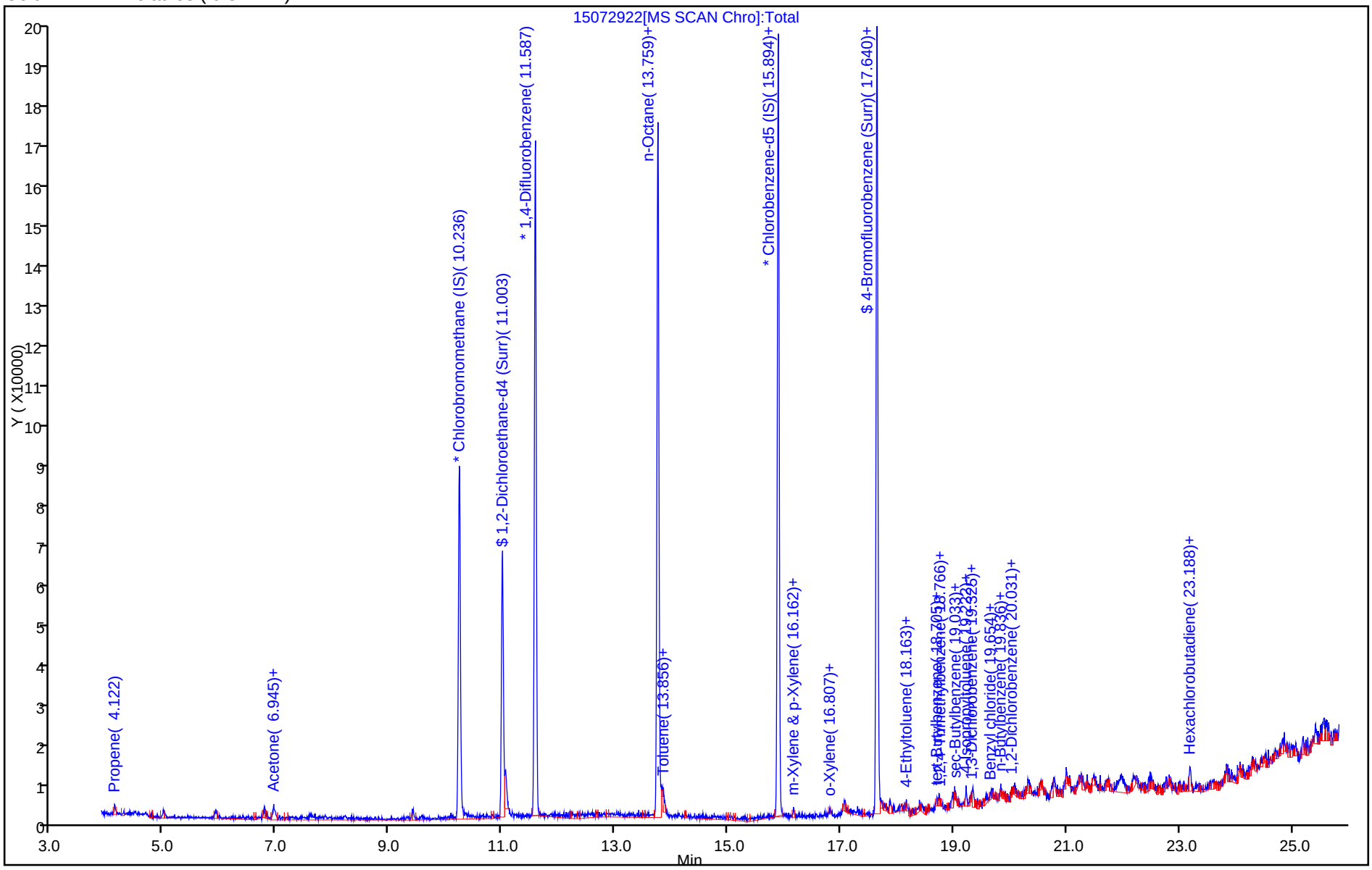
Report Date: 31-Jul-2015 15:06:39 Chrom Revision: 2.2 23-Jul-2015 08:26:08

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\ATMS2\20150729-23791.b\15072922.D

Injection Date:	30-Jul-2015 02:57:30	Instrument ID:	ATMS2	Operator ID:	SRS
Lims ID:	320-14155-A-9	Lab Sample ID:	320-14155-9	Worklist Smp#:	37
Client ID:	34000142				
Purge Vol:	250.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	TO15_ATMS2N	Limit Group:	MSA - TO15 - ICAL		

Column: RTX Volatiles (0.32 mm)

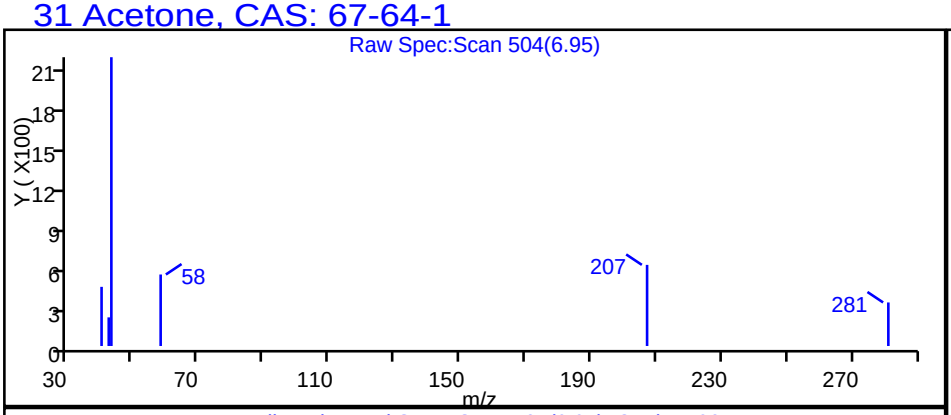


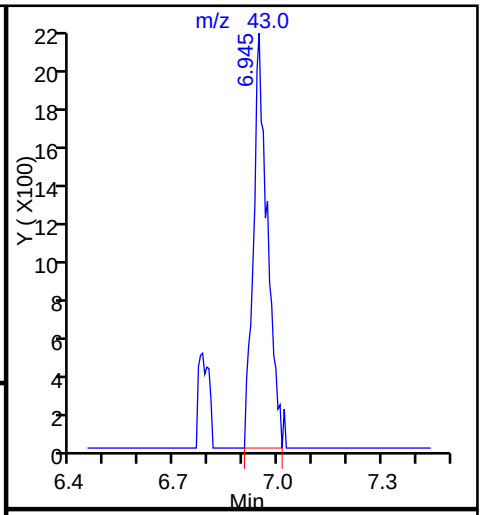
Report Date: 31-Jul-2015 15:06:39 Chrom Revision: 2.2 23-Jul-2015 08:26:08

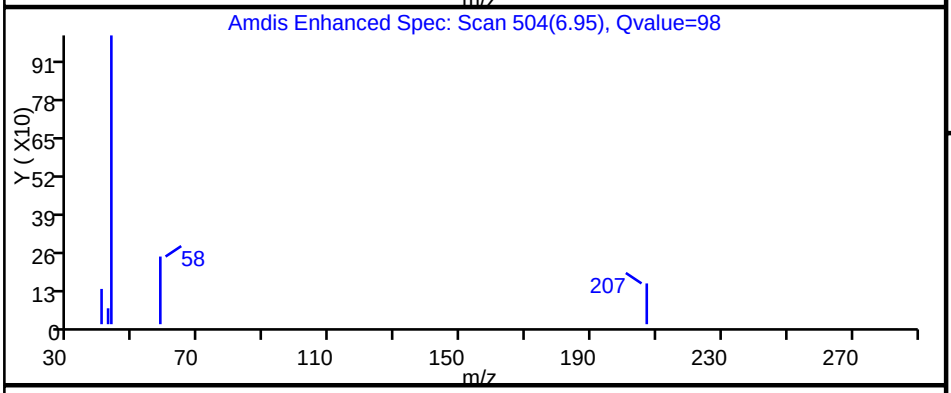
TestAmerica Sacramento

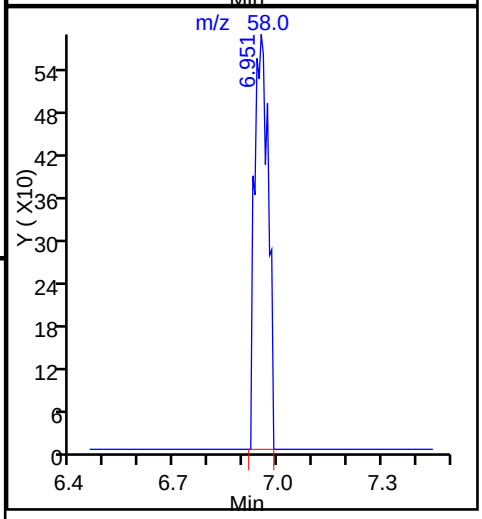
Data File:	\\ChromNA\Sacramento\ChromData\ATMS2\20150729-23791.b\15072922.D				
Injection Date:	30-Jul-2015 02:57:30	Instrument ID:	ATMS2		
Lims ID:	320-14155-A-9	Lab Sample ID:	320-14155-9		
Client ID:	34000142				
Operator ID:	SRS	ALS Bottle#:	14	Worklist Smp#:	37
Purge Vol:	250.000 mL	Dil. Factor:	1.0000		
Method:	TO15_ATMS2N	Limit Group:	MSA - TO15 - ICAL		
Column:	RTX Volatiles (0.32 mm)	Detector	MS SCAN		

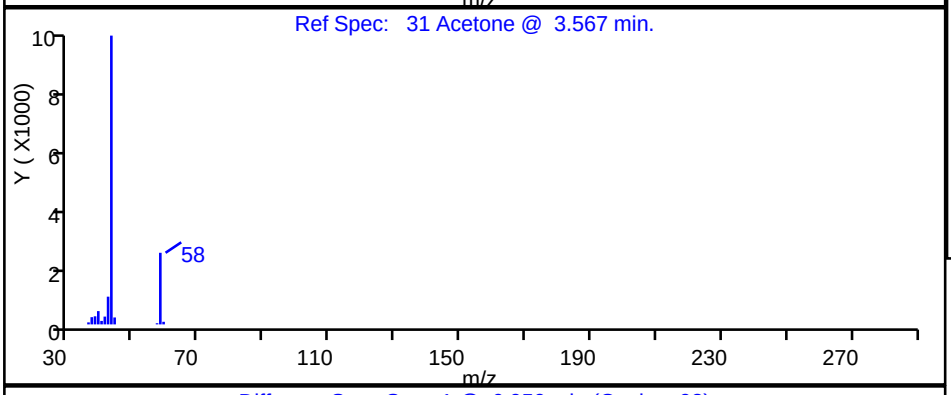
31 Acetone, CAS: 67-64-1

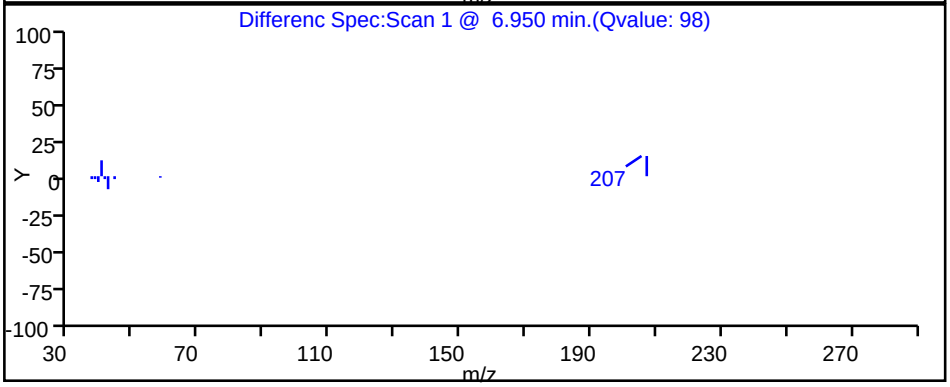












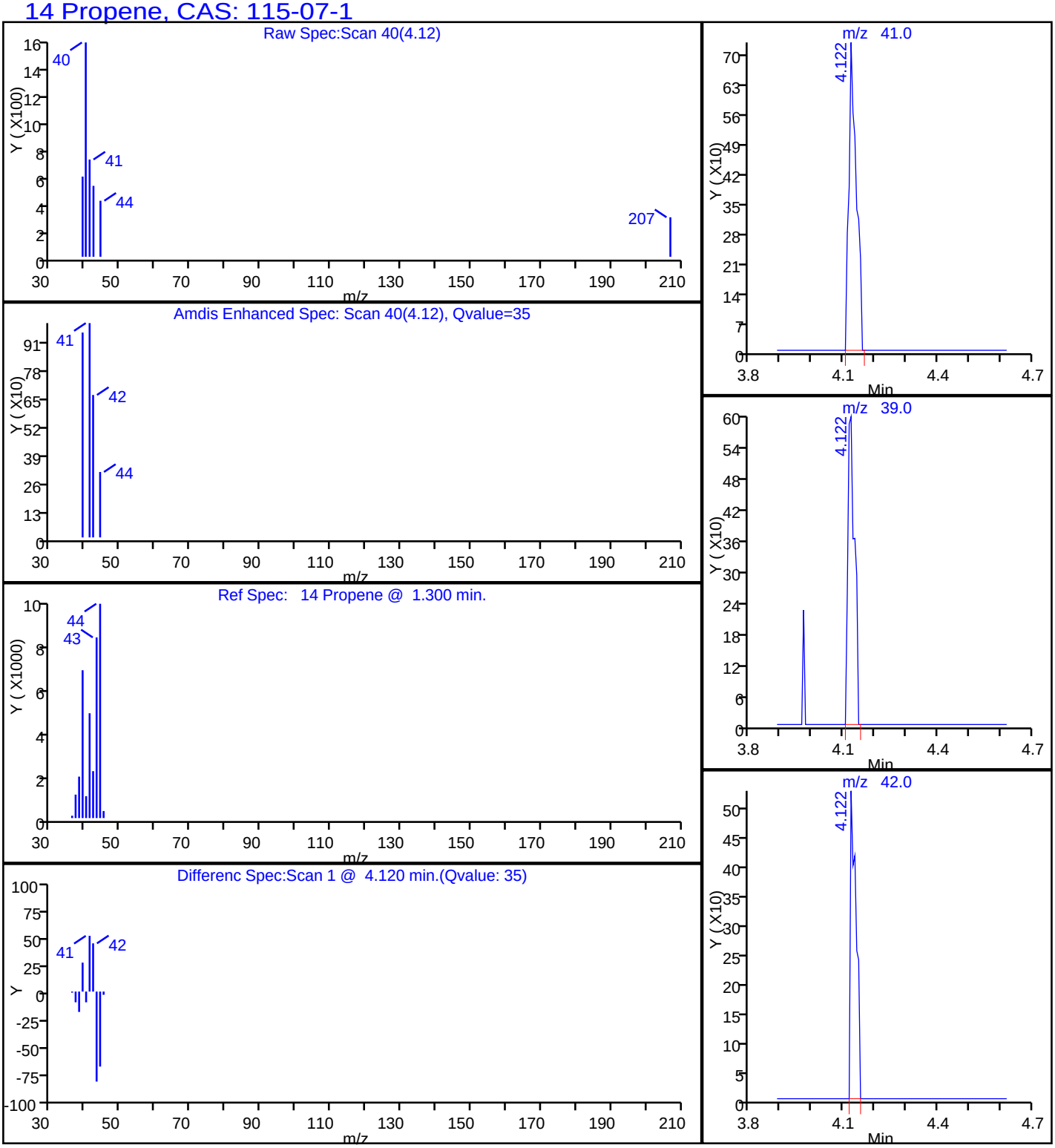
Report Date: 31-Jul-2015 15:06:39 Chrom Revision: 2.2 23-Jul-2015 08:26:08

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\ATMS2\20150729-23791.b\15072922.D

Injection Date:	30-Jul-2015 02:57:30	Instrument ID:	ATMS2		
Lims ID:	320-14155-A-9	Lab Sample ID:	320-14155-9		
Client ID:	34000142				
Operator ID:	SRS	ALS Bottle#:	14	Worklist Smp#:	37
Purge Vol:	250.000 mL	Dil. Factor:	1.0000		
Method:	TO15_ATMS2N	Limit Group:	MSA - TO15 - ICAL		
Column:	RTX Volatiles (0.32 mm)	Detector	MS SCAN		

14 Propene, CAS: 115-07-1



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

Lab Name: TestAmerica Sacramento Job No.: 320-14763-1

SDG No.: 1L SCAN Batch

Client Sample ID: 34001912 Lab Sample ID: 320-14763-3

Matrix: Air Lab File ID: 15090418.D

Analysis Method: TO-15 Date Collected: 09/03/2015 00:00

Sample wt/vol: 250(mL) Date Analyzed: 09/05/2015 01:49

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-Volatiles ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 85110 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	0.55	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	ND		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	0.11
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-tetrafluoroethane	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
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-14763-1

SDG No.: 1L SCAN Batch

Client Sample ID: 34001912 Lab Sample ID: 320-14763-3

Matrix: Air Lab File ID: 15090418.D

Analysis Method: TO-15 Date Collected: 09/03/2015 00:00

Sample wt/vol: 250(mL) Date Analyzed: 09/05/2015 01:49

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-Volatiles ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 85110 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	0.050
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	0.079
108-88-3	Toluene	ND		0.40	0.051
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	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
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-14763-1

SDG No.: 1L SCAN Batch

Client Sample ID: 34001912 Lab Sample ID: 320-14763-3

Matrix: Air Lab File ID: 15090418.D

Analysis Method: TO-15 Date Collected: 09/03/2015 00:00

Sample wt/vol: 250(mL) Date Analyzed: 09/05/2015 01:49

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-Volatiles ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 85110 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	0.24	J	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)	115		70-130
17060-07-0	1,2-Dichloroethane-d4 (Surr)	115		70-130
2037-26-5	Toluene-d8 (Surr)	95		70-130

Report Date: 10-Sep-2015 14:58:45 Chrom Revision: 2.2 23-Jul-2015 08:26:08

TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\ChromNA\Sacramento\ChromData\ATMS2\20150904-24752.b\15090418.D				
Lims ID:	320-14763-A-3	Lab Sample ID:	320-14763-3		
Client ID:	34001912				
Sample Type:	Client				
Inject. Date:	05-Sep-2015 01:49:30	ALS Bottle#:	13	Worklist Smp#:	30
Purge Vol:	250.000 mL	Dil. Factor:	1.0000		
Sample Info:	320-14763-A-3				
Misc. Info.:	500mL				
Operator ID:	SRS	Instrument ID:	ATMS2		
Method:	\\ChromNA\Sacramento\ChromData\ATMS2\20150904-24752.b\TO15_ATMS2N.m				
Limit Group:	MSA - TO15 - ICAL				
Last Update:	10-Sep-2015 14:58:45	Calib Date:	12-Aug-2015 00:29:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\ATMS2\20150811-24141.b\15081111.D				
Column 1 :	RTX Volatiles (0.32 mm)		Det: MS SCAN		
Process Host:	XAWRK016				
First Level Reviewer: ortizam		Date:	10-Sep-2015 14:58:45		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ppb v/v	Flags
* 1 Chlorobromomethane (IS)	130	10.218	10.218	0.000	93	77007	4.00	
* 2 1,4-Difluorobenzene	114	11.563	11.563	0.000	95	294260	4.00	
* 3 Chlorobenzene-d5 (IS)	117	15.870	15.870	0.000	87	249654	4.00	
$ 4 1,2-Dichloroethane-d4 (Sur	65	10.979	10.979	0.000	99	114432	4.58	
$ 5 Toluene-d8 (Surr)	100	13.734	13.735	0.000	97	167890	3.82	
$ 6 4-Bromofluorobenzene (Surr	174	17.622	17.622	0.000	94	168000	4.59	
31 Acetone	43	6.921	6.890	0.031	97	14484	0.5508	
98 m-Xylene & p-Xylene	91	16.137	16.144	-0.007	97	13488	0.2440	

Reagents:

VASUISIM_00206 Amount Added: 50.00 Units: mL Run Reagent

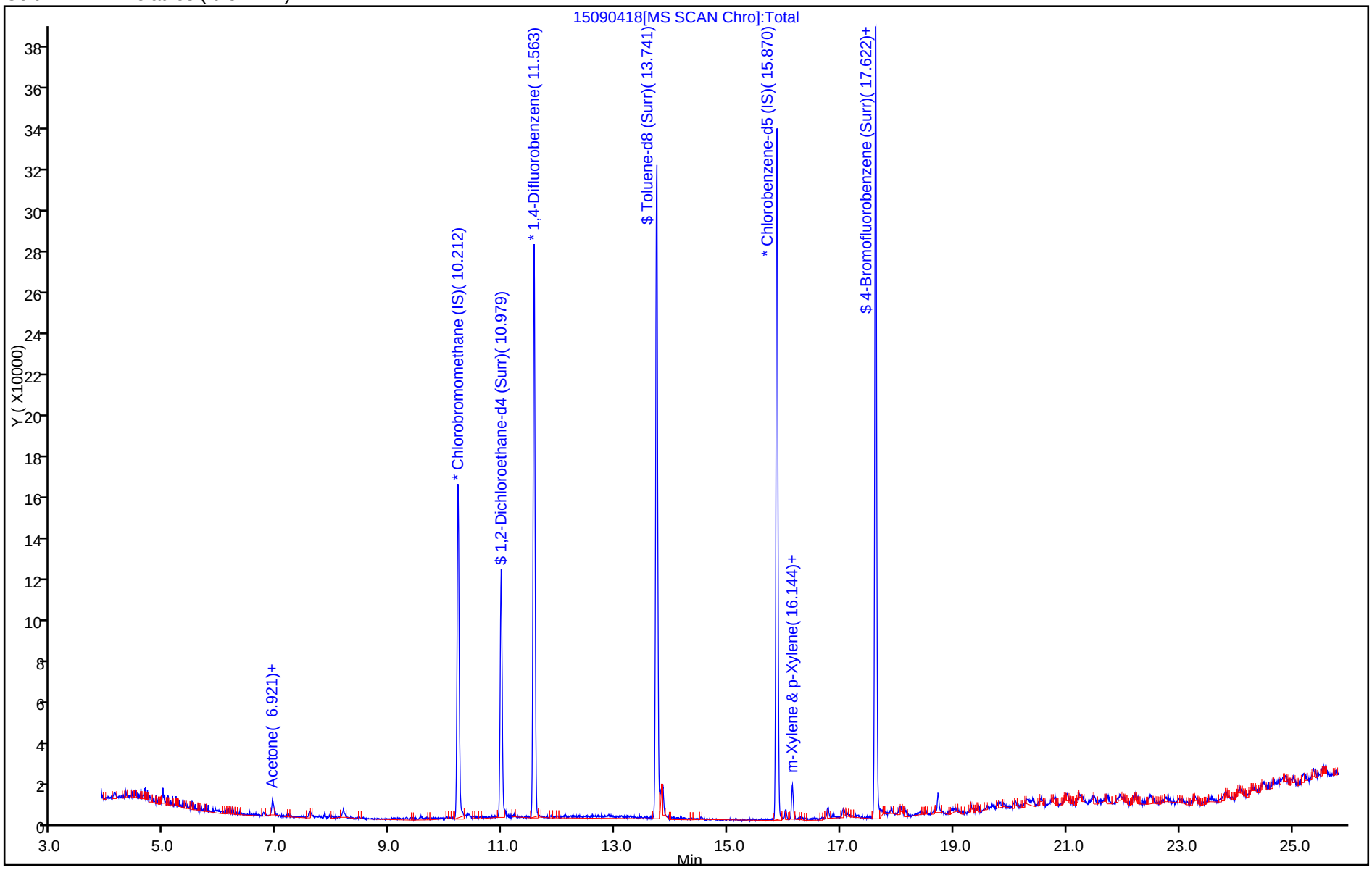
Report Date: 10-Sep-2015 14:58:45 Chrom Revision: 2.2 23-Jul-2015 08:26:08

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\ATMS2\20150904-24752.b\15090418.D

Injection Date:	05-Sep-2015 01:49:30	Instrument ID:	ATMS2	Operator ID:	SRS
Lims ID:	320-14763-A-3	Lab Sample ID:	320-14763-3	Worklist Smp#:	30
Client ID:	34001912				
Purge Vol:	250.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	TO15_ATMS2N	Limit Group:	MSA - TO15 - ICAL		

Column: RTX Volatiles (0.32 mm)



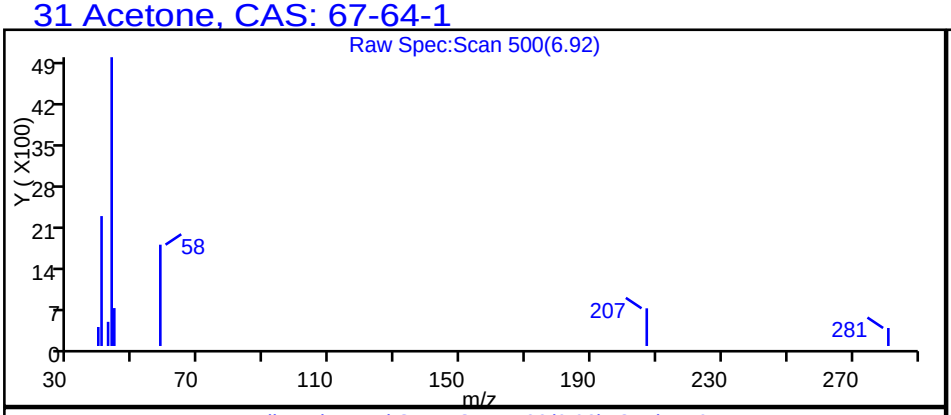
Report Date: 10-Sep-2015 14:58:45 Chrom Revision: 2.2 23-Jul-2015 08:26:08

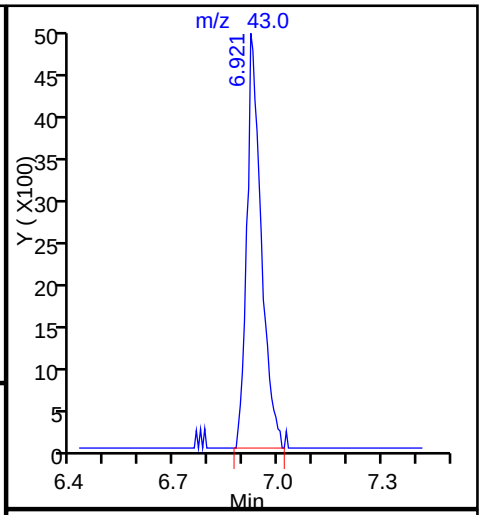
TestAmerica Sacramento

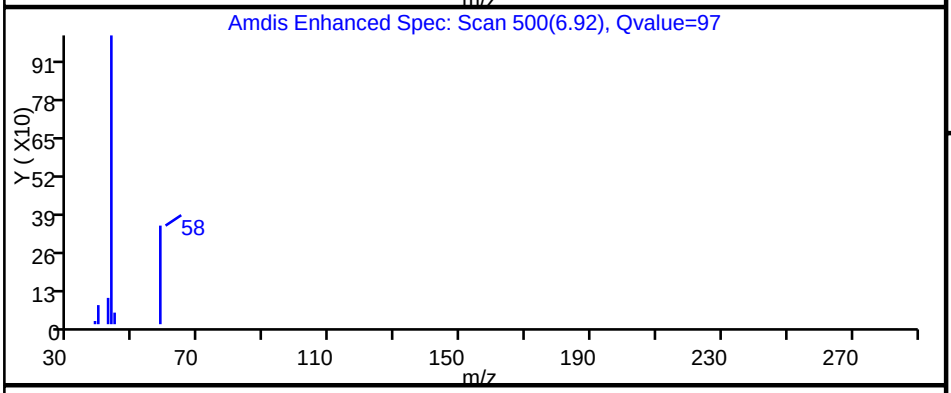
Data File: \\ChromNA\Sacramento\ChromData\ATMS2\20150904-24752.b\15090418.D

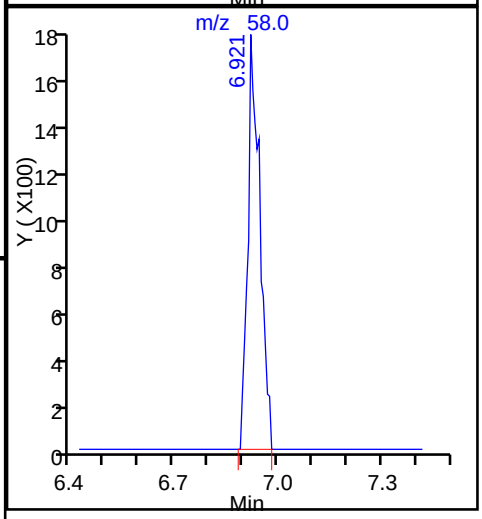
Injection Date:	05-Sep-2015 01:49:30	Instrument ID:	ATMS2		
Lims ID:	320-14763-A-3	Lab Sample ID:	320-14763-3		
Client ID:	34001912				
Operator ID:	SRS	ALS Bottle#:	13	Worklist Smp#:	30
Purge Vol:	250.000 mL	Dil. Factor:	1.0000		
Method:	TO15_ATMS2N	Limit Group:	MSA - TO15 - ICAL		
Column:	RTX Volatiles (0.32 mm)	Detector	MS SCAN		

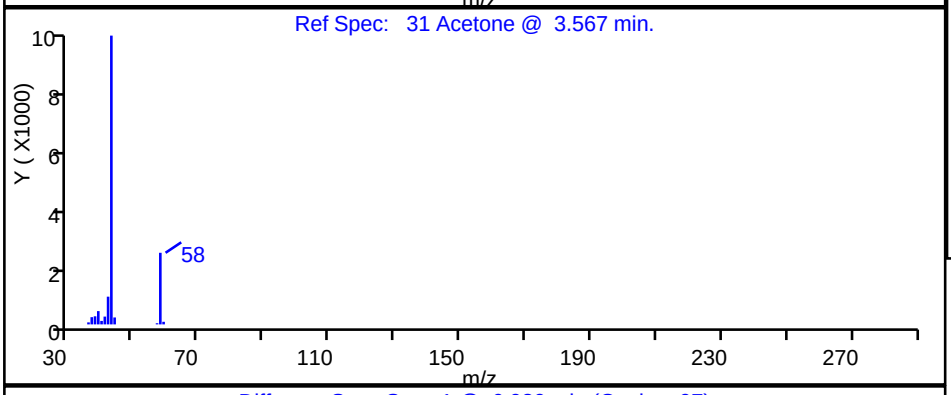
31 Acetone, CAS: 67-64-1

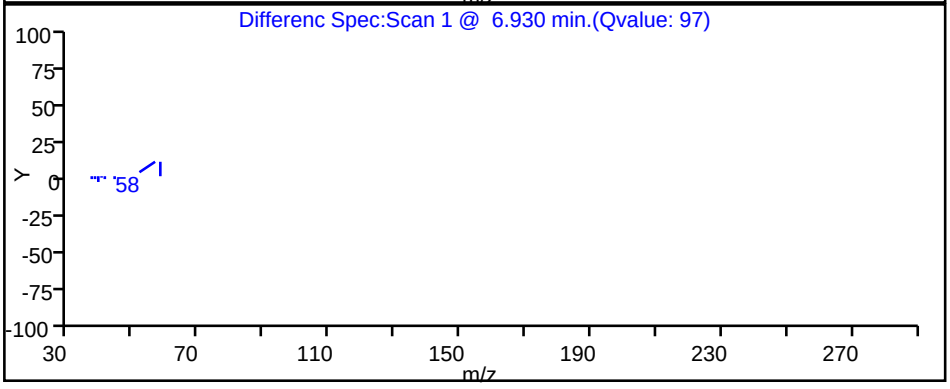












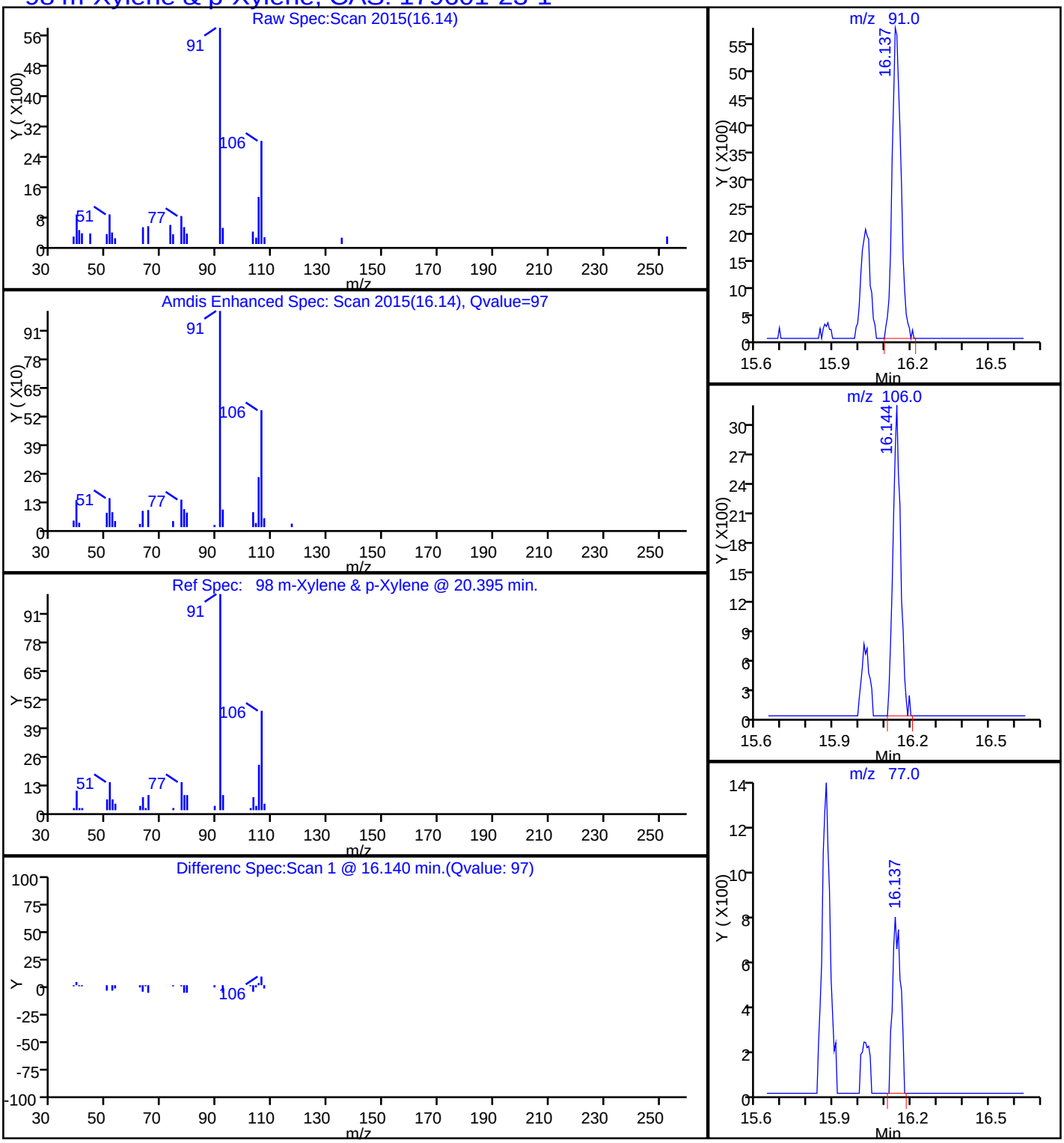
Report Date: 10-Sep-2015 14:58:46 Chrom Revision: 2.2 23-Jul-2015 08:26:08

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\ATMS2\20150904-24752.b\15090418.D

Injection Date:	05-Sep-2015 01:49:30	Instrument ID:	ATMS2		
Lims ID:	320-14763-A-3	Lab Sample ID:	320-14763-3		
Client ID:	34001912				
Operator ID:	SRS	ALS Bottle#:	13	Worklist Smp#:	30
Purge Vol:	250.000 mL	Dil. Factor:	1.0000		
Method:	TO15_ATMS2N	Limit Group:	MSA - TO15 - ICAL		
Column:	RTX Volatiles (0.32 mm)	Detector	MS SCAN		

98 m-Xylene & p-Xylene, CAS: 179601-23-1



TestAmerica

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: 320-16418-1
TestAmerica Sample Delivery Group: Property ID 891077
Client Project/Site: M-1

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

Attn: Ms. Julie Czech

CathyGartner

Authorized for release by:
12/28/2015 10:53:59 AM

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

Table of Contents

Definitions/Glossary

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

TestAmerica Job ID: 320-16418-1
SDG: Property ID 891077

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

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

TestAmerica Job ID: 320-16418-1
SDG: Property ID 891077

Job ID: 320-16418-1

Laboratory: TestAmerica Sacramento

Narrative

Job Narrative
320-16418-1

Comments
No additional comments.

Receipt
The sample was received on 12/11/2015 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: M-1

TestAmerica Job ID: 320-16418-1
SDG: Property ID 891077

Client Sample ID: CANISTER #34000512 BATCH ID #320-15930

Lab Sample ID: 320-16418-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	194		29.6		ppb v/v	74		TO-15	Total/NA
Ethylbenzene	723		29.6		ppb v/v	74		TO-15	Total/NA
4-Ethyltoluene	186		29.6		ppb v/v	74		TO-15	Total/NA
1,2,4-Trimethylbenzene	355		59.2		ppb v/v	74		TO-15	Total/NA
1,3,5-Trimethylbenzene	247		29.6		ppb v/v	74		TO-15	Total/NA
m,p-Xylene	1380		59.2		ppb v/v	74		TO-15	Total/NA
o-Xylene	194		29.6		ppb v/v	74		TO-15	Total/NA
Total VOC as Hexane (C6-C12)	140000		7400		ppb v/v	74		TO-15	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

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

TestAmerica Job ID: 320-16418-1
SDG: Property ID 891077

Client Sample ID: CANISTER #34000512 BATCH ID #320-15930
Lab Sample ID: 320-16418-1
Date Collected: 12/10/15 13:15
Matrix: Air
Date Received: 12/11/15 10:00
Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		370		ppb v/v			12/23/15 10:58	74
Benzene	**194**		29.6		ppb v/v			12/23/15 10:58	74
Benzyl chloride	ND		59.2		ppb v/v			12/23/15 10:58	74
Bromodichloromethane	ND		22.2		ppb v/v			12/23/15 10:58	74
Bromoform	ND		29.6		ppb v/v			12/23/15 10:58	74
Bromomethane	ND		59.2		ppb v/v			12/23/15 10:58	74
2-Butanone (MEK)	ND		59.2		ppb v/v			12/23/15 10:58	74
Carbon disulfide	ND		59.2		ppb v/v			12/23/15 10:58	74
Carbon tetrachloride	ND		59.2		ppb v/v			12/23/15 10:58	74
Chlorobenzene	ND		22.2		ppb v/v			12/23/15 10:58	74
Dibromochloromethane	ND		29.6		ppb v/v			12/23/15 10:58	74
Chloroethane	ND		59.2		ppb v/v			12/23/15 10:58	74
Chloroform	ND		22.2		ppb v/v			12/23/15 10:58	74
Chloromethane	ND		59.2		ppb v/v			12/23/15 10:58	74
1,2-Dibromoethane (EDB)	ND		59.2		ppb v/v			12/23/15 10:58	74
1,2-Dichlorobenzene	ND		29.6		ppb v/v			12/23/15 10:58	74
1,3-Dichlorobenzene	ND		29.6		ppb v/v			12/23/15 10:58	74
1,4-Dichlorobenzene	ND		29.6		ppb v/v			12/23/15 10:58	74
Dichlorodifluoromethane	ND		29.6		ppb v/v			12/23/15 10:58	74
1,1-Dichloroethane	ND		22.2		ppb v/v			12/23/15 10:58	74
1,2-Dichloroethane	ND		59.2		ppb v/v			12/23/15 10:58	74
1,1-Dichloroethene	ND		59.2		ppb v/v			12/23/15 10:58	74
cis-1,2-Dichloroethene	ND		29.6		ppb v/v			12/23/15 10:58	74
trans-1,2-Dichloroethene	ND		29.6		ppb v/v			12/23/15 10:58	74
1,2-Dichloropropane	ND		29.6		ppb v/v			12/23/15 10:58	74
cis-1,3-Dichloropropene	ND		29.6		ppb v/v			12/23/15 10:58	74
trans-1,3-Dichloropropene	ND		29.6		ppb v/v			12/23/15 10:58	74
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		29.6		ppb v/v			12/23/15 10:58	74
Ethylbenzene	**723**		29.6		ppb v/v			12/23/15 10:58	74
4-Ethyltoluene	**186**		29.6		ppb v/v			12/23/15 10:58	74
Hexachlorobutadiene	ND		148		ppb v/v			12/23/15 10:58	74
2-Hexanone	ND		29.6		ppb v/v			12/23/15 10:58	74
Methylene Chloride	ND		29.6		ppb v/v			12/23/15 10:58	74
4-Methyl-2-pentanone (MIBK)	ND		29.6		ppb v/v			12/23/15 10:58	74
Styrene	ND		29.6		ppb v/v			12/23/15 10:58	74
1,1,2,2-Tetrachloroethane	ND		29.6		ppb v/v			12/23/15 10:58	74
Tetrachloroethene	ND		29.6		ppb v/v			12/23/15 10:58	74
Toluene	ND		29.6		ppb v/v			12/23/15 10:58	74
1,2,4-Trichlorobenzene	ND		148		ppb v/v			12/23/15 10:58	74
1,1,1-Trichloroethane	ND		22.2		ppb v/v			12/23/15 10:58	74
1,1,2-Trichloroethane	ND		29.6		ppb v/v			12/23/15 10:58	74
Trichloroethene	ND		29.6		ppb v/v			12/23/15 10:58	74
Trichlorofluoromethane	ND		29.6		ppb v/v			12/23/15 10:58	74
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		29.6		ppb v/v			12/23/15 10:58	74
1,2,4-Trimethylbenzene	**355**		59.2		ppb v/v			12/23/15 10:58	74
1,3,5-Trimethylbenzene	**247**		29.6		ppb v/v			12/23/15 10:58	74
Vinyl acetate	ND		59.2		ppb v/v			12/23/15 10:58	74

Client Sample Results

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

TestAmerica Job ID: 320-16418-1
SDG: Property ID 891077

Client Sample ID: CANISTER #34000512 BATCH ID #320-15930
Lab Sample ID: 320-16418-1
Date Collected: 12/10/15 13:15
Matrix: Air
Date Received: 12/11/15 10:00
Sample Container: Summa Canister 6L

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		29.6		ppb v/v			12/23/15 10:58	74
m,p-Xylene	**1380**		59.2		ppb v/v			12/23/15 10:58	74
o-Xylene	**194**		29.6		ppb v/v			12/23/15 10:58	74
Total VOC as Hexane (C6-C12)	**140000**		7400		ppb v/v			12/23/15 10:58	74

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*		*12/23/15 10:58*	*74*
1,2-Dichloroethane-d4 (Surr)	*118*		*70 - 130*		*12/23/15 10:58*	*74*
Toluene-d8 (Surr)	*99*		*70 - 130*		*12/23/15 10:58*	*74*

Surrogate Summary

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

TestAmerica Job ID: 320-16418-1
SDG: Property ID 891077

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)
320-16418-1	CANISTER #34000512 BATCH	101	118	99
LCS 320-96412/3	Lab Control Sample	108	122	95
LCSD 320-96412/4	Lab Control Sample Dup	108	123	94
MB 320-96412/6	Method Blank	90	109	94

Surrogate Legend

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

QC Sample Results

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

TestAmerica Job ID: 320-16418-1
SDG: Property ID 891077

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

Lab Sample ID: MB 320-96412/6
Matrix: Air
Analysis Batch: 96412

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		5.00		ppb v/v			12/22/15 18:44	1
Benzene	ND		0.400		ppb v/v			12/22/15 18:44	1
Benzyl chloride	ND		0.800		ppb v/v			12/22/15 18:44	1
Bromodichloromethane	ND		0.300		ppb v/v			12/22/15 18:44	1
Bromoform	ND		0.400		ppb v/v			12/22/15 18:44	1
Bromomethane	ND		0.800		ppb v/v			12/22/15 18:44	1
2-Butanone (MEK)	ND		0.800		ppb v/v			12/22/15 18:44	1
Carbon disulfide	ND		0.800		ppb v/v			12/22/15 18:44	1
Carbon tetrachloride	ND		0.800		ppb v/v			12/22/15 18:44	1
Chlorobenzene	ND		0.300		ppb v/v			12/22/15 18:44	1
Dibromochloromethane	ND		0.400		ppb v/v			12/22/15 18:44	1
Chloroethane	ND		0.800		ppb v/v			12/22/15 18:44	1
Chloroform	ND		0.300		ppb v/v			12/22/15 18:44	1
Chloromethane	ND		0.800		ppb v/v			12/22/15 18:44	1
1,2-Dibromoethane (EDB)	ND		0.800		ppb v/v			12/22/15 18:44	1
1,2-Dichlorobenzene	ND		0.400		ppb v/v			12/22/15 18:44	1
1,3-Dichlorobenzene	ND		0.400		ppb v/v			12/22/15 18:44	1
1,4-Dichlorobenzene	ND		0.400		ppb v/v			12/22/15 18:44	1
Dichlorodifluoromethane	ND		0.400		ppb v/v			12/22/15 18:44	1
1,1-Dichloroethane	ND		0.300		ppb v/v			12/22/15 18:44	1
1,2-Dichloroethane	ND		0.800		ppb v/v			12/22/15 18:44	1
1,1-Dichloroethene	ND		0.800		ppb v/v			12/22/15 18:44	1
cis-1,2-Dichloroethene	ND		0.400		ppb v/v			12/22/15 18:44	1
trans-1,2-Dichloroethene	ND		0.400		ppb v/v			12/22/15 18:44	1
1,2-Dichloropropane	ND		0.400		ppb v/v			12/22/15 18:44	1
cis-1,3-Dichloropropene	ND		0.400		ppb v/v			12/22/15 18:44	1
trans-1,3-Dichloropropene	ND		0.400		ppb v/v			12/22/15 18:44	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		0.400		ppb v/v			12/22/15 18:44	1
Ethylbenzene	ND		0.400		ppb v/v			12/22/15 18:44	1
4-Ethyltoluene	ND		0.400		ppb v/v			12/22/15 18:44	1
Hexachlorobutadiene	ND		2.00		ppb v/v			12/22/15 18:44	1
2-Hexanone	ND		0.400		ppb v/v			12/22/15 18:44	1
Methylene Chloride	ND		0.400		ppb v/v			12/22/15 18:44	1
4-Methyl-2-pentanone (MIBK)	ND		0.400		ppb v/v			12/22/15 18:44	1
Styrene	ND		0.400		ppb v/v			12/22/15 18:44	1
1,1,2,2-Tetrachloroethane	ND		0.400		ppb v/v			12/22/15 18:44	1
Tetrachloroethene	ND		0.400		ppb v/v			12/22/15 18:44	1
Toluene	ND		0.400		ppb v/v			12/22/15 18:44	1
1,2,4-Trichlorobenzene	ND		2.00		ppb v/v			12/22/15 18:44	1
1,1,1-Trichloroethane	ND		0.300		ppb v/v			12/22/15 18:44	1
1,1,2-Trichloroethane	ND		0.400		ppb v/v			12/22/15 18:44	1
Trichloroethene	ND		0.400		ppb v/v			12/22/15 18:44	1
Trichlorofluoromethane	ND		0.400		ppb v/v			12/22/15 18:44	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.400		ppb v/v			12/22/15 18:44	1
1,2,4-Trimethylbenzene	ND		0.800		ppb v/v			12/22/15 18:44	1
1,3,5-Trimethylbenzene	ND		0.400		ppb v/v			12/22/15 18:44	1
Vinyl acetate	ND		0.800		ppb v/v			12/22/15 18:44	1
Vinyl chloride	ND		0.400		ppb v/v			12/22/15 18:44	1

QC Sample Results

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

TestAmerica Job ID: 320-16418-1
SDG: Property ID 891077

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

Lab Sample ID: MB 320-96412/6
Matrix: Air
Analysis Batch: 96412

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m,p-Xylene	ND		0.800		ppb v/v			12/22/15 18:44	1
o-Xylene	ND		0.400		ppb v/v			12/22/15 18:44	1
Total VOC as Hexane (C6-C12)	ND		100		ppb v/v			12/22/15 18:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*		*12/22/15 18:44*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*70 - 130*		*12/22/15 18:44*	*1*
Toluene-d8 (Surr)	*94*		*70 - 130*		*12/22/15 18:44*	*1*

Lab Sample ID: LCS 320-96412/3
Matrix: Air
Analysis Batch: 96412

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	20.0	19.03		ppb v/v		95	71 - 131
Benzene	20.0	15.88		ppb v/v		79	68 - 128
Benzyl chloride	20.0	17.56		ppb v/v		88	58 - 120
Bromodichloromethane	20.0	19.45		ppb v/v		97	65 - 130
Bromoform	20.0	21.08		ppb v/v		105	64 - 144
Bromomethane	20.0	17.78		ppb v/v		89	70 - 131
2-Butanone (MEK)	20.0	16.37		ppb v/v		82	71 - 131
Carbon disulfide	20.0	14.99		ppb v/v		75	63 - 123
Carbon tetrachloride	20.0	22.74		ppb v/v		114	67 - 127
Chlorobenzene	20.0	19.19		ppb v/v		96	70 - 132
Dibromochloromethane	20.0	20.08		ppb v/v		100	68 - 128
Chloroethane	20.0	18.22		ppb v/v		91	70 - 131
Chloroform	20.0	19.43		ppb v/v		97	69 - 129
Chloromethane	20.0	18.89		ppb v/v		94	67 - 127
1,2-Dibromoethane (EDB)	20.0	18.05		ppb v/v		90	68 - 131
1,2-Dichlorobenzene	20.0	21.69		ppb v/v		108	73 - 143
1,3-Dichlorobenzene	20.0	22.73		ppb v/v		114	77 - 136
1,4-Dichlorobenzene	20.0	24.01		ppb v/v		120	73 - 143
Dichlorodifluoromethane	20.0	19.44		ppb v/v		97	69 - 129
1,1-Dichloroethane	20.0	16.15		ppb v/v		81	65 - 125
1,2-Dichloroethane	20.0	22.36		ppb v/v		112	71 - 131
1,1-Dichloroethene	20.0	16.68		ppb v/v		83	53 - 128
cis-1,2-Dichloroethene	20.0	16.51		ppb v/v		83	68 - 128
trans-1,2-Dichloroethene	20.0	17.24		ppb v/v		86	70 - 130
1,2-Dichloropropane	20.0	22.55		ppb v/v		113	74 - 128
cis-1,3-Dichloropropene	20.0	18.66		ppb v/v		93	78 - 132
trans-1,3-Dichloropropene	20.0	17.16		ppb v/v		86	56 - 136
1,2-Dichloro-1,1,2,2-tetrafluoroethane	20.0	20.05		ppb v/v		100	64 - 124
Ethylbenzene	20.0	19.29		ppb v/v		96	76 - 136
4-Ethyltoluene	20.0	18.79		ppb v/v		94	62 - 136
Hexachlorobutadiene	20.0	18.84		ppb v/v		94	42 - 150
2-Hexanone	20.0	15.58		ppb v/v		78	70 - 128
Methylene Chloride	20.0	16.69		ppb v/v		83	65 - 125

QC Sample Results

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

TestAmerica Job ID: 320-16418-1
SDG: Property ID 891077

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

Lab Sample ID: LCS 320-96412/3
Matrix: Air
Analysis Batch: 96412

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Methyl-2-pentanone (MIBK)	20.0	17.36		ppb v/v		87	73 - 133
Styrene	20.0	20.87		ppb v/v		104	76 - 144
1,1,2,2-Tetrachloroethane	20.0	16.79		ppb v/v		84	75 - 135
Tetrachloroethene	20.0	19.16		ppb v/v		96	56 - 138
Toluene	20.0	17.68		ppb v/v		88	71 - 132
1,2,4-Trichlorobenzene	20.0	21.57		ppb v/v		108	59 - 150
1,1,1-Trichloroethane	20.0	20.81		ppb v/v		104	65 - 124
1,1,2-Trichloroethane	20.0	18.03		ppb v/v		90	71 - 131
Trichloroethene	20.0	18.53		ppb v/v		93	64 - 127
Trichlorofluoromethane	20.0	22.09		ppb v/v		110	68 - 128
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	15.98		ppb v/v		80	50 - 132
1,2,4-Trimethylbenzene	20.0	23.15		ppb v/v		116	61 - 145
1,3,5-Trimethylbenzene	20.0	20.40		ppb v/v		102	65 - 136
Vinyl acetate	20.0	22.06		ppb v/v		110	77 - 134
Vinyl chloride	20.0	19.14		ppb v/v		96	69 - 129
Hexane	20.0	18.62		ppb v/v		93	63 - 123
m,p-Xylene	40.0	41.70		ppb v/v		104	75 - 138
o-Xylene	20.0	20.64		ppb v/v		103	77 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*122*		*70 - 130*
Toluene-d8 (Surr)	*95*		*70 - 130*

Lab Sample ID: LCSD 320-96412/4
Matrix: Air
Analysis Batch: 96412

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	20.0	18.42		ppb v/v		92	71 - 131	3	25
Benzene	20.0	15.64		ppb v/v		78	68 - 128	2	25
Benzyl chloride	20.0	17.79		ppb v/v		89	58 - 120	1	25
Bromodichloromethane	20.0	18.93		ppb v/v		95	65 - 130	3	25
Bromoform	20.0	21.19		ppb v/v		106	64 - 144	1	25
Bromomethane	20.0	18.00		ppb v/v		90	70 - 131	1	25
2-Butanone (MEK)	20.0	16.36		ppb v/v		82	71 - 131	0	25
Carbon disulfide	20.0	15.18		ppb v/v		76	63 - 123	1	25
Carbon tetrachloride	20.0	22.53		ppb v/v		113	67 - 127	1	25
Chlorobenzene	20.0	19.26		ppb v/v		96	70 - 132	0	25
Dibromochloromethane	20.0	20.26		ppb v/v		101	68 - 128	1	25
Chloroethane	20.0	18.31		ppb v/v		92	70 - 131	1	25
Chloroform	20.0	18.89		ppb v/v		94	69 - 129	3	25
Chloromethane	20.0	19.42		ppb v/v		97	67 - 127	3	25
1,2-Dibromoethane (EDB)	20.0	18.26		ppb v/v		91	68 - 131	1	25
1,2-Dichlorobenzene	20.0	22.04		ppb v/v		110	73 - 143	2	25
1,3-Dichlorobenzene	20.0	23.01		ppb v/v		115	77 - 136	1	25
1,4-Dichlorobenzene	20.0	24.33		ppb v/v		122	73 - 143	1	25

QC Sample Results

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

TestAmerica Job ID: 320-16418-1
SDG: Property ID 891077

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

Lab Sample ID: LCSD 320-96412/4
Matrix: Air
Analysis Batch: 96412

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane			20.0	19.96		ppb v/v		100	69 - 129	3	25
1,1-Dichloroethane			20.0	15.96		ppb v/v		80	65 - 125	1	25
1,2-Dichloroethane			20.0	22.06		ppb v/v		110	71 - 131	1	25
1,1-Dichloroethene			20.0	16.63		ppb v/v		83	53 - 128	0	25
cis-1,2-Dichloroethene			20.0	16.50		ppb v/v		83	68 - 128	0	25
trans-1,2-Dichloroethene			20.0	17.08		ppb v/v		85	70 - 130	1	25
1,2-Dichloropropane			20.0	21.82		ppb v/v		109	74 - 128	3	25
cis-1,3-Dichloropropene			20.0	18.31		ppb v/v		92	78 - 132	2	25
trans-1,3-Dichloropropene			20.0	17.50		ppb v/v		88	56 - 136	2	25
1,2-Dichloro-1,1,2,2-tetrafluoroethane			20.0	20.30		ppb v/v		101	64 - 124	1	25
Ethylbenzene			20.0	19.52		ppb v/v		98	76 - 136	1	25
4-Ethyltoluene			20.0	18.88		ppb v/v		94	62 - 136	0	25
Hexachlorobutadiene			20.0	19.87		ppb v/v		99	42 - 150	5	25
2-Hexanone			20.0	15.93		ppb v/v		80	70 - 128	2	25
Methylene Chloride			20.0	16.57		ppb v/v		83	65 - 125	1	25
4-Methyl-2-pentanone (MIBK)			20.0	16.94		ppb v/v		85	73 - 133	2	25
Styrene			20.0	21.20		ppb v/v		106	76 - 144	2	25
1,1,2,2-Tetrachloroethane			20.0	16.97		ppb v/v		85	75 - 135	1	25
Tetrachloroethene			20.0	19.61		ppb v/v		98	56 - 138	2	25
Toluene			20.0	17.35		ppb v/v		87	71 - 132	2	25
1,2,4-Trichlorobenzene			20.0	23.37		ppb v/v		117	59 - 150	8	25
1,1,1-Trichloroethane			20.0	20.12		ppb v/v		101	65 - 124	3	25
1,1,2-Trichloroethane			20.0	18.27		ppb v/v		91	71 - 131	1	25
Trichloroethene			20.0	18.36		ppb v/v		92	64 - 127	1	25
Trichlorofluoromethane			20.0	21.97		ppb v/v		110	68 - 128	1	25
1,1,2-Trichloro-1,2,2-trifluoroethane			20.0	16.00		ppb v/v		80	50 - 132	0	25
1,2,4-Trimethylbenzene			20.0	23.48		ppb v/v		117	61 - 145	1	25
1,3,5-Trimethylbenzene			20.0	20.73		ppb v/v		104	65 - 136	2	25
Vinyl acetate			20.0	21.79		ppb v/v		109	77 - 134	1	25
Vinyl chloride			20.0	19.56		ppb v/v		98	69 - 129	2	25
Hexane			20.0	18.31		ppb v/v		92	63 - 123	2	25
m,p-Xylene			40.0	42.46		ppb v/v		106	75 - 138	2	25
o-Xylene			20.0	21.06		ppb v/v		105	77 - 132	2	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*123*		*70 - 130*
Toluene-d8 (Surr)	*94*		*70 - 130*

QC Association Summary

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

TestAmerica Job ID: 320-16418-1
SDG: Property ID 891077

Air - GC/MS VOA

Analysis Batch: 96412

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-16418-1	CANISTER #34000512 BATCH ID #320-15930	Total/NA	Air	TO-15	
LCS 320-96412/3	Lab Control Sample	Total/NA	Air	TO-15	
LCSD 320-96412/4	Lab Control Sample Dup	Total/NA	Air	TO-15	
MB 320-96412/6	Method Blank	Total/NA	Air	TO-15	

Lab Chronicle

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

TestAmerica Job ID: 320-16418-1
SDG: Property ID 891077

Client Sample ID: CANISTER #34000512 BATCH ID #320-15930
Lab Sample ID: 320-16418-1
Date Collected: 12/10/15 13:15
Matrix: Air
Date Received: 12/11/15 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		74	6.579 mL	250 mL	96412	12/23/15 10:58	AP1	TAL SAC

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

Certification Summary

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

TestAmerica Job ID: 320-16418-1
SDG: Property ID 891077

Laboratory: TestAmerica Sacramento

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

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2928-01	01-31-16
Alaska (UST)	State Program	10	UST-055	12-18-16
Arizona	State Program	9	AZ0708	08-11-16
Arkansas DEQ	State Program	6	88-0691	06-17-16
California	State Program	9	2897	01-31-16
Colorado	State Program	8	N/A	08-31-16
Connecticut	State Program	1	PH-0691	06-30-17
Florida	NELAP	4	E87570	06-30-16
Hawaii	State Program	9	N/A	01-29-16
Illinois	NELAP	5	200060	03-17-16
Kansas	NELAP	7	E-10375	01-31-16
Louisiana	NELAP	6	30612	06-30-16
Michigan	State Program	5	9947	01-31-16
Nevada	State Program	9	CA44	07-31-16
New Jersey	NELAP	2	CA005	06-30-16
New York	NELAP	2	11666	04-01-16
Oregon	NELAP	10	CA200005	01-29-16
Pennsylvania	NELAP	3	9947	03-31-16
Texas	NELAP	6	T104704399-15-9	05-31-16
US Fish & Wildlife	Federal		LE148388-0	02-28-16
USDA	Federal		P330-11-00436	12-30-17
USEPA UCMR	Federal	1	CA00044	11-06-16
Utah	NELAP	8	QUAN1	02-28-16
Virginia	NELAP Secondary AB	3	460278	03-14-16
Washington	State Program	10	C581	05-04-16
West Virginia (DW)	State Program	3	9930C	12-31-15
Wyoming	State Program	8	8TMS-Q	01-29-16

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	08-31-16

Method Summary

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

TestAmerica Job ID: 320-16418-1
SDG: Property ID 891077

Method	Method Description	Protocol	Laboratory
TO-15	Volatile Organic Compounds in Ambient Air	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

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

Sample Summary

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

TestAmerica Job ID: 320-16418-1
SDG: Property ID 891077

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-16418-1	CANISTER #34000512 BATCH ID #320-15930	Air	12/10/15 13:15	12/11/15 10:00

TestAmerica Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
phone 916 374 4378 fax 916 372.1059

Canister Samples Chain of Custody Record

TestAmerica Laboratories, Inc assumes no liability with respect to the collection and shipment of these samples

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact Information	Project Manager: Bruce McKenzie	Samples Collected By: Terry Fisher	COC No:
Company Name EnviroClean	Phone: 918 794 7828		____ of ____ COCs
Address: 7063 Yale Suite 607	Email: Bruce.McKenzie @eccgrp.com		
City/State/Zip Tulsa OK 74136	Site Contact:		For Lab Use Only:
Phone: 918 794 7828	TA Contact: Cathy Gartner		Walk-in Client
FAX	Anaylsis Turnaround Time		Lab Sampling:
Project Name: M-I Lease	Standard (Specific) Standard		Job / SDG No.
Site/Location	Rush (Specify)		(See below for Add'l Items)
P O #			

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, 'Hg (Start)'	Canister Vacuum in Field, 'Hg (Stop)'	Flow Controller ID	Canister ID	TO-15 (Med / Std / Low / SIM)	MA-APH	EPA 3C	EPA 25C / 25.3	ASTM D-1946 / 1945 / 3688	EPA 15/16	TO-3	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)	Sample Specific Notes:
Canister #34000512	12-10-15	1305	1315			34000512																Total VOC
Batch ID# 320-15930																						Hexane

Temperature (Fahrenheit)	Interior	Ambient
Start		
Stop		

Temperature (Fahrenheit)	Interior	Ambient
Start		
Stop		

320-16418 Chain of Custody

Special Instructions/QC Requirements & Comments:
Cathy Gartner

Samples Shipped by: Terry Fisher	Date / Time: 12-10-15	Samples Received by:	12/11/15 1000
Samples Relinquished by:	Date / Time:	Received by:	
Relinquished by:	Date / Time:	Received by:	
Lab Use Only: Shipper Name:	Opened by:	Condition:	

Form No. CA-C-WI-003, Rev. 1, dated 05/10/2013

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

CANISTER FIELD DATA RECORD

Sacramento

JOB # 320-16418
Sample # 1

Client/Project:		VFR ID:		
Canister Serial #:	34000512	Duration:		☐ Hrs ☐ Min
Cleaning Job:		Flow:		mL/min
Client ID:		Initials:		
Site Location:				

FIELD				
READING	TIME	PRESS.	DATE	INITIALS
INITIAL FIELD VACUUM				
FINAL FIELD READING				

LABORATORY			
READING	PRESS.	DATE	INITIALS
INITIAL VACUUM CHECK (INCHES Hg)	29.8		JMT
☐ Helium Pre-dilution - Final Pressure (INCHES Hg)			
INITIAL PRESSURE (PSIA)	12.50	12/22/15	SV
FINAL PRESSURE (PSIA)	24.34	12/22/15	SV
Pressurization Gas: ☐ N2 ☐ He	SCREENED ☐	SCRN DIL. VS 250mLs:	
Initial Canister Dilution Factor = 1.95			

CANISTER REPRESSURIZATION

Date	Pi (PSIA)	Pf (PSIA)	Initial DF	Initials	NEW DF
			1.95		#DIV/0!
			#DIV/0!		#DIV/0!
			#DIV/0!		#DIV/0!

Analytical Dilution Factors

Date	Instr.	File #
12/23/2015	MS7	

Canister DF = 1.95 X Load DF = 12.5 (LVf (mLs) 250, LVi (mLs) 20) X Bag DF = 3.04 (BVf (mLs) 3.04, Bvi (mLs) 1) = FINAL DF 73.9936

Date	Instr.	File #

Canister DF = 1.95 X Load DF = #DIV/0! (LVf (mLs), LVi (mLs)) X Bag DF = 1 (BVf (mLs), Bvi (mLs)) = FINAL DF #DIV/0!

Date	Instr.	File #

Canister DF = 1.95 X Load DF = #DIV/0! (LVf (mLs), LVi (mLs)) X Bag DF = 1 (BVf (mLs), Bvi (mLs)) = FINAL DF #DIV/0!

Login Sample Receipt Checklist

Client: Enviro Clean Services LLC

Job Number: 320-16418-1
SDG Number: Property ID 891077

Login Number: 16418
List Number: 1
Creator: Nelson, Kym D

List Source: TestAmerica Sacramento

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
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.	N/A	
Cooler Temperature is acceptable.	N/A	
Cooler Temperature is recorded.	N/A	
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?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	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	

320-15930 Chain of Custody

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Canister QC Certification
Batch Certification

Certification Type: TO-15 Scan

Date Cleaned/Batch ID: 11/12/15 320-15930

Date of QC: 11/14/15 @ MS9

Data File Number: MS9111410.d

C:\MSDCHEM\1\DATA\151114\

CANISTER ID NUMBERS

34000512	↓ 2159	
0248	8338	
0530	8232 *	
0407	8128	
1556		
0020		
0465		
↓ 0845		

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.

Hoseung Lee — 1st level Reviewed By: — Date: 11/17/15

2nd level Reviewed By: — Date: 11/18/15

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.: 320-15930-1

SDG No.:

Client Sample ID: 8232 Lab Sample ID: 320-15930-11

Matrix: Air Lab File ID: MS9111410.D

Analysis Method: TO-15 Date Collected: 11/12/2015 00:00

Sample wt/vol: 250(mL) Date Analyzed: 11/14/2015 19:54

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-Volatiles ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 92399 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	0.79	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)	0.46	J	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	0.11
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-tetrafluoroethane	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.: 320-15930-1

SDG No.:

Client Sample ID: 8232 Lab Sample ID: 320-15930-11

Matrix: Air Lab File ID: MS9111410.D

Analysis Method: TO-15 Date Collected: 11/12/2015 00:00

Sample wt/vol: 250(mL) Date Analyzed: 11/14/2015 19:54

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-Volatiles ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 92399 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	0.066	J	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	0.26	J	0.80	0.12
1634-04-4	Methyl-t-Butyl Ether (MTBE)	ND		0.80	0.050
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	0.24	J	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	0.079
108-88-3	Toluene	0.13	J	0.40	0.051
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	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.: 320-15930-1

SDG No.:

Client Sample ID: 8232 Lab Sample ID: 320-15930-11

Matrix: Air Lab File ID: MS9111410.D

Analysis Method: TO-15 Date Collected: 11/12/2015 00:00

Sample wt/vol: 250(mL) Date Analyzed: 11/14/2015 19:54

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-Volatiles ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 92399 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	0.13	J	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)	100		70-130
17060-07-0	1,2-Dichloroethane-d4 (Surr)	97		70-130
2037-26-5	Toluene-d8 (Surr)	97		70-130

Report Date: 17-Nov-2015 11:37:50 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\ChromNA\Sacramento\ChromData\ATMS9\20151114-26454.b\MS9111410.D				
Lims ID:	320-15930-A-11	Lab Sample ID:	320-15930-11		
Client ID:	8232				
Sample Type:	Client				
Inject. Date:	14-Nov-2015 19:54:30	ALS Bottle#:	8	Worklist Smp#:	20
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	320-15930-A-11				
Misc. Info.:	500 mL				
Operator ID:	srs	Instrument ID:	ATMS9		
Method:	\\ChromNA\Sacramento\ChromData\ATMS9\20151114-26454.b\TO15_ATMS9N.m				
Limit Group:	MSA - TO15 - ICAL				
Last Update:	17-Nov-2015 11:37:36	Calib Date:	14-Nov-2015 01:17:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\ATMS9\20151113-26436.b\MS9111312.D				
Column 1 :	RTX Volatiles (0.32 mm)		Det: MS SCAN		
Process Host:	XAWRK029				
First Level Reviewer: yangk		Date:	16-Nov-2015 18:07:30		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ppb v/v	Flags
* 1 Chlorobromomethane (IS)	130	12.433	12.439	-0.006	88	38760	4.00	
* 2 1,4-Difluorobenzene	114	14.532	14.544	-0.012	94	165921	4.00	
* 3 Chlorobenzene-d5 (IS)	117	20.457	20.457	0.000	87	143252	4.00	
$ 4 1,2-Dichloroethane-d4 (Sur	65	13.607	13.620	-0.013	96	51024	3.88	
$ 5 Toluene-d8 (Surr)	100	17.702	17.708	-0.006	99	105357	3.87	
$ 6 4-Bromofluorobenzene (Surr	174	22.374	22.374	0.000	94	88781	4.00	
14 Propene	41	4.166	4.129	0.037	34	1571	0.2440	
31 Acetone	43	7.670	7.615	0.055	95	11531	0.7866	
48 Carbon disulfide	76	9.008	9.002	0.006	97	8418	0.3206	
54 2-Butanone (MEK)	72	11.411	11.381	0.030	98	2325	0.4622	
74 Isooctane	57	13.534	13.547	-0.013	84	3292	0.0584	
75 n-Heptane	43	14.051	14.064	-0.013	75	506	0.0297	
85 Toluene	91	17.848	17.860	-0.012	92	5503	0.1285	
97 Ethylbenzene	91	20.640	20.646	-0.006	91	3822	0.0661	
98 m-Xylene & p-Xylene	91	20.780	20.786	-0.006	96	5882	0.1289	
101 o-Xylene	91	21.480	21.480	0.000	92	2131	0.0465	
100 Styrene	104	21.504	21.504	0.000	86	1137	0.0321	
107 N-Propylbenzene	91	22.648	22.648	0.000	92	1031	0.0129	
110 4-Ethyltoluene	120	22.787	22.812	-0.025	79	683	0.0323	
111 1,3,5-Trimethylbenzene	120	22.879	22.879	0.000	89	480	0.0165	
115 1,2,4-Trimethylbenzene	120	23.420	23.432	-0.012	92	1022	0.0359	
121 4-Isopropyltoluene	119	23.858	23.858	0.000	97	18474	0.2612	
120 1,4-Dichlorobenzene	146	24.095	24.095	0.000	89	807	0.0221	
126 1,2,4-Trichlorobenzene	180	26.821	26.821	0.000	1	266	0.009622	

Reagents:

VASUISIM_00224 Amount Added: 50.00 Units: mL Run Reagent

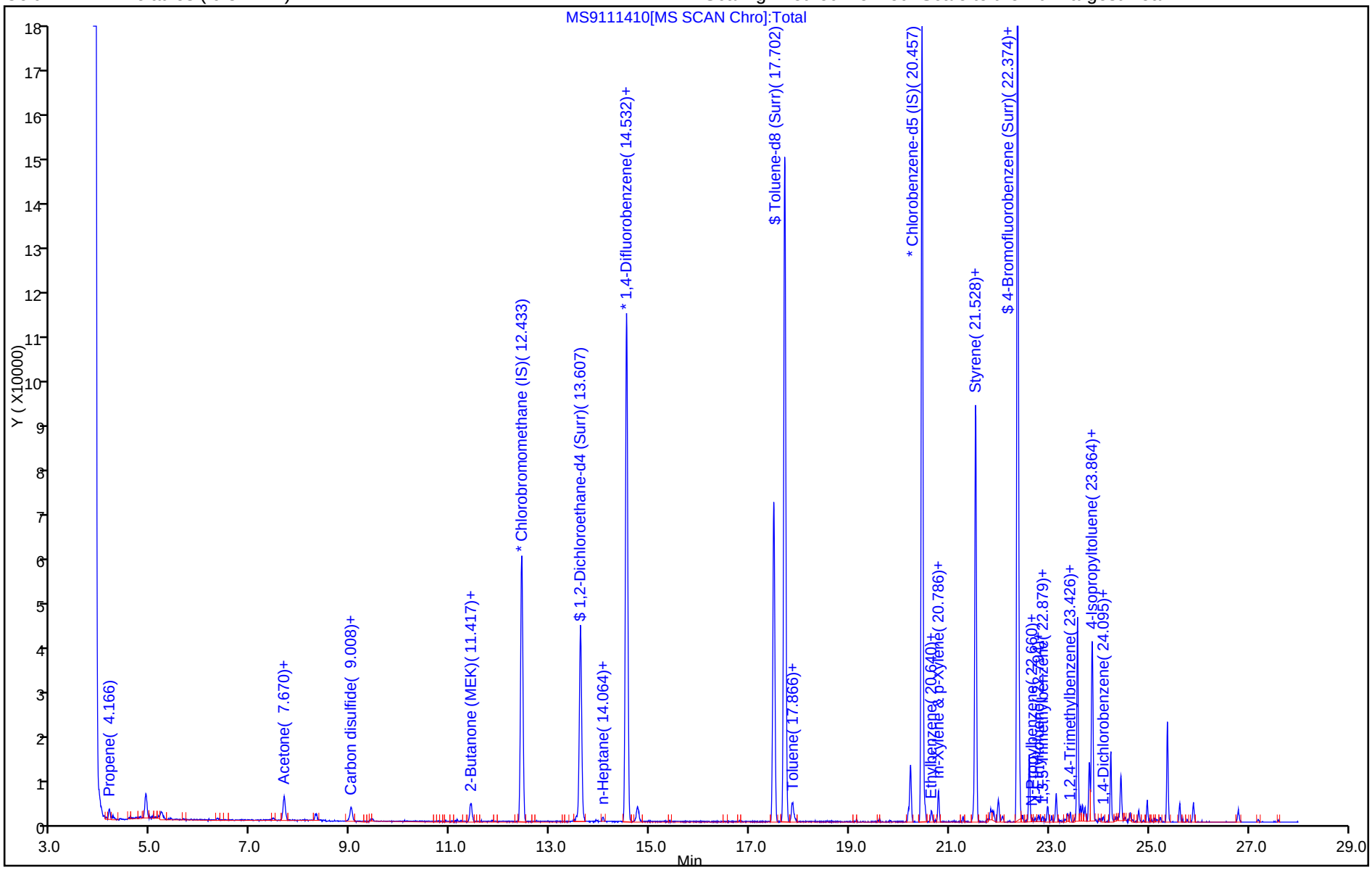
Report Date: 17-Nov-2015 11:37:50 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\ATMS9\20151114-26454.b\MS9111410.D

Injection Date:	14-Nov-2015 19:54:30	Instrument ID:	ATMS9	Operator ID:	srs
Lims ID:	320-15930-A-11	Lab Sample ID:	320-15930-11	Worklist Smp#:	20
Client ID:	8232				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	TO15_ATMS9N	Limit Group:	MSA - TO15 - ICAL		

Column: RTX Volatiles (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 2



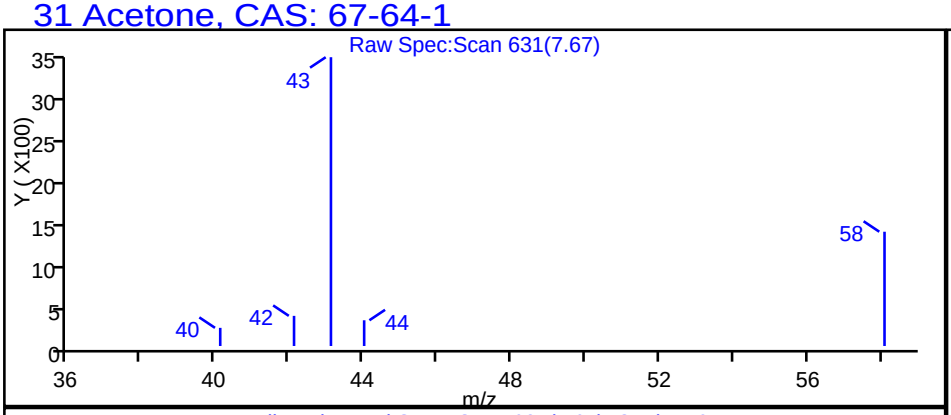
Report Date: 17-Nov-2015 11:37:50 Chrom Revision: 2.2 08-Oct-2015 07:17:48

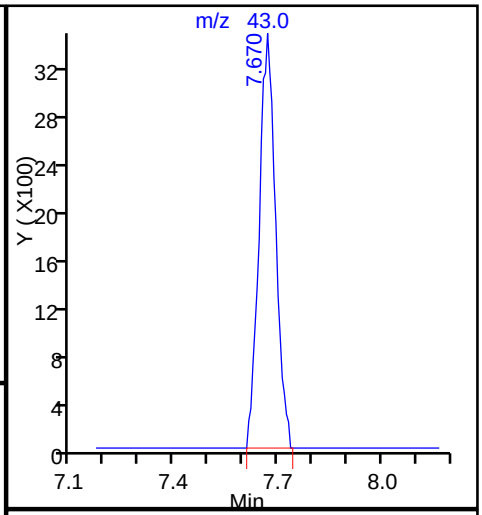
TestAmerica Sacramento

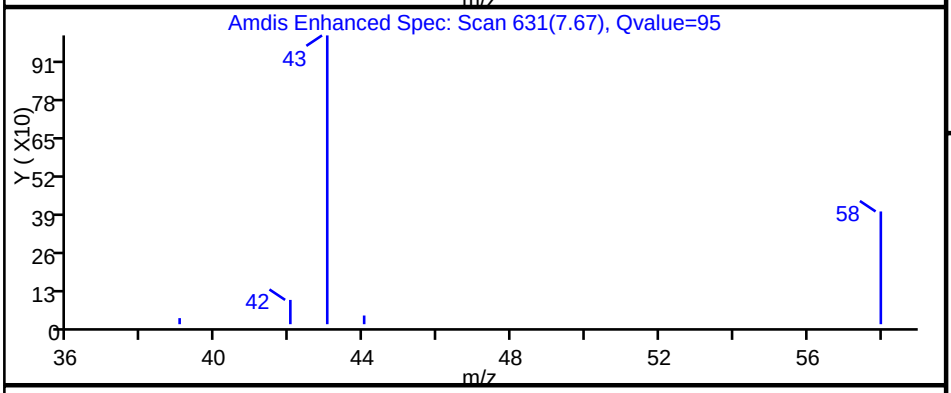
Data File: \\ChromNA\Sacramento\ChromData\ATMS9\20151114-26454.b\MS9111410.D

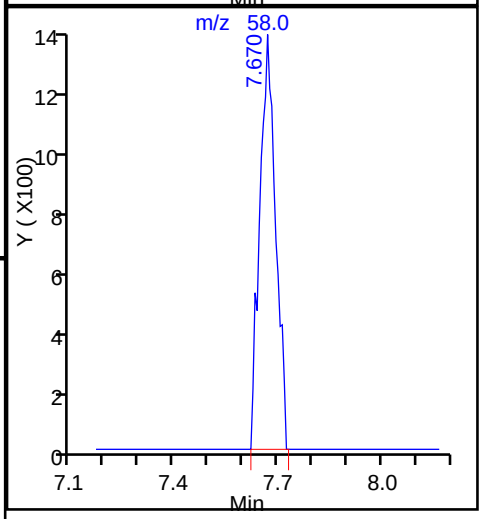
Injection Date:	14-Nov-2015 19:54:30	Instrument ID:	ATMS9		
Lims ID:	320-15930-A-11	Lab Sample ID:	320-15930-11		
Client ID:	8232				
Operator ID:	srs	ALS Bottle#:	8	Worklist Smp#:	20
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	TO15_ATMS9N	Limit Group:	MSA - TO15 - ICAL		
Column:	RTX Volatiles (0.32 mm)	Detector	MS SCAN		

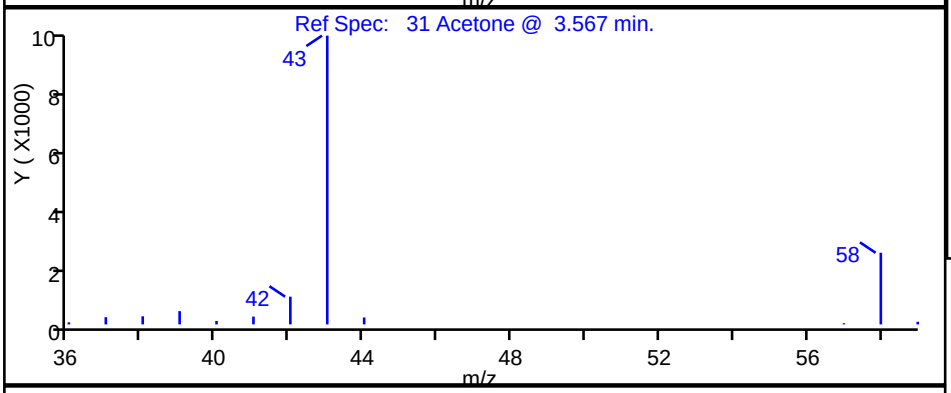
31 Acetone, CAS: 67-64-1

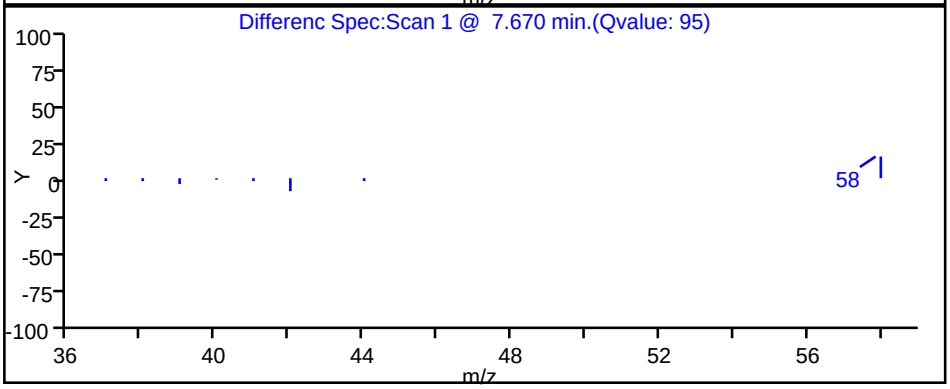












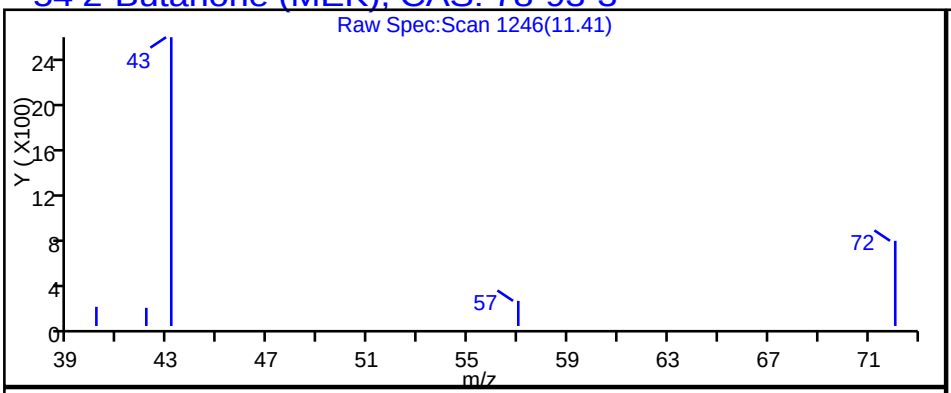
Report Date: 17-Nov-2015 11:37:50 Chrom Revision: 2.2 08-Oct-2015 07:17:48

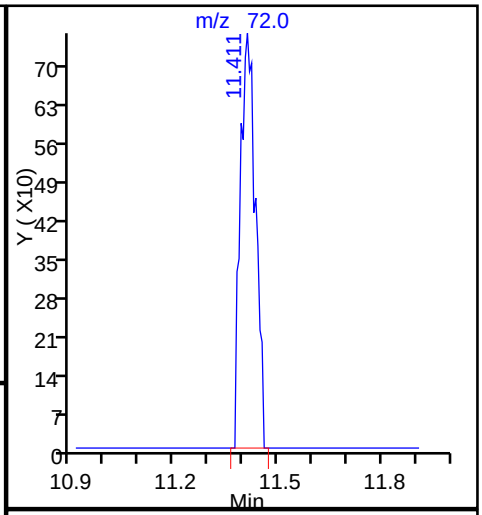
TestAmerica Sacramento

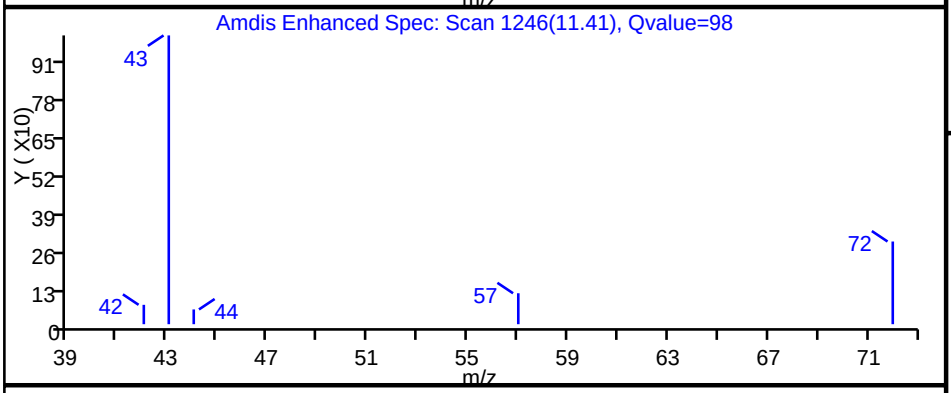
Data File: \\ChromNA\Sacramento\ChromData\ATMS9\20151114-26454.b\MS9111410.D

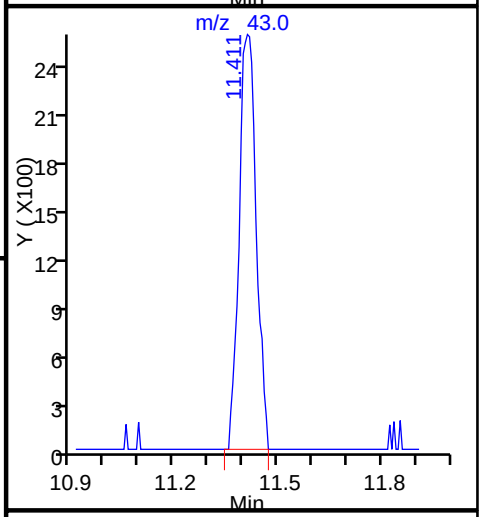
Injection Date:	14-Nov-2015 19:54:30	Instrument ID:	ATMS9		
Lims ID:	320-15930-A-11	Lab Sample ID:	320-15930-11		
Client ID:	8232				
Operator ID:	srs	ALS Bottle#:	8	Worklist Smp#:	20
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	TO15_ATMS9N	Limit Group:	MSA - TO15 - ICAL		
Column:	RTX Volatiles (0.32 mm)	Detector	MS SCAN		

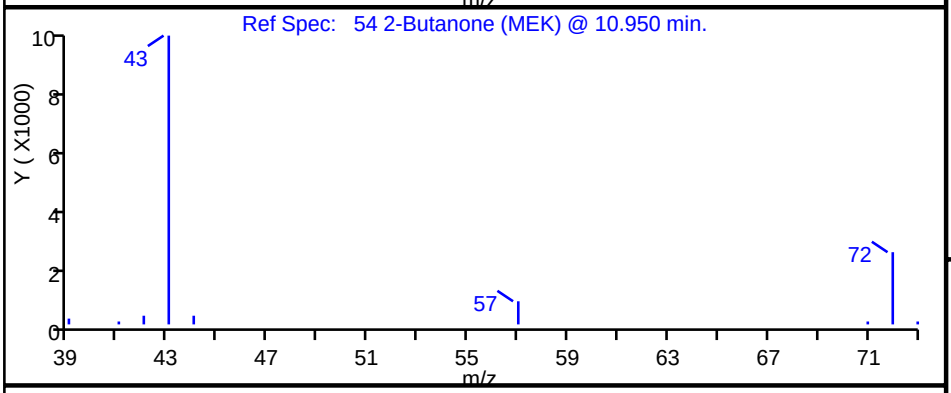
54 2-Butanone (MEK), CAS: 78-93-3

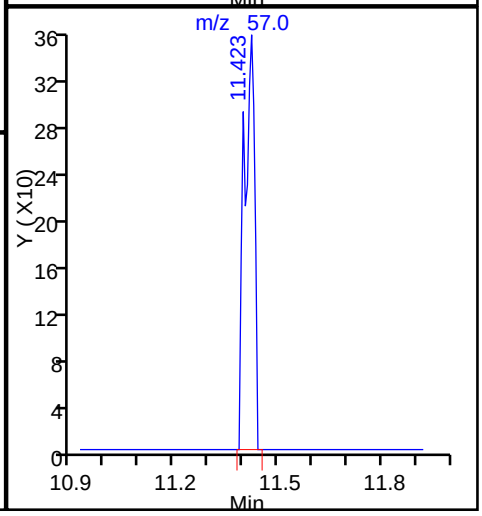


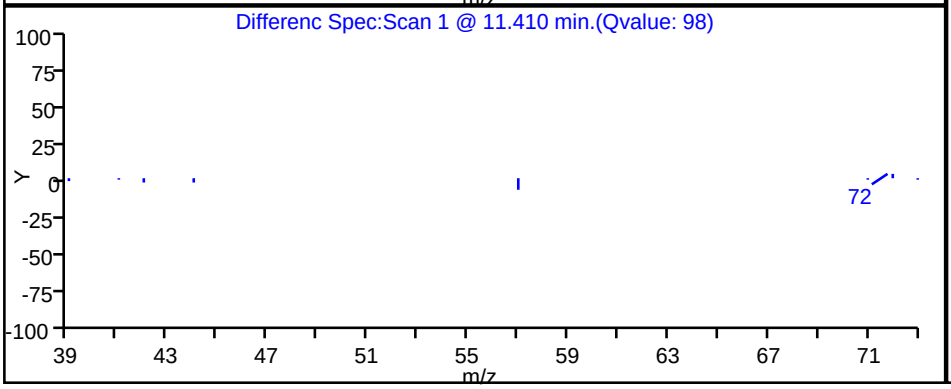












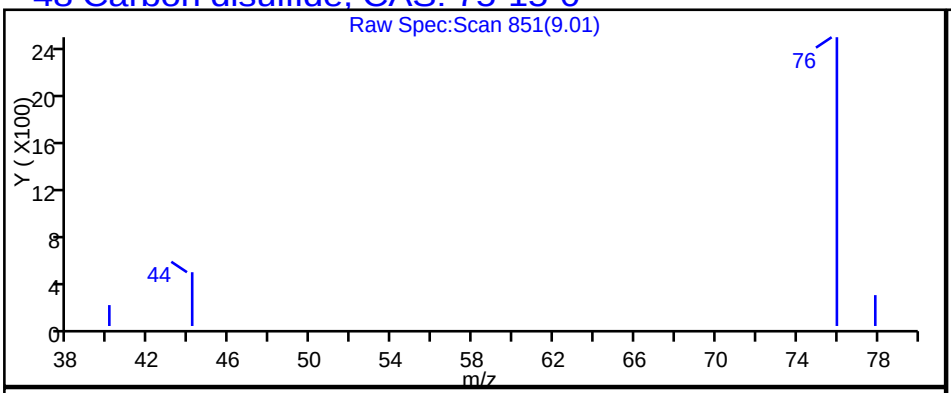
Report Date: 17-Nov-2015 11:37:50 Chrom Revision: 2.2 08-Oct-2015 07:17:48

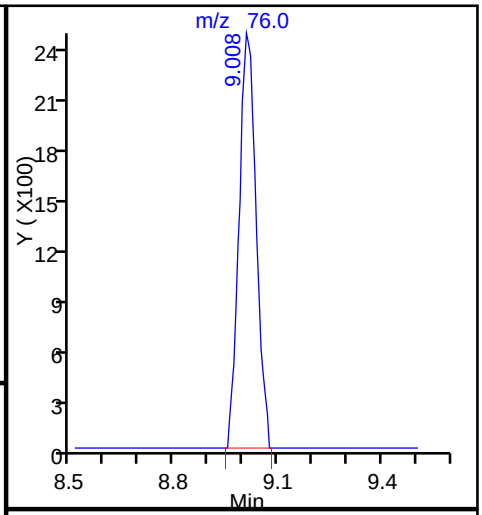
TestAmerica Sacramento

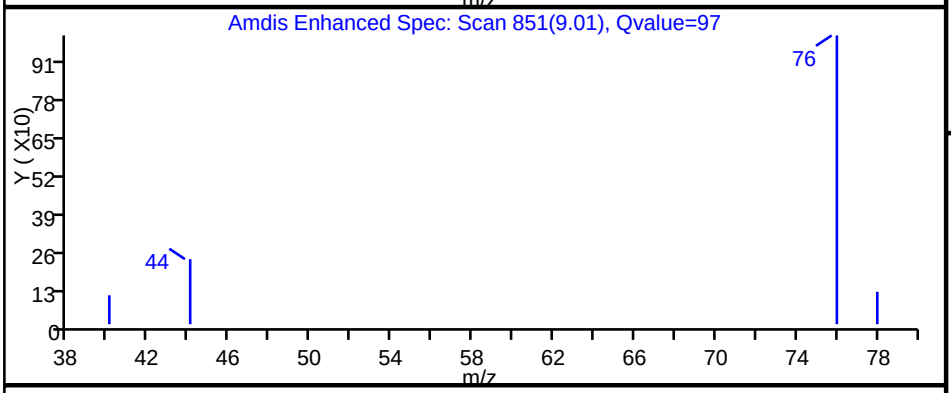
Data File: \\ChromNA\Sacramento\ChromData\ATMS9\20151114-26454.b\MS9111410.D

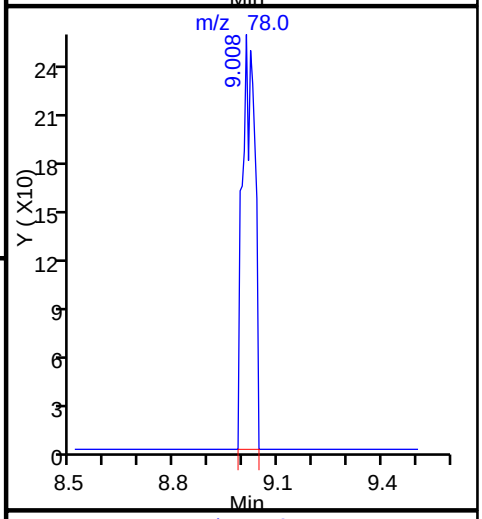
Injection Date:	14-Nov-2015 19:54:30	Instrument ID:	ATMS9		
Lims ID:	320-15930-A-11	Lab Sample ID:	320-15930-11		
Client ID:	8232				
Operator ID:	srs	ALS Bottle#:	8	Worklist Smp#:	20
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	TO15_ATMS9N	Limit Group:	MSA - TO15 - ICAL		
Column:	RTX Volatiles (0.32 mm)	Detector	MS SCAN		

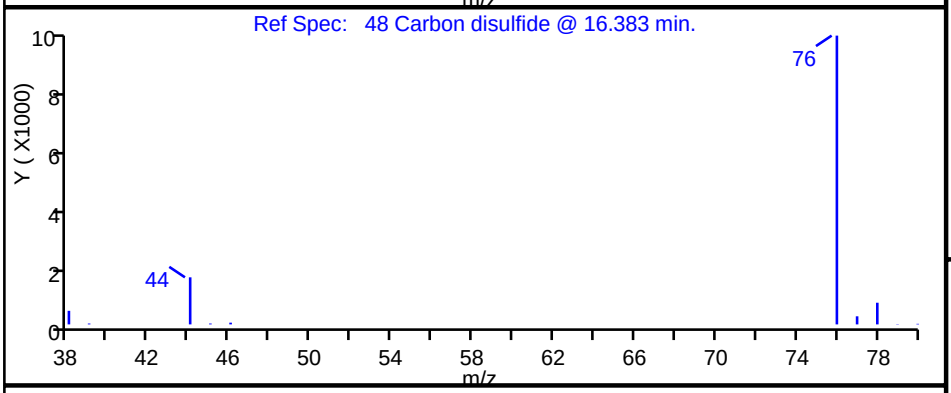
48 Carbon disulfide, CAS: 75-15-0

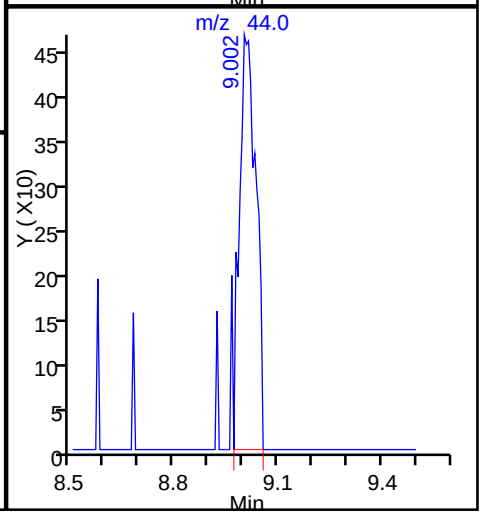


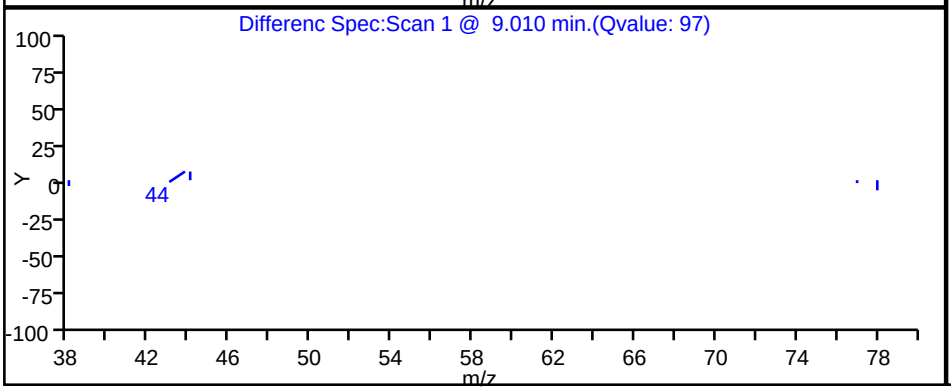












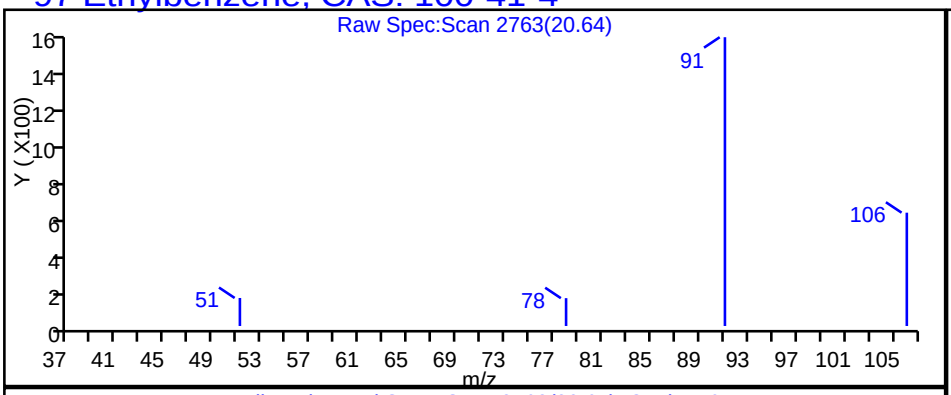
Report Date: 17-Nov-2015 11:37:50 Chrom Revision: 2.2 08-Oct-2015 07:17:48

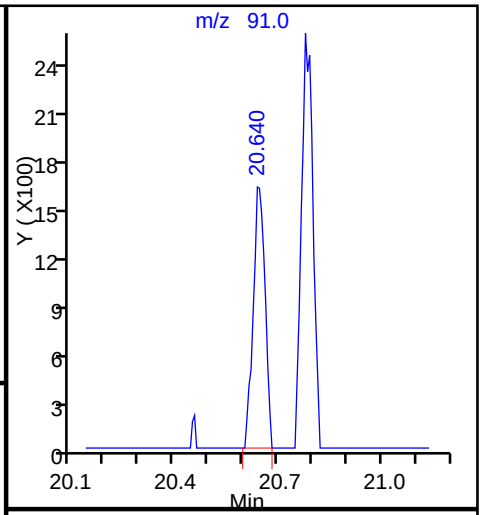
TestAmerica Sacramento

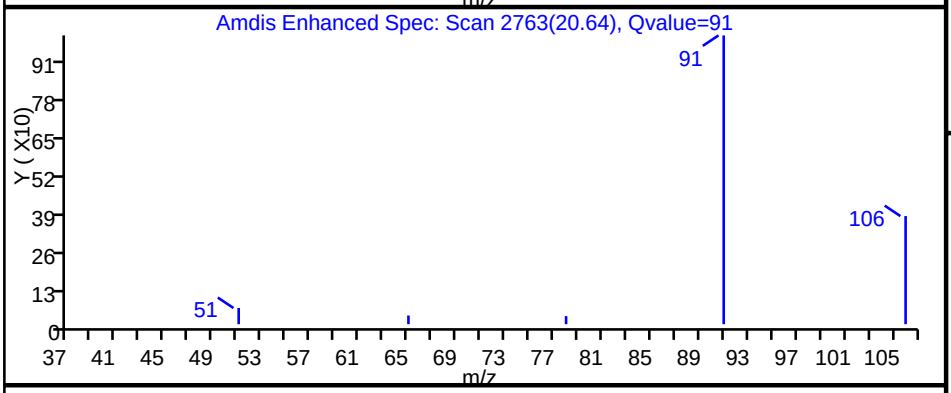
Data File: \\ChromNA\Sacramento\ChromData\ATMS9\20151114-26454.b\MS9111410.D

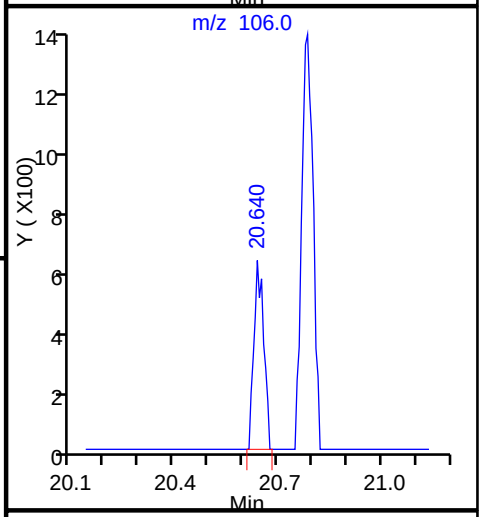
Injection Date:	14-Nov-2015 19:54:30	Instrument ID:	ATMS9		
Lims ID:	320-15930-A-11	Lab Sample ID:	320-15930-11		
Client ID:	8232				
Operator ID:	srs	ALS Bottle#:	8	Worklist Smp#:	20
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	TO15_ATMS9N	Limit Group:	MSA - TO15 - ICAL		
Column:	RTX Volatiles (0.32 mm)	Detector	MS SCAN		

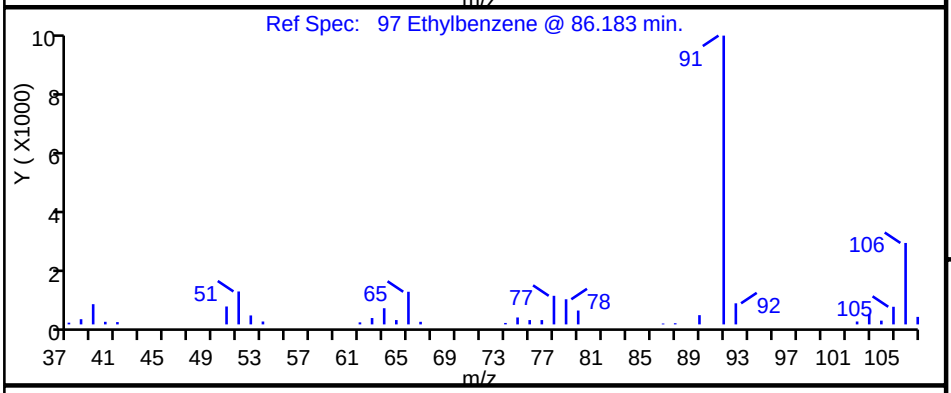
97 Ethylbenzene, CAS: 100-41-4

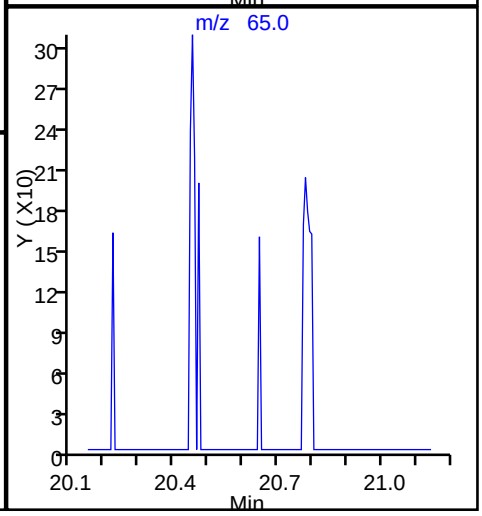


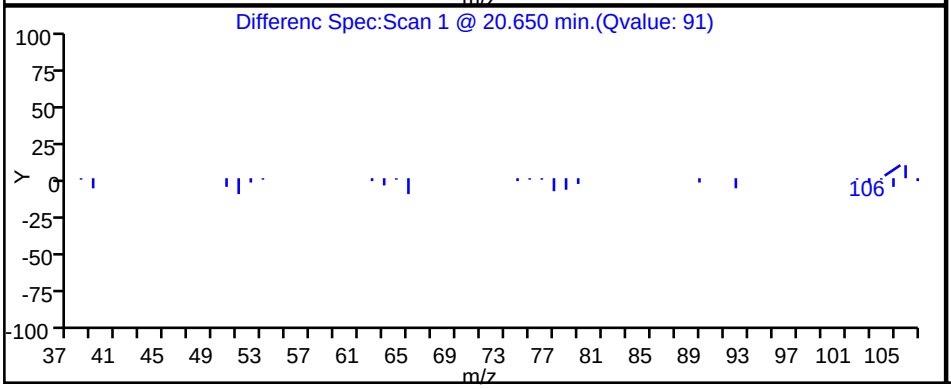












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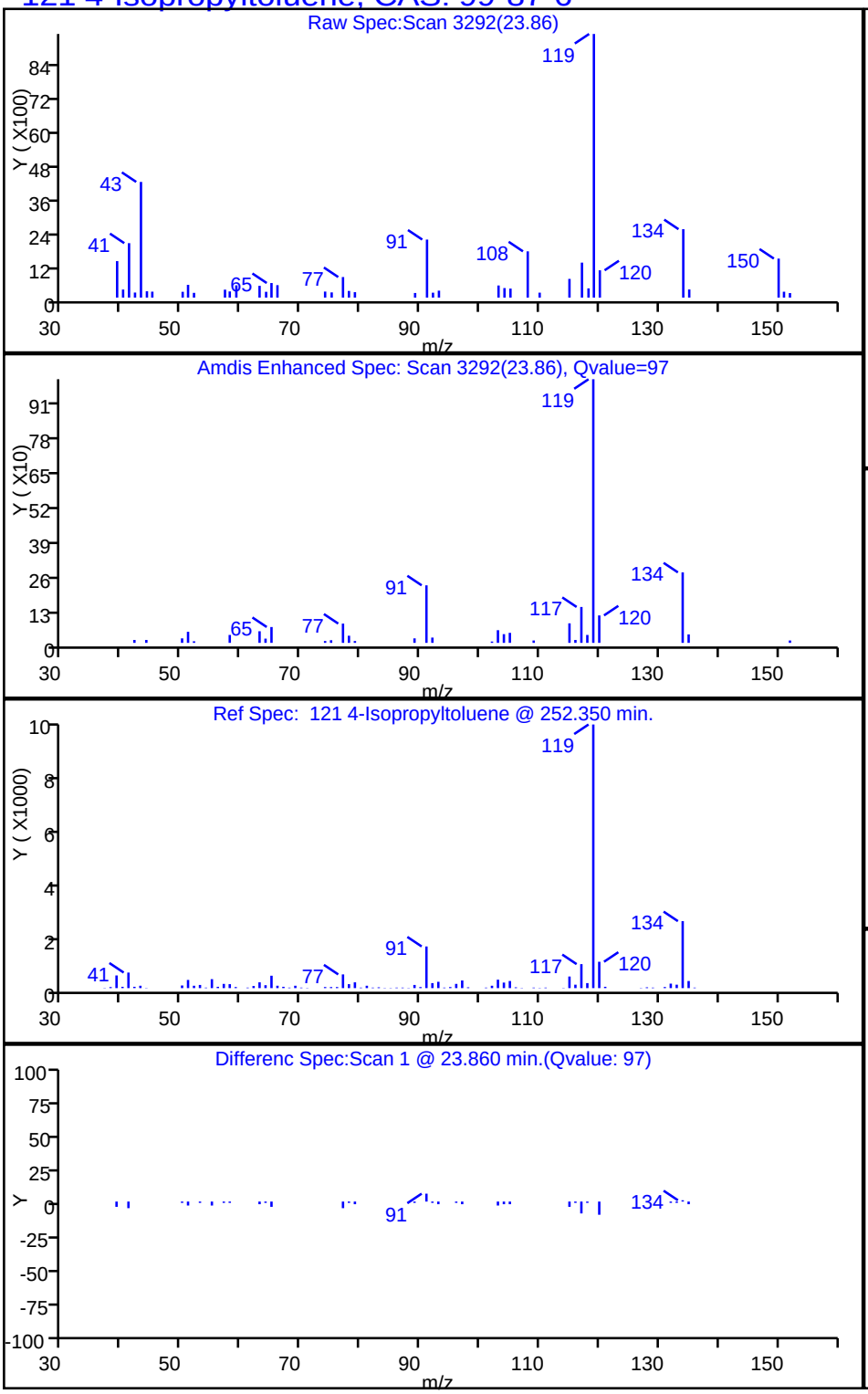
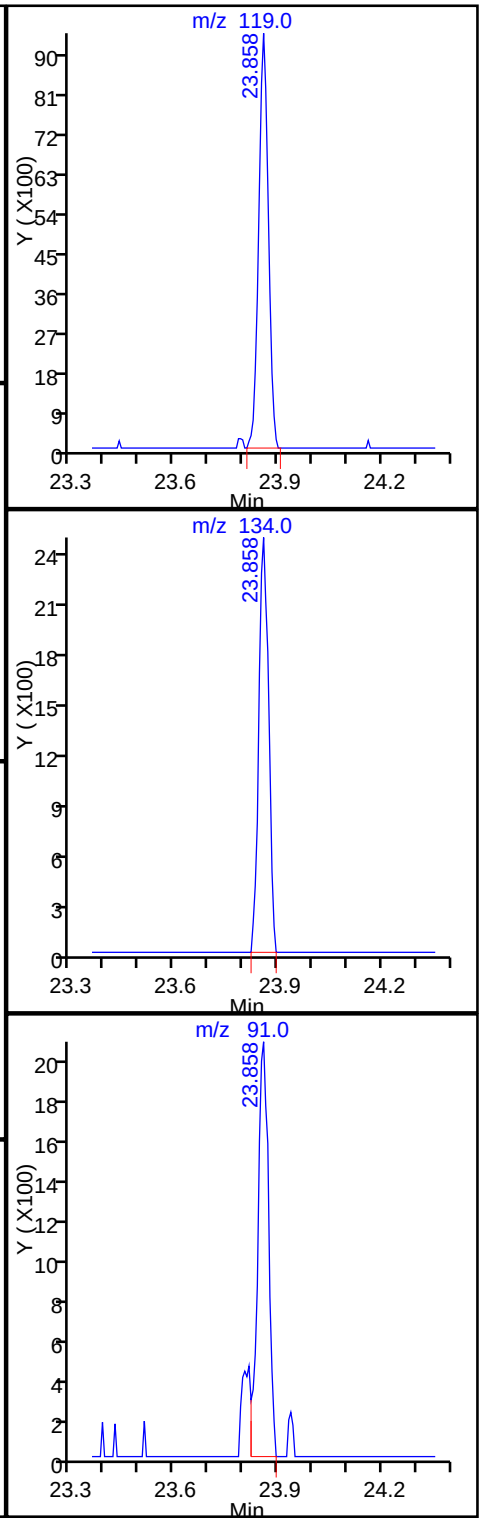
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\ATMS9\20151114-26454.b\MS9111410.D

Injection Date:	14-Nov-2015 19:54:30	Instrument ID:	ATMS9		
Lims ID:	320-15930-A-11	Lab Sample ID:	320-15930-11		
Client ID:	8232				
Operator ID:	srs	ALS Bottle#:	8	Worklist Smp#:	20
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	TO15_ATMS9N	Limit Group:	MSA - TO15 - ICAL		
Column:	RTX Volatiles (0.32 mm)	Detector	MS SCAN		

121 4-Isopropyltoluene, CAS: 99-87-6





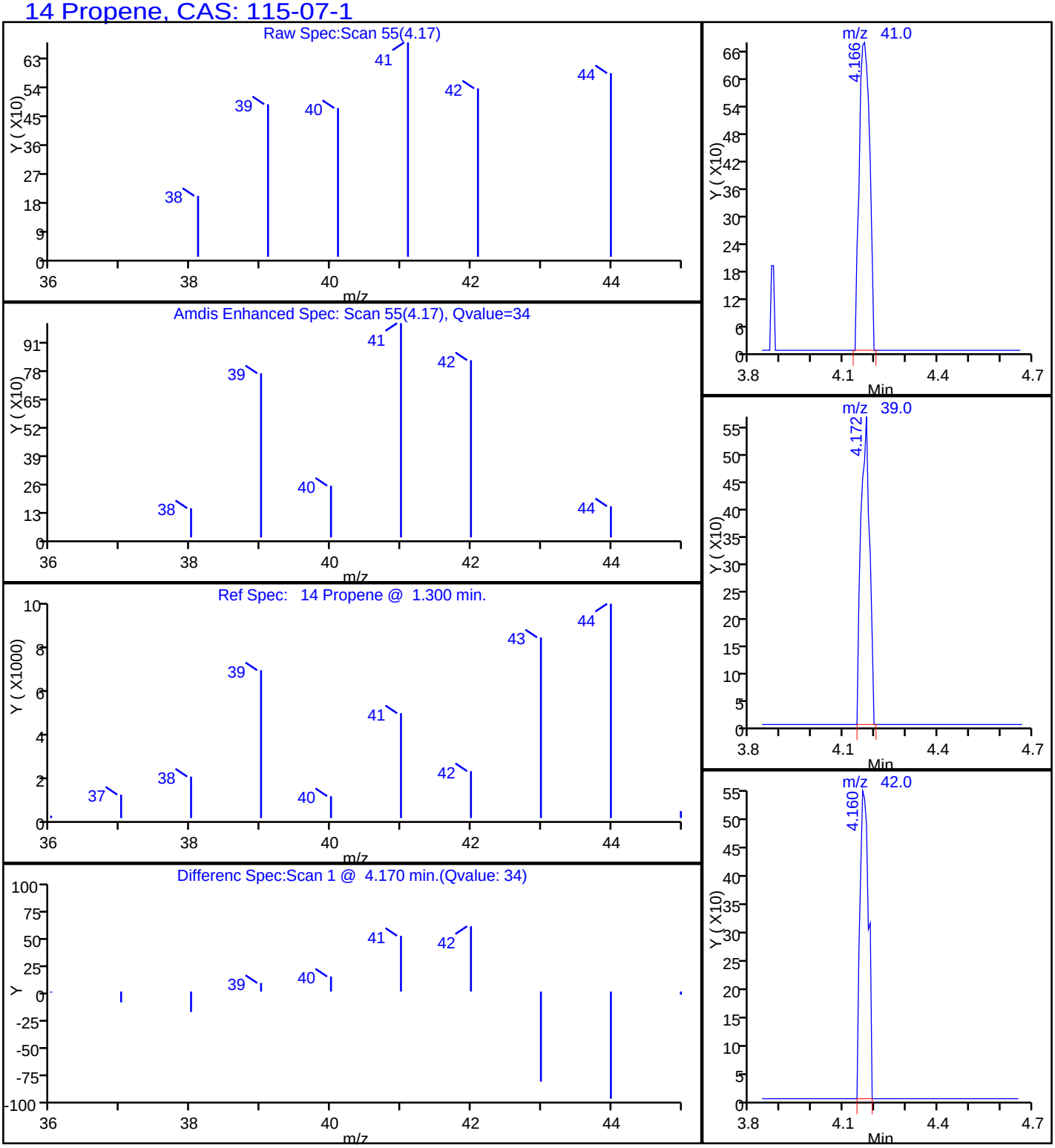
Report Date: 17-Nov-2015 11:37:50 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\ATMS9\20151114-26454.b\MS9111410.D

Injection Date:	14-Nov-2015 19:54:30	Instrument ID:	ATMS9		
Lims ID:	320-15930-A-11	Lab Sample ID:	320-15930-11		
Client ID:	8232				
Operator ID:	srs	ALS Bottle#:	8	Worklist Smp#:	20
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	TO15_ATMS9N	Limit Group:	MSA - TO15 - ICAL		
Column:	RTX Volatiles (0.32 mm)	Detector	MS SCAN		

14 Propene, CAS: 115-07-1



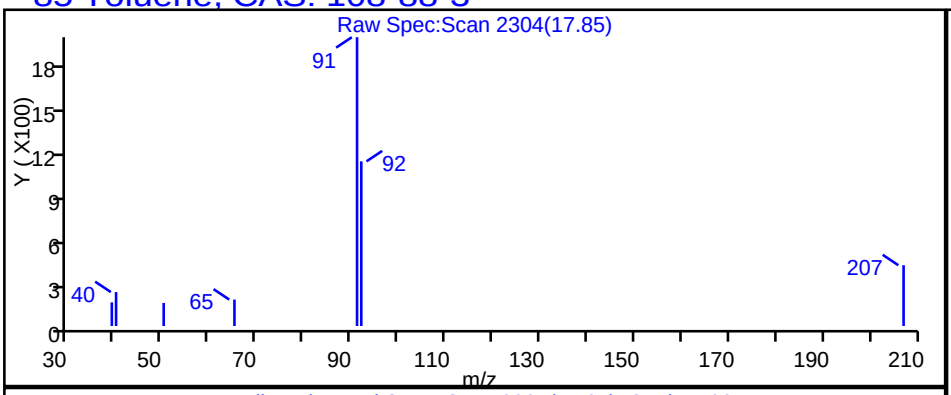
Report Date: 17-Nov-2015 11:37:50 Chrom Revision: 2.2 08-Oct-2015 07:17:48

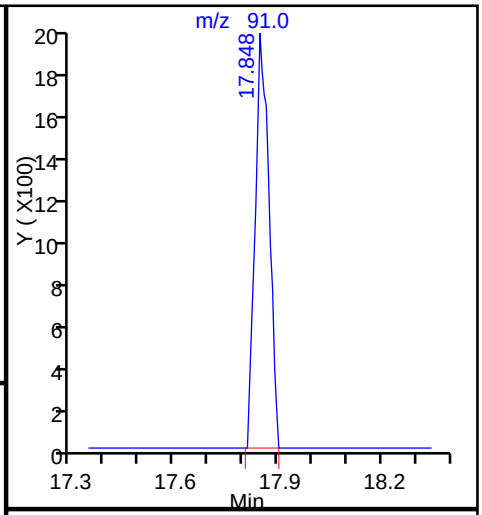
TestAmerica Sacramento

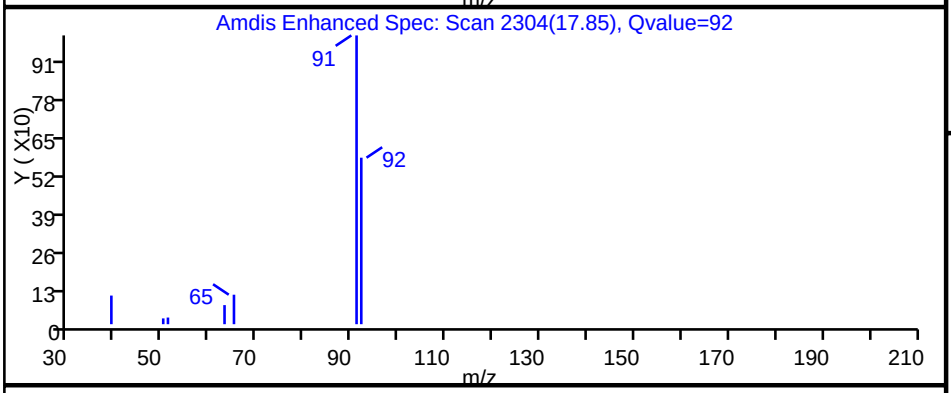
Data File: \\ChromNA\Sacramento\ChromData\ATMS9\20151114-26454.b\MS9111410.D

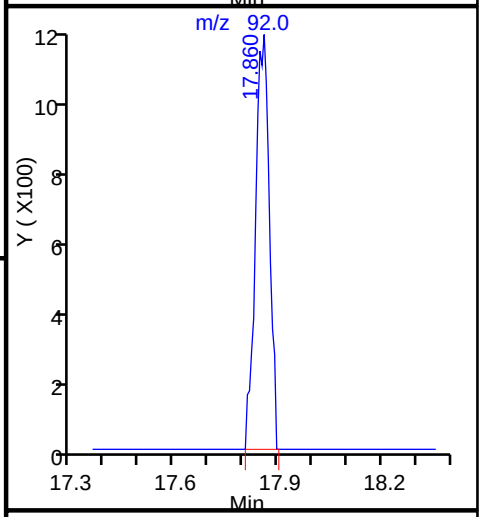
Injection Date:	14-Nov-2015 19:54:30	Instrument ID:	ATMS9		
Lims ID:	320-15930-A-11	Lab Sample ID:	320-15930-11		
Client ID:	8232				
Operator ID:	srs	ALS Bottle#:	8	Worklist Smp#:	20
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	TO15_ATMS9N	Limit Group:	MSA - TO15 - ICAL		
Column:	RTX Volatiles (0.32 mm)	Detector	MS SCAN		

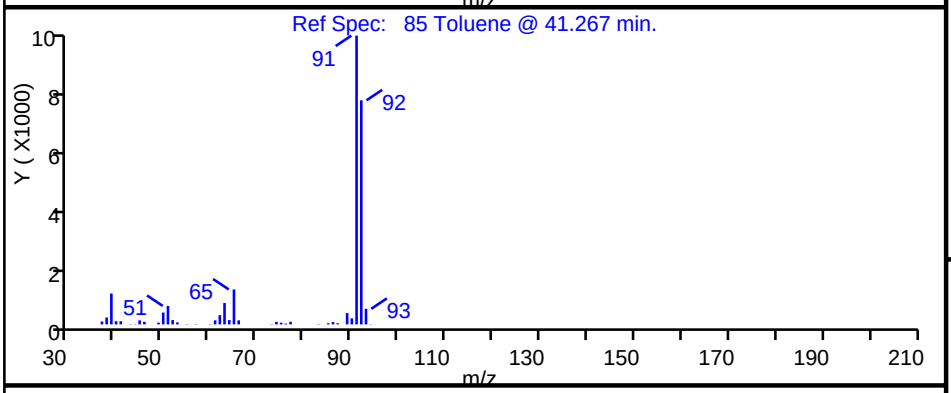
85 Toluene, CAS: 108-88-3

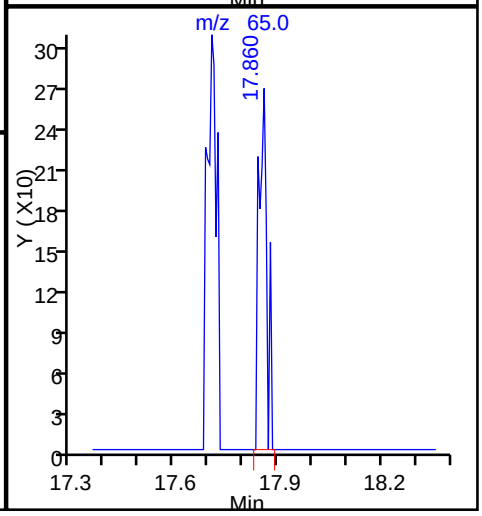


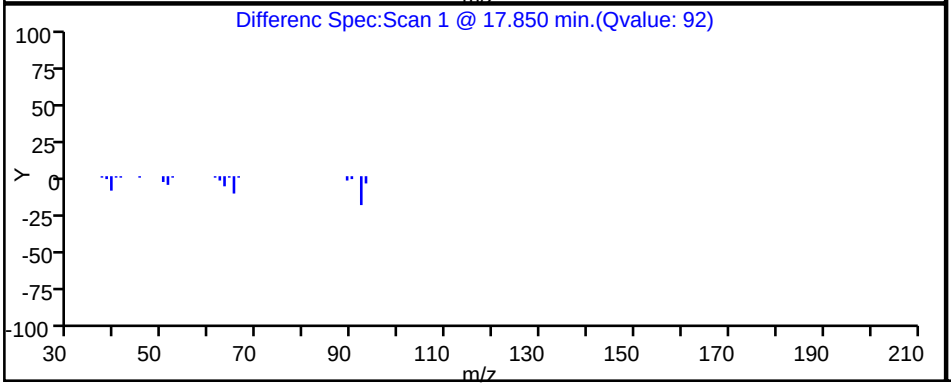












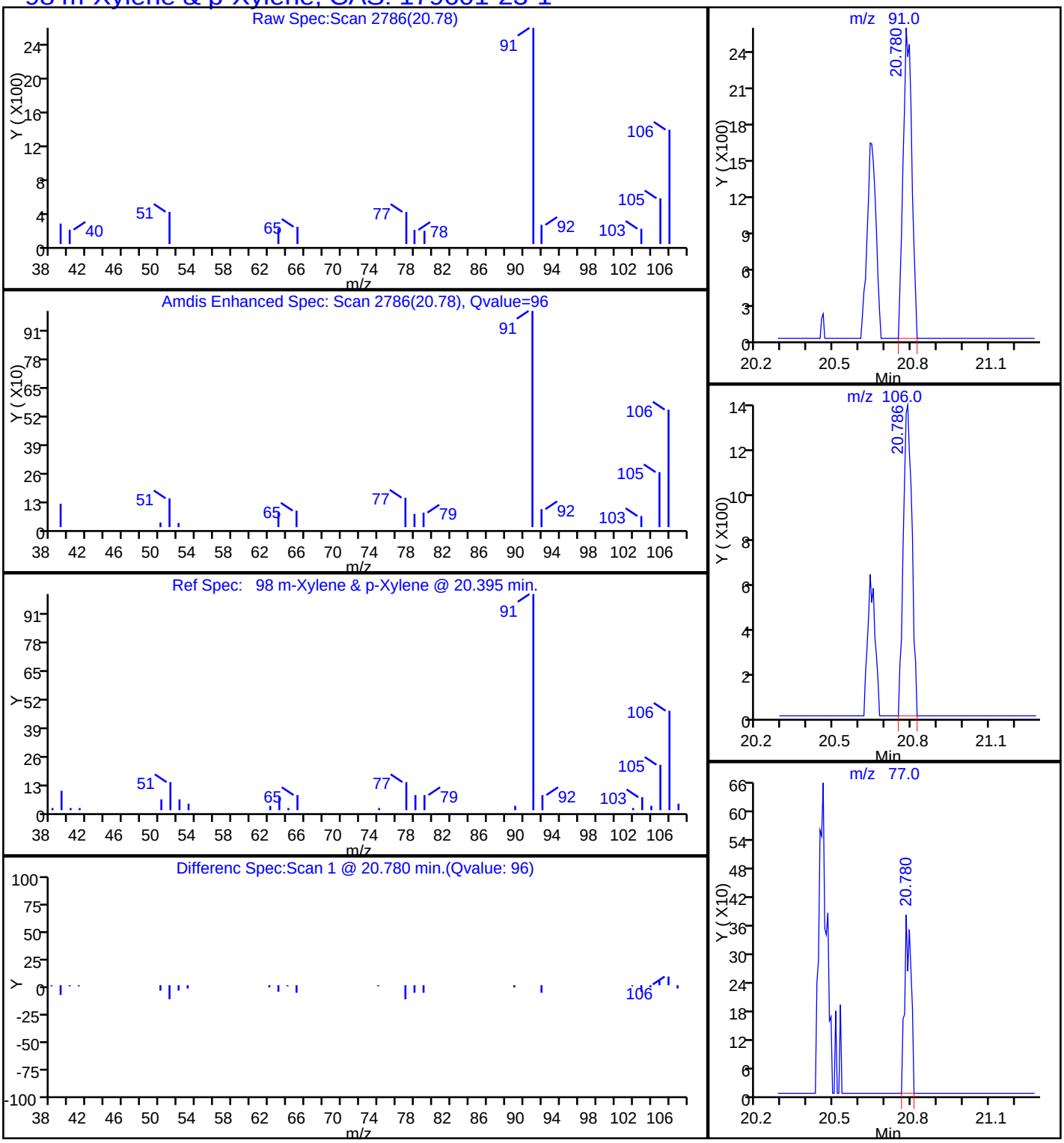
Report Date: 17-Nov-2015 11:37:50 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\ATMS9\20151114-26454.b\MS9111410.D

Injection Date:	14-Nov-2015 19:54:30	Instrument ID:	ATMS9		
Lims ID:	320-15930-A-11	Lab Sample ID:	320-15930-11		
Client ID:	8232				
Operator ID:	srs	ALS Bottle#:	8	Worklist Smp#:	20
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	TO15_ATMS9N	Limit Group:	MSA - TO15 - ICAL		
Column:	RTX Volatiles (0.32 mm)	Detector	MS SCAN		

98 m-Xylene & p-Xylene, CAS: 179601-23-1



TestAmerica

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: 320-17689-1
TestAmerica Sample Delivery Group: Property ID 891077
Client Project/Site: State M-1

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

Attn: Ms. Julie Czech

CathyGartner

Authorized for release by:
3/28/2016 3:07:29 PM

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

Table of Contents

Definitions/Glossary

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

TestAmerica Job ID: 320-17689-1
SDG: Property ID 891077

Qualifiers

Air - GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.

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

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

TestAmerica Job ID: 320-17689-1
SDG: Property ID 891077

Job ID: 320-17689-1

Laboratory: TestAmerica Sacramento

Narrative

Job Narrative
320-17689-1

Comments
No additional comments.

Receipt
The sample was received on 3/11/2016 11:00 AM; the sample arrived in good condition, properly preserved and, where required, on ice.

Air - GC/MS VOA
Method(s) TO-15: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 320-104030 recovered outside control limits for the following analytes: Benzyl chloride. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or 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

TestAmerica Job ID: 320-17689-1
SDG: Property ID 891077

Client Sample ID: STATE M-1 LEASE — Lab Sample ID: 320-17689-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1070		73.2		ppb v/v	183		TO-15	Total/NA
Ethylbenzene	446		73.2		ppb v/v	183		TO-15	Total/NA
Tetrachloroethene	92.9		73.2		ppb v/v	183		TO-15	Total/NA
Toluene	120		73.2		ppb v/v	183		TO-15	Total/NA
m,p-Xylene	609		146		ppb v/v	183		TO-15	Total/NA
o-Xylene	107		73.2		ppb v/v	183		TO-15	Total/NA
Total VOC as Hexane (C6-C12)	371000		18300		ppb v/v	183		TO-15	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

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

TestAmerica Job ID: 320-17689-1
SDG: Property ID 891077

Client Sample ID: STATE M-1 LEASE

Date Collected: 03/10/16 12:27
Date Received: 03/11/16 11:00
Sample Container: Summa Canister 6L

Lab Sample ID: 320-17689-1

Matrix: Air

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		915		ppb v/v			03/23/16 03:45	183
Benzene	**1070**		73.2		ppb v/v			03/23/16 03:45	183
Benzyl chloride	ND	*	146		ppb v/v			03/23/16 03:45	183
Bromodichloromethane	ND		54.9		ppb v/v			03/23/16 03:45	183
Bromoform	ND		73.2		ppb v/v			03/23/16 03:45	183
Bromomethane	ND		146		ppb v/v			03/23/16 03:45	183
2-Butanone (MEK)	ND		146		ppb v/v			03/23/16 03:45	183
Carbon disulfide	ND		146		ppb v/v			03/23/16 03:45	183
Carbon tetrachloride	ND		146		ppb v/v			03/23/16 03:45	183
Chlorobenzene	ND		54.9		ppb v/v			03/23/16 03:45	183
Dibromochloromethane	ND		73.2		ppb v/v			03/23/16 03:45	183
Chloroethane	ND		146		ppb v/v			03/23/16 03:45	183
Chloroform	ND		54.9		ppb v/v			03/23/16 03:45	183
Chloromethane	ND		146		ppb v/v			03/23/16 03:45	183
1,2-Dibromoethane (EDB)	ND		146		ppb v/v			03/23/16 03:45	183
1,2-Dichlorobenzene	ND		73.2		ppb v/v			03/23/16 03:45	183
1,3-Dichlorobenzene	ND		73.2		ppb v/v			03/23/16 03:45	183
1,4-Dichlorobenzene	ND		73.2		ppb v/v			03/23/16 03:45	183
Dichlorodifluoromethane	ND		73.2		ppb v/v			03/23/16 03:45	183
1,1-Dichloroethane	ND		54.9		ppb v/v			03/23/16 03:45	183
1,2-Dichloroethane	ND		146		ppb v/v			03/23/16 03:45	183
1,1-Dichloroethene	ND		146		ppb v/v			03/23/16 03:45	183
cis-1,2-Dichloroethene	ND		73.2		ppb v/v			03/23/16 03:45	183
trans-1,2-Dichloroethene	ND		73.2		ppb v/v			03/23/16 03:45	183
1,2-Dichloropropane	ND		73.2		ppb v/v			03/23/16 03:45	183
cis-1,3-Dichloropropene	ND		73.2		ppb v/v			03/23/16 03:45	183
trans-1,3-Dichloropropene	ND		73.2		ppb v/v			03/23/16 03:45	183
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		73.2		ppb v/v			03/23/16 03:45	183
Ethylbenzene	**446**		73.2		ppb v/v			03/23/16 03:45	183
4-Ethyltoluene	ND		73.2		ppb v/v			03/23/16 03:45	183
Hexachlorobutadiene	ND		366		ppb v/v			03/23/16 03:45	183
2-Hexanone	ND		73.2		ppb v/v			03/23/16 03:45	183
Methylene Chloride	ND		73.2		ppb v/v			03/23/16 03:45	183
4-Methyl-2-pentanone (MIBK)	ND		73.2		ppb v/v			03/23/16 03:45	183
Styrene	ND		73.2		ppb v/v			03/23/16 03:45	183
1,1,2,2-Tetrachloroethane	ND		73.2		ppb v/v			03/23/16 03:45	183
Tetrachloroethene	**92.9**		73.2		ppb v/v			03/23/16 03:45	183
Toluene	**120**		73.2		ppb v/v			03/23/16 03:45	183
1,2,4-Trichlorobenzene	ND		366		ppb v/v			03/23/16 03:45	183
1,1,1-Trichloroethane	ND		54.9		ppb v/v			03/23/16 03:45	183
1,1,2-Trichloroethane	ND		73.2		ppb v/v			03/23/16 03:45	183
Trichloroethene	ND		73.2		ppb v/v			03/23/16 03:45	183
Trichlorofluoromethane	ND		73.2		ppb v/v			03/23/16 03:45	183
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		73.2		ppb v/v			03/23/16 03:45	183
1,2,4-Trimethylbenzene	ND		146		ppb v/v			03/23/16 03:45	183
1,3,5-Trimethylbenzene	ND		73.2		ppb v/v			03/23/16 03:45	183
Vinyl acetate	ND		146		ppb v/v			03/23/16 03:45	183
Vinyl chloride	ND		73.2		ppb v/v			03/23/16 03:45	183

Client Sample Results

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

TestAmerica Job ID: 320-17689-1
SDG: Property ID 891077

Client Sample ID: STATE M-1 LEASE
Date Collected: 03/10/16 12:27
Date Received: 03/11/16 11:00
Sample Container: Summa Canister 6L

Lab Sample ID: 320-17689-1
Matrix: Air

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m,p-Xylene	609		146		ppb v/v			03/23/16 03:45	183
o-Xylene	107		73.2		ppb v/v			03/23/16 03:45	183
Total VOC as Hexane (C6-C12)	371000		18300		ppb v/v			03/23/16 03:45	183

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*		*03/23/16 03:45*	*183*
1,2-Dichloroethane-d4 (Surr)	*107*		*70 - 130*		*03/23/16 03:45*	*183*
Toluene-d8 (Surr)	*102*		*70 - 130*		*03/23/16 03:45*	*183*

Surrogate Summary

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

TestAmerica Job ID: 320-17689-1
SDG: Property ID 891077

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)
320-17689-1	STATE M-1 LEASE	100	107	102
LCS 320-104030/4	Lab Control Sample	106	105	103
LCSD 320-104030/5	Lab Control Sample Dup	105	107	103
MB 320-104030/7	Method Blank	97	107	98

Surrogate Legend

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

QC Sample Results

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

TestAmerica Job ID: 320-17689-1
SDG: Property ID 891077

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

Lab Sample ID: MB 320-104030/7
Matrix: Air
Analysis Batch: 104030

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		5.00		ppb v/v			03/22/16 20:47	1
Benzene	ND		0.400		ppb v/v			03/22/16 20:47	1
Benzyl chloride	ND		0.800		ppb v/v			03/22/16 20:47	1
Bromodichloromethane	ND		0.300		ppb v/v			03/22/16 20:47	1
Bromoform	ND		0.400		ppb v/v			03/22/16 20:47	1
Bromomethane	ND		0.800		ppb v/v			03/22/16 20:47	1
2-Butanone (MEK)	ND		0.800		ppb v/v			03/22/16 20:47	1
Carbon disulfide	ND		0.800		ppb v/v			03/22/16 20:47	1
Carbon tetrachloride	ND		0.800		ppb v/v			03/22/16 20:47	1
Chlorobenzene	ND		0.300		ppb v/v			03/22/16 20:47	1
Dibromochloromethane	ND		0.400		ppb v/v			03/22/16 20:47	1
Chloroethane	ND		0.800		ppb v/v			03/22/16 20:47	1
Chloroform	ND		0.300		ppb v/v			03/22/16 20:47	1
Chloromethane	ND		0.800		ppb v/v			03/22/16 20:47	1
1,2-Dibromoethane (EDB)	ND		0.800		ppb v/v			03/22/16 20:47	1
1,2-Dichlorobenzene	ND		0.400		ppb v/v			03/22/16 20:47	1
1,3-Dichlorobenzene	ND		0.400		ppb v/v			03/22/16 20:47	1
1,4-Dichlorobenzene	ND		0.400		ppb v/v			03/22/16 20:47	1
Dichlorodifluoromethane	ND		0.400		ppb v/v			03/22/16 20:47	1
1,1-Dichloroethane	ND		0.300		ppb v/v			03/22/16 20:47	1
1,2-Dichloroethane	ND		0.800		ppb v/v			03/22/16 20:47	1
1,1-Dichloroethene	ND		0.800		ppb v/v			03/22/16 20:47	1
cis-1,2-Dichloroethene	ND		0.400		ppb v/v			03/22/16 20:47	1
trans-1,2-Dichloroethene	ND		0.400		ppb v/v			03/22/16 20:47	1
1,2-Dichloropropane	ND		0.400		ppb v/v			03/22/16 20:47	1
cis-1,3-Dichloropropene	ND		0.400		ppb v/v			03/22/16 20:47	1
trans-1,3-Dichloropropene	ND		0.400		ppb v/v			03/22/16 20:47	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		0.400		ppb v/v			03/22/16 20:47	1
Ethylbenzene	ND		0.400		ppb v/v			03/22/16 20:47	1
4-Ethyltoluene	ND		0.400		ppb v/v			03/22/16 20:47	1
Hexachlorobutadiene	ND		2.00		ppb v/v			03/22/16 20:47	1
2-Hexanone	ND		0.400		ppb v/v			03/22/16 20:47	1
Methylene Chloride	ND		0.400		ppb v/v			03/22/16 20:47	1
4-Methyl-2-pentanone (MIBK)	ND		0.400		ppb v/v			03/22/16 20:47	1
Styrene	ND		0.400		ppb v/v			03/22/16 20:47	1
1,1,2,2-Tetrachloroethane	ND		0.400		ppb v/v			03/22/16 20:47	1
Tetrachloroethene	ND		0.400		ppb v/v			03/22/16 20:47	1
Toluene	ND		0.400		ppb v/v			03/22/16 20:47	1
1,2,4-Trichlorobenzene	ND		2.00		ppb v/v			03/22/16 20:47	1
1,1,1-Trichloroethane	ND		0.300		ppb v/v			03/22/16 20:47	1
1,1,2-Trichloroethane	ND		0.400		ppb v/v			03/22/16 20:47	1
Trichloroethene	ND		0.400		ppb v/v			03/22/16 20:47	1
Trichlorofluoromethane	ND		0.400		ppb v/v			03/22/16 20:47	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.400		ppb v/v			03/22/16 20:47	1
1,2,4-Trimethylbenzene	ND		0.800		ppb v/v			03/22/16 20:47	1
1,3,5-Trimethylbenzene	ND		0.400		ppb v/v			03/22/16 20:47	1
Vinyl acetate	ND		0.800		ppb v/v			03/22/16 20:47	1
Vinyl chloride	ND		0.400		ppb v/v			03/22/16 20:47	1

QC Sample Results

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

TestAmerica Job ID: 320-17689-1
SDG: Property ID 891077

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

Lab Sample ID: MB 320-104030/7
Matrix: Air
Analysis Batch: 104030

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m,p-Xylene	ND		0.800		ppb v/v			03/22/16 20:47	1
o-Xylene	ND		0.400		ppb v/v			03/22/16 20:47	1
Total VOC as Hexane (C6-C12)	ND		100		ppb v/v			03/22/16 20:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*03/22/16 20:47*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*70 - 130*		*03/22/16 20:47*	*1*
Toluene-d8 (Surr)	*98*		*70 - 130*		*03/22/16 20:47*	*1*

Lab Sample ID: LCS 320-104030/4
Matrix: Air
Analysis Batch: 104030

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	20.0	20.33		ppb v/v		102	71 - 131
Benzene	20.0	20.39		ppb v/v		102	68 - 128
Benzyl chloride	20.0	25.08	*	ppb v/v		125	58 - 120
Bromodichloromethane	20.0	21.93		ppb v/v		110	65 - 130
Bromoform	20.0	23.89		ppb v/v		119	64 - 144
Bromomethane	20.0	22.63		ppb v/v		113	70 - 131
2-Butanone (MEK)	20.0	20.35		ppb v/v		102	71 - 131
Carbon disulfide	20.0	19.53		ppb v/v		98	63 - 123
Carbon tetrachloride	20.0	24.14		ppb v/v		121	67 - 127
Chlorobenzene	20.0	21.82		ppb v/v		109	70 - 132
Dibromochloromethane	20.0	21.97		ppb v/v		110	68 - 128
Chloroethane	20.0	22.36		ppb v/v		112	70 - 131
Chloroform	20.0	21.03		ppb v/v		105	69 - 129
Chloromethane	20.0	21.25		ppb v/v		106	67 - 127
1,2-Dibromoethane (EDB)	20.0	22.03		ppb v/v		110	68 - 131
1,2-Dichlorobenzene	20.0	25.89		ppb v/v		129	73 - 143
1,3-Dichlorobenzene	20.0	26.17		ppb v/v		131	77 - 136
1,4-Dichlorobenzene	20.0	26.44		ppb v/v		132	73 - 143
Dichlorodifluoromethane	20.0	22.18		ppb v/v		111	69 - 129
1,1-Dichloroethane	20.0	20.54		ppb v/v		103	65 - 125
1,2-Dichloroethane	20.0	21.83		ppb v/v		109	71 - 131
1,1-Dichloroethene	20.0	19.30		ppb v/v		97	53 - 128
cis-1,2-Dichloroethene	20.0	20.32		ppb v/v		102	68 - 128
trans-1,2-Dichloroethene	20.0	20.46		ppb v/v		102	70 - 130
1,2-Dichloropropane	20.0	22.41		ppb v/v		112	74 - 128
cis-1,3-Dichloropropene	20.0	23.26		ppb v/v		116	78 - 132
trans-1,3-Dichloropropene	20.0	20.53		ppb v/v		103	56 - 136
1,2-Dichloro-1,1,2,2-tetrafluoroethane	20.0	21.62		ppb v/v		108	64 - 124
Ethylbenzene	20.0	22.05		ppb v/v		110	76 - 136
4-Ethyltoluene	20.0	22.88		ppb v/v		114	62 - 136
Hexachlorobutadiene	20.0	24.46		ppb v/v		122	42 - 150
2-Hexanone	20.0	21.36		ppb v/v		107	70 - 128
Methylene Chloride	20.0	18.25		ppb v/v		91	65 - 125

QC Sample Results

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

TestAmerica Job ID: 320-17689-1
SDG: Property ID 891077

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

Lab Sample ID: LCS 320-104030/4
Matrix: Air
Analysis Batch: 104030

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
4-Methyl-2-pentanone (MIBK)			20.0	21.36		ppb v/v		107	73 - 133		
Styrene			20.0	24.44		ppb v/v		122	76 - 144		
1,1,2,2-Tetrachloroethane			20.0	23.43		ppb v/v		117	75 - 135		
Tetrachloroethene			20.0	20.58		ppb v/v		103	56 - 138		
Toluene			20.0	21.34		ppb v/v		107	71 - 132		
1,2,4-Trichlorobenzene			20.0	26.84		ppb v/v		134	59 - 150		
1,1,1-Trichloroethane			20.0	21.46		ppb v/v		107	65 - 124		
1,1,2-Trichloroethane			20.0	21.67		ppb v/v		108	71 - 131		
Trichloroethene			20.0	20.52		ppb v/v		103	64 - 127		
Trichlorofluoromethane			20.0	22.04		ppb v/v		110	68 - 128		
1,1,2-Trichloro-1,2,2-trifluoroethane			20.0	19.42		ppb v/v		97	50 - 132		
1,2,4-Trimethylbenzene			20.0	25.01		ppb v/v		125	61 - 145		
1,3,5-Trimethylbenzene			20.0	23.72		ppb v/v		119	65 - 136		
Vinyl acetate			20.0	22.63		ppb v/v		113	77 - 134		
Vinyl chloride			20.0	22.13		ppb v/v		111	69 - 129		
Hexane			20.0	19.85		ppb v/v		99	63 - 123		
m,p-Xylene			40.0	45.66		ppb v/v		114	75 - 138		
o-Xylene			20.0	23.08		ppb v/v		115	77 - 132		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*105*		*70 - 130*
Toluene-d8 (Surr)	*103*		*70 - 130*

Lab Sample ID: LCSD 320-104030/5
Matrix: Air
Analysis Batch: 104030

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone			20.0	20.25		ppb v/v		101	71 - 131	0	25
Benzene			20.0	20.53		ppb v/v		103	68 - 128	1	25
Benzyl chloride			20.0	25.12	*	ppb v/v		126	58 - 120	0	25
Bromodichloromethane			20.0	22.18		ppb v/v		111	65 - 130	1	25
Bromoform			20.0	24.16		ppb v/v		121	64 - 144	1	25
Bromomethane			20.0	22.60		ppb v/v		113	70 - 131	0	25
2-Butanone (MEK)			20.0	20.23		ppb v/v		101	71 - 131	1	25
Carbon disulfide			20.0	19.42		ppb v/v		97	63 - 123	1	25
Carbon tetrachloride			20.0	24.37		ppb v/v		122	67 - 127	1	25
Chlorobenzene			20.0	21.96		ppb v/v		110	70 - 132	1	25
Dibromochloromethane			20.0	22.23		ppb v/v		111	68 - 128	1	25
Chloroethane			20.0	22.08		ppb v/v		110	70 - 131	1	25
Chloroform			20.0	21.09		ppb v/v		105	69 - 129	0	25
Chloromethane			20.0	21.25		ppb v/v		106	67 - 127	0	25
1,2-Dibromoethane (EDB)			20.0	22.13		ppb v/v		111	68 - 131	0	25
1,2-Dichlorobenzene			20.0	26.04		ppb v/v		130	73 - 143	1	25
1,3-Dichlorobenzene			20.0	26.35		ppb v/v		132	77 - 136	1	25
1,4-Dichlorobenzene			20.0	26.56		ppb v/v		133	73 - 143	0	25

QC Sample Results

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

TestAmerica Job ID: 320-17689-1
SDG: Property ID 891077

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

Lab Sample ID: LCSD 320-104030/5
Matrix: Air
Analysis Batch: 104030

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane			20.0	22.31		ppb v/v		112	69 - 129	1	25
1,1-Dichloroethane			20.0	20.52		ppb v/v		103	65 - 125	0	25
1,2-Dichloroethane			20.0	22.12		ppb v/v		111	71 - 131	1	25
1,1-Dichloroethene			20.0	19.26		ppb v/v		96	53 - 128	0	25
cis-1,2-Dichloroethene			20.0	20.22		ppb v/v		101	68 - 128	0	25
trans-1,2-Dichloroethene			20.0	20.37		ppb v/v		102	70 - 130	0	25
1,2-Dichloropropane			20.0	22.64		ppb v/v		113	74 - 128	1	25
cis-1,3-Dichloropropene			20.0	23.46		ppb v/v		117	78 - 132	1	25
trans-1,3-Dichloropropene			20.0	20.64		ppb v/v		103	56 - 136	1	25
1,2-Dichloro-1,1,2,2-tetrafluoroethane			20.0	21.77		ppb v/v		109	64 - 124	1	25
Ethylbenzene			20.0	22.07		ppb v/v		110	76 - 136	0	25
4-Ethyltoluene			20.0	23.09		ppb v/v		115	62 - 136	1	25
Hexachlorobutadiene			20.0	24.84		ppb v/v		124	42 - 150	2	25
2-Hexanone			20.0	21.15		ppb v/v		106	70 - 128	1	25
Methylene Chloride			20.0	17.96		ppb v/v		90	65 - 125	2	25
4-Methyl-2-pentanone (MIBK)			20.0	21.33		ppb v/v		107	73 - 133	0	25
Styrene			20.0	24.74		ppb v/v		124	76 - 144	1	25
1,1,2,2-Tetrachloroethane			20.0	23.47		ppb v/v		117	75 - 135	0	25
Tetrachloroethene			20.0	20.71		ppb v/v		104	56 - 138	1	25
Toluene			20.0	21.59		ppb v/v		108	71 - 132	1	25
1,2,4-Trichlorobenzene			20.0	27.82		ppb v/v		139	59 - 150	4	25
1,1,1-Trichloroethane			20.0	21.54		ppb v/v		108	65 - 124	0	25
1,1,2-Trichloroethane			20.0	21.71		ppb v/v		109	71 - 131	0	25
Trichloroethene			20.0	20.72		ppb v/v		104	64 - 127	1	25
Trichlorofluoromethane			20.0	22.05		ppb v/v		110	68 - 128	0	25
1,1,2-Trichloro-1,2,2-trifluoroethane			20.0	19.44		ppb v/v		97	50 - 132	0	25
1,2,4-Trimethylbenzene			20.0	25.14		ppb v/v		126	61 - 145	1	25
1,3,5-Trimethylbenzene			20.0	23.84		ppb v/v		119	65 - 136	1	25
Vinyl acetate			20.0	22.39		ppb v/v		112	77 - 134	1	25
Vinyl chloride			20.0	21.85		ppb v/v		109	69 - 129	1	25
Hexane			20.0	19.70		ppb v/v		98	63 - 123	1	25
m,p-Xylene			40.0	45.99		ppb v/v		115	75 - 138	1	25
o-Xylene			20.0	23.32		ppb v/v		117	77 - 132	1	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*107*		*70 - 130*
Toluene-d8 (Surr)	*103*		*70 - 130*

QC Association Summary

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

TestAmerica Job ID: 320-17689-1
SDG: Property ID 891077

Air - GC/MS VOA

Analysis Batch: 104030

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-17689-1	STATE M-1 LEASE	Total/NA	Air	TO-15	
LCS 320-104030/4	Lab Control Sample	Total/NA	Air	TO-15	
LCSD 320-104030/5	Lab Control Sample Dup	Total/NA	Air	TO-15	
MB 320-104030/7	Method Blank	Total/NA	Air	TO-15	

Lab Chronicle

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

TestAmerica Job ID: 320-17689-1
SDG: Property ID 891077

Client Sample ID: STATE M-1 LEASE
Date Collected: 03/10/16 12:27
Date Received: 03/11/16 11:00

Lab Sample ID: 320-17689-1
Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		183	2.5 mL	250 mL	104030	03/23/16 03:45	AP1	TAL SAC

Laboratory References:

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

Certification Summary

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

TestAmerica Job ID: 320-17689-1
SDG: Property ID 891077

Laboratory: TestAmerica Sacramento

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

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2928-01	01-31-17
Alaska (UST)	State Program	10	UST-055	12-18-16
Arizona	State Program	9	AZ0708	08-11-16
Arkansas DEQ	State Program	6	88-0691	06-17-16
California	State Program	9	2897	01-31-17
Colorado	State Program	8	N/A	08-31-16
Connecticut	State Program	1	PH-0691	06-30-17
Florida	NELAP	4	E87570	06-30-16
Hawaii	State Program	9	N/A	01-31-17
Illinois	NELAP	5	200060	03-17-17
Kansas	NELAP	7	E-10375	05-31-16
Louisiana	NELAP	6	30612	06-30-16
Michigan	State Program	5	9947	01-31-18
Nevada	State Program	9	CA44	07-31-16
New Jersey	NELAP	2	CA005	06-30-16
New York	NELAP	2	11666	04-01-16
Oregon	NELAP	10	CA200005	01-29-17
Pennsylvania	NELAP	3	9947	03-31-16
Texas	NELAP	6	T104704399-15-9	05-31-16
US Fish & Wildlife	Federal		LE148388-0	10-31-16
USDA	Federal		P330-11-00436	12-30-17
USEPA UCMR	Federal	1	CA00044	11-06-16
Utah	NELAP	8	QUAN1	02-28-17
Virginia	NELAP Secondary AB	3	460278	03-14-17
Washington	State Program	10	C581	05-04-16
West Virginia (DW)	State Program	3	9930C	12-31-16
Wyoming	State Program	8	8TMS-Q	01-29-17

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	08-31-16

Method Summary

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

TestAmerica Job ID: 320-17689-1
SDG: Property ID 891077

Method	Method Description	Protocol	Laboratory
TO-15	Volatile Organic Compounds in Ambient Air	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

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

Sample Summary

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

TestAmerica Job ID: 320-17689-1
SDG: Property ID 891077

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-17689-1	STATE M-1 LEASE	Air	03/10/16 12:27	03/11/16 11:00

TestAmerica Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
phone 916.374.4378 fax 916.372.1059

Canister Samples Chain of Custody Record

TestAmerica Laboratories, Inc. assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact Information	Project Manager: Bruce McKenzie	Samples Collected By:	COC No:
Company Name: Enviro Clean	Phone: 918 906 6780		____ of ____ COCs
Address: 7060 S Yale Ave	Email:		
City/State/Zip: Tulsa OK 74136			For Lab Use Only:
Phone: 918 794 7828	Site Contact:		Walk-in Client:
FAX:	TA Contact: Cathy Gardner		Lab Sampling:
Project Name: State M1 Lease	Anaylsis Turnaround Time		
Site/Location:	Standard (Specific): Standard		Job / SDG No :
P O #	Rush (Specifiy):		(See below for Add'l Items)

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, 'Hg (Start)'	Canister Vacuum in Field, 'Hg (Stop)'	Flow Controller ID	Canister ID	TO-15 (Med / Std / Low / SIM)	MA-APH	EPA 3C	EPA 25C / 25.3	ASTM D-1946 / 1945 / 3588	EPA 15/16	TO-3	Other (Please specify in notes section)	Air Sample Type:	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)	Sample Specific Notes:
State M-1 lease	3/10/16	1213	1227	—	—	—	—														X	Total VOC Hexane

Temperature (Fahrenheit)			
Start	Interior	Ambient	
Stop			

Temperature (Fahrenheit)			
Start	Interior	Ambient	
Stop			

320-17689 Chain of Custody

Special Instructions/QC Requirements & Comments:
Cathy Gardner

Samples Shipped by: Terry Fisher	Date / Time: 3/10/16 1600	Samples Received by: Ann Nelson 3-11-16 1100
Samples Relinquished by:	Date / Time:	Received by:
Relinquished by:	Date / Time:	Received by:

Lab Use Only: Shipper Name: Opened by: Condition:

Form No. CA-C-WI-003, Rev. 1, dated 05/10/2013

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

CANISTER FIELD DATA RECORD

Sacramento

JOB # 320-17689
Sample # 1

Client/Project:		VFR ID:		
Canister Serial #:	34002102	Duration:		☐ Hrs ☐ Min
Cleaning Job:		Flow:		mL/min
Client ID:		Initials:		
Site Location:				

FIELD				
READING	TIME	PRESS.	DATE	INITIALS
INITIAL FIELD VACUUM				
FINAL FIELD READING				

LABORATORY			
READING	PRESS.	DATE	INITIALS
INITIAL VACUUM CHECK (INCHES Hg)	29.8		JMT
☐ Helium Pre-dilution - Final Pressure (INCHES Hg)			
INITIAL PRESSURE (PSIA)	12.57	03/21/16	KY
FINAL PRESSURE (PSIA)	23.00	03/21/16	KY
Pressurization Gas: ☐ N2 ☐ He	SCREENED ☐	SCRN DIL. VS 250mLs:	
Initial Canister Dilution Factor = 1.83			

CANISTER REPRESSURIZATION

Date	Pi (PSIA)	Pf (PSIA)	Initial DF	Initials	NEW DF
			1.83		#DIV/0!
			#DIV/0!		#DIV/0!
			#DIV/0!		#DIV/0!

Analytical Dilution Factors

Date	Instr.	File #
3/22/2016	ATMS9	

Canister DF = 1.83 X Load DF = 2 (LVf (mLs) 250, LVi (mLs) 125) X Bag DF = 50 (BVf (mLs) 50, Bvi (mLs) 1) = FINAL DF 182.9753381

Date	Instr.	File #
3/23/2016	ATMS9	

Canister DF = 1.83 X Load DF = 4.1666667 (LVf (mLs) 250, LVi (mLs) 60) X Bag DF = 50 (BVf (mLs) 50, Bvi (mLs) 1) = FINAL DF 381.1986211

Date	Instr.	File #

Canister DF = 1.83 X Load DF = #DIV/0! (LVf (mLs), LVi (mLs)) X Bag DF = 1 (BVf (mLs), Bvi (mLs)) = FINAL DF #DIV/0!

Login Sample Receipt Checklist

Client: Enviro Clean Services LLC

Job Number: 320-17689-1
SDG Number: Property ID 891077

Login Number: 17689
List Number: 1
Creator: Nelson, Kym D

List Source: TestAmerica Sacramento

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

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

320-16820 Chain of Custody

Batch Certification

Certification Type: TO-15 Scan

Date Cleaned/Batch ID: 1/13/16 320-16820

Date of QC: 01/15/16 (01/15/16)

Data File Number: MS901410

CANISTER ID NUMBERS

34000205	0790	
0887	8430	
0695	7833	
2102	8467	
0497		
0713		
0554		
1200		

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.

1st level Reviewed By: _____ Date: 1/18/16

2nd level Reviewed By: _____ Date: 1/20/16

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

ERS 7/29/2013

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

320-17392 Chain of Custody

Canister QC [illegible]
Batch Certification

Certification Type: TO-15 Scan

Date Cleaned/Batch ID: 2/23/16 320-17392

Date of QC: C:\MSDCHEM\1\DATA\160301\

Data File Number: MS703012l.d

CANISTER ID NUMBERS

34081929 *	1892	
0908	1847	
1133	1894	
0935	1711	
0228	1770	
1697	1834	
1752	1933	
1957	7507	

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.

[signature] 1st level Reviewed By: 3/2/16 Date:

[signature] 2nd level Reviewed By: 3/11/16 Date:

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.: 320-16820-1

SDG No.:

Client Sample ID: 34000205 Lab Sample ID: 320-16820-1

Matrix: Air Lab File ID: MS9011410.D

Analysis Method: TO-15 Date Collected: 01/13/2016 00:00

Sample wt/vol: 250(mL) Date Analyzed: 01/15/2016 01:53

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-Volatiles ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 98182 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	ND		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	ND		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	0.11
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-tetrafluoroethane	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
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-16820-1

SDG No.:

Client Sample ID: 34000205 Lab Sample ID: 320-16820-1

Matrix: Air Lab File ID: MS9011410.D

Analysis Method: TO-15 Date Collected: 01/13/2016 00:00

Sample wt/vol: 250(mL) Date Analyzed: 01/15/2016 01:53

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-Volatiles ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 98182 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	0.050
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	0.079
108-88-3	Toluene	ND		0.40	0.051
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	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
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-16820-1

SDG No.:

Client Sample ID: 34000205 Lab Sample ID: 320-16820-1

Matrix: Air Lab File ID: MS9011410.D

Analysis Method: TO-15 Date Collected: 01/13/2016 00:00

Sample wt/vol: 250(mL) Date Analyzed: 01/15/2016 01:53

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-Volatiles ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 98182 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)	94		70-130
17060-07-0	1,2-Dichloroethane-d4 (Surr)	98		70-130
2037-26-5	Toluene-d8 (Surr)	97		70-130

Report Date: 18-Jan-2016 12:34:33 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\ATMS9\20160114-27833.b\MS9011410.D
Lims ID: 320-16820-A-1 Lab Sample ID: 320-16820-1
Client ID: 34000205
Sample Type: Client
Inject. Date: 15-Jan-2016 01:53:30 ALS Bottle#: 4 Worklist Smp#: 10
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 320-16820-A-1
Misc. Info.: 500 mL
Operator ID: KY Instrument ID: ATMS9

Method: \\ChromNA\Sacramento\ChromData\ATMS9\20160114-27833.b\TO15_ATMS9N.m
Limit Group: MSA - TO15 - ICAL
Last Update: 18-Jan-2016 12:34:09 Calib Date: 13-Jan-2016 01:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\ATMS9\20160112-27765.b\MS9011212.D

Column 1 : RTX Volatiles (0.32 mm) Det: MS SCAN
Process Host: XAWRK030

First Level Reviewer: leeh Date: 18-Jan-2016 12:33:22

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ppb v/v	Flags
* 1 Chlorobromomethane (IS)	130	12.431	12.450	-0.019	93	35360	4.00	
* 2 1,4-Difluorobenzene	114	14.530	14.542	-0.012	94	149741	4.00	
* 3 Chlorobenzene-d5 (IS)	117	20.456	20.456	0.000	86	125529	4.00	
$ 4 1,2-Dichloroethane-d4 (Sur	65	13.605	13.624	-0.019	98	46147	3.92	
$ 5 Toluene-d8 (Surr)	100	17.700	17.706	-0.006	99	93352	3.89	
$ 6 4-Bromofluorobenzene (Surr	174	22.372	22.372	0.000	93	70886	3.77	
31 Acetone	43	7.704	7.631	0.073	89	1920	0.1489	
74 Isooctane	57	13.545	13.545	0.000	89	1604	0.0302	
76 Trichloroethene	130	15.297	15.303	-0.006	84	198	0.0153	
85 Toluene	91	17.852	17.858	-0.006	91	837	0.0234	

Reagents:

VASUISIM_00256 Amount Added: 50.00 Units: mL Run Reagent

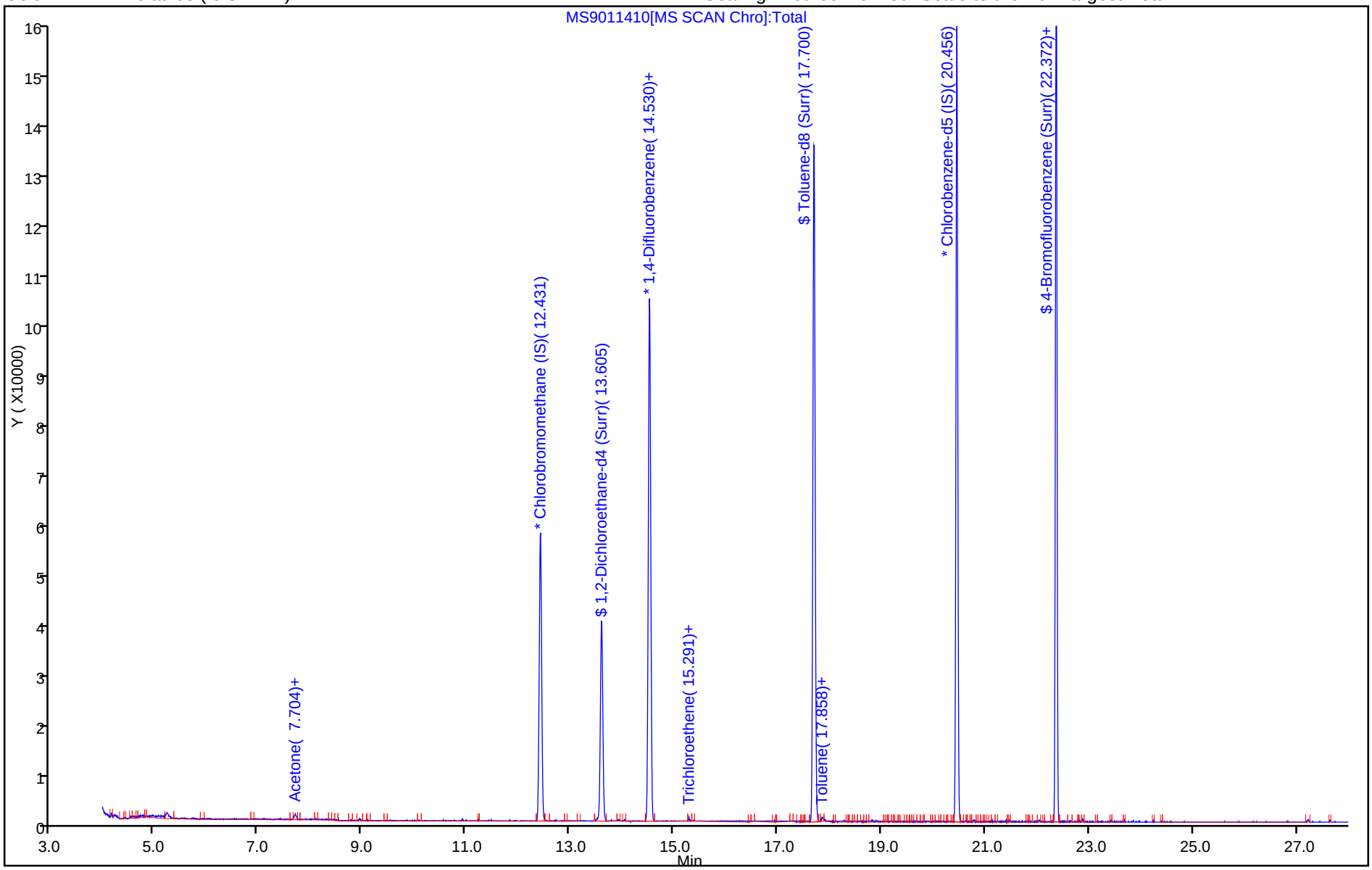
Report Date: 18-Jan-2016 12:34:33 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\ATMS9\20160114-27833.b\MS9011410.D

Injection Date:	15-Jan-2016 01:53:30	Instrument ID:	ATMS9	Operator ID:	KY
Lims ID:	320-16820-A-1	Lab Sample ID:	320-16820-1	Worklist Smp#:	10
Client ID:	34000205				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	TO15_ATMS9N	Limit Group:	MSA - TO15 - ICAL		

Column: RTX Volatiles (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 2



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

Lab Name: TestAmerica Sacramento Job No.: 320-17392-1

SDG No.:

Client Sample ID: 34001929 Lab Sample ID: 320-17392-1

Matrix: Air Lab File ID: MS7030121.D

Analysis Method: TO-15 Date Collected: 02/23/2016 00:00

Sample wt/vol: 500(mL) Date Analyzed: 03/02/2016 07:20

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-Volatiles ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 101989 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	0.31	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	ND		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	0.11
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-tetrafluoroethane	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
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-17392-1

SDG No.:

Client Sample ID: 34001929 Lab Sample ID: 320-17392-1

Matrix: Air Lab File ID: MS7030121.D

Analysis Method: TO-15 Date Collected: 02/23/2016 00:00

Sample wt/vol: 500(mL) Date Analyzed: 03/02/2016 07:20

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-Volatiles ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 101989 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	0.050
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	0.10	J	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	0.12	J	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	0.079
108-88-3	Toluene	0.082	J	0.40	0.051
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	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.: 320-17392-1

SDG No.:

Client Sample ID: 34001929 Lab Sample ID: 320-17392-1

Matrix: Air Lab File ID: MS7030121.D

Analysis Method: TO-15 Date Collected: 02/23/2016 00:00

Sample wt/vol: 500(mL) Date Analyzed: 03/02/2016 07:20

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-Volatiles ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 101989 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)	80		70-130
17060-07-0	1,2-Dichloroethane-d4 (Surr)	104		70-130
2037-26-5	Toluene-d8 (Surr)	104		70-130

Report Date: 02-Mar-2016 08:38:08 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\ChromNA\Sacramento\ChromData\ATMS7\20160301-28757.b\MS7030121.D				
Lims ID:	320-17392-A-1	Lab Sample ID:	320-17392-1		
Client ID:	34001929				
Sample Type:	Client				
Inject. Date:	02-Mar-2016 07:20:30	ALS Bottle#:	6	Worklist Smp#:	26
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	320-17392-A-1				
Misc. Info.:	500 mL CAN CERT				
Operator ID:	LHS	Instrument ID:	ATMS7		
Method:	\\ChromNA\Sacramento\ChromData\ATMS7\20160301-28757.b\TO15_ATMS7N.m				
Limit Group:	MSA - TO15 - ICAL				
Last Update:	02-Mar-2016 08:38:02	Calib Date:	23-Feb-2016 16:38:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\ATMS7\20160223-28575.b\MS7022229.D				
Column 1 :	RTX Volatiles (0.32 mm)		Det: MS SCAN		
Process Host:	XAWRK035				
First Level Reviewer: leeh		Date:	02-Mar-2016 08:38:02		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ppb v/v	Flags
* 1 Chlorobromomethane (IS)	130	12.390	12.421	-0.031	98	57770	4.00	
* 2 1,4-Difluorobenzene	114	14.544	14.568	-0.024	96	257487	4.00	
* 3 Chlorobenzene-d5 (IS)	117	21.224	21.242	-0.018	90	199179	4.00	
$ 4 1,2-Dichloroethane-d4 (Sur	65	13.595	13.619	-0.024	93	78586	4.15	
$ 5 Toluene-d8 (Surr)	100	17.957	17.975	-0.018	98	157769	4.15	
$ 6 4-Bromofluorobenzene (Surr	95	23.767	23.779	-0.012	88	96142	3.18	
11 Propene	41	3.892	3.898	-0.006	84	1634	0.1217	
32 Acetone	43	7.481	7.420	0.061	96	10007	0.3099	
39 Methylene Chloride	49	8.813	8.813	0.000	94	2477	0.1034	
58 Isooctane	57	13.546	13.546	0.000	84	3668	0.0286	
73 n-Octane	43	17.987	17.981	0.006	43	3906	0.0481	
75 Toluene	91	18.127	18.127	0.000	93	7902	0.0823	
80 Tetrachloroethene	166	19.624	19.636	-0.012	87	1492	0.0347	
88 o-Xylene	91	22.562	22.556	0.006	86	2067	0.0237	

Reagents:

VASUISIM_00273 Amount Added: 50.00 Units: mL Run Reagent

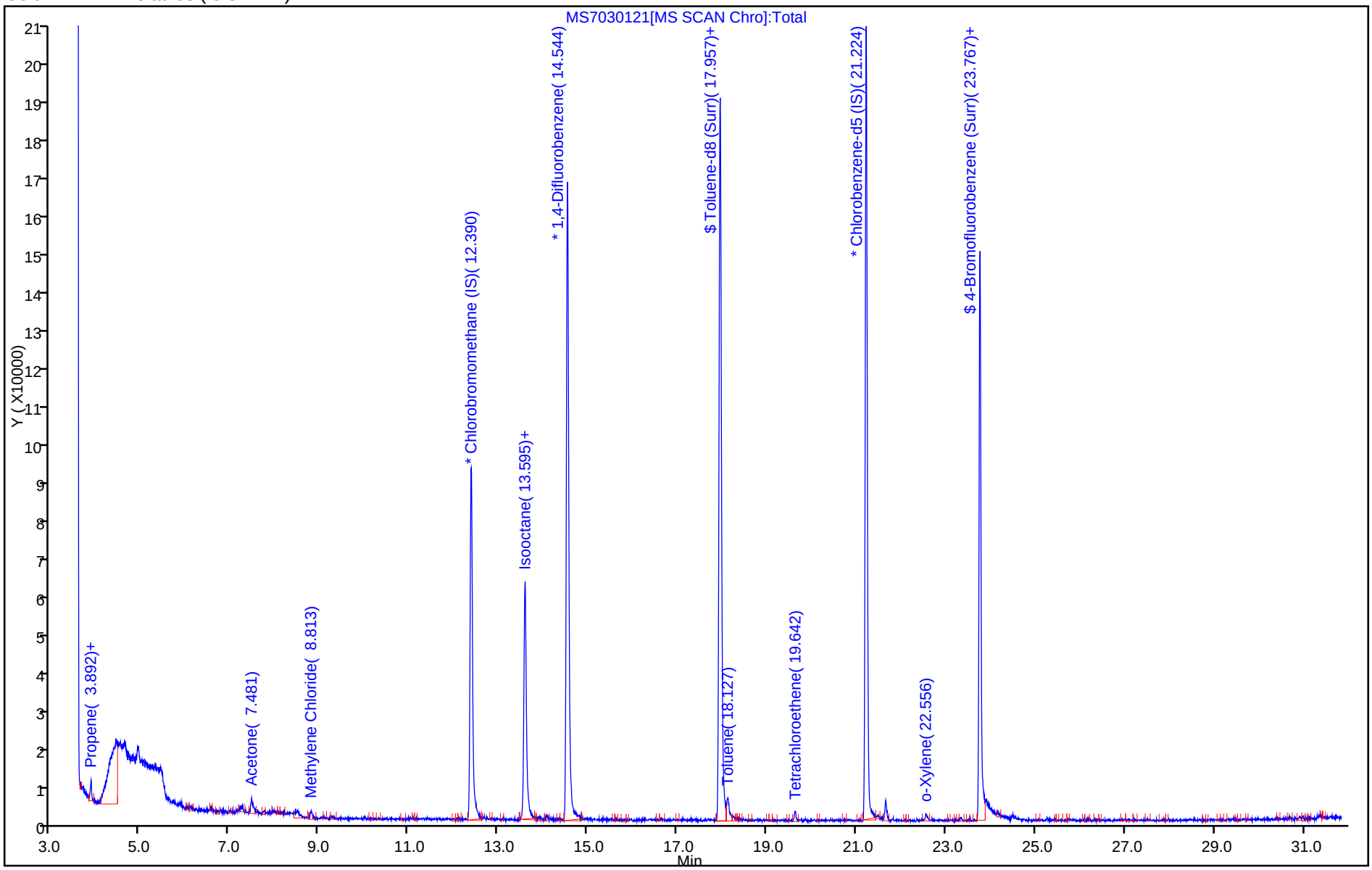
Report Date: 02-Mar-2016 08:38:08 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\ATMS7\20160301-28757.b\MS7030121.D

Injection Date:	02-Mar-2016 07:20:30	Instrument ID:	ATMS7	Operator ID:	LHS
Lims ID:	320-17392-A-1	Lab Sample ID:	320-17392-1	Worklist Smp#:	26
Client ID:	34001929				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	TO15_ATMS7N	Limit Group:	MSA - TO15 - ICAL		

Column: RTX Volatiles (0.32 mm)



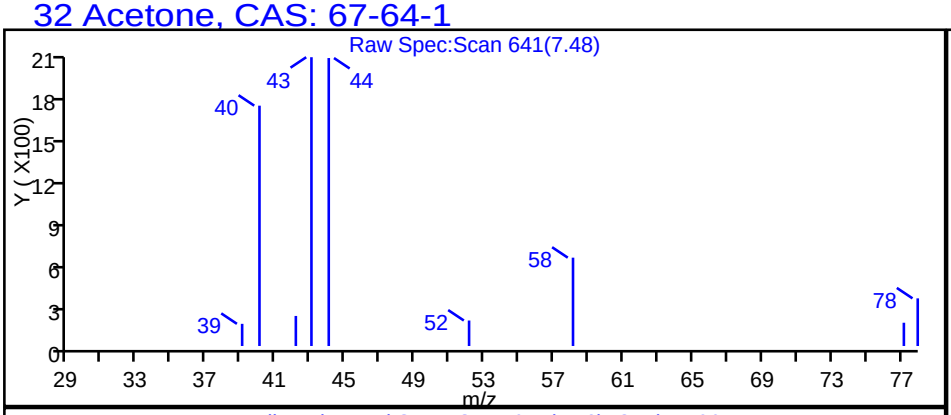
Report Date: 02-Mar-2016 08:38:09 Chrom Revision: 2.2 02-Dec-2015 11:51:48

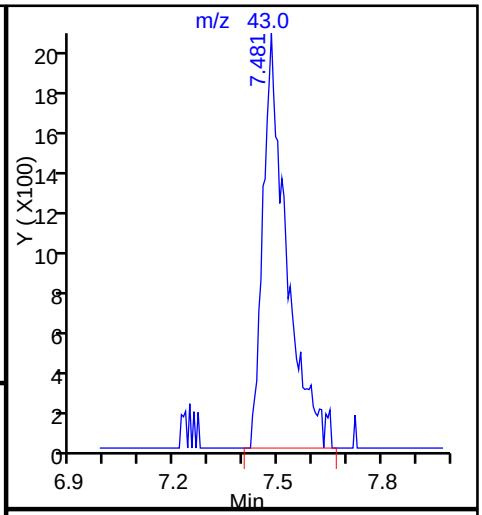
TestAmerica Sacramento

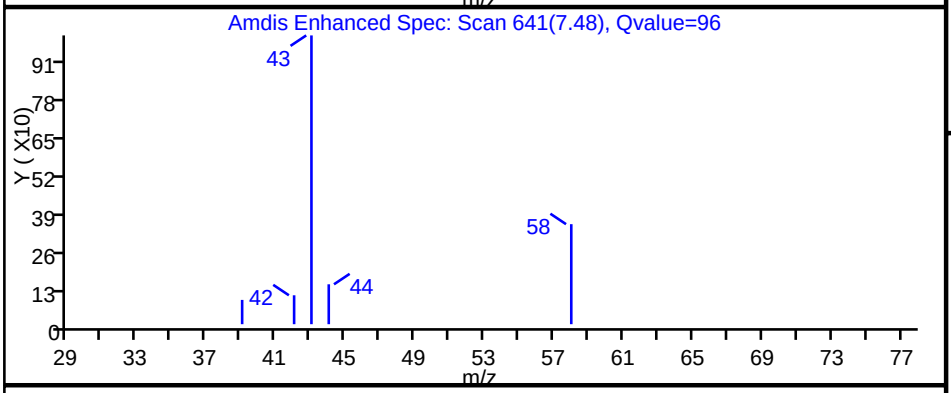
Data File: \\ChromNA\Sacramento\ChromData\ATMS7\20160301-28757.b\MS7030121.D

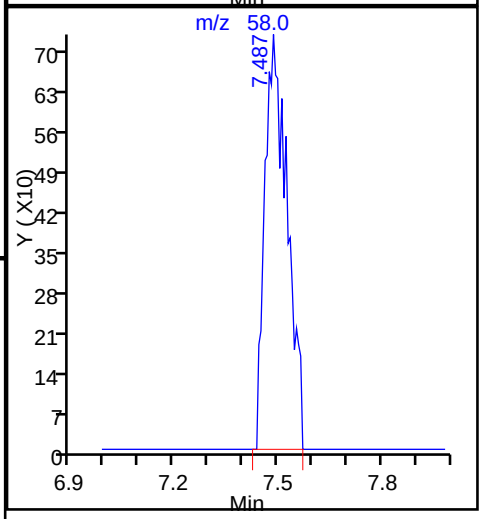
Injection Date:	02-Mar-2016 07:20:30	Instrument ID:	ATMS7		
Lims ID:	320-17392-A-1	Lab Sample ID:	320-17392-1		
Client ID:	34001929				
Operator ID:	LHS	ALS Bottle#:	6	Worklist Smp#:	26
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	TO15_ATMS7N	Limit Group:	MSA - TO15 - ICAL		
Column:	RTX Volatiles (0.32 mm)	Detector	MS SCAN		

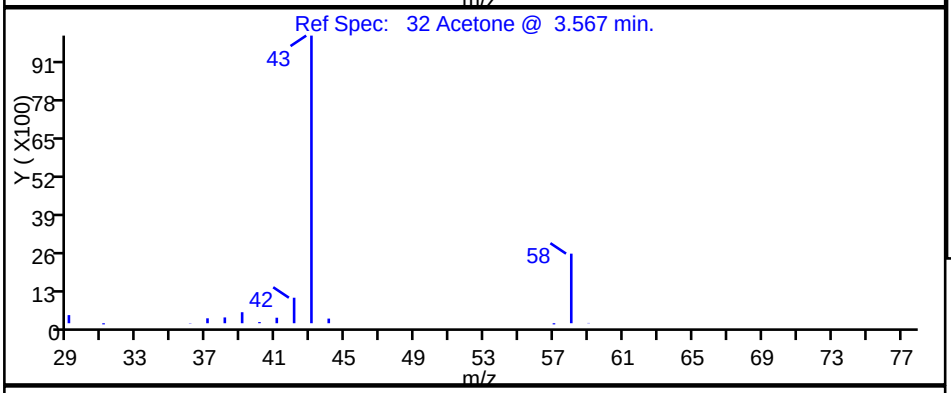
32 Acetone, CAS: 67-64-1

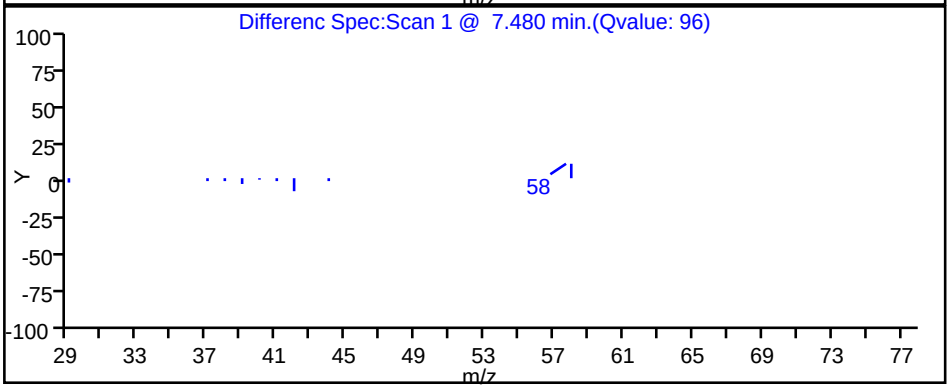












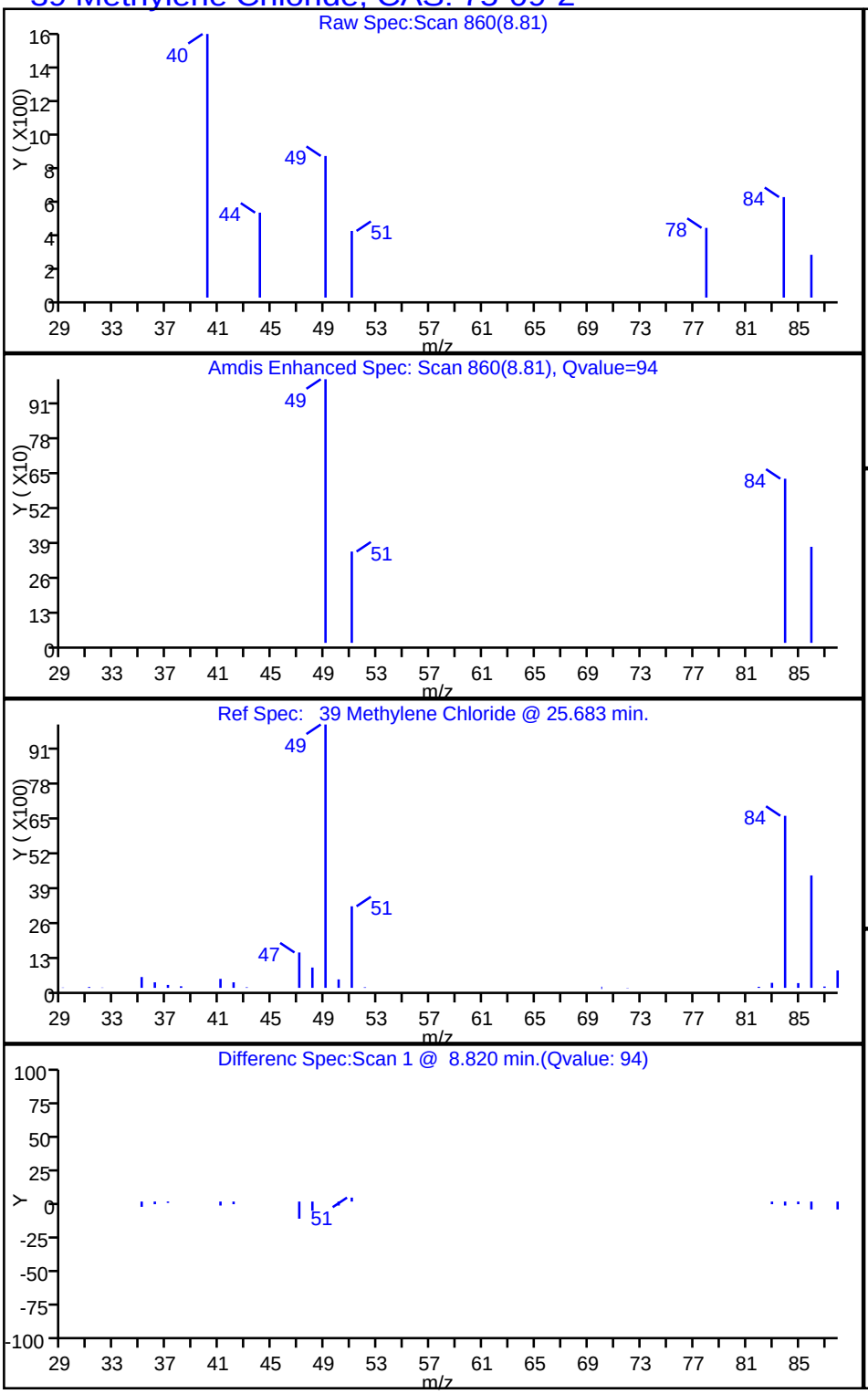
Report Date: 02-Mar-2016 08:38:09 Chrom Revision: 2.2 02-Dec-2015 11:51:48

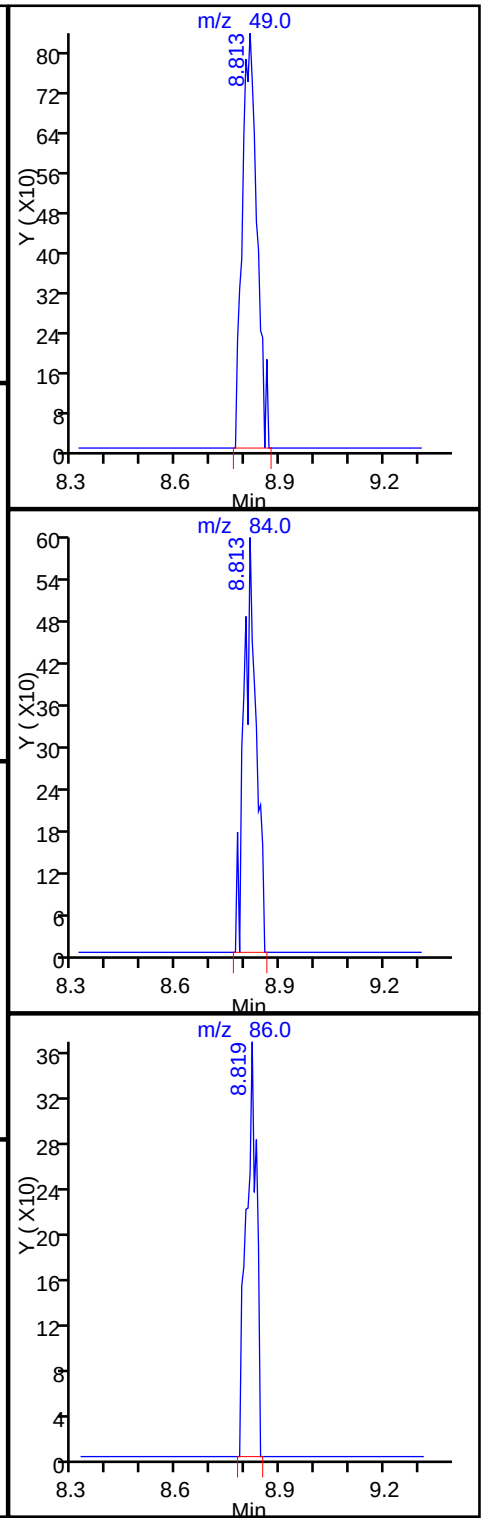
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\ATMS7\20160301-28757.b\MS7030121.D

Injection Date:	02-Mar-2016 07:20:30	Instrument ID:	ATMS7		
Lims ID:	320-17392-A-1	Lab Sample ID:	320-17392-1		
Client ID:	34001929				
Operator ID:	LHS	ALS Bottle#:	6	Worklist Smp#:	26
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	TO15_ATMS7N	Limit Group:	MSA - TO15 - ICAL		
Column:	RTX Volatiles (0.32 mm)	Detector	MS SCAN		

39 Methylene Chloride, CAS: 75-09-2





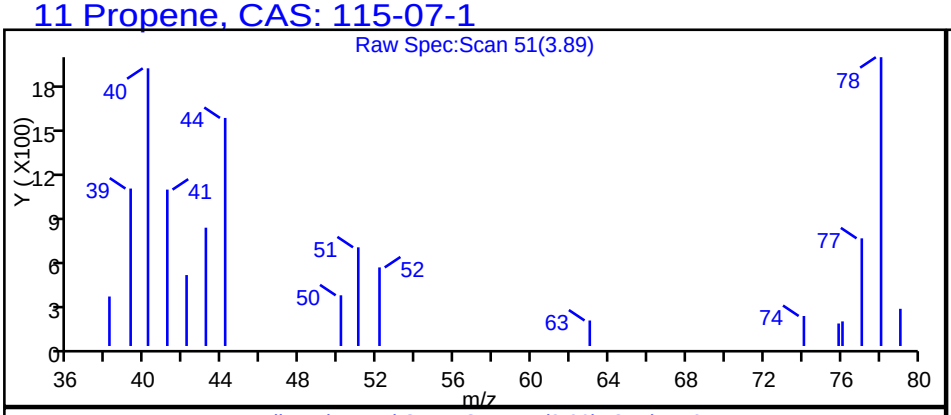
Report Date: 02-Mar-2016 08:38:08 Chrom Revision: 2.2 02-Dec-2015 11:51:48

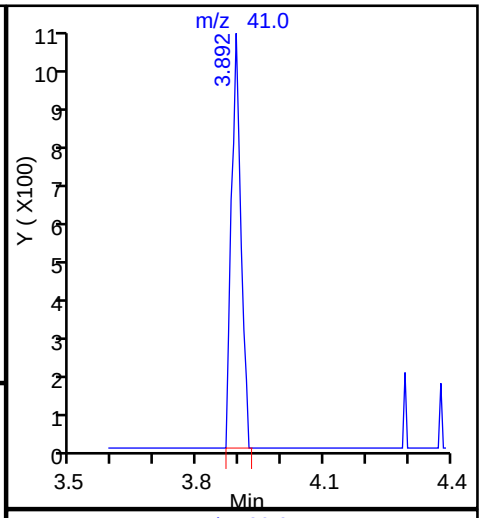
TestAmerica Sacramento

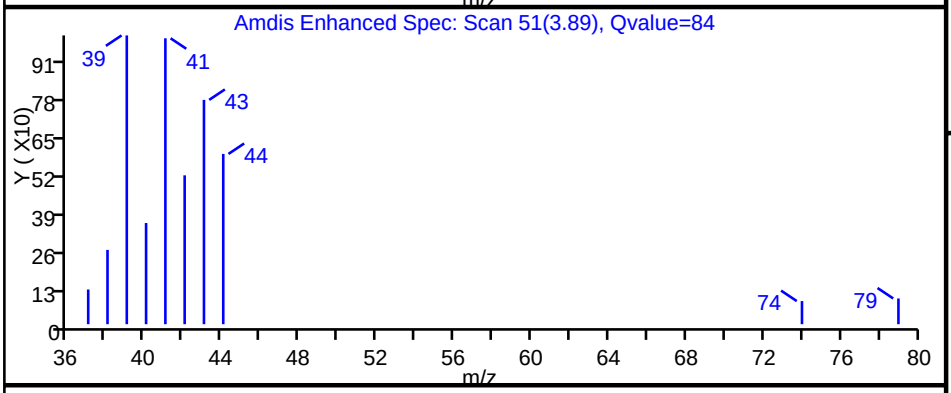
Data File: \\ChromNA\Sacramento\ChromData\ATMS7\20160301-28757.b\MS7030121.D

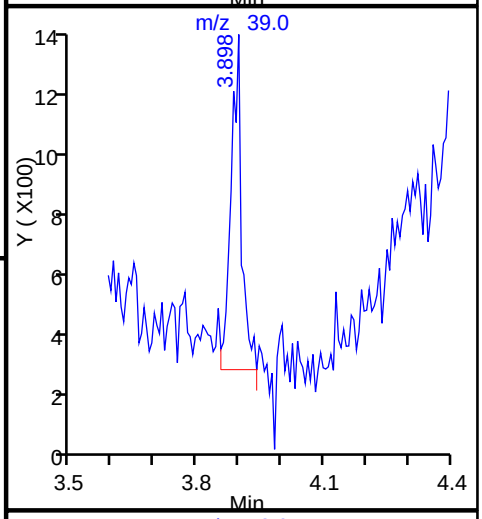
Injection Date:	02-Mar-2016 07:20:30	Instrument ID:	ATMS7		
Lims ID:	320-17392-A-1	Lab Sample ID:	320-17392-1		
Client ID:	34001929				
Operator ID:	LHS	ALS Bottle#:	6	Worklist Smp#:	26
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	TO15_ATMS7N	Limit Group:	MSA - TO15 - ICAL		
Column:	RTX Volatiles (0.32 mm)	Detector	MS SCAN		

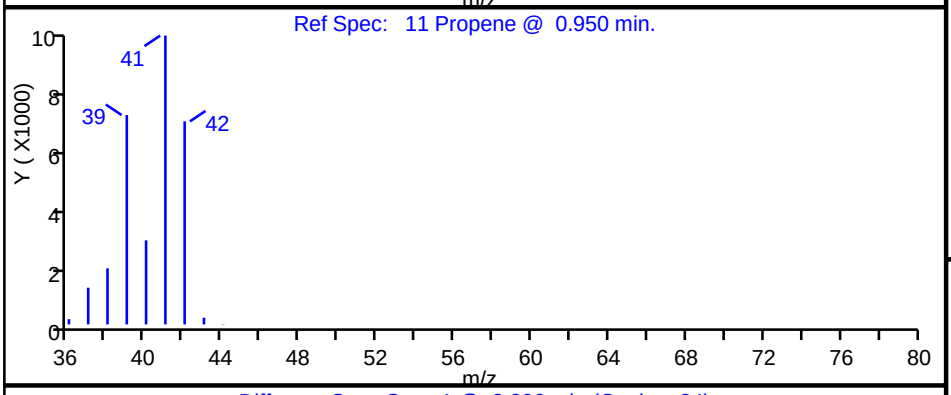
11 Propene, CAS: 115-07-1

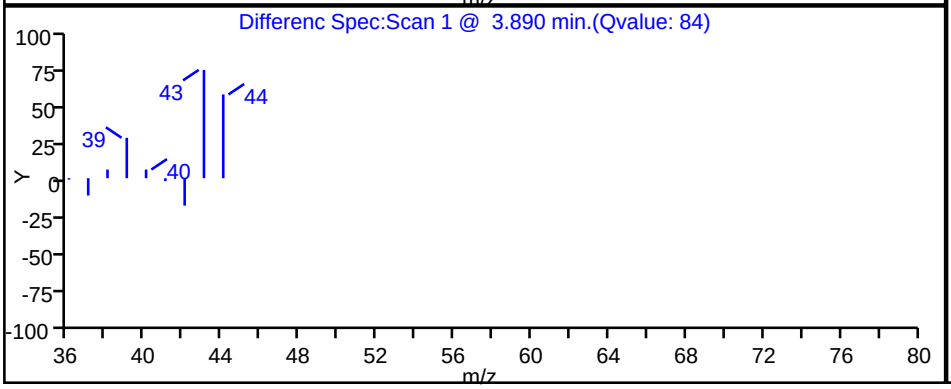


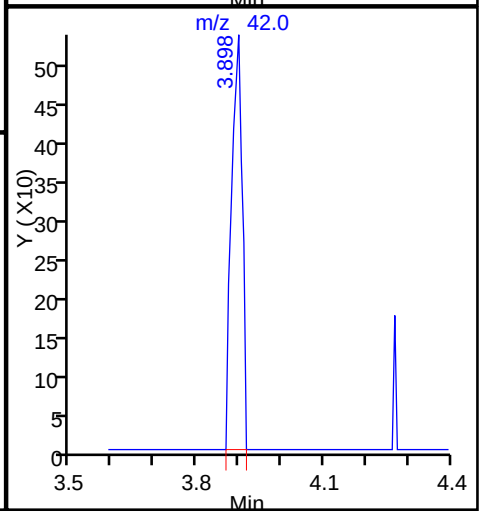












Report Date: 02-Mar-2016 08:38:09 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\ATMS7\20160301-28757.b\MS7030121.D

Injection Date:	02-Mar-2016 07:20:30	Instrument ID:	ATMS7		
Lims ID:	320-17392-A-1	Lab Sample ID:	320-17392-1		
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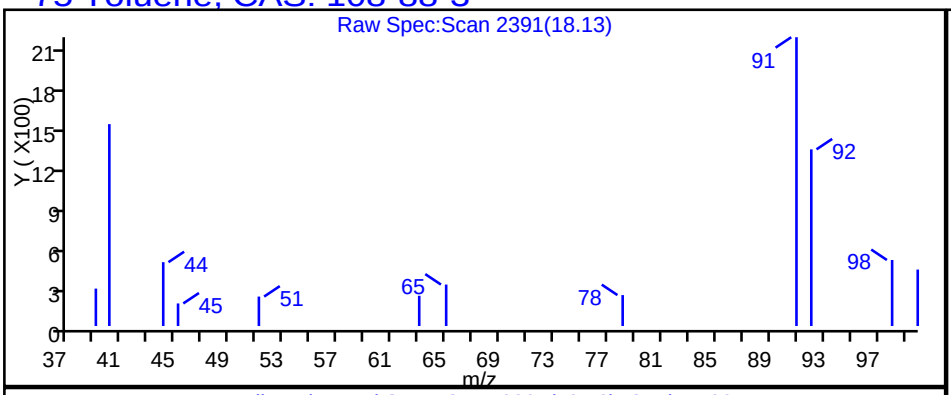
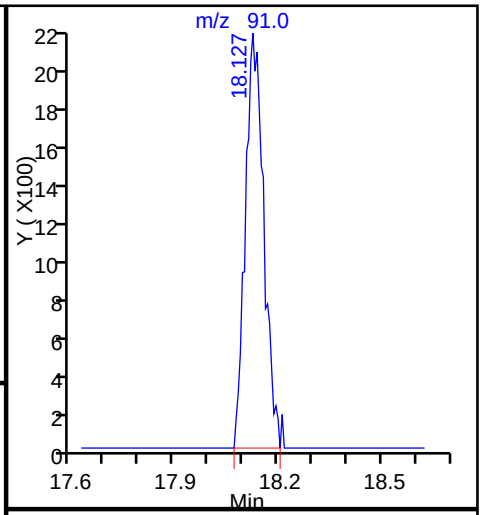
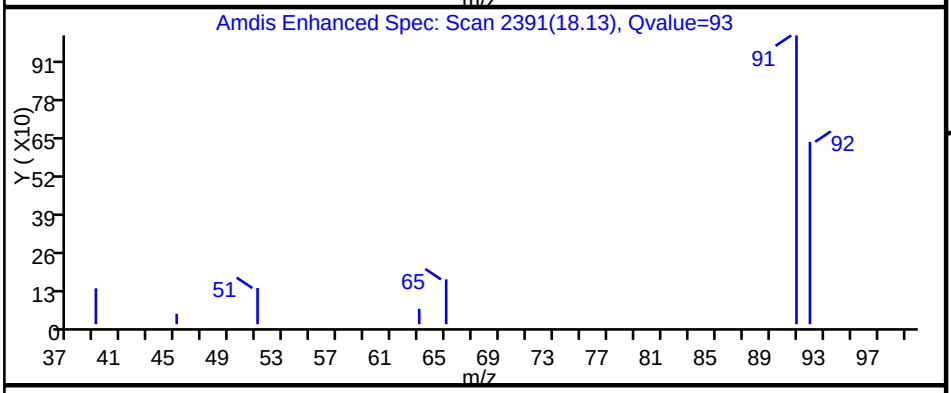
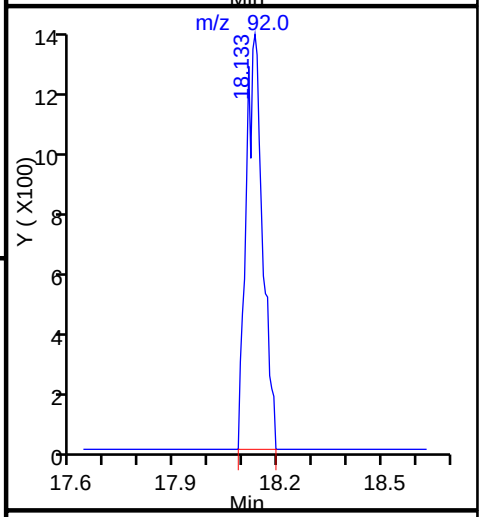
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	TO15_ATMS7N	Limit Group:	MSA - TO15 - ICAL		
Column:	RTX Volatiles (0.32 mm)	Detector	MS SCAN		

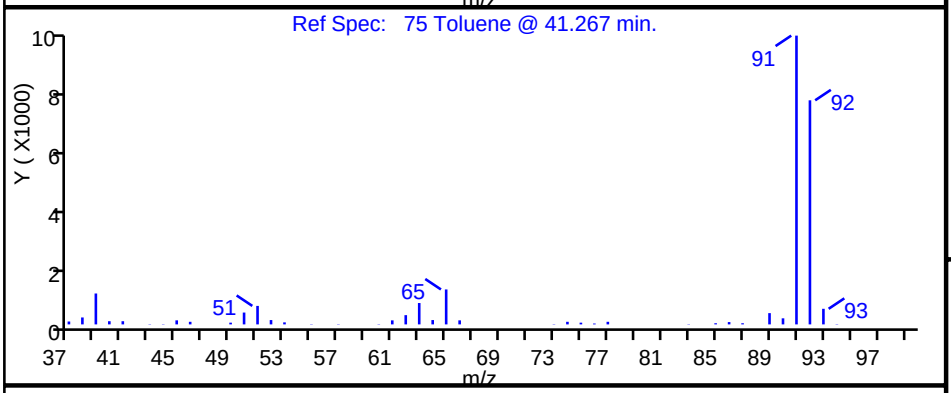
75 Toluene, CAS: 108-88-3

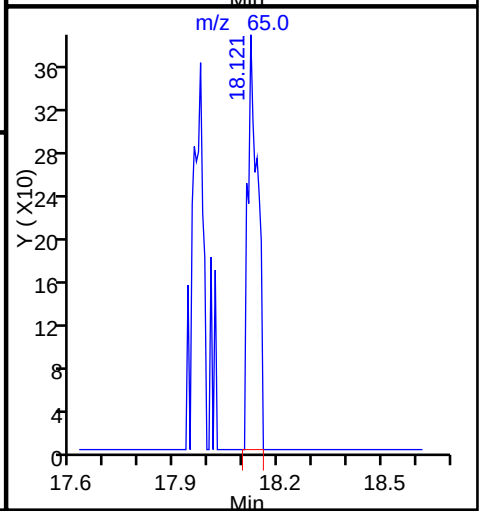


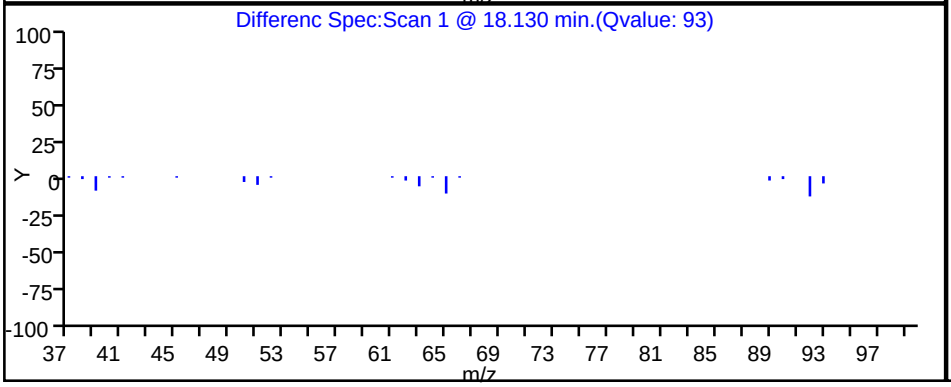












TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

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

TestAmerica Job ID: 490-80524-1
Client Project/Site: CHK STATE M-1

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

Attn: Ms. Julie Czech

CathyGartner

Authorized for release by:
6/22/2015 8:59:30 AM

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

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

TestAmerica Job ID: 490-80524-1

Table of Contents

Sample Summary

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

TestAmerica Job ID: 490-80524-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-80524-1	MW-2	Water	06/10/15 08:35	06/12/15 09:00
490-80524-2	MW-5	Water	06/10/15 09:55	06/12/15 09:00
490-80524-3	MW-3	Water	06/10/15 11:20	06/12/15 09:00
490-80524-4	MW-4	Water	06/10/15 12:50	06/12/15 09:00
490-80524-5	MW-8	Water	06/10/15 14:45	06/12/15 09:00
490-80524-6	MW-6	Water	06/10/15 16:00	06/12/15 09:00
490-80524-7	MW-7	Water	06/10/15 17:05	06/12/15 09:00
490-80524-8	Eq Blank	Water	06/10/15 11:48	06/12/15 09:00
490-80524-9	Dup	Water	06/10/15 00:01	06/12/15 09:00
490-80524-10	MW-1R	Water	06/11/15 08:30	06/12/15 09:00

Case Narrative

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

TestAmerica Job ID: 490-80524-1

Job ID: 490-80524-1

Laboratory: TestAmerica Nashville

Narrative

Job Narrative
490-80524-1

Comments
No additional comments.

Receipt
The samples were received on 6/12/2015 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.8º C.

HPLC/IC
Method(s) 300.0: The following samples were diluted due to the nature of the sample matrix: MW-4 (490-80524-4), MW-8 (490-80524-5), MW-6 (490-80524-6) and Dup (490-80524-9). 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: CHK STATE M-1

TestAmerica Job ID: 490-80524-1

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
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)

Client Sample Results

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

TestAmerica Job ID: 490-80524-1

Client Sample ID: MW-2
Date Collected: 06/10/15 08:35
Date Received: 06/12/15 09:00

Lab Sample ID: 490-80524-1
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	16.8		1.00		mg/L			06/17/15 23:56	1

Client Sample Results

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

TestAmerica Job ID: 490-80524-1

Client Sample ID: MW-5
Date Collected: 06/10/15 09:55
Date Received: 06/12/15 09:00

Lab Sample ID: 490-80524-2
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	26.2		1.00		mg/L			06/18/15 00:16	1

Client Sample Results

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

TestAmerica Job ID: 490-80524-1

Client Sample ID: MW-3
Date Collected: 06/10/15 11:20
Date Received: 06/12/15 09:00

Lab Sample ID: 490-80524-3
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	57.1		1.00		mg/L			06/18/15 00:36	1

Client Sample Results

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

TestAmerica Job ID: 490-80524-1

Client Sample ID: MW-4
Date Collected: 06/10/15 12:50
Date Received: 06/12/15 09:00

Lab Sample ID: 490-80524-4
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	556		10.0		mg/L			06/18/15 00:56	10

Client Sample Results

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

TestAmerica Job ID: 490-80524-1

Client Sample ID: MW-8
Date Collected: 06/10/15 14:45
Date Received: 06/12/15 09:00

Lab Sample ID: 490-80524-5
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	558		10.0		mg/L			06/18/15 01:16	10

Client Sample Results

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

TestAmerica Job ID: 490-80524-1

Client Sample ID: MW-6
Date Collected: 06/10/15 16:00
Date Received: 06/12/15 09:00

Lab Sample ID: 490-80524-6
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	253		10.0		mg/L			06/18/15 01:36	10

Client Sample Results

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

TestAmerica Job ID: 490-80524-1

Client Sample ID: MW-7
Date Collected: 06/10/15 17:05
Date Received: 06/12/15 09:00

Lab Sample ID: 490-80524-7
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	36.2		1.00		mg/L			06/18/15 01:56	1

Client Sample Results

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

TestAmerica Job ID: 490-80524-1

Client Sample ID: Eq Blank
Date Collected: 06/10/15 11:48
Date Received: 06/12/15 09:00

Lab Sample ID: 490-80524-8
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			06/18/15 02:36	1

Client Sample Results

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

TestAmerica Job ID: 490-80524-1

Client Sample ID: Dup
Date Collected: 06/10/15 00:01
Date Received: 06/12/15 09:00

Lab Sample ID: 490-80524-9
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	540		10.0		mg/L			06/18/15 02:56	10

Client Sample Results

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

TestAmerica Job ID: 490-80524-1

Client Sample ID: MW-1R
Date Collected: 06/11/15 08:30
Date Received: 06/12/15 09:00

Lab Sample ID: 490-80524-10
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	24.6		1.00		mg/L			06/18/15 03:16	1

QC Sample Results

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

TestAmerica Job ID: 490-80524-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 490-256950/3
Matrix: Water
Analysis Batch: 256950

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			06/17/15 22:56	1

Lab Sample ID: LCS 490-256950/4
Matrix: Water
Analysis Batch: 256950

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	100.2		mg/L		100	90 - 110

Lab Sample ID: LCSD 490-256950/5
Matrix: Water
Analysis Batch: 256950

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	100.4		mg/L		100	90 - 110	0	20

Lab Sample ID: 490-80524-7 MS
Matrix: Water
Analysis Batch: 256950

Client Sample ID: MW-7
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	36.2		100	128.7		mg/L		92	80 - 120

QC Association Summary

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

TestAmerica Job ID: 490-80524-1

HPLC/IC

Analysis Batch: 256950

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-80524-1	MW-2	Total/NA	Water	300.0	
490-80524-2	MW-5	Total/NA	Water	300.0	
490-80524-3	MW-3	Total/NA	Water	300.0	
490-80524-4	MW-4	Total/NA	Water	300.0	
490-80524-5	MW-8	Total/NA	Water	300.0	
490-80524-6	MW-6	Total/NA	Water	300.0	
490-80524-7	MW-7	Total/NA	Water	300.0	
490-80524-7 MS	MW-7	Total/NA	Water	300.0	
490-80524-8	Eq Blank	Total/NA	Water	300.0	
490-80524-9	Dup	Total/NA	Water	300.0	
490-80524-10	MW-1R	Total/NA	Water	300.0	
LCS 490-256950/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 490-256950/5	Lab Control Sample Dup	Total/NA	Water	300.0	
MB 490-256950/3	Method Blank	Total/NA	Water	300.0	

Lab Chronicle

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

TestAmerica Job ID: 490-80524-1

Client Sample ID: MW-2
Date Collected: 06/10/15 08:35
Date Received: 06/12/15 09:00

Lab Sample ID: 490-80524-1
Matrix: 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		1	10 mL	1.0 mL	256950	06/17/15 23:56	CLN	TAL NSH

Client Sample ID: MW-5
Date Collected: 06/10/15 09:55
Date Received: 06/12/15 09:00

Lab Sample ID: 490-80524-2
Matrix: 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		1	10 mL		256950	06/18/15 00:16	CLN	TAL NSH

Client Sample ID: MW-3
Date Collected: 06/10/15 11:20
Date Received: 06/12/15 09:00

Lab Sample ID: 490-80524-3
Matrix: 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		1	10 mL		256950	06/18/15 00:36	CLN	TAL NSH

Client Sample ID: MW-4
Date Collected: 06/10/15 12:50
Date Received: 06/12/15 09:00

Lab Sample ID: 490-80524-4
Matrix: 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		10	10 mL		256950	06/18/15 00:56	CLN	TAL NSH

Client Sample ID: MW-8
Date Collected: 06/10/15 14:45
Date Received: 06/12/15 09:00

Lab Sample ID: 490-80524-5
Matrix: 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		10	10 mL		256950	06/18/15 01:16	CLN	TAL NSH

Client Sample ID: MW-6
Date Collected: 06/10/15 16:00
Date Received: 06/12/15 09:00

Lab Sample ID: 490-80524-6
Matrix: 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		10	10 mL		256950	06/18/15 01:36	CLN	TAL NSH

Lab Chronicle

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

TestAmerica Job ID: 490-80524-1

Client Sample ID: MW-7
Date Collected: 06/10/15 17:05
Date Received: 06/12/15 09:00

Lab Sample ID: 490-80524-7
Matrix: 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		1	10 mL		256950	06/18/15 01:56	CLN	TAL NSH

Client Sample ID: Eq Blank
Date Collected: 06/10/15 11:48
Date Received: 06/12/15 09:00

Lab Sample ID: 490-80524-8
Matrix: 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		1	10 mL		256950	06/18/15 02:36	CLN	TAL NSH

Client Sample ID: Dup
Date Collected: 06/10/15 00:01
Date Received: 06/12/15 09:00

Lab Sample ID: 490-80524-9
Matrix: 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		10	10 mL		256950	06/18/15 02:56	CLN	TAL NSH

Client Sample ID: MW-1R
Date Collected: 06/11/15 08:30
Date Received: 06/12/15 09:00

Lab Sample ID: 490-80524-10
Matrix: 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		1	10 mL		256950	06/18/15 03:16	CLN	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: 490-80524-1

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: 490-80524-1

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	08-31-15

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

COOLER RECEIPT FORM

490-80524 Chain of Custody

Cooler Received/Opened On: 6/12/2015 @0900

1. Tracking # 2369 (last 4 digits, FedEx)

Courier: Fed-Ex IR Gun ID: 14740456

2. Temperature of rep. sample or temp blank when opened: 3.8 *Degrees Celsius*

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO (NA)

4. Were custody seals on outside of cooler? (YES)...NO...NA

If yes, how many and where: 1 Front

5. Were the seals intact, signed, and dated correctly? (YES)..NO...NA

6. Were custody papers inside cooler? (YES)..NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) [illegible]

7. Were custody seals on containers: YES (NO) and Intact YES...NO,(NA)

Were these signed and dated correctly? YES...NO,(NA)

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other (None)

9. Cooling process: Ice Ice-pack (Ice (direct contact)) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? (YES)..NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? (YES)..NO...NA

12. Did all container labels and tags agree with custody papers? (YES)..NO...NA

13a. Were VOA vials received? YES..(NO)..NA

b. Was there any observable headspace present in any VOA vial? YES...NO..(NA)

14. Was there a Trip Blank in this cooler? YES...NO,(NA) If multiple coolers, sequence #_____

I certify that I unloaded the cooler and answered questions 7-14 (intial) mbm

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES..NO,(NA)

b. Did the bottle labels indicate that the correct preservatives were used YES...NO,(NA)

16. Was residual chlorine present? YES...NO,(NA)

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) mbm

17. Were custody papers properly filled out (ink, signed, etc)? (YES)..NO...NA

18. Did you sign the custody papers in the appropriate place? (YES)..NO...NA

19. Were correct containers used for the analysis requested? (YES)..NO...NA

20. Was sufficient amount of sample sent in each container? (YES)..NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) mbm

I certify that I attached a label with the unique LIMS number to each container (intial) mbm

21. Were there Non-Conformance issues at login? YES,(NO) Was a NCM generated? YES,(NO),#_____

BIS = Broken in shipment

CHAIN OF CUSTODY RECORD

No. 00223

ENVIRO CLEAN SERVICES, LLC
(918) 794-7828

PROJECT NUMBER: CHKHSTM101	PROJECT NAME: CHK STATE M-1
SHIPPED TO: TA Nashville	PROJECT MANAGER: Bruce McKenzie
COC _____ of _____	TAT: STANDARD

SAMPLER'S PRINTED NAME: Terry Fisher
SAMPLER'S SIGNATURE:

ASOW: GEN/SUB: 750-521
PROP ID: 891077
Loc: 490
80524

	Date	Time	Sample ID	Sample Matrix	# of Sample Containers	CHLORIDE (300)	REMARKS
1	6-10-15	835	mw-2	Water	1	X	
2	6-10-15	955	mw-5	water	1	X	NOTE: MW-1R
3	6-10-15	1120	mw-3	water	1	X	has free phase in the
4	6-10-15	1250	mw-4	water	1	X	sample.
5	6-10-15	1445	mw-8	WATER	1	X	
6	6-10-15	1600	mw-6	Water	1	X	
7	6-10-15	1705	mw-7	water	1	X	
8	6-10-15	1148	Eq Blank	water	1	X	
9	6-10-15	—	Dup	water	1	X	
10	6-11-15	830	mw-1R	water	1	X	

TOTAL NUMBER OF CONTAINERS →

RELINQUISHED BY:	DATE 6-11-15 TIME 1600	RECEIVED BY:	DATE TIME
RELINQUISHED BY:	DATE TIME	RECEIVED BY:	DATE TIME

METHOD OF SHIPMENT: FED-EX
AIRBILL NUMBER:

RECEIVED IN LABORATORY BY: TAN 3.8c
DATE 6-12-15 TIME 0900

Send PDF, EDD, and INVOICE (if applicable) to:
JULIE CZECH at jczech@envirocleanps.com

LABORATORY CONTACT:
(615) 726-0177

LABORATORY ADDRESS:
2960 Foster Creighton Dr., Nashville, TN 37204

POINT OF ORIGIN: ☐ OKLAHOMA CITY ☒ TULSA ☐ NORMAN ☐ WOODWARD ☐ ARLINGTON ☐ MIDLAND ☐ OTHER: _____

PAGE #1 - RECEIVING LAB | PAGE #2 - ENVIRO CLEAN PROJECT FILE | PAGE #3 - ENVIRO CLEAN QA/QC DEPT

Login Sample Receipt Checklist

Client: Enviro Clean Services LLC Job Number: 490-80524-1

Login Number: 80524 **List Source: TestAmerica Nashville**
List Number: 1
Creator: McBride, Mike

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	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	3.8
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.	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	

TestAmerica

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: 490-86799-1
Client Project/Site: CHK STATE M-1

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

Attn: Ms. Julie Czech

CathyGartner

Authorized for release by:
9/18/2015 5:44:37 PM

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

Table of Contents

Sample Summary

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

TestAmerica Job ID: 490-86799-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-86799-1	MW-2	Water	09/02/15 08:25	09/04/15 11:10
490-86799-2	MW-5	Water	09/02/15 09:25	09/04/15 11:10
490-86799-3	MW-3	Water	09/02/15 10:40	09/04/15 11:10
490-86799-4	EQ Blank	Water	09/02/15 10:54	09/04/15 11:10
490-86799-5	MW-4	Water	09/02/15 11:55	09/04/15 11:10
490-86799-6	MW-8	Water	09/02/15 13:25	09/04/15 11:10
490-86799-7	MW-6	Water	09/02/15 14:40	09/04/15 11:10
490-86799-8	MW-7	Water	09/02/15 16:05	09/04/15 11:10
490-86799-9	MW-1R	Water	09/02/15 17:00	09/04/15 11:10
490-86799-10	DUP	Water	09/02/15 00:01	09/04/15 11:10

Case Narrative

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

TestAmerica Job ID: 490-86799-1

Job ID: 490-86799-1

Laboratory: TestAmerica Nashville

Narrative

Job Narrative
490-86799-1

Comments
No additional comments.

Receipt
The samples were received on 9/4/2015 11:10 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.1º C.

HPLC/IC
Method(s) 300.0: The following sample was diluted due to the nature of the sample matrix: MW-4 (490-86799-5). Elevated reporting limits (RLs) are provided.

Method(s) 300.0: The following sample was diluted due to the nature of the sample matrix: DUP (490-86799-10). 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

TestAmerica Job ID: 490-86799-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.

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)

Client Sample Results

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

TestAmerica Job ID: 490-86799-1

Client Sample ID: MW-2
Date Collected: 09/02/15 08:25
Date Received: 09/04/15 11:10

Lab Sample ID: 490-86799-1
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	16.6		1.00		mg/L			09/10/15 18:52	1

Client Sample Results

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

TestAmerica Job ID: 490-86799-1

Client Sample ID: MW-5
Date Collected: 09/02/15 09:25
Date Received: 09/04/15 11:10

Lab Sample ID: 490-86799-2
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	25.8		1.00		mg/L			09/10/15 19:33	1

Client Sample Results

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

TestAmerica Job ID: 490-86799-1

Client Sample ID: MW-3
Date Collected: 09/02/15 10:40
Date Received: 09/04/15 11:10

Lab Sample ID: 490-86799-3
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	56.3		1.00		mg/L			09/10/15 19:53	1

Client Sample Results

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

TestAmerica Job ID: 490-86799-1

Client Sample ID: EQ Blank

Date Collected: 09/02/15 10:54
Date Received: 09/04/15 11:10

Lab Sample ID: 490-86799-4

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			09/10/15 20:13	1

Client Sample Results

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

TestAmerica Job ID: 490-86799-1

Client Sample ID: MW-4
Date Collected: 09/02/15 11:55
Date Received: 09/04/15 11:10

Lab Sample ID: 490-86799-5
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	567		5.00		mg/L			09/10/15 20:33	5

Client Sample Results

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

TestAmerica Job ID: 490-86799-1

Client Sample ID: MW-8
Date Collected: 09/02/15 13:25
Date Received: 09/04/15 11:10

Lab Sample ID: 490-86799-6
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	327		5.00		mg/L			09/12/15 13:59	5

Client Sample Results

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

TestAmerica Job ID: 490-86799-1

Client Sample ID: MW-6
Date Collected: 09/02/15 14:40
Date Received: 09/04/15 11:10

Lab Sample ID: 490-86799-7
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	277		1.00		mg/L			09/10/15 21:13	1

Client Sample Results

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

TestAmerica Job ID: 490-86799-1

Client Sample ID: MW-7
Date Collected: 09/02/15 16:05
Date Received: 09/04/15 11:10

Lab Sample ID: 490-86799-8
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	35.2		1.00		mg/L			09/10/15 21:33	1

Client Sample Results

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

TestAmerica Job ID: 490-86799-1

Client Sample ID: MW-1R
Date Collected: 09/02/15 17:00
Date Received: 09/04/15 11:10

Lab Sample ID: 490-86799-9
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	21.6		1.00		mg/L			09/10/15 21:53	1

Client Sample Results

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

TestAmerica Job ID: 490-86799-1

Client Sample ID: DUP
Date Collected: 09/02/15 00:01
Date Received: 09/04/15 11:10

Lab Sample ID: 490-86799-10
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	505		5.00		mg/L			09/12/15 16:39	5

QC Sample Results

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

TestAmerica Job ID: 490-86799-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 490-280883/3
Matrix: Water
Analysis Batch: 280883

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			09/10/15 17:52	1

Lab Sample ID: LCS 490-280883/4
Matrix: Water
Analysis Batch: 280883

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	100.1		mg/L		100	90 - 110

Lab Sample ID: LCSD 490-280883/5
Matrix: Water
Analysis Batch: 280883

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	100.1		mg/L		100	90 - 110	0	20

Lab Sample ID: 490-86799-1 MS
Matrix: Water
Analysis Batch: 280883

Client Sample ID: MW-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	16.6		100	110.1		mg/L		94	80 - 120

Lab Sample ID: MB 490-281076/3
Matrix: Water
Analysis Batch: 281076

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			09/12/15 08:18	1

Lab Sample ID: LCS 490-281076/4
Matrix: Water
Analysis Batch: 281076

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	99.43		mg/L		99	90 - 110

Lab Sample ID: LCSD 490-281076/5
Matrix: Water
Analysis Batch: 281076

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	99.62		mg/L		100	90 - 110	0	20

Lab Sample ID: 490-87006-A-3 MS
Matrix: Water
Analysis Batch: 281076

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	331	F1	100	362.3	F1	mg/L		32	80 - 120

QC Sample Results

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

TestAmerica Job ID: 490-86799-1

QC Association Summary

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

TestAmerica Job ID: 490-86799-1

HPLC/IC

Analysis Batch: 280883

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-86799-1	MW-2	Total/NA	Water	300.0	
490-86799-1 MS	MW-2	Total/NA	Water	300.0	
490-86799-2	MW-5	Total/NA	Water	300.0	
490-86799-3	MW-3	Total/NA	Water	300.0	
490-86799-4	EQ Blank	Total/NA	Water	300.0	
490-86799-5	MW-4	Total/NA	Water	300.0	
490-86799-7	MW-6	Total/NA	Water	300.0	
490-86799-8	MW-7	Total/NA	Water	300.0	
490-86799-9	MW-1R	Total/NA	Water	300.0	
LCS 490-280883/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 490-280883/5	Lab Control Sample Dup	Total/NA	Water	300.0	
MB 490-280883/3	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 281076

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-86799-6	MW-8	Total/NA	Water	300.0	
490-86799-10	DUP	Total/NA	Water	300.0	
490-87006-A-3 MS	Matrix Spike	Total/NA	Water	300.0	
LCS 490-281076/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 490-281076/5	Lab Control Sample Dup	Total/NA	Water	300.0	
MB 490-281076/3	Method Blank	Total/NA	Water	300.0	

Lab Chronicle

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

TestAmerica Job ID: 490-86799-1

Client Sample ID: MW-2
Date Collected: 09/02/15 08:25
Date Received: 09/04/15 11:10

Lab Sample ID: 490-86799-1
Matrix: 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		1	10 mL		280883	09/10/15 18:52	JHS	TAL NSH

Client Sample ID: MW-5
Date Collected: 09/02/15 09:25
Date Received: 09/04/15 11:10

Lab Sample ID: 490-86799-2
Matrix: 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		1	10 mL		280883	09/10/15 19:33	JHS	TAL NSH

Client Sample ID: MW-3
Date Collected: 09/02/15 10:40
Date Received: 09/04/15 11:10

Lab Sample ID: 490-86799-3
Matrix: 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		1	10 mL		280883	09/10/15 19:53	JHS	TAL NSH

Client Sample ID: EQ Blank
Date Collected: 09/02/15 10:54
Date Received: 09/04/15 11:10

Lab Sample ID: 490-86799-4
Matrix: 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		1	10 mL		280883	09/10/15 20:13	JHS	TAL NSH

Client Sample ID: MW-4
Date Collected: 09/02/15 11:55
Date Received: 09/04/15 11:10

Lab Sample ID: 490-86799-5
Matrix: 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		280883	09/10/15 20:33	JHS	TAL NSH

Client Sample ID: MW-8
Date Collected: 09/02/15 13:25
Date Received: 09/04/15 11:10

Lab Sample ID: 490-86799-6
Matrix: 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		281076	09/12/15 13:59	JHS	TAL NSH

Lab Chronicle

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

TestAmerica Job ID: 490-86799-1

Client Sample ID: MW-6
Date Collected: 09/02/15 14:40
Date Received: 09/04/15 11:10

Lab Sample ID: 490-86799-7
Matrix: 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		1	10 mL		280883	09/10/15 21:13	JHS	TAL NSH

Client Sample ID: MW-7
Date Collected: 09/02/15 16:05
Date Received: 09/04/15 11:10

Lab Sample ID: 490-86799-8
Matrix: 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		1	10 mL		280883	09/10/15 21:33	JHS	TAL NSH

Client Sample ID: MW-1R
Date Collected: 09/02/15 17:00
Date Received: 09/04/15 11:10

Lab Sample ID: 490-86799-9
Matrix: 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		1	10 mL		280883	09/10/15 21:53	JHS	TAL NSH

Client Sample ID: DUP
Date Collected: 09/02/15 00:01
Date Received: 09/04/15 11:10

Lab Sample ID: 490-86799-10
Matrix: 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		281076	09/12/15 16:39	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: 490-86799-1

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: 490-86799-1

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	08-31-16

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

COOLER RECEIPT FORM

490-86799 Chain of Custody

Cooler Received/Opened On: 9/4/2015 @1110

1. Tracking # 0002 (last 4 digits, FedEx)

Courier: Fed-Ex IR Gun ID: 14740456

2. Temperature of rep. sample or temp blank when opened: 1.1 *Degrees Celsius*

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO (NA)

4. Were custody seals on outside of cooler? (YES) NO NA

If yes, how many and where: 2 Front

5. Were the seals intact, signed, and dated correctly? (YES) NO NA

6. Were custody papers inside cooler? (YES) NO NA

I certify that I opened the cooler and answered questions 1-6 (intial) [illegible]

7. Were custody seals on containers: YES (NO) and Intact YES NO (NA)

Were these signed and dated correctly? YES NO (NA)

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other (None)

9. Cooling process: Ice Ice-pack (Ice (direct contact)) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? (YES) NO NA

11. Were all container labels complete (#, date, signed, pres., etc)? (YES) NO NA

12. Did all container labels and tags agree with custody papers? (YES) NO NA

13a. Were VOA vials received? YES (NO) NA

b. Was there any observable headspace present in any VOA vial? YES NO (NA)

14. Was there a Trip Blank in this cooler? YES (NO) NA If multiple coolers, sequence #_____

I certify that I unloaded the cooler and answered questions 7-14 (intial) DA

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES NO (NA)

b. Did the bottle labels indicate that the correct preservatives were used (YES) NO NA

16. Was residual chlorine present? YES NO (NA)

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) DA

17. Were custody papers properly filled out (ink, signed, etc)? (YES) NO NA

18. Did you sign the custody papers in the appropriate place? (YES) NO NA

19. Were correct containers used for the analysis requested? (YES) NO NA

20. Was sufficient amount of sample sent in each container? (YES) NO NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) DA

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

LF-1
End of Form

Revised 11/28/12

CHAIN OF CUSTODY RECORD

No. 00179

ENVIRO CLEAN SERVICES, LLC
(918) 794-7828

PROJECT NUMBER: CHKHSTM101	PROJECT NAME: CHK STATE M-1	COC 1 of 1	
SHIPPED TO: TA Nashville	PROJECT MANAGER: Bruce McKenzie	TAT: STANDARD	

SAMPLER'S PRINTED NAME: TERRY Fisher

SAMPLER'S SIGNATURE: Terry Fisher

ASOW: GENSUB: 750-521
PROP ID: 891077

	Date	Time	Sample ID	Sample Matrix	# of Sample Containers	CHLORIDE (300)	REMARKS
1	9-2-15	825	MW-2	WATER	1	X	
2	9-2-15	925	MW-5	Water	1	X	
3	9-2-15	1040	MW-3	Water	1	X	
4	9-2-15	1054	EQ BLANK	water	1	X	
5	9-2-15	1155	MW-4	water	1	X	
6	9-2-15	1325	MW-8	Water	1	X	Loc: 490 86799
7	9-2-15	1440	MW-6	Water	1	X	
8	9-2-15	1605	MW-7	Water	1	X	
9	9-2-15	1700	MW-1R	Water	1	X	
10	9-2-15	—	Dup	Water	1	X	

TOTAL NUMBER OF CONTAINERS → 10

RELINQUISHED BY: Terry Fisher	DATE 9-3-15 TIME 1800	RECEIVED BY: TAN	DATE 9-4-15 TIME 1110
RELINQUISHED BY:	DATE TIME	RECEIVED BY:	DATE TIME

9-4-15 D09-5-15 Temp. 1.1

METHOD OF SHIPMENT: FED-EX

AIRBILL NUMBER:

RECEIVED IN LABORATORY BY: DATE TIME

Send PDF, EDD, and INVOICE (if applicable) to: JULIE CZECH at jczech@envirocleanps.com

LABORATORY CONTACT: (615) 726-0177

LABORATORY ADDRESS: 2960 Foster Creighton Dr., Nashville, TN 37204

POINT OF ORIGIN: ☐ OKLAHOMA CITY ☒ TULSA ☐ NORMAN ☐ WOODWARD ☐ ARLINGTON ☐ MIDLAND ☐ OTHER:

PAGE #1 - RECEIVING LAB | PAGE #2 - ENVIRO CLEAN PROJECT FILE | PAGE #3 - ENVIRO CLEAN QA/QC DEPT

Login Sample Receipt Checklist

Client: Enviro Clean Services LLC Job Number: 490-86799-1

Login Number: 86799 **List Source: TestAmerica Nashville**
List Number: 1
Creator: Armstrong, Daniel

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	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	1.1C
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.	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	

TestAmerica

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: 490-93913-1
Client Project/Site: CHK STATE M1

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

Attn: Ms. Julie Czech

CathyGartner

Authorized for release by:
1/4/2016 10:20:08 AM

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

Table of Contents

Sample Summary

Client: Enviro Clean Services LLC
Project/Site: CHK STATE M1

TestAmerica Job ID: 490-93913-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-93913-1	MW-1R	Water	12/10/15 09:00	12/11/15 10:00
490-93913-2	MW-2	Water	12/09/15 08:20	12/11/15 10:00
490-93913-3	MW-3	Water	12/09/15 10:45	12/11/15 10:00
490-93913-4	MW-4	Water	12/09/15 11:55	12/11/15 10:00
490-93913-5	MW-5	Water	12/09/15 09:30	12/11/15 10:00
490-93913-6	MW-6	Water	12/09/15 14:50	12/11/15 10:00
490-93913-7	MW-7	Water	12/09/15 16:20	12/11/15 10:00
490-93913-8	MW-8	Water	12/09/15 13:20	12/11/15 10:00
490-93913-9	DUP	Water	12/09/15 00:01	12/11/15 10:00
490-93913-10	EQ Blank	Water	12/09/15 10:05	12/11/15 10:00

Case Narrative

Client: Enviro Clean Services LLC
Project/Site: CHK STATE M1

TestAmerica Job ID: 490-93913-1

Job ID: 490-93913-1

Laboratory: TestAmerica Nashville

Narrative

Job Narrative
490-93913-1

Comments
No additional comments.

Receipt
The samples were received on 12/11/2015 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.6º C.

HPLC/IC
Method(s) 300.0: The following samples were diluted due to the nature of the sample matrix: MW-3 (490-93913-3), MW-7 (490-93913-7), MW-8 (490-93913-8) and DUP (490-93913-9). 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: CHK STATE M1

TestAmerica Job ID: 490-93913-1

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
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)

Client Sample Results

Client: Enviro Clean Services LLC
Project/Site: CHK STATE M1

TestAmerica Job ID: 490-93913-1

Client Sample ID: MW-1R
Date Collected: 12/10/15 09:00
Date Received: 12/11/15 10:00

Lab Sample ID: 490-93913-1
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	23.5		1.00		mg/L			12/29/15 01:31	1

Client Sample Results

Client: Enviro Clean Services LLC
Project/Site: CHK STATE M1

TestAmerica Job ID: 490-93913-1

Client Sample ID: MW-2
Date Collected: 12/09/15 08:20
Date Received: 12/11/15 10:00

Lab Sample ID: 490-93913-2
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	55.2		1.00		mg/L			01/01/16 09:47	1

Client Sample Results

Client: Enviro Clean Services LLC
Project/Site: CHK STATE M1

TestAmerica Job ID: 490-93913-1

Client Sample ID: MW-3
Date Collected: 12/09/15 10:45
Date Received: 12/11/15 10:00

Lab Sample ID: 490-93913-3
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	557		5.00		mg/L			01/01/16 10:06	5

Client Sample Results

Client: Enviro Clean Services LLC
Project/Site: CHK STATE M1

TestAmerica Job ID: 490-93913-1

Client Sample ID: MW-4
Date Collected: 12/09/15 11:55
Date Received: 12/11/15 10:00

Lab Sample ID: 490-93913-4
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	26.6		1.00		mg/L			01/01/16 10:25	1

Client Sample Results

Client: Enviro Clean Services LLC
Project/Site: CHK STATE M1

TestAmerica Job ID: 490-93913-1

Client Sample ID: MW-5
Date Collected: 12/09/15 09:30
Date Received: 12/11/15 10:00

Lab Sample ID: 490-93913-5
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	209		1.00		mg/L			01/01/16 10:44	1

Client Sample Results

Client: Enviro Clean Services LLC
Project/Site: CHK STATE M1

TestAmerica Job ID: 490-93913-1

Client Sample ID: MW-6
Date Collected: 12/09/15 14:50
Date Received: 12/11/15 10:00

Lab Sample ID: 490-93913-6
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	33.5		1.00		mg/L			01/01/16 11:03	1

Client Sample Results

Client: Enviro Clean Services LLC
Project/Site: CHK STATE M1

TestAmerica Job ID: 490-93913-1

Client Sample ID: MW-7
Date Collected: 12/09/15 16:20
Date Received: 12/11/15 10:00

Lab Sample ID: 490-93913-7
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	499		5.00		mg/L			01/01/16 11:22	5

Client Sample Results

Client: Enviro Clean Services LLC
Project/Site: CHK STATE M1

TestAmerica Job ID: 490-93913-1

Client Sample ID: MW-8
Date Collected: 12/09/15 13:20
Date Received: 12/11/15 10:00

Lab Sample ID: 490-93913-8
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	499		5.00		mg/L			01/01/16 11:41	5

Client Sample Results

Client: Enviro Clean Services LLC
Project/Site: CHK STATE M1

TestAmerica Job ID: 490-93913-1

Client Sample ID: DUP
Date Collected: 12/09/15 00:01
Date Received: 12/11/15 10:00

Lab Sample ID: 490-93913-9
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	500		5.00		mg/L			01/01/16 12:01	5

Client Sample Results

Client: Enviro Clean Services LLC
Project/Site: CHK STATE M1

TestAmerica Job ID: 490-93913-1

Client Sample ID: EQ Blank

Date Collected: 12/09/15 10:05
Date Received: 12/11/15 10:00

Lab Sample ID: 490-93913-10

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			01/01/16 12:58	1

QC Sample Results

Client: Enviro Clean Services LLC
Project/Site: CHK STATE M1

TestAmerica Job ID: 490-93913-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 490-309314/3
Matrix: Water
Analysis Batch: 309314

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			12/28/15 18:31	1

Lab Sample ID: LCS 490-309314/4
Matrix: Water
Analysis Batch: 309314

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	100.1		mg/L		100	90 - 110

Lab Sample ID: LCSD 490-309314/5
Matrix: Water
Analysis Batch: 309314

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	100.2		mg/L		100	90 - 110	0	20

Lab Sample ID: 490-93891-M-1 MS
Matrix: Water
Analysis Batch: 309314

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	16.5		100	105.5		mg/L		89	80 - 120

Lab Sample ID: MB 490-310317/3
Matrix: Water
Analysis Batch: 310317

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			01/01/16 07:34	1

Lab Sample ID: LCS 490-310317/4
Matrix: Water
Analysis Batch: 310317

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	100.3		mg/L		100	90 - 110

Lab Sample ID: LCSD 490-310317/5
Matrix: Water
Analysis Batch: 310317

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	99.95		mg/L		100	90 - 110	0	20

Lab Sample ID: 490-93813-C-3 MS
Matrix: Water
Analysis Batch: 310317

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	16.2		100	104.4		mg/L		88	80 - 120

QC Sample Results

Client: Enviro Clean Services LLC
Project/Site: CHK STATE M1

TestAmerica Job ID: 490-93913-1

Lab Sample ID: 490-93813-C-3 MSD
Matrix: Water
Analysis Batch: 310317

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	16.2		100	105.8		mg/L		90	80 - 120	1	20

QC Association Summary

Client: Enviro Clean Services LLC
Project/Site: CHK STATE M1

TestAmerica Job ID: 490-93913-1

HPLC/IC

Analysis Batch: 309314

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-93891-M-1 MS	Matrix Spike	Total/NA	Water	300.0	
490-93913-1	MW-1R	Total/NA	Water	300.0	
LCS 490-309314/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 490-309314/5	Lab Control Sample Dup	Total/NA	Water	300.0	
MB 490-309314/3	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 310317

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-93813-C-3 MS	Matrix Spike	Total/NA	Water	300.0	
490-93813-C-3 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
490-93913-2	MW-2	Total/NA	Water	300.0	
490-93913-3	MW-3	Total/NA	Water	300.0	
490-93913-4	MW-4	Total/NA	Water	300.0	
490-93913-5	MW-5	Total/NA	Water	300.0	
490-93913-6	MW-6	Total/NA	Water	300.0	
490-93913-7	MW-7	Total/NA	Water	300.0	
490-93913-8	MW-8	Total/NA	Water	300.0	
490-93913-9	DUP	Total/NA	Water	300.0	
490-93913-10	EQ Blank	Total/NA	Water	300.0	
LCS 490-310317/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 490-310317/5	Lab Control Sample Dup	Total/NA	Water	300.0	
MB 490-310317/3	Method Blank	Total/NA	Water	300.0	

Lab Chronicle

Client: Enviro Clean Services LLC
Project/Site: CHK STATE M1

TestAmerica Job ID: 490-93913-1

Client Sample ID: MW-1R
Date Collected: 12/10/15 09:00
Date Received: 12/11/15 10:00

Lab Sample ID: 490-93913-1
Matrix: 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		1	10 mL		309314	12/29/15 01:31	LDC	TAL NSH

Client Sample ID: MW-2
Date Collected: 12/09/15 08:20
Date Received: 12/11/15 10:00

Lab Sample ID: 490-93913-2
Matrix: 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		1	10 mL		310317	01/01/16 09:47	JHS	TAL NSH

Client Sample ID: MW-3
Date Collected: 12/09/15 10:45
Date Received: 12/11/15 10:00

Lab Sample ID: 490-93913-3
Matrix: 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		310317	01/01/16 10:06	JHS	TAL NSH

Client Sample ID: MW-4
Date Collected: 12/09/15 11:55
Date Received: 12/11/15 10:00

Lab Sample ID: 490-93913-4
Matrix: 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		1	10 mL		310317	01/01/16 10:25	JHS	TAL NSH

Client Sample ID: MW-5
Date Collected: 12/09/15 09:30
Date Received: 12/11/15 10:00

Lab Sample ID: 490-93913-5
Matrix: 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		1	10 mL		310317	01/01/16 10:44	JHS	TAL NSH

Client Sample ID: MW-6
Date Collected: 12/09/15 14:50
Date Received: 12/11/15 10:00

Lab Sample ID: 490-93913-6
Matrix: 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		1	10 mL		310317	01/01/16 11:03	JHS	TAL NSH

Lab Chronicle

Client: Enviro Clean Services LLC
Project/Site: CHK STATE M1

TestAmerica Job ID: 490-93913-1

Client Sample ID: MW-7
Date Collected: 12/09/15 16:20
Date Received: 12/11/15 10:00

Lab Sample ID: 490-93913-7
Matrix: 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		310317	01/01/16 11:22	JHS	TAL NSH

Client Sample ID: MW-8
Date Collected: 12/09/15 13:20
Date Received: 12/11/15 10:00

Lab Sample ID: 490-93913-8
Matrix: 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		310317	01/01/16 11:41	JHS	TAL NSH

Client Sample ID: DUP
Date Collected: 12/09/15 00:01
Date Received: 12/11/15 10:00

Lab Sample ID: 490-93913-9
Matrix: 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		310317	01/01/16 12:01	JHS	TAL NSH

Client Sample ID: EQ Blank
Date Collected: 12/09/15 10:05
Date Received: 12/11/15 10:00

Lab Sample ID: 490-93913-10
Matrix: 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		1	10 mL		310317	01/01/16 12:58	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 M1

TestAmerica Job ID: 490-93913-1

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 M1

TestAmerica Job ID: 490-93913-1

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	08-31-16

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

COOLER RECEIPT FORM

490-93913 Chain of Custody

Cooler Received/Opened On 12/11/2015 @ 1000

1. Tracking # 8450 (last 4 digits, FedEx)

Courier: FedEx IR Gun ID 18290455

2. Temperature of rep. sample or temp blank when opened: 0.0 *Degrees Celsius*

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...(NA)

4. Were custody seals on outside of cooler? (YES)...NO...NA

If yes, how many and where: (2) Front / Back

5. Were the seals intact, signed, and dated correctly? (YES)...NO...NA

6. Were custody papers inside cooler? (YES)...NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) MSW

7. Were custody seals on containers: YES (NO) and Intact YES...NO...(NA)

Were these signed and dated correctly? YES...NO...(NA)

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other (None)

9. Cooling process: (Ice) Ice-pack (Ice (direct contact)) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? (YES)...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? (YES)...NO...NA

12. Did all container labels and tags agree with custody papers? (YES)...NO...NA

13a. Were VOA vials received? YES...(NO)...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...(NA)

14. Was there a Trip Blank in this cooler? YES...(NO)...NA If multiple coolers, sequence # NA

I certify that I unloaded the cooler and answered questions 7-14 (intial) EM

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES..NO..(NA)

b. Did the bottle labels indicate that the correct preservatives were used (YES)...NO...NA

16. Was residual chlorine present? YES...NO...(NA)

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) EM

17. Were custody papers properly filled out (ink, signed, etc)? (YES)...NO...NA

18. Did you sign the custody papers in the appropriate place? (YES)...NO...NA

19. Were correct containers used for the analysis requested? (YES)...NO...NA

20. Was sufficient amount of sample sent in each container? (YES)...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) EM

I certify that I attached a label with the unique LIMS number to each container (intial) EM

21. Were there Non-Conformance issues at login? YES...(NO) Was a NCM generated? YES...(NO)...#_____

BIS = Broken in shipment
Cooler Receipt Form.doc

CHAIN OF CUSTODY RECORD

No. 00904

ENVIRO CLEAN SERVICES, LLC
(918) 794-7828

PROJECT NUMBER: CHKHSTM101	PROJECT NAME: CHK STATE M-1	COC 1 of 1	
SHIPPED TO: TA Nashville	PROJECT MANAGER: Bruce McKenzie	TAT: STANDARD	

SAMPLER'S PRINTED NAME: TERRY Fisher
SAMPLER'S SIGNATURE:

ASOW: GENSUB: 750-521
PROP ID: 891077

Date	Time	Sample ID	Sample Matrix	# of Sample Containers	CHLORIDE (300)	REMARKS
12-10-15	900	MW1R	water	1	X	
12-9-15	820	MW-2	water	1	X	
12-9-15	1045	MW-3	water	1	X	
12-9-15	1155	MW-4	water	1	X	
12-9-15	930	MW-5	water	1	X	
12-9-15	1450	MW-6	water	1	X	
12-9-15	1620	MW-7	water	1	X	
12-9-15	1320	MW-8	water	1	X	
12-9-15	—	Dup	water	1	X	
12-9-15	1005	EQ Blank	water	1	X	

Loc: 490
93913

TOTAL NUMBER OF CONTAINERS → 10

RELINQUISHED BY: Terry Fisher	DATE 12-10-15 TIME 1600	RECEIVED BY:	DATE TIME
RELINQUISHED BY:	DATE TIME	RECEIVED BY:	DATE TIME
METHOD OF SHIPMENT: FED-EX		AIRBILL NUMBER:	
RECEIVED IN LABORATORY BY: JAN 0.6	DATE 12.6.15 TIME 1000	Send PDF, EDD, and INVOICE (if applicable) to: JULIE CZECH at jczech@envirocleanps.com	
LABORATORY CONTACT: (615) 726-0177		LABORATORY ADDRESS: 2960 Foster Creighton Dr., Nashville, TN 37204	

POINT OF ORIGIN: ☐ OKLAHOMA CITY ☒ TULSA ☐ NORMAN ☐ WOODWARD ☐ ARLINGTON ☐ MIDLAND ☐ OTHER:

PAGE #1 - RECEIVING LAB | PAGE #2 - ENVIRO CLEAN PROJECT FILE | PAGE #3 - ENVIRO CLEAN QA/QC DEPT

Login Sample Receipt Checklist

Client: Enviro Clean Services LLC Job Number: 490-93913-1

Login Number: 93913 **List Source: TestAmerica Nashville**
List Number: 1
Creator: Abernathy, Eric

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	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.	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	

TestAmerica

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: 490-99272-1
TestAmerica Sample Delivery Group: Property ID 891077
Client Project/Site: State M-1

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

Attn: Ms. Julie Czech

Cathy Gartner

Authorized for release by:
3/30/2016 3:01:36 PM

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

Table of Contents

Sample Summary

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

TestAmerica Job ID: 490-99272-1
SDG: Property ID 891077

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-99272-1	MW-2	Water	03/09/16 08:20	03/11/16 10:30
490-99272-2	MW-5	Water	03/09/16 09:25	03/11/16 10:30
490-99272-3	MW-3	Water	03/09/16 10:20	03/11/16 10:30
490-99272-4	MW-4	Water	03/09/16 12:15	03/11/16 10:30
490-99272-5	EQ Blank	Water	03/09/16 12:20	03/11/16 10:30
490-99272-6	MW-8	Water	03/09/16 13:25	03/11/16 10:30
490-99272-7	MW-6	Water	03/10/16 07:50	03/11/16 10:30
490-99272-8	MW-7	Water	03/10/16 09:15	03/11/16 10:30
490-99272-9	MW-1R	Water	03/10/16 11:10	03/11/16 10:30
490-99272-10	Dup	Water	03/09/16 00:01	03/11/16 10:30

Case Narrative

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

TestAmerica Job ID: 490-99272-1
SDG: Property ID 891077

Job ID: 490-99272-1

Laboratory: TestAmerica Nashville

Narrative

Job Narrative
490-99272-1

Comments
No additional comments.

Receipt
The samples were received on 3/11/2016 10:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.7º C.

HPLC/IC
Method(s) 300.0: The following sample was diluted due to the nature of the sample matrix: MW-6 (490-99272-7). Elevated reporting limits (RLs) are provided.

Method(s) 300.0: The following samples were diluted due to the nature of the sample matrix: MW-4 (490-99272-4), MW-8 (490-99272-6) and Dup (490-99272-10). 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: State M-1

TestAmerica Job ID: 490-99272-1
SDG: Property ID 891077

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)

Client Sample Results

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

TestAmerica Job ID: 490-99272-1
SDG: Property ID 891077

Client Sample ID: MW-2
Date Collected: 03/09/16 08:20
Date Received: 03/11/16 10:30

Lab Sample ID: 490-99272-1
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	13.5		1.00		mg/L			03/30/16 07:31	1

Client Sample Results

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

TestAmerica Job ID: 490-99272-1
SDG: Property ID 891077

Client Sample ID: MW-5
Date Collected: 03/09/16 09:25
Date Received: 03/11/16 10:30

Lab Sample ID: 490-99272-2
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	22.4		1.00		mg/L			03/26/16 14:34	1

Client Sample Results

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

TestAmerica Job ID: 490-99272-1
SDG: Property ID 891077

Client Sample ID: MW-3
Date Collected: 03/09/16 10:20
Date Received: 03/11/16 10:30

Lab Sample ID: 490-99272-3
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	49.3		1.00		mg/L			03/26/16 14:53	1

Client Sample Results

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

TestAmerica Job ID: 490-99272-1
SDG: Property ID 891077

Client Sample ID: MW-4
Date Collected: 03/09/16 12:15
Date Received: 03/11/16 10:30

Lab Sample ID: 490-99272-4
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	525		5.00		mg/L			03/26/16 15:13	5

Client Sample Results

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

TestAmerica Job ID: 490-99272-1
SDG: Property ID 891077

Client Sample ID: EQ Blank
Date Collected: 03/09/16 12:20
Date Received: 03/11/16 10:30

Lab Sample ID: 490-99272-5
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			03/26/16 15:33	1

Client Sample Results

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

TestAmerica Job ID: 490-99272-1
SDG: Property ID 891077

Client Sample ID: MW-8
Date Collected: 03/09/16 13:25
Date Received: 03/11/16 10:30

Lab Sample ID: 490-99272-6
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	504		5.00		mg/L			03/26/16 15:52	5

Client Sample Results

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

TestAmerica Job ID: 490-99272-1
SDG: Property ID 891077

Client Sample ID: MW-6
Date Collected: 03/10/16 07:50
Date Received: 03/11/16 10:30

Lab Sample ID: 490-99272-7
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	150		2.00		mg/L			03/25/16 22:04	2

Client Sample Results

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

TestAmerica Job ID: 490-99272-1
SDG: Property ID 891077

Client Sample ID: MW-7
Date Collected: 03/10/16 09:15
Date Received: 03/11/16 10:30

Lab Sample ID: 490-99272-8
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	27.7		1.00		mg/L			03/25/16 22:24	1

Client Sample Results

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

TestAmerica Job ID: 490-99272-1
SDG: Property ID 891077

Client Sample ID: MW-1R
Date Collected: 03/10/16 11:10
Date Received: 03/11/16 10:30

Lab Sample ID: 490-99272-9
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	34.8		1.00		mg/L			03/25/16 22:44	1

Client Sample Results

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

TestAmerica Job ID: 490-99272-1
SDG: Property ID 891077

Client Sample ID: Dup
Date Collected: 03/09/16 00:01
Date Received: 03/11/16 10:30

Lab Sample ID: 490-99272-10
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	496		5.00		mg/L			03/26/16 16:12	5

QC Sample Results

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

TestAmerica Job ID: 490-99272-1
SDG: Property ID 891077

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 490-326902/6
Matrix: Water
Analysis Batch: 326902

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			03/25/16 19:28	1

Lab Sample ID: LCS 490-326902/7
Matrix: Water
Analysis Batch: 326902

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	97.12		mg/L		97	90 - 110

Lab Sample ID: LCSD 490-326902/8
Matrix: Water
Analysis Batch: 326902

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	97.20		mg/L		97	90 - 110	0	20

Lab Sample ID: 490-99155-G-1 MS
Matrix: Water
Analysis Batch: 326902

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	3.86		100	100.9		mg/L		97	80 - 120

Lab Sample ID: MB 490-326952/3
Matrix: Water
Analysis Batch: 326952

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			03/26/16 05:35	1

Lab Sample ID: LCS 490-326952/4
Matrix: Water
Analysis Batch: 326952

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	97.94		mg/L		98	90 - 110

Lab Sample ID: LCSD 490-326952/5
Matrix: Water
Analysis Batch: 326952

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	97.66		mg/L		98	90 - 110	0	20

Lab Sample ID: MB 490-327636/3
Matrix: Water
Analysis Batch: 327636

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			03/30/16 00:59	1

QC Sample Results

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

TestAmerica Job ID: 490-99272-1
SDG: Property ID 891077

Lab Sample ID: LCS 490-327636/4
Matrix: Water
Analysis Batch: 327636

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			100	98.00		mg/L		98	90 - 110		

Lab Sample ID: LCSD 490-327636/5
Matrix: Water
Analysis Batch: 327636

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			100	97.45		mg/L		97	90 - 110	1	20

Lab Sample ID: 490-99272-1 MS
Matrix: Water
Analysis Batch: 327636

Client Sample ID: MW-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	13.5		100	100.4		mg/L		87	80 - 120		

Lab Sample ID: 490-99272-1 MSD
Matrix: Water
Analysis Batch: 327636

Client Sample ID: MW-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	13.5		100	96.81		mg/L		83	80 - 120	4	20

QC Association Summary

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

TestAmerica Job ID: 490-99272-1
SDG: Property ID 891077

HPLC/IC

Analysis Batch: 326902

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-99155-G-1 MS	Matrix Spike	Total/NA	Water	300.0	
490-99272-7	MW-6	Total/NA	Water	300.0	
490-99272-8	MW-7	Total/NA	Water	300.0	
490-99272-9	MW-1R	Total/NA	Water	300.0	
LCS 490-326902/7	Lab Control Sample	Total/NA	Water	300.0	
LCSD 490-326902/8	Lab Control Sample Dup	Total/NA	Water	300.0	
MB 490-326902/6	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 326952

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-99272-2	MW-5	Total/NA	Water	300.0	
490-99272-3	MW-3	Total/NA	Water	300.0	
490-99272-4	MW-4	Total/NA	Water	300.0	
490-99272-5	EQ Blank	Total/NA	Water	300.0	
490-99272-6	MW-8	Total/NA	Water	300.0	
490-99272-10	Dup	Total/NA	Water	300.0	
LCS 490-326952/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 490-326952/5	Lab Control Sample Dup	Total/NA	Water	300.0	
MB 490-326952/3	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 327636

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-99272-1	MW-2	Total/NA	Water	300.0	
490-99272-1 MS	MW-2	Total/NA	Water	300.0	
490-99272-1 MSD	MW-2	Total/NA	Water	300.0	
LCS 490-327636/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 490-327636/5	Lab Control Sample Dup	Total/NA	Water	300.0	
MB 490-327636/3	Method Blank	Total/NA	Water	300.0	

Lab Chronicle

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

TestAmerica Job ID: 490-99272-1
SDG: Property ID 891077

Client Sample ID: MW-2
Date Collected: 03/09/16 08:20
Date Received: 03/11/16 10:30

Lab Sample ID: 490-99272-1
Matrix: 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		1	10 mL		327636	03/30/16 07:31	JHS	TAL NSH

Client Sample ID: MW-5
Date Collected: 03/09/16 09:25
Date Received: 03/11/16 10:30

Lab Sample ID: 490-99272-2
Matrix: 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		1	10 mL		326952	03/26/16 14:34	JHS	TAL NSH

Client Sample ID: MW-3
Date Collected: 03/09/16 10:20
Date Received: 03/11/16 10:30

Lab Sample ID: 490-99272-3
Matrix: 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		1	10 mL		326952	03/26/16 14:53	JHS	TAL NSH

Client Sample ID: MW-4
Date Collected: 03/09/16 12:15
Date Received: 03/11/16 10:30

Lab Sample ID: 490-99272-4
Matrix: 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		326952	03/26/16 15:13	JHS	TAL NSH

Client Sample ID: EQ Blank
Date Collected: 03/09/16 12:20
Date Received: 03/11/16 10:30

Lab Sample ID: 490-99272-5
Matrix: 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		1	10 mL		326952	03/26/16 15:33	JHS	TAL NSH

Client Sample ID: MW-8
Date Collected: 03/09/16 13:25
Date Received: 03/11/16 10:30

Lab Sample ID: 490-99272-6
Matrix: 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		326952	03/26/16 15:52	JHS	TAL NSH

Lab Chronicle

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

TestAmerica Job ID: 490-99272-1
SDG: Property ID 891077

Client Sample ID: MW-6

Date Collected: 03/10/16 07:50
Date Received: 03/11/16 10:30

Lab Sample ID: 490-99272-7
Matrix: 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		2	10 mL		326902	03/25/16 22:04	LDC	TAL NSH

Client Sample ID: MW-7

Date Collected: 03/10/16 09:15
Date Received: 03/11/16 10:30

Lab Sample ID: 490-99272-8
Matrix: 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		1	10 mL		326902	03/25/16 22:24	LDC	TAL NSH

Client Sample ID: MW-1R

Date Collected: 03/10/16 11:10
Date Received: 03/11/16 10:30

Lab Sample ID: 490-99272-9
Matrix: 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		1	10 mL		326902	03/25/16 22:44	LDC	TAL NSH

Client Sample ID: Dup

Date Collected: 03/09/16 00:01
Date Received: 03/11/16 10:30

Lab Sample ID: 490-99272-10
Matrix: 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		326952	03/26/16 16:12	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: State M-1

TestAmerica Job ID: 490-99272-1
SDG: Property ID 891077

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: State M-1

TestAmerica Job ID: 490-99272-1
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	08-31-16

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

COOLER RECEIPT FORM

490-99272 Chain of Custody

Cooler Received/Opened On 3/11/2016 @ 1030

Time Samples Removed From Cooler_____ Time Samples Placed In Storage_____ (2 Hour Window)

1. Tracking # 8767 (last 4 digits, FedEx) Courier: _FedEx_

IR Gun ID 18290455 pH Strip Lot HC564992 Chlorine Strip Lot 072815A

2. Temperature of rep. sample or temp blank when opened: 0.7 *Degrees Celsius*

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO (NA)

4. Were custody seals on outside of cooler? (YES)..NO...NA

If yes, how many and where: (2)Front

5. Were the seals intact, signed, and dated correctly? (YES)..NO...NA

6. Were custody papers inside cooler? (YES)..NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) MDM

7. Were custody seals on containers: YES (NO) and Intact YES...NO...(NA)

Were these signed and dated correctly? YES...NO...(NA)

8. Packing mat'l used? Bubblewrap (Plastic bag) Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: (Ice) Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? (YES)...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? (YES)...NO...NA

12. Did all container labels and tags agree with custody papers? (YES)...NO...NA

13a. Were VOA vials received? YES...(NO)...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...(NA)

14. Was there a Trip Blank in this cooler? YES...(NO)...NA If multiple coolers, sequence #_____

I certify that I unloaded the cooler and answered questions 7-14 (intial) TT

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES..NO..(NA)

b. Did the bottle labels indicate that the correct preservatives were used (YES)...NO...NA

16. Was residual chlorine present? YES...NO...(NA)

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) TT

17. Were custody papers properly filled out (ink, signed, etc)? (YES)...NO...NA

18. Did you sign the custody papers in the appropriate place? (YES)...NO...NA

19. Were correct containers used for the analysis requested? (YES)...NO...NA

20. Was sufficient amount of sample sent in each container? (YES)...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) TT

I certify that I attached a label with the unique LIMS number to each container (intial) TT

21. Were there Non-Conformance issues at login? YES..(NO) Was a NCM generated? YES...(NO)...#_____

BIS = Broken in shipment
Cooler Receipt Form.doc

LF-1
End of Form

Revised 12/15/15

CHAIN OF CUSTODY RECORD

No. 00915

ENVIRO CLEAN SERVICES, LLC
(918) 794-7828

PROJECT NUMBER: CHKHSTM101	PROJECT NAME: CHK STATE M-1	COC ____ of ____	
SHIPPED TO: TA Nashville	PROJECT MANAGER: Bruce McKenzie	TAT: STANDARD	

SAMPLER'S PRINTED NAME: Terry Fisher
SAMPLER'S SIGNATURE:

ASOW: GEN/SUB: 750-521
PROP ID: 891077

Date	Time	Sample ID	Sample Matrix	# of Sample Containers	CHLORIDE (300)	REMARKS
3/9/16	820	MW-2	W	1	X	NOTE: MW-1R
3/9/16	925	MW-5	W	1	X	has Free product!
3/9/16	1020	MW-3	W	1	X	
3/9/16	1215	MW-4	W	1	X	
3/9/16	1220	EQ Blank	W	1	X	
3/9/16	1325	MW-8	W	1	X	
3/10/16	750	MW-6	W	1	X	
3/10/16	915	MW-7	W	1	X	
3/10/16	1110	MW-1R	W	1	X	
3/9/16	—	Dup	W	1	X	

Loc: 490
99272

TOTAL NUMBER OF CONTAINERS →

RELINQUISHED BY:	DATE 3/10/16	RECEIVED BY:	DATE
	TIME 1600		TIME
RELINQUISHED BY:	DATE	RECEIVED BY:	DATE 3/11/16
	TIME		TIME 1030

METHOD OF SHIPMENT: FED-EX
AIRBILL NUMBER: 6681 4407 8764

RECEIVED IN LABORATORY BY: DATE / TIME

Send PDF, EDD, and INVOICE (if applicable) to:
JULIE CZECH at jczech@envirocleanps.com

LABORATORY CONTACT: (615) 726-0177

LABORATORY ADDRESS: 2960 Foster Creighton Dr., Nashville, TN 37204

POINT OF ORIGIN: ☐ OKLAHOMA CITY ☐ TULSA ☐ NORMAN ☐ WOODWARD ☐ ARLINGTON ☐ MIDLAND ☐ OTHER: _____

PAGE #1 - RECEIVING LAB | PAGE #2 - ENVIRO CLEAN PROJECT FILE | PAGE #3 - ENVIRO CLEAN QA/QC DEPT

Login Sample Receipt Checklist

Client: Enviro Clean Services LLC

Job Number: 490-99272-1
SDG Number: Property ID 891077

Login Number: 99272
List Number: 1
Creator: Threalkill, Tevin

List Source: TestAmerica Nashville

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	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	

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 337532

CONDITIONS

Operator: CHESAPEAKE OPERATING, INC. 6100 NORTH WESTERN AVE OKC, OK 73118	OGRID: 147179
	Action Number: 337532
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

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