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By Alameda County Environmental Health 8:58 am, Aug 01, 2016

**Oakland Housing Investors, LP.**

3 Stow Road

Marlton, NJ 08053

July 29, 2016

Re: 1396 5<sup>th</sup> Street Oakland, CA.

To Whom it may concern:

I declare under perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge.

Respectfully Submitted,



Michael Boettger

Regional Vice President Pacific-North

[mboettger@themichaelsorg.com](mailto:mboettger@themichaelsorg.com)

Ph: 209 370-1559



assess  
resolve  
strengthen

## **CITADEL** ENVIRONMENTAL SERVICES, INC.

July 28, 2016

Mr. Michael L. Boettger  
Vice President  
**MICHAELS DEVELOPMENT**  
2020 West Kettleman Lane  
P. O. Box 1570,  
Lodi, California 95241

**Re: CITADEL Project No. 0849.1001.0**  
**Phase II Subsurface Investigation Report and Closure Request**  
**Former Red Star Senior Living Apartments Development**  
**1396 Fifth Street**  
**Oakland, California 94607**  
**SLIC Case Number: R00002896**

Dear Mr. Boettger:

Citadel Environmental Services, Inc. is pleased to provide you and Michaels Development with this Phase II Subsurface Investigation Report for the above-referenced location.

The Phase II Subsurface Investigation Report was conducted for Michaels Development in general accordance with Citadel's Proposal 0849.1001.P, dated June 28, 2016, and a mutually agreed upon scope of work.

If, after your review, you have any questions or require additional information, please do not hesitate to telephone me at the Citadel Office at (408) 645-9457.

Sincerely,

**CITADEL ENVIRONMENTAL SERVICES, INC.**

Mark Drollinger, M. Eng., CSP, CHMM, CAC  
Director of Environmental Geology and Engineering

Enclosure



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**Michaels Development**

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July 28, 2016

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Former Red Star Senior Living Apartments Development  
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Oakland, California 94607

**[www.citadelenvironmental.com](http://www.citadelenvironmental.com)**

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## 1.0 INTRODUCTION

On June 30, 2016, Citadel Environmental Services, Inc. (Citadel) conducted a Subsurface Investigation at the former Red Star Yeast property located at 1396 Fifth Street, Oakland, California (Site). The Site is currently overseen by the Alameda County Department of Environmental Health (ACDEH) and has been assigned Spills, Leaks, Investigations and Cleanups (SLIC) Case ID RO0002896 and GeoTracker Global ID T06019794669.

### ACDEH REPORT REVIEW

ACDEH reviewed Citadel's "Soil Excavation Report," dated August 21, 2012, and revised report dated September 22, 2015 (Citadel, 2012a). The Revised Excavation Report presented results from soil excavation activities, confirmation sampling, and soil disposal conducted between August and September 2011. In correspondence dated April 18, 2013, ACDEH provided technical comments in response to the Soil Excavation Report. ACDEH's correspondence identified items that required additional information, clarification, or correction.

The 2015 Revised Excavation Report addressed several of ACDEH's previous comments. However, the report did not address several major items that ACDEH believes are necessary to evaluate the case for closure. Specifically, the ACDEH comments were related to the following items:

1. **Fill Material:** Approximately 7,000 tons of imported segregate/sand mix was imported from Inner City Recycling (ICR); the quality control used for the imported fill appears to be unknown. ACDEH requested that soil sampling be conducted for characterization of the fill material across the Site.
2. **Underground Storage Tanks:** Three underground storage tanks (USTs) were encountered under the sidewalk along Fifth Street in 2011. Two of these USTs have been removed and one was abandoned in-place with approval of the Oakland Fire Department (OFD) (Citadel, 2012b). In order to assess current Site conditions in the areas around the USTs discovered at the Site, ACDEH requested that groundwater samples be collected in the areas of each of the former USTs.
3. **Lead in Native Soil:** Based on conversations with ACDEH, additional soil sampling for lead was requested to confirm the presence of lead above the regulatory limit in previously excavated and unexcavated areas.
4. **Groundwater Sampling:** To assess groundwater conditions upgradient of the former USTs, the ACDEH requested that a groundwater sample from the area near former groundwater monitoring well 5 (MW-5) be collected, as well as from a second location in the east portion of the Site.

In consultation with the ACDEH, Citadel prepared a Work Plan (Citadel, 2016) to address the outstanding items that the ACDEH considers necessary to evaluate the case for closure. This investigation included advancement of 15 boreholes and the collection of 50 soil samples and five groundwater samples, as well as the preparation of this report.

## **2.0 SITE DESCRIPTION**

The Site is identified in the County of Alameda with Assessor's Parcel Number 004-69-004. The Site totals approximately 0.88 acres and is an irregular shaped parcel of land situated along the north side of Fifth Street, between Mandela Parkway to the west, and Kirkham Street to the east. An elevated BART track is situated along the northern boundary of the Site. An extensive fire occurred during the construction phase at the Site in 2012 significantly damaging the Site structure and surrounding properties. The remaining structure from the fire consisted of a concrete podium which was removed in April 2016. The Site is currently a dirt covered vacant lot. A Site Location Map and Site Map are included as Figures 1 and 2, respectively.

## **3.0 GEOLOGY/HYDROGEOLOGY**

The City of Oakland has identified three Oakland-specific soil types that can be used for determining site specific target levels. These soil categories are Merritt Sands, Sandy Silts and Clayey Silts. Merritt sands are primarily located in flatlands to the west of Lake Merritt and consist of fine-grained silty sand with lenses of sandy clay and clay. Merritt Sands typically feature low moisture content and high permeability. Sandy Silts are generally found throughout the East Bay and consist of unconsolidated, moderately sorted sand, silt, and clay. These are considered moderate permeability deposits. Clayey Silts are found primarily along the bay and estuary and typically contain organic material, peat, and thin lenses of sand. Clayey Silts are typically low permeability deposits.

During the excavation of soil and removal of the USTs at the Site, Citadel (Citadel, 2012a) encountered groundwater at approximately four feet below grade. Groundwater in the local area reportedly flows to the southwest and is part of the East Bay Sub Basin of the Santa Clara Valley Basin (Number 2-9.04). Existing beneficial uses include municipal, agricultural, and industrial process supply; however, it is probable that the groundwater is not suitable for these uses due to high total dissolved solid (TDS) content, reported to be as high as 2,400 micrograms per liter ( $\mu\text{g/L}$ ). TDS levels may be naturally occurring due to the proximity to the bay.

## **4.0 BACKGROUND**

The Site had been developed and occupied by yeast manufacturing, vinegar production, and various brewery operations from at least 1880. Environmental concerns identified at the Site have included above ground and underground fuel tanks, the use of various chemicals with several documented releases, and an unauthorized release of mercury to the sewer system with apparent impacts to the subsurface soil. An extensive fire occurred at the Site in 2012 significantly damaging the former Site structure and surrounding properties. The remaining structure from the fire consisted of a concrete podium which was removed in April 2016. The Site is currently a dirt covered vacant lot.

### **Monitoring Well 5**

Groundwater samples were collected from five temporary monitoring wells (MW-1 through MW-5) installed across the Site during a subsurface investigation by Citadel in 2010 (Citadel, 2010) (Figure 3). The samples did not have detectable levels of volatile organic compounds (VOCs), semi volatile organic compounds (SVOCs), or total petroleum hydrocarbons (TPH) in the gasoline

range (TPHg), or diesel range (TPHd). TPH in the oil range (TPHo) was reported in the groundwater sample from MW-5 at a concentration of 2,400 µg/L.

### **Lead in Soil**

In mid-August 2011, Advent Companies (Advent), the general contractor for the project, contracted for the removal of contaminated soil. Upon removing the impacted soil, Citadel collected confirmation samples to evaluate residual metals contamination. Citadel's confirmation soil samples were collected using a grid consisting of 39 sampling nodes spaced about 25 feet apart across the excavation (Figure 4). In the final sampling intervals, the west side of the Site had been excavated to a depth of seven to 7.5 feet below grade and the east side had been excavated to approximately three feet below grade. The eastern margin of the Site was excavated to approximately four feet below grade. Results of the confirmation sampling indicated none of the final samples had detectable levels of cadmium or mercury. Low levels of oil-range hydrocarbons were detected in three samples, but did not exceed regulatory guidelines. Lead was detected in the majority of samples collected from native soil. All lead concentrations were below the Office of Environmental Health Hazard Assessment's (OEHHA) Soil Screening Level (SSL) of 80 milligrams per kilogram (mg/kg) for residential scenarios, except for soil sample S31-3 with a lead concentration of 93 mg/kg, collected at approximately three feet below grade from the east side.

### **Fill Material**

Citadel collected samples of the soil that was to be imported; two samples identified as A and B, were analyzed for TPH and metals. TPHo was detected in samples A and B at concentrations of 39 to 55 mg/kg and rejected by Citadel. Inner City Recycling (ICR) was contracted to import fill material to the Site for backfilling the onsite excavation. Citadel was not provided with the source of the fill material. Advent did not share analytical data from the ICR report.

Research was conducted by Salem Engineering Group, Inc. (Salem) in April 2016 in an attempt to identify the source and available analytical data for fill material imported to the Site during August and September 2011 (Citadel, 2016). The material was imported and placed over native soils to bring the Site up to grade and to provide a stable surface layer during deep foundation construction starting in September 2011. According to the memorandum prepared by Salem, daily field reports indicated that the source of the imported material was from ICR. However, correspondence with ICR indicated that Advent was on ICR's records as receiving materials from Advent for recycling rather than material purchased/delivered to Advent. Salem followed up and contacted ICR with a clarification that the likely client for the import material may be Sequoia Construction. No additional information was provided at this time. Due to the unknown chemistry of the import material, sampling of the in-place backfill will be performed as part of this Phase II Investigation to address this concern.

### **USTs**

On November 29, 2011, soils were excavated by Sequoia Construction and Development, Inc. (Sequoia), from above and along the sides of onsite USTs to expose their tops and walls in preparation for removal. The tops of the USTs were encountered at a depth of approximately 1.5 feet below ground surface (bgs). The volumes for the USTs were determined visually and were reportedly 250 gallons (UST No. 1), 2,500 gallons (UST No. 3) and 10,000 gallons (UST No. 4). UST No. 1 was buried at a depth of approximately four feet bgs; UST No. 3 was buried at a depth of 6.5 feet bgs; and UST No. 4 was buried at a depth of approximately 10 feet bgs. Suspected UST No. 2

was found to be a disconnected standpipe. No associated structure for this standpipe was located. Please refer to Figure 2 for a schematic showing the UST locations.

Oily water and minor amounts of sludge was removed from each of the USTs with the mixture pumped into a vacuum truck and the waste disposed of off-site. UST Nos. 1 and 3 were removed and transported off-site for recycling. The condition of both USTs were fair with no observable holes, significant corrosion, or scaling evident. UST No. 4 was not removed due to the discovery of live utilities crossing the top of the UST and that excavation of the UST would likely cause a power pole and pedestrian crossing pole to collapse. UST No. 4 was filled with a concrete slurry and sealed prior to being closed in-place. Citadel collected four soil samples following abandonment/removal of the USTs; one sample (TK-4) from native soil approximately two feet beneath the base of UST No. 1 (six feet total depth); one sample (SP) from a small soil stockpile from the excavation of soil around USTs No. 1, 2, and 3; and two samples (TK-2 West and TK-2 Middle) from beneath UST No. 3 (nine feet total depth). Analysis of soil samples indicated TPH at concentrations of 9, 37, and 31 mg/kg, in soil samples collected in the vicinity of UST No. 1, UST No. 2, and UST No. 3, respectively.

On January 3, 2012, three soil borings were advanced around UST No. 4 to evaluate the soil and potential groundwater around the UST. The analytical results indicated that the constituents detected in the soil samples were below regulatory levels. No significant findings were reported for TPH and VOCs in the groundwater samples collected.

## **5.0 SITE INVESTIGATION**

Citadel contacted Underground Service Alert (USA) on June 22, 2016, to mark underground utilities prior to advancing soil borings at the Site. Citadel obtained a well permit from the Alameda County Public Works Agency (ACPWA), Water Resources Section prior to on-site drilling activities (Appendix A). Citadel prepared a Health and Safety Plan as per the Work Plan (Citadel, 2016) (Appendix B).

On June 30, 2016, Citadel advanced fifteen soil borings (B-1 through B-15) at the Site (Figure 2). These soil borings were advanced with a Geoprobe® track-mounted direct push drilling rig operated by Woodward Drilling (C-57 license no. 710079) and supervised by a California Professional Geologist.

Citadel collected continuous cores at all locations for geologic characterization of the fill and native material at the Site. The contact between fill and native soil was logged at each boring location. The soil borings were logged in the field and screened with a PID for the presence of VOCs. Soil samples were collected in acetate sleeves inserted into 2-inch- diameter stainless steel rods. The acetate sleeves were labeled, sealed, and placed in an ice-packed cooler for delivery to a state-certified laboratory for analysis. Following the collection of soil samples, the boring locations were backfilled with cement grout as per County of Alameda requirements stated on the well permit.

Citadel advanced a total of 15 soil borings at the Site to evaluate the soil for the presence of contaminants. Soil borings B-1 through B-6 were advanced in the central and western portion of the Site to evaluate fill and native soils in the area that was previously excavated to approximately seven feet bgs. Soil borings B-7 through B-12 were advanced in the eastern portion of the Site to evaluate fill and native soils in the area that was previously excavated to between two to three feet bgs. Soil borings B-13 to B-15 were advanced adjacent to formers USTs 1, 3 and 4 to evaluate

soil and groundwater (GW-13 to GW-15) in these areas. In addition, groundwater samples were collected from borings B-4 and B-5 (GW-4 and GW-5) to evaluate groundwater upgradient of the former USTs. Soil boring locations are shown on Figure 2.

Soil samples were collected at one, three, five, and eight feet bgs in borings B-1 and B-2; at one, three, five, and seven feet bgs in borings B-3, B-4, B-5, B-11 and B-12; at one, three, and five feet bgs in borings B-7, B-8 and B-10; at 1 and 3 feet bgs in borings B-6 and B-8; and at 5, 10 and 15 feet bgs in borings B-13 through B-15. Borings B-6 and B-8 had a total depth of five feet bgs due to refusal at five feet in both locations. Boring B-7 was advanced to seven feet bgs, but did not have sample recovery at seven feet. Soil boring logs are presented in Appendix C.

Citadel collected groundwater grab samples in the vicinity of the three former USTs. These locations are designated as GW-13, GW-14 and GW-15 (same as soil boring locations B-13 through B-15). Further, to assess the groundwater condition upgradient of the USTs, Citadel collected groundwater grab samples from borings B-4 and B-5 (GW-4 and GW-5) along the north boundary of the Site.

Groundwater in each boring was collected using a peristaltic pump. Samples were collected in one-liter amber glass bottles and Teflon septum-sealed 40-milliliter glass vials with hydrochloric acid as a preservative. Groundwater sample locations are included on Figure 2.

## **6.0 RESULTS**

### **Soil Sampling**

Import fill at the Site was mostly identifiable as a gravel with silt and sand, usually grayish in color. Borings B-9 and B-11 encountered fill material that is classified as a well-graded sand with gravel. Fill material encountered in boring B-8 in the northeast corner of the Site, did not match the fill that was observed on the remainder of the Site. It was concluded that this corner of the Site was not excavated in 2011 and the fill encountered is from an earlier undocumented excavation.

Native soil was identifiable as a silt, very fine sand and clay. In the western portion of the Site (borings B-1 through B-3), native soils encountered were predominantly reddish brown silt. In the northern portion of the Site (borings B-4 and B-5), a plastic clay underlay the imported fill material. In Boring B-4, the reddish brown silt underlay the clay. Along the southern boundary of the Site (borings B-10 and B-13 through B-15), the silt underlying the import fill was more clay rich. The eastern end of the Site varied from poorly or well-graded sand to the reddish brown silt/very fine sand.

Native soils were encountered at the following depths across the Site:

<b>Boring</b>	<b>Depth (feet)</b>
B-1	7.5
B-2	7.5
B-3	6
B-4	1.5
B-5	7
B-6	Refusal at 5
B-7	2

B-8	Refusal at 5
B-9	3
B-10	3
B-11	3.5
B-12	2.5
B-13	6
B-14	5
B-15	4

The New Jersey Department of Environmental Protection (NJDEP) Soil and Hazardous Waste Management Program's (SHWMP) Guidance for Characterization of Concrete and Clean Material Certification for Recycling was used to determine the sampling plan for the imported fill material. Soil samples collected from the fill material (soil borings B-1 through B-6 and B-9 through B-10) were analyzed for polychlorinated biphenyls (PCBs) by EPA Method 8082, polycyclic aromatic hydrocarbons (PAHs) by EPA Method 8270C SIM, and lead using EPA Method 6020.

Soil samples collected from native material in borings B-10 through B-12 were analyzed for TPHd and TPHo by EPA Method 8015B, TPHg by EPA Method 8260B and for Title 22 CAM metals by EPA Methods 6020 and 7471A. The six soil samples collected near the former USTs were analyzed for TPHd and TPHo by EPA Method 8015B, TPHg by EPA Method 8260B, and full scan VOCs using EPA Method 8260B.

Results of the soil sample analysis for TPHg, TPHd, TPHo and VOCs are included in Table 1, the PAH results are included in Table 2, the PCB results are included in Table 3 and the metals results are included in Table 4. Concentrations of contaminants are compared with Tier 1 Environmental Screening Levels (ESLs) established by the San Francisco Regional Water Quality Control Boards (SFRWQCB) (SFRWQCB, 2016).

PCBs were not detected from any of the soil samples collected from the fill material or the native soil. No soil samples collected from fill material were found to exceed the Tier 1 ESL for TPHg, TPHd, TPHo, VOCs, PCBs or metals with the exception of arsenic. However, OEHHA (2015) and EPA (2016) caution that their screening levels are for contamination resulting from human activity, and that concentrations of naturally occurring arsenic may far exceed the screening level. The concentrations of arsenic from fill were found to be slightly higher (between 3.6 and 5.7 mg/kg) than underlying native soil (between 2.0 and 3.7 mg/kg). According to a Master's Thesis prepared for the University of San Francisco (Duvergé, 2011) and posted on the SWRCB's website, the mean and upper estimate (99<sup>th</sup> percentile) for the San Francisco Bay regional background level of arsenic is 4.61 mg/kg and 11 mg/kg, respectively. All results from the Site are below the 11 mg/kg upper estimate (99<sup>th</sup> percentile) and only one result is above the 4.61 mg/kg mean from this study (5.7 mg/kg in B-10 at 1 feet bgs).

Most soil samples analyzed for PAHs were found to have detectable concentrations of anthracene, benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthrene, benzo[a]pyrene, benzo[k]fluoroanthrene, chysene, fluoranthene, indeno[1,2,3-cd]pyrene, phenanthrene and pyrene. Several samples were found to have detectable levels of acenaphthene, dibenz(a,h)anthracene, fluorine and naphthalene. Tier 1 ESLs were used to evaluate the results from the soil sampling. The Tier 1 ESL for benzo[a]pyrene (0.016 mg/kg) was exceeded in soil samples from B-2, B-4, B-5, B-6, B-9 and B-10 with a maximum concentration of 0.150 mg/kg in B-5 at 3 feet bgs. The maximum concentration of benzo[a]pyrene other than B-5 was 0.035 J mg/kg in B-2 at 5 feet bgs. The Tier 1 ESL for benzo[a]anthracene (0.037 mg/kg), benzo[b]fluoranthrene



(0.16 mg/kg) and dibenz(a,h)anthracene (0.016 mg/kg) were also exceeded in samples from B-5 at 3 feet bgs with concentrations of 0.170 mg/kg, 0.200 mg/kg and 0.017 J mg/kg, respectively.

Tier 1 ESLs use the most conservative assumptions for the site and are designed to protect sites with unrestricted land and water use, shallow soil contamination, shallow ground water, and permeable soil. Tier 1 ESLs assume residential land use, evaluating Tier 2 ESLs with commercial land use yields Tier 2 ESLs for benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthrene and dibenz(a,h)anthracene of 2.9 mg/kg, 0.29 mg/kg, 2.9 mg/kg and 0.29 mg/kg, respectively. Therefore, all PAHs are below the Tier 2 ESLs using the commercial land use scenario. In addition, the Tier 1 ESLs for PAHs are driven by human health from direct exposure to contaminated soils. Future development is not anticipated to include direct exposure to subsurface soils and ESLs for exposure to construction workers, leaching to groundwater, gross contamination and odor nuisance are all above maximum concentrations of PAHs observed at the site.

Native soil and fill material were also analyzed for TPHg, TPHd and TPHo in areas that were expected to be predominantly native soil. Fill material was encountered in the upper portion of borings B-7, B-8, B-10, B-11 and B-12 and were non-detect for TPHg. Maximum concentrations of TPHd and TPHo were 28 mg/kg and 310 mg/kg, respectively, in B-8 at three feet. Maximum concentrations in native soil were 0.100 mg/kg for TPHg in B-11 at 5 feet bgs, 15 mg/kg for TPHd in B-7 at three feet bgs and 39 mg/kg for TPHo in B-5 at seven feet bgs. The Tier 1 ESLs were not exceeded in any soil samples for TPHg, TPHd or TPHo.

Soil samples from B-13 through B-15 were collected to evaluate the soil in the vicinity of the former USTs for the presence of petroleum hydrocarbons and VOCs. TPHg was non-detect in all samples and the maximum concentration of TPHd and TPHo were 28 mg/kg and 130 mg/kg, respectively, from boring B-13 at 15 feet bgs. All samples were non-detect for BTEX, oxygenates and other VOCs. No Tier 1 ESLs were exceeded in soil from borings B-13 through B-15.

### **Groundwater Sampling**

Groundwater was encountered at approximately 11 feet bgs in boreholes B-4, B-5, and B-13 through B-15. The soil at total depth of these boreholes (12 feet for B4 and B5, 15 feet for B13 through B15), was classified as moist or very moist, not saturated. Groundwater recharge at borehole B13 (Groundwater sample GW-13) was very slow, and only two 40-ml VOA containers could be collected, and the 1-liter amber jar was only partially filled.

Groundwater samples were analyzed for full scan VOCs and TPHg by EPA Method 8260B and for TPHd and TPHo by EPA Method 8015B. Results of the laboratory analysis of the groundwater samples are presented in Table 5. Maximum concentrations in groundwater were observed in samples GW-4 and GW-5 on the upgradient side of the Site. Maximum concentrations of TPHg, TPHd and TPHo were 1,500 µg/L, 200 J µg/L and 210 J µg/L, respectively. Maximum concentrations of benzene, toluene, ethylbenzene and xylenes (BTEX) were 1.1 µg/L, 230 µg/L, 3.6 µg/L and 25 µg/L, respectively. Maximum concentrations of tert-butyl alcohol (TBA) is 70 µg/L. Maximum concentrations of isopropylbenzene, N-propylbenzene, styrene, 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene were 2.4 J µg/L, 7.7 J µg/L, 0.33 J µg/L, 38 µg/L and 18 µg/L, respectively. All other VOCs were non-detect. All of the maximum concentrations were observed in samples GW-4 and GW-5 which are located on the upgradient side of the Site and indicates that these contaminants may be from an offsite source that is north of the Site. The only detections in groundwater from GW-13 through GW-15, which are located adjacent to the former USTs, were 41 J µg/L TPHg in GW-13, 130 J µg/L of TPHd in GW-14 and 13 µg/L of TBA in GW-13. TBA is a decay product of methyl tert butyl ether (MTBE), a gasoline additive used in gasoline in California

between the years 1979 and 2003. MTBE was not detected in any groundwater samples, indicating that the source of the TBA is old and inactive.

Contaminant concentrations in groundwater samples were compared with California Maximum Contaminant Levels (MCL) and SFRWQCB (2016) Tier 1 ESLs. Groundwater collected from the two upgradient sampling locations near the railroad right-of-way (ROW), GW-4 and GW-5, had exceedances of Tier 1 ESLs for TPHg, TPHd, BTEX and TBA. Tier 1 ESLs are designed to protect sites with unrestricted land and water use, shallow soil contamination, shallow ground water, and permeable soil. When Tier 1 ESLs are exceeded, a site specific Tier 2 evaluation can be conducted using site specific parameters. Site specific parameters include residential land use, non-drinking water source, risk base screening levels, non-existent or poor condition building slab, shallow groundwater, sandy soil and shallow soil contamination. Only TPHg (1,500 µg/L in GW-4) and toluene (230 µg/L in GW-4) exceed Tier 2 ESLs. Tier 1 and Tier 2 ESLs are shown in Table 5.

The source of petroleum hydrocarbon contamination in the upgradient groundwater samples GW-4 and GW-5, as well as in downgradient location GW-13, is likely to be the railroad ROW that is immediately adjacent to the northern perimeter of the Site or the former service station located approximately 175 feet north of the Site on the southeast corner of Mandel Parkway and 7<sup>th</sup> Street. Oil seepage from the railroad ROW on to the Site in the vicinity of B-5 has been previously noted (Citadel, 2010, 2012a, 2016).

## **7.0 CONCLUSIONS**

Citadel advanced a total of 15 soil borings at the Site to evaluate the soil and groundwater at the Site for the presence of contaminants. Soil samples were collected from all borings and groundwater samples were collected from soil borings B-4, B-5, B-13, B-14 and B-15 (GW-4, GW-5, GW-13, GW-14 and GW-15).

Soil samples collected in the western and central portion of the site were collected for the purpose of evaluating fill material that was brought to the site in 2011 as backfill following an extensive onsite excavation. Deeper soil samples and borings advanced along the eastern and southern perimeters of the Site were advanced to collect native soil samples. Soil and groundwater samples were collected adjacent to the former USTs along the southern edge of the Site and along the northern edge of the Site to evaluate potential impacts in groundwater from upgradient sources.

Imported fill material was identified as mostly grayish in color and consisted of gravel with silt and sand along with some sand with gravel. Native soil was identifiable as a reddish brown silt, very fine sand and clay. The silt was overlain by clay in the northern part of the Site, became more clay rich in the southern part of the Site and sandier in the eastern part of the Site.

Tier 1 ESLs were used to evaluate the results from the soil sampling. The only exceedances of Tier 1 ESLs in soil were for PAHs and arsenic. For PAHs, Tier 1 ESLs were exceeded for benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthrene and dibenz[a,h]anthracene. All samples with Tier 1 ESL exceedances are from the fill material except for sample B-4 at 3 feet bgs which exceeded the Tier 1 ESL for benzo[a]pyrene. Tier 1 ESLs are designed to protect sites with unrestricted land and water use, shallow soil contamination, shallow ground water, and permeable soil.



Tier 1 ESLs assume residential land use, evaluating Tier 2 ESLs with commercial land use yields Tier 2 ESLs for benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthrene and dibenz[a,h]anthracene of 2.9 mg/kg, 0.29 mg/kg, 2.9 mg/kg and 0.29 mg/kg, respectively. Therefore, all PAHS are below the Tier 2 ESLs using the commercial land use scenario. In addition, the Tier 1 ESLs for PAHs are driven by human health from direct exposure to contaminated soils. Future development is not anticipated to include direct exposure to subsurface soils and ESLs for exposure to construction workers, leaching to groundwater, gross contamination and odor nuisance are all above maximum concentrations of PAHs observed at the site.

Tier 1 ESLs were exceeded for arsenic in all samples analyzed. OEHHA and EPA caution that screening levels for arsenic are developed for contamination resulting from human activity. The concentrations of arsenic from fill were found to be slightly higher (between 3.6 and 5.7 mg/kg) than underlying native soil (between 2.0 and 3.7 mg/kg). A study of background arsenic concentrations in San Francisco Bay area soils (Duvergé, 2011) gave average arsenic concentrations of 4.51 mg/kg and 99<sup>th</sup> percentile concentrations of 11 mg/kg. All arsenic concentrations from both imported and native soils are below the average concentration except 5.7 mg/kg in B-10 at one feet bgs are all results are within the range of average arsenic concentrations in San Francisco Bay area soils.

Areas that were expected to be predominantly native soils were also analyzed for TPHg, TPHd and TPHo. Some fill material was encountered in the upper portion of borings B-7, B-8, B-10, B-11 and B-12 and were non-detect for TPHg. Maximum concentrations of TPHd and TPHo in fill material was 28 mg/kg and 310 mg/kg, respectively, in B-8 at three feet. Maximum concentrations in native soil were 0.100 mg/kg for TPHg in B-11 at 5 feet bgs, 15 mg/kg for TPHd in B-7 at three feet bgs and 39 mg/kg for TPHo in B-5 at seven feet bgs. The Tier 1 ESLs were not exceeded in any soil samples for TPHg, TPHd or TPHo.

Soil samples from B-13 through B-15 were collected to evaluate for the presence of petroleum hydrocarbons and VOCs adjacent to the former USTs. TPHg was non-detect in all samples and the maximum concentration of TPHd and TPHo were 28 mg/kg and 130 mg/kg from boring B-13 at 15 feet bgs. All samples were non-detect for BTEX, oxygenates and other VOCs and all results were below Tier 1 ESLs.

Groundwater samples were collected from locations upgradient of the former UST locations (GW-4 and GW-5) and adjacent to the former UST locations (GW-13 through GW-15). Groundwater samples were analyzed for TPHg, TPHd, TPHo, BTEX, oxygenates and other VOCs.

Maximum concentrations in groundwater were observed in samples GW-4 and GW-5 on the upgradient side of the Site. Maximum concentrations of TPHg, TPHd and TPHo were 1,500 µg/L, 200 J µg/L and 210 J µg/L, respectively. Maximum concentrations of BTEX were 1.1 µg/L, 230 µg/L, 3.6 µg/L and 25 µg/L, respectively. Maximum concentrations of tert-butyl alcohol (TBA) was 70 µg/L. Maximum concentrations of isopropylbenzene, N-propylbenzene, styrene, 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene were 2.4 J µg/L, 7.7 J µg/L, 0.33 J µg/L, 38 µg/L and 18 µg/L, respectively. All other VOCs were non-detect. The locations of the maximum concentrations indicate that these contaminants may be from an offsite source that is north of the Site. Sources of offsite contaminants may be the railroad ROW that is immediately adjacent to the northern perimeter of the Site or the former service station located approximately 175 feet north of the Site.

Groundwater concentrations from samples collected from adjacent to the former USTs (GW-13 through GW-15) were low or non-detect. Maximum concentrations were 41 J µg/L TPHg in GW-13, 130 J µg/L of TPHd in GW-14 and 13 µg/L of TBA in GW-13.

Groundwater collected from the two upgradient sampling locations near the railroad ROW, GW-4 and GW-5, had exceedances of Tier 1 ESLs for TPHg, TPHd, BTEX and TBA. Tier 1 ESLs are designed to protect sites with unrestricted land and water use, shallow soil contamination, shallow ground water, and permeable soil. Site specific parameters were used to develop Tier 2 ESLs and include residential land use, non-drinking water source, risk base screening levels, non-existent or poor condition building slab, shallow groundwater, sandy soil and shallow soil contamination. Only TPHg (1,500 µg/L in GW-4) and toluene (230 µg/L in GW-4) exceed Tier 2 ESLs. These concentrations are well below the California Low Threat Closure Policy (SWRCB, 2012) guidance concentrations for site closure.

## **8.0 CLOSURE REQUEST**

The results indicate that the soil used for fill in 2011 is not hazardous in nature and no further investigations are necessary. Tier 1 ESLs were used to evaluate concentrations of PAHs, PCBs, and metals in fill material. All concentrations were below Tier 1 ESLs with the exception of PAHs and arsenic. Tier 2 ESLs were developed based on specific site conditions and all concentrations of PAHs were below the Tier 2 ESLs. In addition, the Tier 1 ESLs for PAHs are driven by human health from direct exposure to contaminated soils. Future development is not anticipated to include direct exposure to subsurface soils and ESLs for exposure to construction workers, leaching to groundwater, gross contamination and odor nuisance are all above maximum concentrations of PAHs observed at the site.

Arsenic concentrations in fill material and native soils exceed Tier 1 ESLs, but are well within the average range for arsenic concentrations in San Francisco Bay area soils and no further action is required.

Groundwater results indicate that there is TPH, BTEX, and TBA impacts to groundwater in the northern portion of the Site. The most likely source of this contamination is the railroad ROW immediately north of the Site or the former service station located approximately 175 feet north of the Site. Concentrations in soil groundwater adjacent to the former USTs at the site are low or non-detect and are not representative of impacts from the former USTs and no further action is required.

Based on a comparison of site specific data with Tier 1 and Tier 2 ESLs, the observed presence of chemicals in soil and groundwater at the site are below the corresponding ESL and can be assumed to not pose a significant threat to human health, water-resources, or the environment, therefore Citadel requests case closure for the site.

## **9.0 REFERENCES**

Citadel Environmental Services (Citadel), 2010. Subsurface Investigation Report, Former Red Star Yeast Company, 1396 5th Street, Oakland, California 94607, SLIC Case Number: RO0002896, Global ID: T06019794669, March 18.

Citadel, 2012a. Soil Excavation Report, Former Red Star Yeast Company, 1396 5th Street, Oakland, California, 94607, LOC Case Number: RO0002896, Global ID: T06019794669, August 21, 2012, Revised September 22, 2015.

Citadel, 2012b. Underground Storage Tank Removal Closure Report, Citadel Environmental Services, Inc., August 23, 2012, Revised September 23, 2015.

Citadel, 2016. Phase II Subsurface Investigation Work Plan, Former Citadel Environmental Services, Inc., June 29.

Duvergé, D.J., 2011. Establishing Background Arsenic in Soil of the Urbanized San Francisco Bay Region. December.

EPA (United States Environmental Protection Agency), 2016. May.  
<https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-may-2016>

San Francisco Bay Regional Water Quality Control Board (SFBRWQCB), 2016. Environmental Screening Levels. February.

State Water Resources Control Board (SWRCB), 2012. Resolution No. 2012-0016, Low-Threat Underground Storage Tank Case Closure Policy. August.

## 10.0 SIGNATURES

Report Prepared by:

**Jay Schneider**

Digitally signed by Jay Schneider  
DN: cn=Jay Schneider, o=Citadel Environmental  
Services, ou,  
email=jschneider@citadelenvironmental.com, c=US  
Date: 2016.07.28 18:27:00 -07'00'

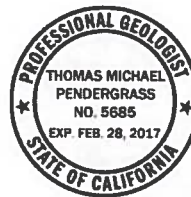
Jay Schneider, PG, QSD  
Project Geologist

Report Reviewed and Approved by:

**T. Michael  
Pendergrass**

Digitally signed by T. Michael Pendergrass  
DN: cn=T. Michael Pendergrass, o=Citadel Environmental  
Services, Inc., ou=Environmental Geology and  
Engineering,  
email=MPendergrass@citadelenvironmental.com, c=US  
Date: 2016.07.28 18:27:19 -07'00'

T. Michael Pendergrass, PG 5685  
Senior Project Manager



**Mark Drollinger**

Digitally signed by Mark Drollinger  
DN: cn=Mark Drollinger, o=Citadel Environmental  
Services, ou,  
email=mdrollinger@citadelenvironmental.com, c=US  
Date: 2016.07.28 18:27:36 -07'00'

Mark Drollinger, M. Eng., CSP, CHMM, CAC  
Director of Environmental Geology and Engineering



**CITADEL**  
ENVIRONMENTAL SERVICES, INC.

## **Table 1**

# **Petroleum Hydrocarbons, Oxygenates and Volatile Organic Compounds (VOCs) in Soil**

**Table 1. Petroleum Hydrocarbons, Oxygenates and Volatile Organic Compounds (VOCs) in Soil**  
**Former Red Star Senior Living Apartments Development**  
**Michaels Development**  
**1396 Fith Street, Oakland, California**

Boring ID	Sample Depth (feet)	Date Sampled	TPHg mg/kg	TPHd mg/kg	TPHo mg/kg	Benzene mg/kg	Toluene mg/kg	Ethylbenzene mg/kg	Total xylenes mg/kg	MTBE mg/kg	ETBE mg/kg	DIPE mg/kg	TAME mg/kg	TBA mg/kg	Isopropylbenzene mg/kg	N-Propylbenzene mg/kg	Styrene mg/kg	1,2,4-Trimethylbenzene mg/kg	1,3,5-Trimethylbenzene mg/kg	Comments	
B-5	7	6/30/2016	---	<b>7.5</b>	<b>39</b>	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	Native Soil
B-7	1	6/30/2016	ND<0.069	<b>9.9</b>	<b>54</b>	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	Backfill
B-7	3	6/30/2016	ND<0.070	<b>15</b>	<b>29</b>	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	Native Soil
B-7	5	6/30/2016	ND<0.069	ND<5.2	<b>24</b>	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	Native Soil
B-8	1	6/30/2016	ND<0.070	<b>18</b>	<b>83</b>	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	Backfill
B-8	3	6/30/2016	ND<0.069	<b>28</b>	<b>310</b>	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	Backfill
B-10	1	6/30/2016	ND<0.070	<b>13</b>	<b>61</b>	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	Backfill
B-10	3	6/30/2016	ND<0.070	ND<5.3	ND<5.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	Native Soil
B-10	5	6/30/2016	ND<0.068	ND<5.2	ND<5.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	Native Soil
B-11	1	6/30/2016	ND<0.069	<b>11</b>	<b>47</b>	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	Backfill
B-11	3	6/30/2016	ND<0.070	<b>6.5</b>	<b>31</b>	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	Backfill
B-11	5	6/30/2016	<b>0.100</b>	ND<2.5	<b>7.1</b>	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	Native Soil
B-11	7	6/30/2016	ND<0.070	ND<2.5	ND<2.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	Native Soil
B-12	1	6/30/2016	ND<0.070	<b>5.7</b>	<b>46</b>	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	Backfill
B-12	3	6/30/2016	ND<0.070	ND<5.2	ND<5.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	Native Soil
B-12	5	6/30/2016	<b>0.070 J</b>	ND<11	ND<11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	Native Soil
B-12	7	6/30/2016	ND<0.070	ND<10	ND<10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	Native Soil
B-13	10	6/30/2016	ND<0.070	<b>6.3 J</b>	<b>12</b>	ND<0.00099	ND<0.00099	ND<0.00099	ND<0.002	ND<0.00099	ND<0.00099	ND<0.00099	ND<0.00099	ND<0.00099	ND<0.0099	ND<0.0099	ND<0.0099	ND<0.0099	ND<0.0099	ND<0.0099	Native Soil
B-13	15	6/30/2016	ND<0.070	<b>28</b>	<b>130</b>	ND<0.001	ND<0.001	ND<0.001	ND<0.002	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	Native Soil
B-14	10	6/30/2016	ND<0.070	ND<5.3	ND<5.3	ND<0.001	ND<0.001	ND<0.001	ND<0.002	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	Native Soil
B-14	15	6/30/2016	ND<0.070	ND<5.0	<b>9.2 J</b>	ND<0.001	ND<0.001	ND<0.001	ND<0.002	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	Native Soil
B-15	10	6/30/2016	ND<0.069	ND<5.3	ND<5.3	ND<0.00099	ND<0.00099	ND<0.00099	ND<0.002	ND<0.00099	ND<0.00099	ND<0.00099	ND<0.00099	ND<0.0099	ND<0.0099	ND<0.0099	ND<0.0099	ND<0.0099	ND<0.0099	ND<0.0099	Native Soil
B-15	15	6/30/2016	ND<0.069	ND<5.0	ND<5.0	ND<0.00099	ND<0.00099	ND<0.00099	ND<0.002	ND<0.00099	ND<0.00099	ND<0.00099	ND<0.00099	ND<0.0099	ND<0.0099	ND<0.0099	ND<0.0099	ND<0.0099	ND<0.0099	ND<0.0099	Native Soil
SFRWQCB Tier 1 ESL			100	230	5,100	0.044	2.9	1.4	2.3	0.023	--	--	--	0.075	--	--	1.5	--	--	--	

**Notes:**  
mg/kg = Milligrams per Kilogram  
ND = Not detected  
TPHg = Total petroleum hydrocarbons as gasoline analyzed by EPA Method 8260B  
TPHd = Total petroleum hydrocarbons as diesel by EPA Method 8015B  
TPHo = Total petroleum hydrocarbons as oil by EPA Method 8015B  
Volatile Organic Compounds (VOCs) analyzed by EPA Method 8260B  
MTBE = Methyl tertiary-butyl ether analyzed by EPA Method 8260B  
ETBE = Ethyl tertiary-butyl ether analyzed by EPA Method 8260B  
DIPE = Di-isopropyl ether analyzed by EPA Method 8260B  
TAME = Tertiary-amyl methyl ether analyzed by EPA Method 8260B  
TBA = Tertiary-butyl alcohol analyzed by EPA Method 8260B  
J = denotes value between method detection limit and detection limit for reporting purposes  
Detected concentrations are shown in bold type  
Isopropylbenzene, N-Propylbenzene, Styrene, 1,2,4-Trimethylbenzene, and 1,3,5-Trimethylbenzene were detected groundwater samples from these borings, but were Non-Detect in all soil samples  
All other VOCs were Non-Detect  
SFRWQCB Tier 1 ESL = San Francisco Regional Water Quality Control Board Tier 1 Environmental Screening Level  
-- = No ESL Established  
--- = Not Analyzed



**CITADEL**  
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## **Table 2**

# **Polycyclic Aromatic Hydrocarbons (PAHs) in Soil**

Table 2. Polycyclic Aromatic Hydrocarbons (PAHs) in Soil  
Former Red Star Senior Living Apartments Development  
Michaels Development  
1396 Fith Street, Oakland, California

Boring ID	Sample Depth (feet)	Date Sampled	Acenaph-thene mg/kg	Anthracene mg/kg	Benzo[a]-anthracene mg/kg	Benzo[a]-pyrene mg/kg	Benzo[b]-fluoranthrene mg/kg	Benzo-[g,h,i]-perylene mg/kg	Benzo[k]-fluoranthrene mg/kg	Chrysene mg/kg	Dibenz(a,h)-anthracene mg/kg	Fluoranthene mg/kg	Fluorene mg/kg	Indeno-[1,2,3-cd]-pyrene mg/kg	Naphthalene mg/kg	Phenanthrene mg/kg	Pyrene mg/kg	Comments
B-1	1	6/30/2016	ND<0.004	ND<0.004	0.011 J	0.011 J	0.015 J	0.0059 J	0.0049 J	0.020 J	ND<0.004	0.030	ND<0.0040	0.0051 J	ND<0.004	0.034	0.031	Backfill
B-1	3	6/30/2016	ND<0.0039	0.0058 J	0.015 J	0.012 J	0.019 J	0.0072 J	0.0067 J	0.023 J	ND<0.0039	0.046	ND<0.0039	0.0064 J	0.0073 J	0.047	0.042	Backfill
B-1	5	6/30/2016	ND<0.0039	0.0053 J	0.017 J	0.016 J	0.024 J	0.0089 J	0.0082 J	0.027 J	ND<0.0039	0.039	ND<0.0039	0.0088 J	0.0043 J	0.039	0.041	Backfill
B-2	1	6/30/2016	ND<0.004	0.0071 J	0.027 J	0.027 J	0.037	0.016 J	0.014 J	0.037	ND<0.004	0.061	ND<0.0040	0.013 J	0.0047 J	0.048	0.057	Backfill
B-2	3	6/30/2016	ND<0.0072	ND<0.0072	0.014 J	0.013 J	0.018 J	0.015 J	0.0072 J	0.021 J	ND<0.0072	0.032 J	ND<0.0072	0.012 J	ND<0.0072	0.034 J	0.030 J	Backfill
B-2	5	6/30/2016	ND<0.0083	0.011 J	0.038 J	0.035 J	0.050 J	0.013 J	0.016 J	0.055 J	ND<0.0083	0.075	ND<0.0083	0.013 J	ND<0.0083	0.089	0.072	Backfill
B-3	1	6/30/2016	ND<0.0039	0.0051 J	0.018 J	0.016 J	0.023 J	0.0087 J	0.0081 J	0.027 J	ND<0.0039	0.040	ND<0.0039	0.0079 J	0.0063 J	0.043	0.040	Backfill
B-3	3	6/30/2016	ND<0.0075	ND<0.0075	0.012 J	0.012 J	0.017 J	0.0094 J	ND<0.0075	0.018 J	ND<0.0075	0.029 J	ND<0.0075	0.0092 J	ND<0.0075	0.029 J	0.028 J	Backfill
B-4	1	6/30/2016	0.0047 J	0.012 J	0.035	0.028 J	0.035	0.017 J	0.015 J	0.048	ND<0.0039	0.083	ND<0.0039	0.013 J	ND<0.0039	0.076	0.080	Backfill
B-4	3	6/30/2016	ND<0.0084	ND<0.0084	0.015 J	0.026 J	0.025 J	0.026 J	0.0094 J	0.020 J	ND<0.0084	0.035 J	ND<0.0084	0.019 J	ND<0.0084	0.026 J	0.043 J	Native Soil
B-5	1	6/30/2016	ND<0.0039	0.0087 J	0.014 J	0.014 J	0.018 J	0.011 J	0.006 J	0.023 J	ND<0.0039	0.034	ND<0.0039	0.0083 J	ND<0.0039	0.027 J	0.037	Backfill
B-5	3	6/30/2016	0.0061 J	0.018 J	0.170	0.150	0.200	0.086	0.078	0.160	0.017 J	0.200	ND<0.0041	0.081	ND<0.0041	0.065	0.180	Backfill
B-5	5	6/30/2016	0.0053 J	0.0046 J	0.012 J	0.011 J	0.014 J	0.0089 J	0.0052 J	0.018 J	ND<0.004	0.031	ND<0.0040	0.0065 J	0.0057 J	0.038	0.029 J	Backfill
B-6	1	6/30/2016	ND<0.004	0.0064 J	0.022 J	0.030	0.039	0.021 J	0.014 J	0.034	0.0058 J	0.055	ND<0.0040	0.018 J	0.0094 J	0.045	0.057	Backfill
B-6	3	6/30/2016	ND<0.0085	ND<0.0085	0.024 J	0.032 J	0.042 J	0.010 J	0.015 J	0.036 J	ND<0.0085	0.060 J	ND<0.0085	0.015 J	0.011 J	0.045 J	0.064	Backfill
B-9	1	6/30/2016	0.018 J	0.020 J	0.035 J	0.032 J	0.046 J	ND<0.0085	0.017 J	0.048 J	ND<0.0085	0.092	0.012 J	0.0091 J	0.015 J	0.140	0.084	Backfill
B-9	3	6/30/2016	ND<0.0082	ND<0.0082	ND<0.0082	ND<0.0082	ND<0.0082	ND<0.0082	ND<0.0082	ND<0.0082	ND<0.0082	ND<0.0082	ND<0.0082	ND<0.0082	ND<0.0082	ND<0.0082	ND<0.0082	Native Soil
B-10	1	6/30/2016	0.0088 J	0.018 J	0.037	0.032	0.043	0.013 J	0.016 J	0.051	ND<0.0039	0.089	ND<0.0039	0.011 J	0.0051 J	0.120	0.082	Backfill
SFRWQCB Tier 1 ESL			16	2.8	0.16	0.016	0.16	2.5	1.6	3.8	0.016	60	8.9	0.16	0.033	11	85	

Notes: Polycyclic Aromatic Hydrocarbons (PAHs) analyzed by EPA Method 8270C SIM  
mg/kg = Milligrams per Kilogram  
ND = Not detected  
J = denotes value between method detection limit and detection limit for reporting purposes  
Detected concentrations are shown in bold type  
SFRWQCB Tier 1 ESL = San Francisco Regional Water Quality Control Board Tier 1 Environmental Screening Level  
--- = Not Analyzed





**CITADEL**  
ENVIRONMENTAL SERVICES, INC.

## **Table 3**

# **Polychlorinated Biphenyls (PCBs) in Soil**

**Table 3. Polychlorinated Biphenyls (PCBs) in Soil  
Former Red Star Senior Living Apartments Development  
Michaels Development  
1396 Fith Street, Oakland, California**

Boring ID	Sample Depth (feet)	Date Sampled	Aroclor 1016 (mg/kg)	Aroclor 1221 (mg/kg)	Aroclor 1232 (mg/kg)	Aroclor 1242 (mg/kg)	Aroclor 1248 (mg/kg)	Aroclor 1254 (mg/kg)	Aroclor 1260 (mg/kg)	Comments
B-1	1	6/30/2016	ND<0.036	ND<0.036	ND<0.036	ND<0.036	ND<0.036	ND<0.036	ND<0.036	Backfill
B-1	3	6/30/2016	ND<0.036	ND<0.036	ND<0.036	ND<0.036	ND<0.036	ND<0.036	ND<0.036	Backfill
B-1	5	6/30/2016	ND<0.035	ND<0.035	ND<0.035	ND<0.035	ND<0.035	ND<0.035	ND<0.035	Backfill
B-2	1	6/30/2016	ND<0.035	ND<0.035	ND<0.035	ND<0.035	ND<0.035	ND<0.035	ND<0.035	Backfill
B-2	3	6/30/2016	ND<0.036	ND<0.036	ND<0.036	ND<0.036	ND<0.036	ND<0.036	ND<0.036	Backfill
B-2	5	6/30/2016	ND<0.035	ND<0.035	ND<0.035	ND<0.035	ND<0.035	ND<0.035	ND<0.035	Backfill
B-3	1	6/30/2016	ND<0.036	ND<0.036	ND<0.036	ND<0.036	ND<0.036	ND<0.036	ND<0.036	Backfill
B-3	3	6/30/2016	ND<0.036	ND<0.036	ND<0.036	ND<0.036	ND<0.036	ND<0.036	ND<0.036	Backfill
B-4	1	6/30/2016	ND<0.036	ND<0.036	ND<0.036	ND<0.036	ND<0.036	ND<0.036	ND<0.036	Backfill
B-4	3	6/30/2016	ND<0.084	ND<0.084	ND<0.084	ND<0.084	ND<0.084	ND<0.084	ND<0.084	Native Soil
B-5	1	6/30/2016	ND<0.036	ND<0.036	ND<0.036	ND<0.036	ND<0.036	ND<0.036	ND<0.036	Backfill
B-5	3	6/30/2016	ND<0.034	ND<0.034	ND<0.034	ND<0.034	ND<0.034	ND<0.034	ND<0.034	Backfill
B-5	5	6/30/2016	ND<0.036	ND<0.036	ND<0.036	ND<0.036	ND<0.036	ND<0.036	ND<0.036	Backfill
B-6	1	6/30/2016	ND<0.017	ND<0.017	ND<0.017	ND<0.017	ND<0.017	ND<0.017	ND<0.017	Backfill
B-6	3	6/30/2016	ND<0.036	ND<0.036	ND<0.036	ND<0.036	ND<0.036	ND<0.036	ND<0.036	Backfill
B-9	1	6/30/2016	ND<0.017	ND<0.017	ND<0.017	ND<0.017	ND<0.017	ND<0.017	ND<0.017	Backfill
B-9	3	6/30/2016	ND<0.017	ND<0.017	ND<0.017	ND<0.017	ND<0.017	ND<0.017	ND<0.017	Native Soil
B-10	1	6/30/2016	ND<0.017	ND<0.017	ND<0.017	ND<0.017	ND<0.017	ND<0.017	ND<0.017	Backfill
SFRWQCB Tier 1 ESL			0.25	0.25	0.25	0.25	0.25	0.25	0.25	

**Notes:** Polychlorinated Biphenyls (PCBs) analysed by EPA Method 8082  
mg/kg = Milligrams per Kilogram  
ND = Not detected  
SFRWQCB Tier 1 ESL = San Francisco Regional Water Quality Control Board Tier 1 Environmental Screening Level



**CITADEL**  
ENVIRONMENTAL SERVICES, INC.

# **Table 4**

## **Metals in Soil**

Table 4. Metals in Soil  
Former Red Star Senior Living Apartments Development  
Michaels Development  
1396 Fith Street, Oakland, California

Boring ID	Sample Depth (feet)	Date Sampled	Lead mg/kg	Mercury mg/kg	Antimony mg/kg	Arsenic mg/kg	Barium mg/kg	Beryllium mg/kg	Cadmium mg/kg	Chromium mg/kg	Cobalt mg/kg	Copper mg/kg	Molybdenum mg/kg	Nickel mg/kg	Selenium mg/kg	Silver mg/kg	Thallium mg/kg	Vanadium mg/kg	Zinc mg/kg	Comments	
B1	1	6/30/2016	17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	Backfill
B1	3	6/30/2016	9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	Backfill
B1	5	6/30/2016	8.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	Backfill
B2	1	6/30/2016	11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	Backfill
B2	3	6/30/2016	9.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	Backfill
B2	5	6/30/2016	18	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	Backfill
B3	1	6/30/2016	31	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	Backfill
B3	3	6/30/2016	11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	Backfill
B4	1	6/30/2016	8.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	Backfill
B4	3	6/30/2016	19	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	Native Soil
B5	1	6/30/2016	13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	Backfill
B5	3	6/30/2016	11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	Backfill
B5	5	6/30/2016	9.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	Backfill
B-6	1	6/30/2016	14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	Backfill
B-6	3	6/30/2016	14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	Backfill
B-7	1	6/30/2016	10	0.200	ND<0.27	3.7	110	0.21 J	ND<0.25	37	5.8	15	ND<0.5	34	0.57 J	ND<0.10	ND<0.25	40	38	Backfill	
B-7	3	6/30/2016	6.3	0.021	ND<0.27	2.3	73	ND<0.15	ND<0.25	46	5.1	8.9	0.97 J	35	0.31 J	ND<0.10	ND<0.25	30	25	Native Soil	
B-7	5	6/30/2016	9.1	0.086	ND<0.27	3.0	200	0.32	ND<0.25	34	6.2	22	1.1	33	0.49 J	ND<0.099	ND<0.25	44	33	Native Soil	
B-8	1	6/30/2016	16	0.150	ND<0.27	4.0	190	0.35	0.26 J	45	6.5	23	1.2	42	0.72 J	ND<0.099	ND<0.25	58	49	Backfill	
B-8	3	6/30/2016	16	0.120	0.42 J	4.6	180	0.34	ND<0.25	41	7.3	26	1.4	39	0.65 J	ND<0.10	ND<0.25	56	58	Backfill	
B-9	1	6/30/2016	43	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	Backfill
B-9	3	6/30/2016	3.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	Native Soil
B-10	1	6/30/2016	18	0.120	0.38 J	5.7	280	0.5	0.35 J	54	8.4	36	1.8	55	0.81 J	ND<0.099	ND<0.25	81	120	Backfill	
B-10	3	6/30/2016	5.4	0.096	ND<0.27	3.7	85	0.31	ND<0.25	58	7.1	12	ND<0.5	45	0.62 J	ND<0.10	ND<0.25	43	32	Native Soil	
B-10	5	6/30/2016	3.0	0.024	ND<0.27	2.9	55	0.15J	ND<0.25	65	4.9	8.1	ND<0.5	34	0.37 J	ND<0.099	ND<0.25	33	22	Native Soil	
B-11	1	6/30/2016	13	0.120	ND<0.27	4.5	180	0.21 J	ND<0.25	39	6.1	20	0.98J	42	0.58 J	ND<0.099	ND<0.25	52	48	Backfill	
B-11	3	6/30/2016	11	0.110	ND<0.26	3.7	180	0.29	ND<0.25	37	5.8	21	1.1	39	0.56 J	ND<0.098	ND<0.25	48	43	Backfill	
B-11	5	6/30/2016	3.1	0.023	ND<0.26	2.6	68	0.23 J	ND<0.25	45	5.0	7.8	ND<0.49	33	0.38 J	ND<0.099	ND<0.25	30	22	Native Soil	
B-11	7	6/30/2016	2.5	0.057	ND<0.27	2.0	54	0.20 J	ND<0.25	35	4.5	6.9	0.61 J	27	0.26 J	ND<0.10	ND<0.25	28	22	Native Soil	
B-12	1	6/30/2016	18	0.110	ND<0.27	3.6	160	0.26 J	ND<0.25	43	8.9	27	0.66 J	42	0.45 J	ND<0.10	ND<0.25	46	54	Backfill	
B-12	3	6/30/2016	3.1	0.028	ND<0.27	2.6	58	0.3	ND<0.25	31	5.4	7.6	ND<0.5	31	0.29 J	ND<0.099	ND<0.25	27	21	Native Soil	
B-12	5	6/30/2016	3.0	0.120	ND<0.27	2.5	65	0.23 J	ND<0.25	37	5.4	7.9	ND<0.49	32	0.46 J	ND<0.099	ND<0.25	29	23	Native Soil	
B-12	7	6/30/2016	2.6	0.097	ND<0.27	2.2	66	0.21 J	ND<0.25	53	6	7.8	ND<0.5	38	0.42 J	ND<0.099	ND<0.25	40	28	Native Soil	
SFRWQCB																					
Tier 1 ESL			80	13	31	0.067	2,000	42	39	--	23	3,100	390	86	390	390	0.78	390	23,000		

All metals except mercury analyzed by EPA Method 6020  
Mercury analyzed by EPA Method 7471A  
mg/kg = Milligrams per Kilogram  
ND = Not detected  
J = denotes value between method detection limit and detection limit for reporting purposes  
SFRWQCB Tier 1 ESL = San Francisco Regional Water Quality Control Board Tier 1 Environmental Screening Level  
-- = No ESL Established  
--- = Not Analyzed  
J = denotes value between method detection limit and detection limit for reporting purposes  
Detected concentrations are shown in bold type



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## **Table 5**

# **Petroleum Hydrocarbons, Oxygenates and Volatile Organic Compounds (VOCs) in Groundwater**

Table 5. Petroleum Hydrocarbons, Oxygenates and Volatile Organic Compounds (VOCs) in Groundwater  
 Former Red Star Senior Living Apartments Development  
 Michaels Development  
 1396 Fifth Street, Oakland, California

Boring ID	Date Sampled	TPHg (ug/L)	TPHd (ug/L)	TPHo (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl-benzene (ug/L)	Total Xylenes (ug/L)	MTBE (ug/L)	ETBE (ug/L)	DIPE (ug/L)	TAME (ug/L)	TBA (ug/L)	Isopropyl-benzene (ug/L)	N-Propyl-benzene (ug/L)	Styrene (ug/L)	1,2,4-Trimethyl-benzene (ug/L)	1,3,5-Trimethyl-benzene (ug/L)	Comments
GW-4	6/30/2016	<b>1,500</b>	<b>130 J</b>	<b>100 J</b>	ND<1.3	<b>230</b>	<b>3.6</b>	<b>25</b>	ND<1.3	ND<1.3	ND<1.3	ND<1.3	<b>70</b>	<b>2.4 J</b>	<b>7.7</b>	ND<1.3	<b>38</b>	<b>18</b>	
GW-5	6/30/2016	<b>380</b>	<b>200 J</b>	<b>210 J</b>	<b>1.1</b>	<b>30</b>	<b>0.89</b>	<b>7.3</b>	ND<0.25	ND<0.25	ND<0.25	ND<0.25	<b>28</b>	<b>0.72</b>	<b>2.6</b>	<b>0.33 J</b>	<b>18</b>	<b>8.2</b>	
GW-13	6/30/2016	<b>41 J</b>	ND<150	ND<150	ND<0.25	ND<0.25	ND<0.25	ND<1.0	ND<0.25	ND<0.25	ND<0.25	ND<0.25	<b>13</b>	ND<0.25	ND<0.25	ND<0.25	ND<0.25	ND<0.25	
GW-14	6/30/2016	ND<35	<b>130 J</b>	ND<110	ND<0.25	ND<0.25	ND<0.25	ND<1.0	ND<0.25	ND<0.25	ND<0.25	ND<0.25	ND<10	ND<0.25	ND<0.25	ND<0.25	ND<0.25	ND<0.25	
GW-15	6/30/2016	ND<35	ND<110	ND<110	ND<0.25	ND<0.25	ND<0.25	ND<1.0	ND<0.25	ND<0.25	ND<0.25	ND<0.25	ND<10	ND<0.25	ND<0.25	ND<0.25	ND<0.25	ND<0.25	
CA MCL	--	--	--	--	1.0	150	300	1,750	13	--	--	--	--	--	--	100	--	--	
SFRWQCB Tier 1 ESL		100	100	--	1.0	40	13	20	5	--	--	--	12	--	--	10	--	--	
SFRWQCB Tier 2 ESL		440	640	--	1.1	130	13	100	180	--	--	--	18,000	--	--	110	--	--	

Notes:

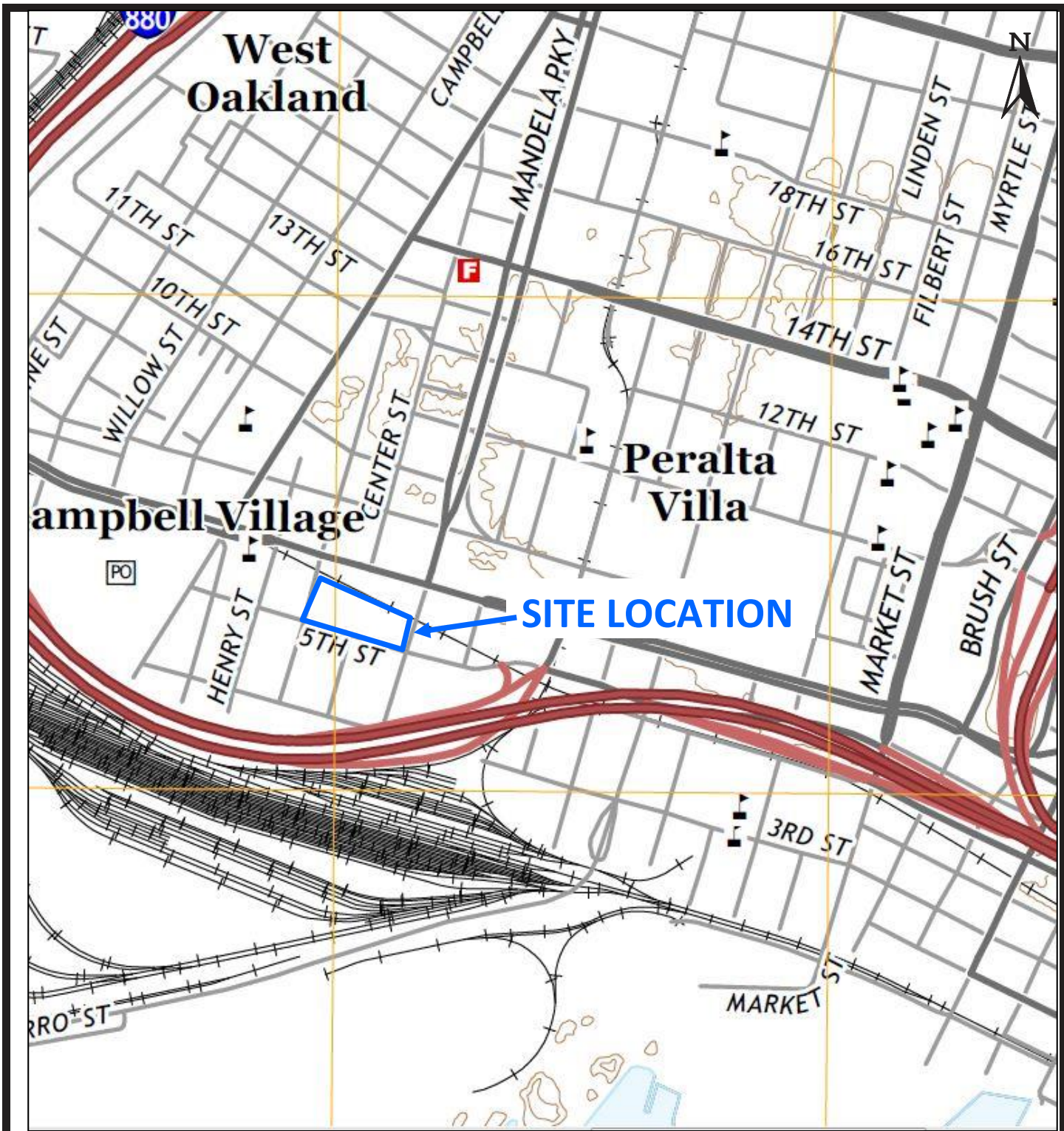
- ug/L = Micrograms per liter
- ND = Not detected
- TPHg = Total petroleum hydrocarbons as gasoline analyzed by EPA Method 8260B
- TPHd = Total petroleum hydrocarbons as diesel by EPA Method 8015B
- TPHo = Total petroleum hydrocarbons as oil by EPA Method 8015B
- Volatile Organic Compounds (VOCs) analyzed by EPA Method 8260B
- MTBE = Methyl tertiary-butyl ether analyzed by EPA Method 8260B
- ETBE = Ethyl tertiary-butyl ether analyzed by EPA Method 8260B
- DIPE = Di-isopropyl ether analyzed by EPA Method 8260B
- TAME = Tertiary-amyl methyl ether analyzed by EPA Method 8260B
- TBA = Tertiary-butyl alcohol analyzed by EPA Method 8260B
- Other VOCs analyzed by EPA Method 8260B
- J = denotes value between method detection limit and detection limit for reporting purposes
- CA MCL = California Maximum Contaminant Levels
- SFRWQCB Tier 1 ESL = San Francisco Regional Water Quality Control Board Tier 1 Environmental Screening Level
- Detected concentrations are shown in bold type
- All other VOCs were Non-Detect
- = No ESL or MCL Established
- Tier 1 ESLs = Using conservative conceptual site model scenario
- Tier 2 ESLs = Using site specific conceptual site model scenario
- Residential land use, non-drinking water source, risk based screening levels, no building slab, shallow groundwater, sandy soil and shallow soil contamination



**CITADEL**  
ENVIRONMENTAL SERVICES, INC.

# Figure 1

## Site Vicinity Map



Source: USGS, Oakland West Quadrangle, 2015, 7.5 Minute Series

N  
  
 Not to Scale



6633 Canoga Avenue,  
 Los Angeles, California

Figure 1

PROJECT NO: 0821.1002.0  
 DATE: JULY 2016

**Site Location Map**

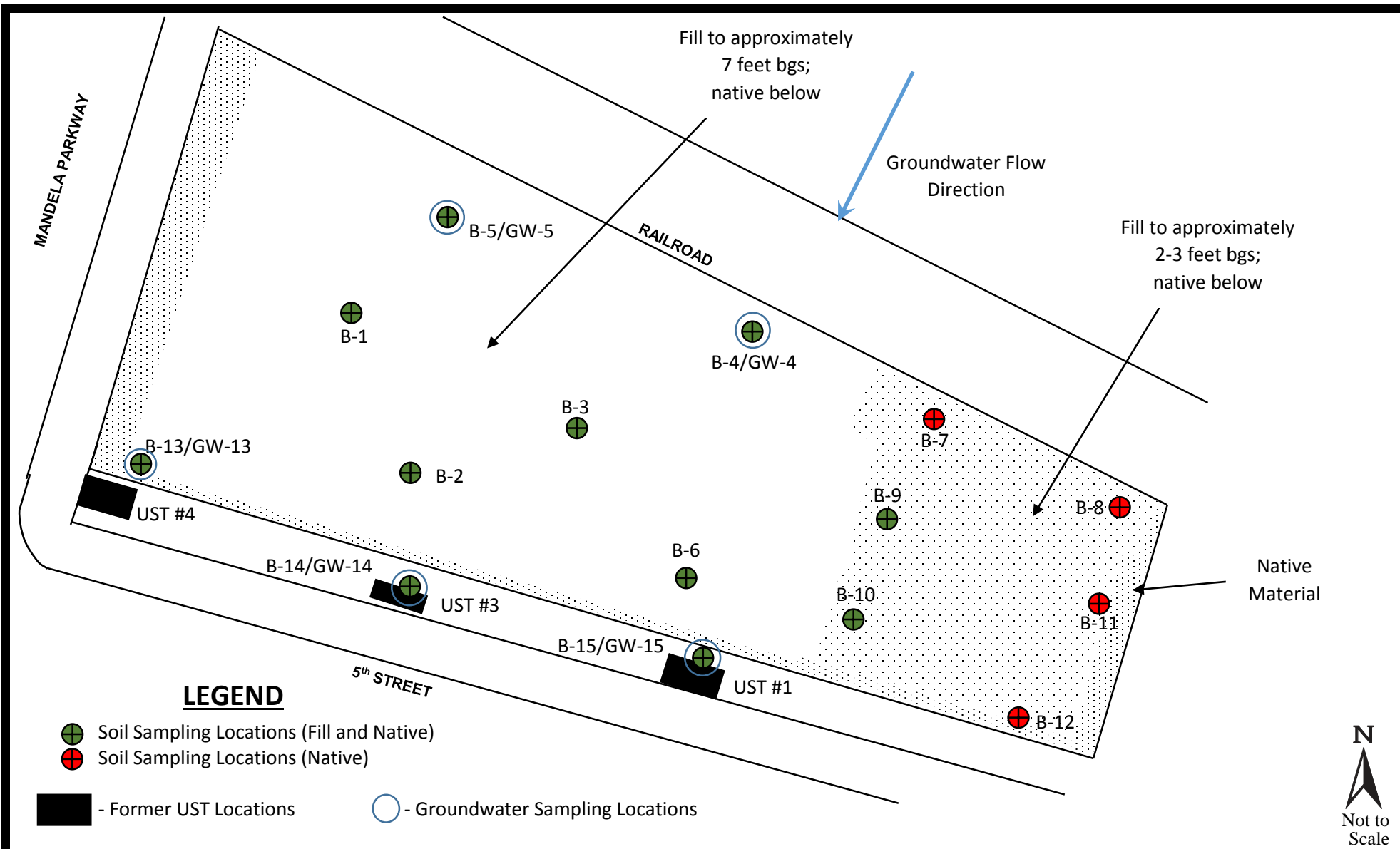




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## **Figure 2**

# **Site Map with Soil Boring and Groundwater Sampling Locations**



**Former Red Star Yeast Company**  
 1396 5<sup>th</sup> Street  
 Oakland, California

Figure 2

PROJECT NO: 0849.1001.0

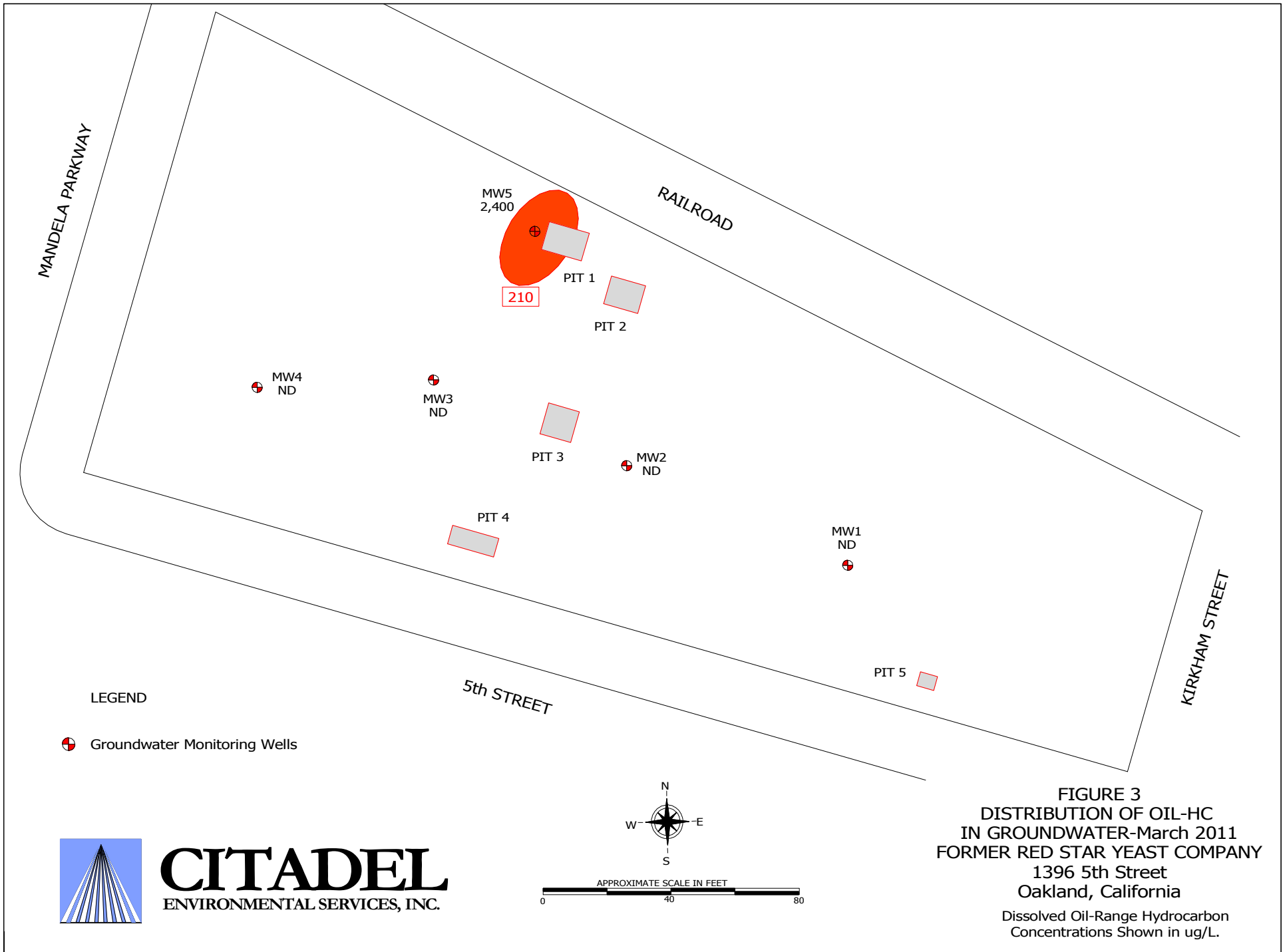
DATE: JULY 2016

**Site Plan with Sampling Locations**



**CITADEL**  
ENVIRONMENTAL SERVICES, INC.

**Figure 3**  
**Distribution of Oil-HC in**  
**Groundwater – March 2011**



MANDELA PARKWAY

RAILROAD

MW5  
2,400

210

PIT 1

PIT 2

MW4  
ND

MW3  
ND

PIT 3

MW2  
ND

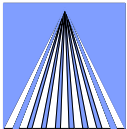
PIT 4

MW1  
ND

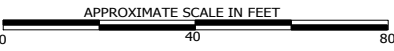
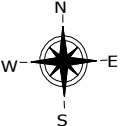
PIT 5

5th STREET

KIRKHAM STREET



**CITADEL**  
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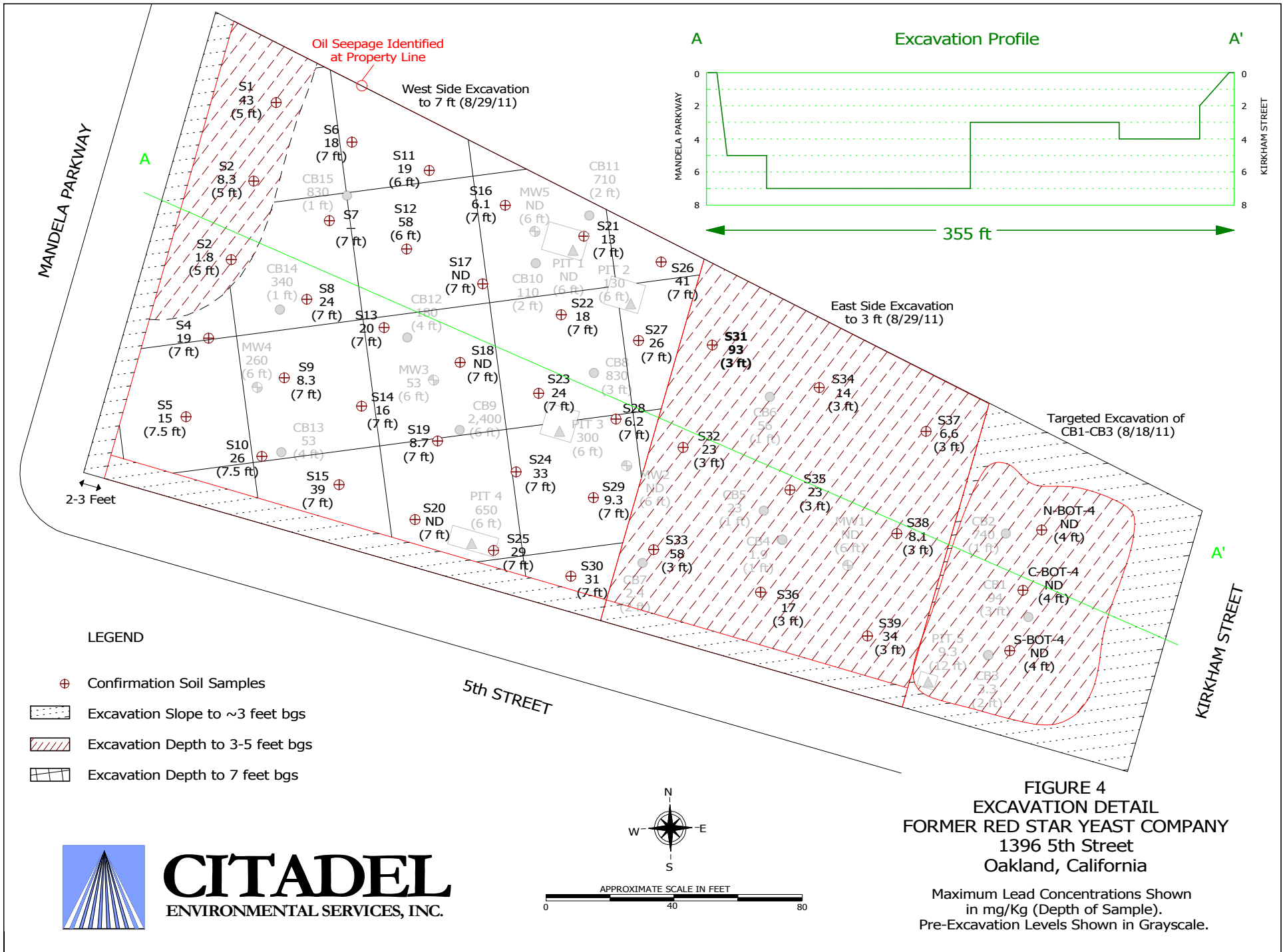
**FIGURE 3**  
DISTRIBUTION OF OIL-HC  
IN GROUNDWATER-March 2011  
FORMER RED STAR YEAST COMPANY  
1396 5th Street  
Oakland, California  
Dissolved Oil-Range Hydrocarbon  
Concentrations Shown in ug/L.



**CITADEL**  
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# Figure 4

## Excavation Detail



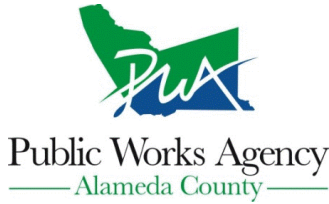


**CITADEL**  
ENVIRONMENTAL SERVICES, INC.

# **Appendix A**

## **Alameda County Well Permit**

# Alameda County Public Works Agency - Water Resources Well Permit



399 Elmhurst Street  
Hayward, CA 94544-1395  
Telephone: (510)670-6633 Fax:(510)782-1939

**Application Approved on: 06/24/2016 By jamesy**

**Permit Numbers: W2016-0438**  
**Permits Valid from 06/28/2016 to 06/28/2016**

**Application Id:** 1466613686741  
**Site Location:** 1396 E. 5th Street  
**Project Start Date:** 06/28/2016  
**Assigned Inspector:** Contact Marcelino Valpando at (510) 670-5760 or Marcelino@acpwa.org

**City of Project Site:**Oakland

**Completion Date:**06/28/2016

**Applicant:** Citadel Environmental Services, Inc. - Jay Schneider  
151 Kalmus Drive, F-4, Costa Mesa, CA 92626  
**Property Owner:** Michaels Development  
2020 West Kettleman Lane, Lodi, CA 95241  
**Client:** \*\* same as Property Owner \*\*  
**Contact:** Jay Schneider

**Phone:** 661-237-3864

**Phone:** 424-225-2781

**Phone:** 661-237-3864  
**Cell:** 818-482-4452

<b>Receipt Number: WR2016-0307</b>	<b>Total Due:</b> \$265.00	
<b>Payer Name : Jay A Schneider</b>	<b>Total Amount Paid:</b> \$265.00	
	Paid By: VISA	<b>PAID IN FULL</b>

**Works Requesting Permits:**

Borehole(s) for Geo Probes-Sampling 24 to 72 hours only - 26 Boreholes  
Driller: National EWP, Inc. - Lic #: 953646 - Method: DP

**Work Total: \$265.00**

**Specifications**

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2016-0438	06/24/2016	09/26/2016	26	2.00 in.	15.00 ft

**Specific Work Permit Conditions**

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site. The containers shall be clearly labeled to the ownership of the container and labeled hazardous or non-hazardous.
2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.
3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.
4. Applicant shall contact assigned inspector listed on the top of the permit at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.
5. Permittee, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no



## Alameda County Public Works Agency - Water Resources Well Permit

case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

6. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of \$500.00.

7. NOTE:

Under California laws, the owner/operator are responsible for reporting the contamination to the governmental regulatory agencies under Section 25295(a). The owner/operator is liable for civil penalties under Section 25299(a)(4) and criminal penalties under Section 25299(d) for failure to report a leak. The owner/operator is liable for civil penalties under Section 25299(b)(4) for knowing failure to ensure compliance with the law by the operator. These penalty provisions do not apply to a potential buyer.

8. Prior to any drilling activities onto any public right-of-ways, it shall be the applicants responsibilities to contact and coordinate a Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits required for that City or to the County and follow all City or County Ordinances. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County a Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

9. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.

---



**CITADEL**  
ENVIRONMENTAL SERVICES, INC.

# **Appendix B**

## **Health and Safety Plan**



assess  
resolve  
strengthen

**CITADEL** ENVIRONMENTAL SERVICES, INC.

**Michaels Development**  
2020 W. Kettleman Lane  
P. O. Box 1570  
Lodi, California 95241

## **Health and Safety Plan**

May 9, 2016

Citadel Project Number 0849.1001.0

Former Red Star Senior Living Apartments Development  
1396 Fifth Street  
Oakland, California 94607

**[www.citadelenvironmental.com](http://www.citadelenvironmental.com)**

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## **1.0 SITE DESCRIPTION**

Citadel Environmental Services, Inc., (Citadel) has prepared this Health and Safety Plan (HASP) for use during soil and groundwater sampling activities to be conducted at 1396 Fifth Street, Oakland, California (Site). Activities conducted under Citadel's direction at the Site will be in compliance with applicable Occupational Safety and Health Administration (OSHA) regulations, particularly those in Title 8 California Code of Regulations (CCR) 5192, and other applicable federal, state, and local laws, regulations, and statutes. A copy of this HASP will be kept onsite during scheduled field activities.

## **2.0 BACKGROUND**

The Site is identified in the County of Alameda as Assessor's Parcel Number 004-69-004. The Site totals approximately 0.88 acres and is an irregular shaped parcel of land situated along the north side of Fifth Street, between Mandela Parkway to the east, and Kirkham Street to the west. An elevated BART track is situated along the northern boundary of the Site. The Site is currently comprised of vacant land.

Historically, the Site has been developed and occupied by yeast manufacturing, vinegar production, and various brewery operations from at least 1880. Environmental concerns identified at the Site have included above ground and underground fuel tanks, the use of various chemicals with several documented releases, and an unauthorized release of mercury to the sewer system with apparent impacts to the subsurface soil. A major fire occurred at the Site in 2012 significantly damaging the structure and surrounding properties. The remaining structure consisting of a concrete podium to be used for parking and building support was removed in April 2016.

Groundwater samples were collected from five temporary monitoring wells (MW1-MW-5) installed across the Site during a subsurface investigation by Citadel in 2010; none of the samples had detectable areas of VOCs SVOCs, gasoline range TPH or diesel range TPH, the sample from MW-5 had oil-range hydrocarbons at a concentration of 2,400 micrograms per liter ( $\mu\text{g/L}$ ), which exceeded the San Francisco Regional Water Quality Control Board's (SFRWQCB) Environmental Screening Level of 210  $\mu\text{g/L}$ .

In mid-August 2011, Advent Companies, the general contractor for the project, initiated the excavation program at the Site. Confirmation soil samples collected during the excavation indicated that lead was present at a concentration of 93 milligrams per kilogram (mg/kg) in sample S31-3 collected at three feet below grade from the east side of the Site, which exceeded the Office of Environmental Health Hazard assessment's (OEHHA) Soil Screening Level (SSL) of 80 mg/kg for residential scenarios. The source and types of quality control used for backfilling the excavation appear to be unknown. Additional soil sampling is necessary to verify that the imported fill material is suitable for the Site.

On November 29, 2011 soil was excavated by Sequoia Construction and Development, Inc., (Sequoia) from above and along the sides of the USTs (see Figure 3 for UST locations) to expose their tops and walls in preparation for removal. The volumes for the USTs were determined visually and were reportedly 250 gallons (UST No 1), 2,500 gallons (UST No. 3) and 10,000 gallons (UST No. 4). Suspected UST No. 2 was found to be a disconnected standpipe. No associated structure for this standpipe was located. UST Nos. 1 and 3 were removed and transported off-site for recycling. The condition of both USTs were fair with no observable holes, significant corrosion or scaling evident. UST No. 4 was filled with a concrete slurry and sealed prior to being closed in-place. Analysis of soil samples after abandonment/removal of the USTs indicated TPH at concentrations of 9, 37, and 31 mg/kg, in soil samples collected in the vicinity of UST No.1, UST No.2, and UST No.3, respectively.

The purpose of this Investigation is to characterize the fill material used by Advent Companies to backfill the excavation in 2011, and assess current soil and groundwater conditions at the Site.

### **3.0 SAFETY POLICY**

Safety will be given primary importance in the planning and operation of this project. It is the policy of Citadel to conform to current OSHA standards in construction and local government agency requirements having authority over the project as regards to Citadel employees, subcontractors and public safety.

Each subcontracting firm will assume primary responsibility for the safety of their own work in regards to their employees and other persons. Subcontractors will assume the duty to comply with OSHA, and all other federal, state and local regulations. Their HASP must be as stringent as that for Citadel.

The subcontractors work will be monitored by Citadel project managers for implementation of the Citadel HASP, while adhering to their own safety program. Citadel will retain the authority and power to enforce this HASP during the progress of the work. Any deficiencies in safe work practices will be brought to the attention of the subcontractor firm's supervisor for immediate corrective action. If the subcontractor fails or refuses to take corrective action promptly a stop work order shall be issued and the subcontractor or the subcontractor employee may be removed from the project.

### **4.0 WORK DESCRIPTION**

Citadel will collect groundwater grab samples (GW-1. GW-2. GW-3) in the vicinity of the UST abandoned in place and each of the two USTs formerly located at the Site. One groundwater grab sample (GW-4) will be collected in the vicinity of former monitoring well five (MW-5) located in the northwestern section of the Site. Groundwater in each boring will be collected using a factory-cleaned disposable bailer. The bailer will be lowered into the water column until the bailer is submerged. Samples will be collected in one liter amber glass bottles and Teflon septum-sealed 40 milliliter glass vials with hydrochloric acid as a preservative.

Citadel will advance soil borings across the Site (SB-1 through SB-4) using a hand auger or equivalent method. The borings will be advanced to a depth of seven feet below ground surface (bgs), and soil samples will be collected at one, three, five, and seven feet bgs. Soil samples will also be collected at the groundwater sampling location GW-4 at three, five, and seven feet bgs. The soil borings will be logged in the field and screened with a PID for the presence of VOCs. Soil samples will be collected in stainless steel or brass sleeves sealed with Teflon tape and airtight plastic caps.

Citadel will collect continuous cores at four locations across the Site for geologic characterization of the fill and native material at the Site, and identification of potential impacts to subsurface soil due to past releases.

Hazards that may be associated with the project include heavy and rotating equipment, hand augering equipment, and soil, soil vapor, and groundwater potentially impacted with volatile organic compounds (VOCs) and lead.

### **5.0 KEY PROJECT PERSONNEL AND RESPONSIBILITIES**

Project Manager	Mark Drollinger (Citadel)
SSO/Project Monitor	Citadel Personnel TBD
Subcontractor Personnel	Drilling Subcontractor Laboratory Personnel
Site Representative	Michael Boettger, Michaels Development Alameda County Environmental Health City of Oakland

## **PROJECT MANAGER**

The Project Manager has the ultimate responsibility for the health and safety of personnel at the Site. The Project Manager is responsible for:

- Ensuring that project personnel review and understand the requirements of this HASP;
- Keeping on-site personnel, including subcontractors, informed of the expected hazards and appropriate protective measures at the Site; and
- Providing resources necessary for maintaining a safe and health work environment.

## **SITE SAFETY OFFICER/PROJECT MONITOR**

The SSO is responsible for enforcing the requirements of this HASP once site work begins. The SSO has the authority to immediately correct situations where noncompliance with this HASP is noted and to immediately stop work in cases where an immediate danger to site workers or the environment is perceived. Responsibilities of the SSO also include:

- Obtaining and distributing PPE and air monitoring equipment necessary for this project;
- Limiting access at the Site to authorized personnel;
- Communicating unusual or unforeseen conditions at the Site to the Project Manager;
- Supervising and monitoring the safety performance of site personnel to evaluate the effectiveness of health and safety procedures and correct deficiencies;
- Conducting daily tailgate safety meetings before each day's activities begin; and
- Conducting a site safety inspection prior to the commencement of each day's field activities.

## **SUBCONTRACTOR PERSONNEL**

Subcontractor personnel are expected to comply with the minimum requirements specified in this HASP. Failure to do so may result in the dismissal of the subcontractor or any of the subcontractor's workers from the job site. Subcontractors may employ health and safety procedures that afford them a greater measure of personal protection than those specified in this plan as long as they do not pose additional hazards to themselves, the environment, or others working in the area.

## **6.0 SITE CONTROL MEASURES**

The SSO or Project Manager has been designated to coordinate access and security on site.

## **7.0 STANDARD OPERATING PROCEDURES**

### **GENERAL SAFETY**

- Maintain good housekeeping at all times in all project work areas.
- Check the work area to determine what problems or hazards may exist.

- Designate specific areas for the proper storage of materials.
- Store tools, equipment, materials, and supplies in an orderly manner.
- Provide containers for collecting trash and other debris.
- Clean up all spills quickly.
- Report unsafe conditions or unsafe acts to your supervisor immediately.
- Report all occupational illnesses, injuries, and vehicle accidents.
- Do not wear loose clothing, wristwatches, and other loose accessories when within arm's reach of moving machinery.
- Emergency exits and evacuation areas should be clearly marked during work activities.
- Personnel fall protection is required when climbing to perform maintenance six feet or higher above ground.
- Inspect hand tools and use proper PPE.
- Ensure proper grounding and guarding of equipment.
- Keep hands and fingers out of pinch points.
- Use good ergonomic posturing when working with heavy items.

**HAZARD EVALUATION**

The following substances are known or suspected to be on site. The primary hazards of each are identified as follow:

<u>Substances</u>	<u>Concentration</u>	<u>Primary Hazards</u>
<u>VOCs</u>	<u>various</u>	<u>ingestion, inhalation, skin</u>
<u>Lead</u>	<u>various</u>	<u>ingestion, inhalation, skin</u>

**COMMUNICATION PROCEDURES**

Due to the close proximity of all field crew members the necessity for radio communication is not necessary.

The following standard hand signals will be used:

- Hand drawn across throat ..... Cease operation immediately
- Hand gripping throat.....Out of air, can't breathe
- Grip partner's wrist or both hands around waist.....Leave area immediately
- Hands on top of head..... Need assistance
- Thumbs up.....OK, I am alright, understood
- Thumbs down..... No, negative

**FIELD VEHICLES**

- Equip vehicles with emergency supplies and equipment.
- Maintain both a first aid kit and fire extinguisher in the field vehicle at all times.
- Utilize a rotary beacon on vehicle if working adjacent to active roadway.
- Always wear seatbelt while operating vehicle.
- Tie down loose items.

**MANUAL LIFTING**

- Personnel shall seek assistance when performing manual lifting tasks that appear beyond their physical capabilities.
- Assess the situation before lifting, ensure good lifting and body positioning practices, and ensure good carrying and setting down practices.



## HEAT EXPOSURE

- Limit exposure to the sun, or take extra precautions when the UV index rating is high.
- Take lunch and breaks in shaded areas.
- Create shade by using umbrellas, tents, and canopies.
- Wear proper clothing: long sleeved shirts with collars, long pants, and UV-protective sunglasses or safety glasses.
- Apply sunscreen generously to all exposed skin surfaces at least 20 minutes before exposure. Re-apply sunscreen at least every 2 hours, and more frequently when sweating or performing activities where sunscreen may be wiped off.
- Communicate any concerns regarding heat stress to a supervisor.
- Keep hydrated throughout the day (about 4 cups per hour).
- OSHA's Heat Index:

Heat Index	Risk Level	Protective Measures
Less than 91°F	Lower (Caution)	Basic heat safety and planning
91°F to 103°F	Moderate	Implement precautions and heighten awareness
103°F to 115°F	High	Additional precautions to protect workers
Greater than 115°F	Very High to Extreme	Triggers even more aggressive protective measures

**Utilities (Under Ground and Above Ground):** Low Hazard. Utilities have been cleared during a geophysical survey.

**Biological Hazards:** Low to medium Hazard. Beware of spiders, insects and other possible animals.

**Site Instability:** Low to medium Hazard. The Site will be inspected prior to equipment placement and closely monitored. Any settling of the equipment will cause the work to stop immediately.

**Equipment Refueling:** Low Hazard. Equipment shall not be refueled with the engine running. Cigarettes, open flames, or other ignition sources are not allowed within 50 feet of the fueling location.

**Personnel Injury:** Upon notification of an injury the Project Field Leader should evaluate the nature of the injury, and the affected person should be decontaminated to the extent possible prior to movement. The Project Field Leader shall initiate the appropriate first aid, and contact should be made for an ambulance and with the designated medical facility (if required).

**Fire/Explosion:** The fire department shall be alerted and all personnel moved to a safe distance from the involved area.

**Other Equipment Failure:** If any other equipment on site fails to operate properly, the Project Team Leader shall be notified and then determine the effect of this failure on continuing operations on site. If the failure affects the safety of personnel or prevents completion of the Work Plan tasks, work will cease until the situation is evaluated and appropriate actions taken.

## **8.0 PERSONAL PROTECTIVE EQUIPMENT**

The purpose of PPE is to protect employees from hazards and potential hazards they are likely to encounter during site activities. The amount and type of PPE used will be based on the nature of the hazard encountered or anticipated. Respiratory protection will be utilized when an airborne hazard has been identified using real-time air monitoring devices, or as a precautionary measure in areas

designated by the SSO, elevating to level C. If this occurs, contractor personnel shall be respirator-approved.

Dermal protection, primarily in the form of chemical-resistant gloves and coveralls, will be worn whenever contact with chemically affected materials (e.g. soils, groundwater, sludge) is anticipated, without regard to the level of respiratory protection required.

Based on evaluation of potential hazards, the following levels of personal protection have been designated for the applicable work areas or tasks:

<u>Location</u>	<u>Job Function</u>	<u>Level of Protection</u>
Controlled Area	All workers	A B C <b>D</b> Other

Specific protective equipment for each level of protection is as follows:

**Level A**

Fully-encapsulating suit  
SCBA  
  
Disposable coveralls

**Level C**

Splash gear  
Half-face canister respirator with H<sub>2</sub>S/VOC cartridge  
Mouth/nose canister respirator  
Efficiency 100 (HEPA)

**Level B**

Splash gear  
SCBA

**Level D**

Hard hat  
Ear plugs  
Neoprene or leather gloves - nitrile gloves  
Safety vests and Glasses  
Hard toe boots

NO CHANGES TO THE SPECIFIED LEVELS OF PROTECTION SHALL BE MADE WITHOUT THE APPROVAL OF THE SSO OR PROJECT MANAGER.

**9.0 DECONTAMINATION PROCEDURES**

Despite protective procedures, personnel may come in contact with potentially hazardous compounds while performing work tasks. If so, decontamination needs to take place using an Alconox or tri-sodium phosphate (TSP), followed by a rinse with clean water. Standard decontamination procedure for levels C and D are as follows:

- Equipment drop
- Boot cover and outer glove wash and rinse
- Boot cover and out glove removal
- Suit wash and rinse
- Suit removal
- Safety boot wash and rinse
- Inner glove wash and rinse
- Respirator removal
- Inner glove removal
- Field wash of hands and face

Workers should employ only applicable steps in accordance with level of PPE worn and extent of contamination present. The SSO shall maintain adequate quantities of clean water to be used for personal decontamination (i.e. field wash of hands and face) whenever a suitable washing facility is not located in the immediate vicinity of the work area. Disposable items will be disposed of in an appropriate container. Wash and rinse water generated from decontamination activities will be handled and disposed of properly. Non-disposable items may need to be sanitized before reuse. Each site worker is responsible for the maintenance, decontamination, and sanitizing of his/her own PPE.

Used equipment may be decontaminated as follows:

- An Alconox or TSP and water solution will be used to wash the equipment.
- The equipment will then be rinsed with clean water.

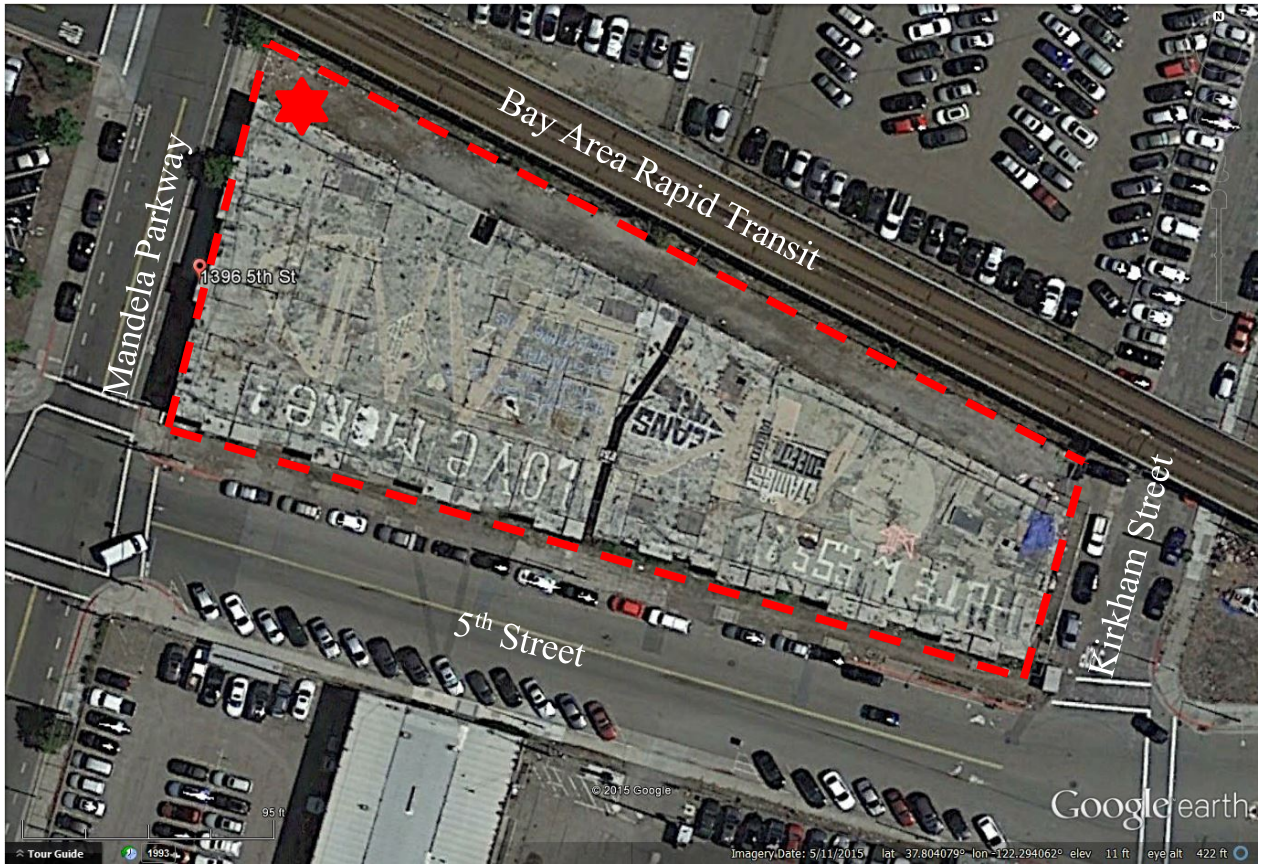
Each person must follow these procedures to reduce the potential for transferring chemically affected materials offsite.



## **10.0 EMERGENCY PROCEDURES**

In the event of an emergency, site personnel will signal distress with three blasts of a horn (a vehicle horn will be sufficient), or other predetermined signal. Communication signals, such as hand signals, must be established where communication equipment is not feasible or in areas of loud noise.

The SSO will designate evacuation routes and refuge areas to be used in the event of an emergency. Site personnel will stay upwind from vapors or smoke and upgradient from spills. Workers should exit through the established decontamination areas wherever possible. If evacuation cannot be done through an established decontamination area, site personnel will go to the nearest safe location and remove contaminated clothing there. Personnel will assemble at the predetermined refuge following evacuation and decontamination. The SSO will count and identify site personnel to verify that all personnel have been evacuated safely. Please refer to Figure 1.0 for the evacuation route and refuge location.

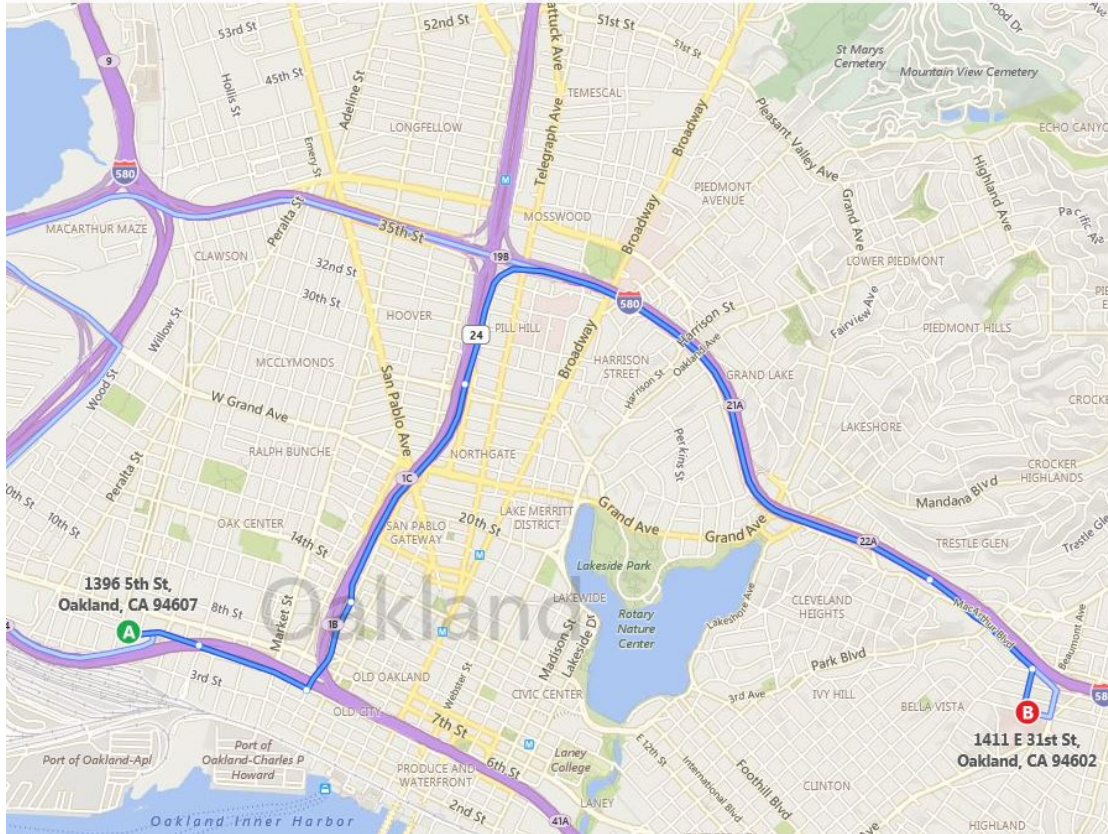
FIGURE 1.0 – EVACUATION ROUTE AND REFUGE AREAS



 = Approximate Site Boundaries       = Refuge Areas



The designated medical facility is:  
 Highland Hospital  
 1411 E 31st St  
 Oakland, CA 94602  
 Tel: (510) 437 4865



**Directions:**

- Depart 5th St toward Kirkham St (east) 0.3 mi
- Take ramp on right for I-880 South toward Alameda/Broadway 0.4 mi
- Turn left onto Castro St 0.4 mi
- Take ramp left for I-980 East toward San Francisco/Walnut Creek 1.0 mi
- Take ramp right for I-580 East toward Hayward 2.6 mi
- At exit 22, take ramp right for MacArthur Blvd towards Park Blvd 0.5 mi
- Turn right on Stuart St 0.2 mi
- Turn left onto 31st St 95 ft
- Arrive at 1411 E 31st St

Local ambulance service is available from:

Name	Local Paramedics
Phone	911

First-aid equipment is available in the SSO's vehicle.

List of emergency phone numbers:

<u>Agency/Facility</u>	<u>Phone#</u>
Police	911



Fire

911

Hospital

(510) 437 4865

This HASP has been prepared by:

**Roopal Jani**

Digitally signed by Roopal Jani  
DN: cn=Roopal Jani, o=Citadel Environmental  
Services, ou,  
email=rjani@citadelenvironmental.com, c=US  
Date: 2016.07.28 18:26:17 -07'00'

Roopal Jani  
Staff Geologist

Reviewed by:

**Mark Drollinger**

Digitally signed by Mark Drollinger  
DN: cn=Mark Drollinger, o=Citadel Environmental  
Services, ou,  
email=mdrollinger@citadelenvironmental.com, c=US  
Date: 2016.07.28 18:26:36 -07'00'

Mark Drollinger, M. Eng., CSP, CHMM, EIT  
Director, Environmental Geology and Engineering


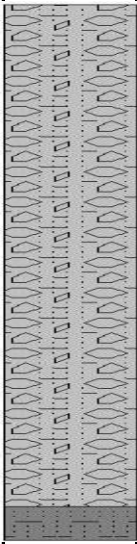



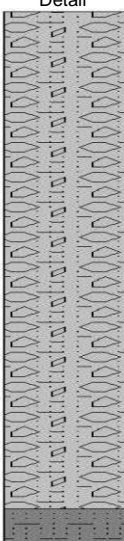




# Appendix C



## Boring Logs






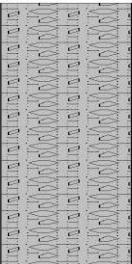
Boring I.D. B-1		Project No. 0849.1001.0		Project Red Star							
Location 1396 5th St., Oakland, CA				Logged By: JS							
Drilling Method Direct Push		Driller Woodward Drilling		Checked By: MP							
Drilling Date 6/30/2016		Start Time 925		Completion Time 940		Backfilling Bentonite Grout		Total Depth 8'		Depth to Native 7.5'	
Depth (feet)	Time	Sample Type	Sample I.D.	PID (ppm)	Blow Count	USCS	Lithology				Lithologic Detail
1	930	acetate sleeve	B1, 1'	1.0		GM	Silty sandy GRAVEL fill. 10 YR 5/1. Gray. Damp.				
2											
3	934	acetate sleeve	B1, 3'	1.8		GM	As above.				
4											
5	935	acetate sleeve	B1, 5'	2.1		GM	As above. Very moist				
6											
7											
8	940	acetate sleeve	B1, 8'	0.4		ML	Silt/very fine sand. 5Y 3/1. Very dark gray. Very moist.				
9											
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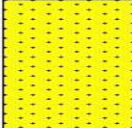

Boring I.D. B-2		Project No. 0849.1001.0		Project Red Star							
Location 1396 5th St., Oakland, CA				Logged By: JS							
Drilling Method Direct Push		Driller Woodward Drilling		Checked By: MP							
Drilling Date 6/30/2016		Start Time 945		Completion Time 1000		Backfilling Bentonite Grout		Total Depth 8'		Depth to Native 7.5'	
Depth (feet)	Time	Sample Type	Sample I.D.	PID (ppm)	Blow Count	USCS	Lithology				Lithologic Detail
1	945	acetate sleeve	B2, 1'	0.3		GM	Silty sandy GRAVEL fill. 10 YR 5/1. Gray. Damp.				
2											
3	949	acetate sleeve	B2, 3'	0		GM	As above.				
4											
5	953	acetate sleeve	B2, 5'	0.1		GM	As above.				
6											
7											
8	959	acetate sleeve	B2, 8'	0.2		ML	Silt/very fine sand. 7.5YR 4/6. Strong brown. Very moist.				
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25											


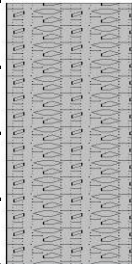
Boring I.D. B-3		Project No. 0849.1001.0		Project Red Star							
Location 1396 5th St., Oakland, CA				Logged By: JS							
Drilling Method Direct Push		Driller Woodward Drilling		Checked By: MP							
Drilling Date 6/30/2016		Start Time 1430		Completion Time 1520		Backfilling Bentonite Grout		Total Depth 7'		Depth to Native. 6'	
Depth (feet)	Time	Sample Type	Sample I.D.	PID (ppm)	Blow Count	USCS	Lithology				Lithologic Detail
1	1434	acetate sleeve	B3, 1'	1.9		GM	Silty sandy GRAVEL fill. 7.5 YR 3/3. Dark brown. Damp.				
2											
3	1437	acetate sleeve	B3, 3'	7.4		GM	Silty sandy GRAVEL fill. 2.5 Y 3/2. Very dark grayish brown. Damp.				
4											
5	1441	acetate sleeve	B3, 5'	5.3		GM	As above.				
6											
7	1519	acetate sleeve	B3, 7'	4.5		ML	Silt/very fine sand. 10R 2.5/1. Black. Very moist.				
8											
9											
10											
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Boring I.D. B-4		Project No. 0849.1001.0		Project Red Star							
Location 1396 5th St., Oakland, CA				Logged By: JS							
Drilling Method Direct Push		Driller Woodward Drilling		Checked By: MP							
Drilling Date 6/30/2016		Start Time 805		Completion Time 820		Backfilling Bentonite Grout		Total Depth 12'		Depth to Native 1.5'	
Depth (feet)	Time	Sample Type	Sample I.D.	PID (ppm)	Blow Count	USCS	Lithology				Lithologic Detail
1	805	acetate sleeve	B4, 1'	0.0		GM	Silty sandy GRAVEL fill. 10 YR 5/1. Gray. Damp.				
2											
3	810	acetate sleeve	B4, 3'	0.0		CH	Clay, soft, high plasticity. GLEY 1 2.5/N. Black. Moist				
4											
5	815	acetate sleeve	B4, 5'	0.0		ML	Very fine sand. Reddish brown. 2.5 YR 4/3. Moist.				
6											
7	820	acetate sleeve	B4, 7'	0.0		ML	Very fine sand. Strong brown 7.5 YR 4/6. Moist.				
8											
9											
10											
11											
12						ML	As above. Wet.				
13											
14											
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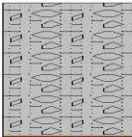


Boring I.D. B-5		Project No. 0849.1001.0		Project Red Star							
Location 1396 5th St., Oakland, CA				Logged By: JS							
Drilling Method Direct Push		Driller Woodward Drilling		Checked By: MP							
Drilling Date 6/30/2016		Start Time 730		Completion Time 800		Backfilling Bentonite Grout		Total Depth 12'		Depth to Native 7 feet	
Depth (feet)	Time	Sample Type	Sample I.D.	PID (ppm)	Blow Count	USCS	Lithology				Lithologic Detail
1	805	acetate sleeve	B5, 1'	0.0		GM	GRAVEL fill, with silt and sand. Very dark grayish olive. 10Y-5GY 3/2. Damp				
2											
3	810	acetate sleeve	B5, 3'	0.0		GM	GRAVEL fill, with silt and sand. Very dark grayish olive. 10Y-5GY 3/2. Damp				
4											
5	815	acetate sleeve	B5, 5'	0.0		GM	GRAVEL fill, with silt and sand. Very dark grayish olive. 10Y-5GY 3/2. Damp				
6											
7	820	acetate sleeve	B5, 7'	0.0		CH	Clay, soft, high plasticity. Black. GLEY 1 2.5/N. Moist.				
8											
9											
10											
11											
12						CH	As above. Wet.				
13											
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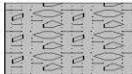


Boring I.D. B-6		Project No. 0849.1001.0		Project Red Star							
Location 1396 5th St., Oakland, CA				Logged By: JS							
Drilling Method Direct Push		Driller Woodward Drilling		Checked By: MP							
Drilling Date 6/30/2016		Start Time 1445		Completion Time 1500		Backfilling Bentonite Grout		Total Depth 5'		Depth to Native >5'	
Depth (feet)	Time	Sample Type	Sample I.D.	PID (ppm)	Blow Count	USCS	Lithology				Lithologic Detail
1	1446	acetate sleeve	B6, 1'	6.6		GM	Silty sandy GRAVEL fill. Dense. Very dark grayish brown. 2.5 Y 3/2. Damp.				
2											
3	1449	acetate sleeve	B6, 3'	10.7		GM	As above. Moist.				
4											
5							Refusal.				
6											
7											
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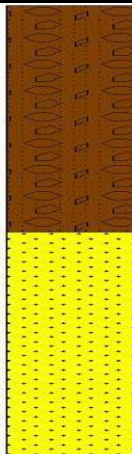
Boring I.D. B-7		Project No. 0849.1001.0		Project Red Star							
Location 1396 5th St., Oakland, CA				Logged By: JS							
Drilling Method Direct Push		Driller Woodward Drilling		Checked By: MP							
Drilling Date 6/30/2016		Start Time 1615		Completion Time 1625		Backfilling Bentonite Grout		Total Depth 7'		Depth to Native 2'	
Depth (feet)	Time	Sample Type	Sample I.D.	PID (ppm)	Blow Count	USCS	Lithology				Lithologic Detail
1	1615	acetate sleeve	B7, 1'	0.6		GM	GRAVEL with sand fill. Dark yellowish brown. 10 YR 4/4. Damp.				
2											
3	1620	acetate sleeve	B7, 3'	0.6		SP	Poorly-graded SAND. Fine to medium-grained. Dark yellowish brown. 10 YR 4/4. Damp.				
4											
5	1623	acetate sleeve	B7, 5'	0.4		SW	Well-graded SAND with fine gravel. Brown. 7.5 YR 4/2. Very moist.				
6											
7							No recovery.				
8											
9											
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19											
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24											
25											


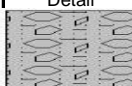

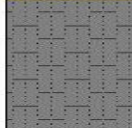

Boring I.D. B-8		Project No. 0849.1001.0		Project Red Star							
Location 1396 5th St., Oakland, CA				Logged By: JS							
Drilling Method Direct Push		Driller Woodward Drilling		Checked By: MP							
Drilling Date 6/30/2016		Start Time 1625		Completion Time 1640		Backfilling Bentonite Grout		Total Depth 5'		Depth to Native >5'	
Depth (feet)	Time	Sample Type	Sample I.D.	PID (ppm)	Blow Count	USCS	Lithology				Lithologic Detail
1	1630	acetate sleeve	B8, 1'	0.3		GM	GRAVEL with sand fill. Gray. 7.5 YR 5/1. Damp.				
2											
3	1631	acetate sleeve	B8, 3'	0.6		GM	As above. Damp				
4											
5							Refusal.				
6											
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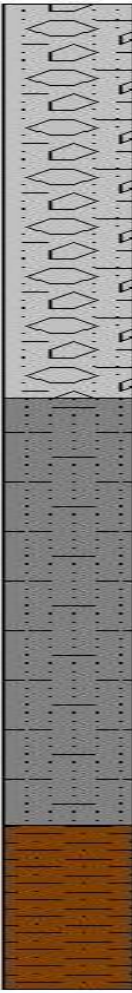
Boring I.D. B-9		Project No. 0849.1001.0		Project Red Star							
Location 1396 5th St., Oakland, CA				Logged By: JS							
Drilling Method Direct Push		Driller Woodward Drilling		Checked By: MP							
Drilling Date 6/30/2016		Start Time 1544		Completion Time 1610		Backfilling Bentonite Grout		Total Depth 5'		Depth to Native 3'	
Depth (feet)	Time	Sample Type	Sample I.D.	PID (ppm)	Blow Count	USCS	Lithology				Lithologic Detail
1	1544	acetate sleeve	B9, 1'	3.1		SW	Well-graded SAND with fine gravel fill. Dark gray 10 YR 4/1. Damp.				
2											
3	1545	acetate sleeve	B9, 3'	0.5		CL	CLAY with silt and sand. Plastic. Brown. 7.5 YR 5/4. Moist.				
4											
5	1553	acetate sleeve	B9, 5'	0.6		SP	Poorly-graded, fine-grained SAND. Brown. 7.5 YR 5/4. Moist.				
6											
7											
8											
9											
10											
11											
12											
13											
14											
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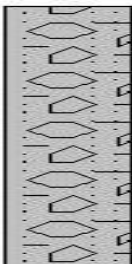

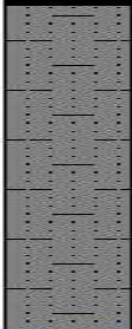
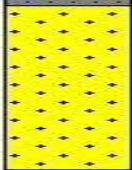
Boring I.D. B-10		Project No. 0849.1001.0		Project Red Star							
Location 1396 5th St., Oakland, CA				Logged By: JS							
Drilling Method Direct Push		Driller Woodward Drilling		Checked By: MP							
Drilling Date 6/30/2016		Start Time 1535		Completion Time 1544		Backfilling Bentonite Grout		Total Depth 5'		Depth to Native 3'	
Depth (feet)	Time	Sample Type	Sample I.D.	PID (ppm)	Blow Count	USCS	Lithology				Lithologic Detail
1	1536	acetate sleeve	B10, 1'	1.1		GM	Silty, sandy GRAVEL fill. Gray. 10 YR 5/1. Damp.				
2											
3	1539	acetate sleeve	B10, 3'	0.3		CL	CLAY with silt and sand. Slightly plastic. Brown. 7.5 YR 5/4. Moist.				
4											
5	1544	acetate sleeve	B10, 5'	0.4		SP	Poorly-graded, fine-grained SAND. Brown. 7.5 YR 5/4. Moist.				
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											

Boring I.D. B-11		Project No. 0849.1001.0		Project Red Star							
Location 1396 5th St., Oakland, CA				Logged By: JS							
Drilling Method Direct Push		Driller Woodward Drilling		Checked By: MP							
Drilling Date 6/30/2016		Start Time 1640		Completion Time 1655		Backfilling Bentonite Grout		Total Depth 7'		Depth to Native 3.5'	
Depth (feet)	Time	Sample Type	Sample I.D.	PID (ppm)	Blow Count	USCS	Lithology				Lithologic Detail
1	1644	acetate sleeve	B11, 1'	2.2		SW	Well-graded SAND with fine gravel. Fill. Dark grayish brown 10 YR 4/2.				
2											
3	1645	acetate sleeve	B11, 3'	1.3		SW	As above				
4											
5	1650	acetate sleeve	B11, 5'	2.1		SP	Fine-grained, poorly-graded SAND. Strong brown. 7.5 YR 4/6.				
6											
7	1651	acetate sleeve	B11, 7'	1.1		SP	As above				
8											
9											
10											
11											
12											
13											
14											
15											
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18											
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20											
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23											
24											
25											

Boring I.D. B-12		Project No. 0849.1001.0		Project Red Star				
Location 1396 5th St., Oakland, CA				Logged By: JS				
Drilling Method Direct Push		Driller Woodward Drilling		Checked By: MP				
Drilling Date 6/30/2016		Start Time 1655		Completion Time 1705		Backfilling Bentonite Grout	Total Depth 7'	Depth to Native 2.5'
Depth (feet)	Time	Sample Type	Sample I.D.	PID (ppm)	Blow Count	USCS	Lithology	Lithologic Detail
1	1658	acetate sleeve	B12, 1'	1.1		GM	Gravel with sand and silt. Fill. Dark gray 7.5 YR 4/1. Damp.	
2								
3	1659	acetate sleeve	B12, 3'	1.4		SP	Fine-grained poorly-graded SAND. Strong brown. 7.5 YR 4/6. Damp.	
4								
5	1702	acetate sleeve	B12, 5'	1.8		ML	Very fine-grained SAND. Strong brown. 7.5 YR 4/6. Moist.	
6								
7	1703	acetate sleeve	B12, 7'	0.3		ML	As above	
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								

Boring I.D. B-13		Project No. 0849.1001.0		Project Red Star							
Location 1396 5th St., Oakland, CA				Logged By: JS							
Drilling Method Direct Push		Driller Woodward Drilling		Checked By: MP							
Drilling Date 6/30/2016		Start Time 1000		Completion Time 1015		Backfilling Bentonite Grout		Total Depth 15'		Depth to Native 6'	
Depth (feet)	Time.	Sample Type	Sample I.D.	PID (ppm)	Blow Count	USCS	Lithology				Lithologic Detail
1						GM	GRAVEL fill with silt and sand. Gray. 10 YR 5/1. Moist.				
2											
3											
4											
5	1000	acetate sleeve	B13, 5'	13.3		GM	GRAVEL fill with silt and sand. Gray 10 YR 5/1. Moist.				
6											
7											
8											
9											
10	1005	acetate sleeve	B13, 10'	1.9		ML	SILT. Soft. Very dusky red. 7.5 R 2.5/2. Damp.				
11											
12											
13											
14											
15	1010	acetate sleeve	B13, 15'	0.8		CL/ CH	CLAY with silt. Reddish black 10 R 2.5/1. Moist.				
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											

Boring I.D. B-14		Project No. 0849.1001.0		Project Red Star							
Location 1396 5th St., Oakland, CA				Logged By: JS							
Drilling Method Direct Push		Driller Woodward Drilling		Checked By: MP							
Drilling Date 6/30/2016		Start Time 1350		Completion Time 1405		Backfilling Bentonite Grout		Total Depth 15'		Depth to Native 5'	
Depth (feet)	Time	Sample Type	Sample I.D.	PID (ppm)	Blow Count	USCS	Lithology				Lithologic Detail
1						GM	GRAVEL fill with silt and sand. Gray. 10 YR 5/1. Moist.				
2											
3											
4											
5	1357	acetate sleeve	B14, 5'	1.3		ML	SILT/very fine SAND. Black. 5Y 2.5/1. Moist.				
6											
7		acetate sleeve									
8											
9											
10	1400	acetate sleeve	B14, 10'	1.0		ML	SILT/very fine SAND. Black. 5Y 2.5/1. Moist.				
11											
12											
13											
14											
15	1402	acetate sleeve	B14, 15'	3.5		ML	SILT/very fine SAND. Black. 5Y 2.5/1. Moist.				
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											

Boring I.D. B-15		Project No. 0849.1001.0		Project Red Star							
Location 1396 5th St., Oakland, CA				Logged By: JS							
Drilling Method Direct Push		Driller Woodward Drilling		Checked By: MP							
Drilling Date 6/30/2016		Start Time 1405		Completion Time 1430		Backfilling Bentonite Grout		Total Depth 15'		Depth to Native 4'	
Depth (feet)	Time	Sample Type	Sample I.D.	PID (ppm)	Blow Count	USCS	Lithology				Lithologic Detail
1						GM	GRAVEL fill with silt and sand. Gray. 10 YR 5/1. Moist.				
2											
3											
4											
5	1412	acetate sleeve	B14, 5'	0.5		ML	Clayey SILT. Black. GLEY 1 2.5/N. Moist.				
6											
7		acetate sleeve									
8											
9						ML					
10	1416	acetate sleeve	B14, 10'	0.8			Very fine SAND. Dark olive. 10Y 3/4. Moist.				
11											
12											
13						SP					
14											
15	1419	acetate sleeve	B14, 15'	0.8			Fine-grained, poorly-graded SAND. Yellowish brown. 10 YR 5/6. Very moist.				
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											



**CITADEL**  
ENVIRONMENTAL SERVICES, INC.

# Appendix D

## Laboratory Reports



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Irvine

17461 Derian Ave

Suite 100

Irvine, CA 92614-5817

Tel: (949)261-1022

TestAmerica Job ID: 440-151548-1

Client Project/Site: Red Star

For:

Citadel Environmental Services Inc

1725 Victory Blvd

Glendale, California 91201

Attn: Mark Drollinger



Authorized for release by:

7/19/2016 4:20:44 PM

Danielle Roberts, Senior Project Manager

(949)261-1022

[danielle.roberts@testamericainc.com](mailto:danielle.roberts@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

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

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

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

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# Sample Summary

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-151548-1	B5,1'	Solid	06/30/16 07:30	07/02/16 11:20
440-151548-2	B5,3'	Solid	06/30/16 07:40	07/02/16 11:20
440-151548-3	B5,5'	Solid	06/30/16 07:50	07/02/16 11:20
440-151548-4	B5,7'	Solid	06/30/16 08:00	07/02/16 11:20
440-151548-5	B4,1'	Solid	06/30/16 08:05	07/02/16 11:20
440-151548-6	B4,3'	Solid	06/30/16 08:10	07/02/16 11:20
440-151548-9	B1,1'	Solid	06/30/16 09:30	07/02/16 11:20
440-151548-10	B1,3'	Solid	06/30/16 09:34	07/02/16 11:20
440-151548-11	B1,5'	Solid	06/30/16 09:35	07/02/16 11:20
440-151548-13	B2,1'	Solid	06/30/16 09:45	07/02/16 11:20
440-151548-14	B2,3'	Solid	06/30/16 09:49	07/02/16 11:20
440-151548-15	B2,5'	Solid	06/30/16 09:53	07/02/16 11:20
440-151548-18	B13,10'	Solid	06/30/16 10:05	07/02/16 11:20
440-151548-19	B13,15'	Solid	06/30/16 10:10	07/02/16 11:20
440-151548-21	B14,10'	Solid	06/30/16 14:00	07/02/16 11:20
440-151548-22	B14,15'	Solid	06/30/16 14:02	07/02/16 11:20
440-151548-24	B15,10'	Solid	06/30/16 14:16	07/02/16 11:20
440-151548-25	B15,15'	Solid	06/30/16 14:19	07/02/16 11:20
440-151548-26	B3,1'	Solid	06/30/16 14:34	07/02/16 11:20
440-151548-27	B3,3'	Solid	06/30/16 14:37	07/02/16 11:20
440-151548-29	B6,1'	Solid	06/30/16 14:46	07/02/16 11:20
440-151548-30	B6,3'	Solid	06/30/16 14:49	07/02/16 11:20
440-151548-32	B10,1'	Solid	06/30/16 15:36	07/02/16 11:20
440-151548-33	B10,3'	Solid	06/30/16 15:39	07/02/16 11:20
440-151548-34	B10,5'	Solid	06/30/16 15:44	07/02/16 11:20
440-151548-35	B9,1'	Solid	06/30/16 15:44	07/02/16 11:20
440-151548-36	B9,3'	Solid	06/30/16 15:45	07/02/16 11:20
440-151548-38	B7,1'	Solid	06/30/16 16:15	07/02/16 11:20
440-151548-39	B7,3'	Solid	06/30/16 16:20	07/02/16 11:20
440-151548-40	B7,5'	Solid	06/30/16 16:23	07/02/16 11:20
440-151548-41	B8,1'	Solid	06/30/16 16:30	07/02/16 11:20
440-151548-42	B8,3'	Solid	06/30/16 16:31	07/02/16 11:20
440-151548-43	B11,1'	Solid	06/30/16 16:44	07/02/16 11:20
440-151548-44	B11,3'	Solid	06/30/16 16:45	07/02/16 11:20
440-151548-45	B11,5'	Solid	06/30/16 16:50	07/02/16 11:20
440-151548-46	B11,7'	Solid	06/30/16 16:51	07/02/16 11:20
440-151548-47	B12,1'	Solid	06/30/16 16:58	07/02/16 11:20
440-151548-48	B12,3'	Solid	06/30/16 16:59	07/02/16 11:20
440-151548-49	B12,5'	Solid	06/30/16 17:02	07/02/16 11:20
440-151548-50	B12,7'	Solid	06/30/16 17:03	07/02/16 11:20

# Case Narrative

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Job ID: 440-151548-1**

**Laboratory: TestAmerica Irvine**

## Narrative

### Job Narrative 440-151548-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 7/2/2016 11:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.3° C and 3.0° C.

#### Receipt Exceptions

The Field Sampler was not listed on the Chain of Custody.

#### GC/MS VOA

Method(s) 8260B: 4-Bromofluorobenzene surrogate recovery for the following sample was outside the upper control limit: B14,10' (440-151548-21). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8260B: Internal standard (ISTD) response for the following samples were outside control limits: 1,4-Dichlorobenzene-d4 is lowB13,15' (440-151548-19) and B14,10' (440-151548-21). The sample was re-analyzed with concurring results.

Method(s) 8260B/CA\_LUFTMS: Dibromofluoromethane surrogate recovery for the following samples were below the lower control limit: B7,3' (440-151548-39), B7,5' (440-151548-40), B8,1' (440-151548-41), B8,3' (440-151548-42) and B11,1' (440-151548-43). Re-analysis was performed with concurring results. The re-analysis has been reported.

Method(s) 8260B/CA\_LUFTMS: Dibromofluoromethane, 4-Bromofluorobenzene and Toluene-d8 surrogate recoveries for the following samples were outside the upper control limit: B7,1' (440-151548-38). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8260B/CA\_LUFTMS: 4-Bromofluorobenzene surrogate recovery for the following sample was outside the upper control limit: B14,10' (440-151548-21). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8260B/CA\_LUFTMS: Internal standard (ISTD) response for the following samples were outside control limits: 1,4-Dichlorobenzene-d4 is lowB13,15' (440-151548-19), B14,10' (440-151548-21) and B7,5' (440-151548-40). The samples were re-analyzed with concurring results.

Method(s) 8260B/CA\_LUFTMS: Internal standard (ISTD) response for the following samples were outside control limits: 1,4-Dichlorobenzene-d4 and Chlorobenzene-d5 are lowB7,1' (440-151548-38). The sample was re-analyzed with concurring results.

Method(s) 8260B/CA\_LUFTMS: Surrogate recovery for the following samples was outside control limits: Dibromofluoromethane. is lowB11,3' (440-151548-44), B11,5' (440-151548-45), B11,7' (440-151548-46), (440-151548-A-44 MS) and (440-151548-A-44 MSD). Re-extraction and/or re-analysis was performed with concurring results.

Method(s) 8260B/CA\_LUFTMS: The matrix spike / matrix spike duplicate (MS/MSD) precision for analytical batch 440-340955 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) precision was within acceptance limits.

Method(s) 8260B/CA\_LUFTMS: Surrogate Dibromofluoromethane recovery for the following sample was outside the lower control limit:

# Case Narrative

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Job ID: 440-151548-1 (Continued)

### Laboratory: TestAmerica Irvine (Continued)

B12,1' (440-151548-47). Re-extraction and/or re-analysis was performed with concurring results. Matrix interference was confirmed.

Method(s) 8260B/CA\_LUFTMS: Surrogate Dibromofluoromethane recovery for the following sample was outside the lower control limit: B10,1' (440-151548-32). Re-extraction and/or re-analysis was performed with concurring results. Matrix interference was confirmed.

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

### GC/MS Semi VOA

Method(s) 8270C SIM: The internal standard response was below the 50% minimum QC limit for the following samples: B2,5' (440-151548-15) and (440-151403-B-4-C MS). The chromatography showed some matrix interference that could have adversely affected the recovery of the affected internal standard. All affected target analytes were flagged with an asterisk (\*). If the matrix effect is isolated to the internal standards, then the affect on the associated target analyte results are potentially biased high.

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

### GC Semi VOA

Method(s) 8015B: Surrogate recovery for the following sample was outside control limits: B7,1' (440-151548-38). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8082: The continuing calibration verification (CCV) associated with batch 341034 recovered above the upper control limit for 1016 and 1260. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: B3,1' (440-151548-26), B3,3' (440-151548-27), B6,1' (440-151548-29), B6,3' (440-151548-30), B10,1' (440-151548-32), B10,3' (440-151548-33), B9,1' (440-151548-35), B9,3' (440-151548-36), (CCVIS 440-341034/4) and (440-151742-A-1-H).

Method(s) 8082: Surrogate recovery for the following sample was outside control limits: B5,1' (440-151548-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8082: Surrogate recovery for the following samples was outside control limits: B5,3' (440-151548-2) and B2,1' (440-151548-13). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

### Metals

Method(s) 6020: The serial dilution performed for the following sample associated with batch 440-340972 was outside control limits for Nickel: (440-151548-A-35-A SD)

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

### Organic Prep

Method(s) 3546: The following samples was diluted due to the nature of the sample matrix: B1,8' (440-151548-12), B2,8' (440-151548-16), B13,5' (440-151548-17), B13,10' (440-151548-18), B13,15' (440-151548-19), B14,5' (440-151548-20), B14,10' (440-151548-21), B14,15' (440-151548-22), B15,5' (440-151548-23), B15,10' (440-151548-24), B15,15' (440-151548-25), B3,7' (440-151548-31), B10,5' (440-151548-34), B9,5' (440-151548-37) and B7,3' (440-151548-39). Elevated reporting limits (RLs) are provided.

Method(s) 3546: The following sample(s) was diluted due to the nature of the sample matrix: due to the sample being moist. Elevated reporting limits (RLs) are provided.

Method(s) 3546: The following samples was diluted due to the nature of the sample matrix: B7,5' (440-151548-40), B8,3' (440-151548-42), B12,1' (440-151548-47), B12,5' (440-151548-49) and B12,7' (440-151548-50). Elevated reporting limits (RLs) are provided.

# Case Narrative

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

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## Job ID: 440-151548-1 (Continued)

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### Laboratory: TestAmerica Irvine (Continued)

Method(s) 3546: The following samples was diluted due to the nature of the sample matrix: B5,1' (440-151548-1), B5,3' (440-151548-2), B5,5' (440-151548-3), B4,1' (440-151548-5), B4,3' (440-151548-6), B1,1' (440-151548-9), B1,3' (440-151548-10), B1,5' (440-151548-11), B2,1' (440-151548-13), B2,3' (440-151548-14), B2,5' (440-151548-15), (440-151548-A-1 MS) and (440-151548-A-1 MSD). Elevated reporting limits (RLs) are provided.

Method(s) 3546: The following samples was diluted due to the nature of the sample matrix: B3,1' (440-151548-26), B3,3' (440-151548-27) and B6,3' (440-151548-30). Elevated reporting limits (RLs) are provided.

Method(s) 3546: The following samples was diluted due to the nature of the sample matrix: B9,1' (440-151548-35) and B9,3' (440-151548-36). Elevated reporting limits (RLs) are provided.

Method(s) 3546: The following samples was diluted due to the nature of the sample matrix: B12,3' (440-151548-48), B12,5' (440-151548-49) and B12,7' (440-151548-50). Elevated reporting limits (RLs) are provided.

Method(s) 3546: The following sample was diluted due to the nature of the sample matrix: B10,3' (440-151548-33). 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.

### VOA Prep

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

# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B5,1'**  
**Date Collected: 06/30/16 07:30**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-1**  
**Matrix: Solid**

## Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		30	3.9	ug/Kg		07/02/16 14:05	07/06/16 15:41	1
Acenaphthylene	ND		30	3.9	ug/Kg		07/02/16 14:05	07/06/16 15:41	1
<b>Anthracene</b>	<b>8.7</b>	<b>J</b>	30	3.9	ug/Kg		07/02/16 14:05	07/06/16 15:41	1
<b>Benzo[a]anthracene</b>	<b>14</b>	<b>J</b>	30	3.9	ug/Kg		07/02/16 14:05	07/06/16 15:41	1
<b>Benzo[a]pyrene</b>	<b>14</b>	<b>J</b>	30	3.9	ug/Kg		07/02/16 14:05	07/06/16 15:41	1
<b>Benzo[b]fluoranthene</b>	<b>18</b>	<b>J</b>	30	3.9	ug/Kg		07/02/16 14:05	07/06/16 15:41	1
<b>Benzo[g,h,i]perylene</b>	<b>11</b>	<b>J</b>	30	3.9	ug/Kg		07/02/16 14:05	07/06/16 15:41	1
<b>Benzo[k]fluoranthene</b>	<b>6.0</b>	<b>J</b>	30	3.9	ug/Kg		07/02/16 14:05	07/06/16 15:41	1
<b>Chrysene</b>	<b>23</b>	<b>J</b>	30	3.9	ug/Kg		07/02/16 14:05	07/06/16 15:41	1
Dibenz(a,h)anthracene	ND		30	3.9	ug/Kg		07/02/16 14:05	07/06/16 15:41	1
<b>Fluoranthene</b>	<b>34</b>		30	3.9	ug/Kg		07/02/16 14:05	07/06/16 15:41	1
Fluorene	ND		30	3.9	ug/Kg		07/02/16 14:05	07/06/16 15:41	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>8.3</b>	<b>J</b>	30	3.9	ug/Kg		07/02/16 14:05	07/06/16 15:41	1
Naphthalene	ND		30	3.9	ug/Kg		07/02/16 14:05	07/06/16 15:41	1
<b>Phenanthrene</b>	<b>27</b>	<b>J</b>	30	3.9	ug/Kg		07/02/16 14:05	07/06/16 15:41	1
<b>Pyrene</b>	<b>37</b>		30	3.9	ug/Kg		07/02/16 14:05	07/06/16 15:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	73		39 - 111				07/02/16 14:05	07/06/16 15:41	1
Nitrobenzene-d5	69		41 - 119				07/02/16 14:05	07/06/16 15:41	1
Terphenyl-d14	97		43 - 150				07/02/16 14:05	07/06/16 15:41	1

## Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		110	36	ug/Kg		07/05/16 17:15	07/08/16 14:41	1
Aroclor 1221	ND		110	36	ug/Kg		07/05/16 17:15	07/08/16 14:41	1
Aroclor 1232	ND		110	36	ug/Kg		07/05/16 17:15	07/08/16 14:41	1
Aroclor 1242	ND		110	36	ug/Kg		07/05/16 17:15	07/08/16 14:41	1
Aroclor 1248	ND		110	36	ug/Kg		07/05/16 17:15	07/08/16 14:41	1
Aroclor 1254	ND		110	36	ug/Kg		07/05/16 17:15	07/08/16 14:41	1
Aroclor 1260	ND		110	36	ug/Kg		07/05/16 17:15	07/08/16 14:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	42	X	45 - 120				07/05/16 17:15	07/08/16 14:41	1

## Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Lead</b>	<b>13</b>		0.50	0.25	mg/Kg		07/05/16 08:40	07/06/16 17:42	20

**Client Sample ID: B5,3'**  
**Date Collected: 06/30/16 07:40**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-2**  
**Matrix: Solid**

## Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acenaphthene</b>	<b>6.1</b>	<b>J</b>	31	4.1	ug/Kg		07/02/16 14:05	07/06/16 16:02	1
Acenaphthylene	ND		31	4.1	ug/Kg		07/02/16 14:05	07/06/16 16:02	1
<b>Anthracene</b>	<b>18</b>	<b>J</b>	31	4.1	ug/Kg		07/02/16 14:05	07/06/16 16:02	1
<b>Benzo[a]anthracene</b>	<b>170</b>		31	4.1	ug/Kg		07/02/16 14:05	07/06/16 16:02	1
<b>Benzo[a]pyrene</b>	<b>150</b>		31	4.1	ug/Kg		07/02/16 14:05	07/06/16 16:02	1

TestAmerica Irvine



# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B5,3'**  
**Date Collected: 06/30/16 07:40**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-2**  
**Matrix: Solid**

## Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	200		31	4.1	ug/Kg		07/02/16 14:05	07/06/16 16:02	1
Benzo[g,h,i]perylene	86		31	4.1	ug/Kg		07/02/16 14:05	07/06/16 16:02	1
Benzo[k]fluoranthene	78		31	4.1	ug/Kg		07/02/16 14:05	07/06/16 16:02	1
Chrysene	160		31	4.1	ug/Kg		07/02/16 14:05	07/06/16 16:02	1
Dibenz(a,h)anthracene	17	J	31	4.1	ug/Kg		07/02/16 14:05	07/06/16 16:02	1
Fluoranthene	200		31	4.1	ug/Kg		07/02/16 14:05	07/06/16 16:02	1
Fluorene	ND		31	4.1	ug/Kg		07/02/16 14:05	07/06/16 16:02	1
Indeno[1,2,3-cd]pyrene	81		31	4.1	ug/Kg		07/02/16 14:05	07/06/16 16:02	1
Naphthalene	ND		31	4.1	ug/Kg		07/02/16 14:05	07/06/16 16:02	1
Phenanthrene	65		31	4.1	ug/Kg		07/02/16 14:05	07/06/16 16:02	1
Pyrene	180		31	4.1	ug/Kg		07/02/16 14:05	07/06/16 16:02	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2-Fluorobiphenyl (Surr)	70		39 - 111				07/02/16 14:05	07/06/16 16:02	1
Nitrobenzene-d5	63		41 - 119				07/02/16 14:05	07/06/16 16:02	1
Terphenyl-d14	98		43 - 150				07/02/16 14:05	07/06/16 16:02	1

## Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		100	34	ug/Kg		07/05/16 17:15	07/08/16 20:48	1
Aroclor 1221	ND		100	34	ug/Kg		07/05/16 17:15	07/08/16 20:48	1
Aroclor 1232	ND		100	34	ug/Kg		07/05/16 17:15	07/08/16 20:48	1
Aroclor 1242	ND		100	34	ug/Kg		07/05/16 17:15	07/08/16 20:48	1
Aroclor 1248	ND		100	34	ug/Kg		07/05/16 17:15	07/08/16 20:48	1
Aroclor 1254	ND		100	34	ug/Kg		07/05/16 17:15	07/08/16 20:48	1
Aroclor 1260	ND		100	34	ug/Kg		07/05/16 17:15	07/08/16 20:48	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
DCB Decachlorobiphenyl (Surr)	42	X	45 - 120				07/05/16 17:15	07/08/16 20:48	1

## Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	11		0.49	0.25	mg/Kg		07/05/16 08:40	07/06/16 17:45	20

**Client Sample ID: B5,5'**  
**Date Collected: 06/30/16 07:50**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-3**  
**Matrix: Solid**

## Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	5.3	J	30	4.0	ug/Kg		07/02/16 14:05	07/06/16 16:22	1
Acenaphthylene	ND		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 16:22	1
Anthracene	4.6	J	30	4.0	ug/Kg		07/02/16 14:05	07/06/16 16:22	1
Benzo[a]anthracene	12	J	30	4.0	ug/Kg		07/02/16 14:05	07/06/16 16:22	1
Benzo[a]pyrene	11	J	30	4.0	ug/Kg		07/02/16 14:05	07/06/16 16:22	1
Benzo[b]fluoranthene	14	J	30	4.0	ug/Kg		07/02/16 14:05	07/06/16 16:22	1
Benzo[g,h,i]perylene	8.9	J	30	4.0	ug/Kg		07/02/16 14:05	07/06/16 16:22	1
Benzo[k]fluoranthene	5.2	J	30	4.0	ug/Kg		07/02/16 14:05	07/06/16 16:22	1
Chrysene	18	J	30	4.0	ug/Kg		07/02/16 14:05	07/06/16 16:22	1
Dibenz(a,h)anthracene	ND		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 16:22	1
Fluoranthene	31		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 16:22	1

TestAmerica Irvine



# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B5,5'**  
**Date Collected: 06/30/16 07:50**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-3**  
**Matrix: Solid**

**Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 16:22	1
Indeno[1,2,3-cd]pyrene	6.5	J	30	4.0	ug/Kg		07/02/16 14:05	07/06/16 16:22	1
Naphthalene	5.7	J	30	4.0	ug/Kg		07/02/16 14:05	07/06/16 16:22	1
Phenanthrene	38		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 16:22	1
Pyrene	29	J	30	4.0	ug/Kg		07/02/16 14:05	07/06/16 16:22	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2-Fluorobiphenyl (Surr)	68		39 - 111				07/02/16 14:05	07/06/16 16:22	1
Nitrobenzene-d5	63		41 - 119				07/02/16 14:05	07/06/16 16:22	1
Terphenyl-d14	102		43 - 150				07/02/16 14:05	07/06/16 16:22	1

**Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		110	36	ug/Kg		07/05/16 17:15	07/08/16 21:02	1
Aroclor 1221	ND		110	36	ug/Kg		07/05/16 17:15	07/08/16 21:02	1
Aroclor 1232	ND		110	36	ug/Kg		07/05/16 17:15	07/08/16 21:02	1
Aroclor 1242	ND		110	36	ug/Kg		07/05/16 17:15	07/08/16 21:02	1
Aroclor 1248	ND		110	36	ug/Kg		07/05/16 17:15	07/08/16 21:02	1
Aroclor 1254	ND		110	36	ug/Kg		07/05/16 17:15	07/08/16 21:02	1
Aroclor 1260	ND		110	36	ug/Kg		07/05/16 17:15	07/08/16 21:02	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
DCB Decachlorobiphenyl (Surr)	53		45 - 120				07/05/16 17:15	07/08/16 21:02	1

**Method: 6020 - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	9.0		0.49	0.25	mg/Kg		07/05/16 08:40	07/06/16 17:47	20

**Client Sample ID: B5,7'**  
**Date Collected: 06/30/16 08:00**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-4**  
**Matrix: Solid**

**Method: 8015B - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	7.5		5.0	2.5	mg/Kg		07/02/16 14:02	07/05/16 17:57	1
C23-C40	39		5.0	2.5	mg/Kg		07/02/16 14:02	07/05/16 17:57	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
n-Octacosane	68		40 - 140				07/02/16 14:02	07/05/16 17:57	1

**Client Sample ID: B4,1'**  
**Date Collected: 06/30/16 08:05**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-5**  
**Matrix: Solid**

**Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	4.7	J	29	3.9	ug/Kg		07/02/16 14:05	07/06/16 16:43	1
Acenaphthylene	ND		29	3.9	ug/Kg		07/02/16 14:05	07/06/16 16:43	1
Anthracene	12	J	29	3.9	ug/Kg		07/02/16 14:05	07/06/16 16:43	1
Benzo[a]anthracene	35		29	3.9	ug/Kg		07/02/16 14:05	07/06/16 16:43	1
Benzo[a]pyrene	28	J	29	3.9	ug/Kg		07/02/16 14:05	07/06/16 16:43	1

TestAmerica Irvine

# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B4,1'**  
**Date Collected: 06/30/16 08:05**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-5**  
**Matrix: Solid**

## Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	35		29	3.9	ug/Kg		07/02/16 14:05	07/06/16 16:43	1
Benzo[g,h,i]perylene	17	J	29	3.9	ug/Kg		07/02/16 14:05	07/06/16 16:43	1
Benzo[k]fluoranthene	15	J	29	3.9	ug/Kg		07/02/16 14:05	07/06/16 16:43	1
Chrysene	48		29	3.9	ug/Kg		07/02/16 14:05	07/06/16 16:43	1
Dibenz(a,h)anthracene	ND		29	3.9	ug/Kg		07/02/16 14:05	07/06/16 16:43	1
Fluoranthene	83		29	3.9	ug/Kg		07/02/16 14:05	07/06/16 16:43	1
Fluorene	ND		29	3.9	ug/Kg		07/02/16 14:05	07/06/16 16:43	1
Indeno[1,2,3-cd]pyrene	13	J	29	3.9	ug/Kg		07/02/16 14:05	07/06/16 16:43	1
Naphthalene	ND		29	3.9	ug/Kg		07/02/16 14:05	07/06/16 16:43	1
Phenanthrene	76		29	3.9	ug/Kg		07/02/16 14:05	07/06/16 16:43	1
Pyrene	80		29	3.9	ug/Kg		07/02/16 14:05	07/06/16 16:43	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2-Fluorobiphenyl (Surr)	68		39 - 111				07/02/16 14:05	07/06/16 16:43	1
Nitrobenzene-d5	63		41 - 119				07/02/16 14:05	07/06/16 16:43	1
Terphenyl-d14	108		43 - 150				07/02/16 14:05	07/06/16 16:43	1

## Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		100	36	ug/Kg		07/05/16 17:15	07/08/16 21:16	1
Aroclor 1221	ND		100	36	ug/Kg		07/05/16 17:15	07/08/16 21:16	1
Aroclor 1232	ND		100	36	ug/Kg		07/05/16 17:15	07/08/16 21:16	1
Aroclor 1242	ND		100	36	ug/Kg		07/05/16 17:15	07/08/16 21:16	1
Aroclor 1248	ND		100	36	ug/Kg		07/05/16 17:15	07/08/16 21:16	1
Aroclor 1254	ND		100	36	ug/Kg		07/05/16 17:15	07/08/16 21:16	1
Aroclor 1260	ND		100	36	ug/Kg		07/05/16 17:15	07/08/16 21:16	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
DCB Decachlorobiphenyl (Surr)	51		45 - 120				07/05/16 17:15	07/08/16 21:16	1

## Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	8.9		0.50	0.25	mg/Kg		07/05/16 08:40	07/06/16 17:53	20

**Client Sample ID: B4,3'**  
**Date Collected: 06/30/16 08:10**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-6**  
**Matrix: Solid**

## Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		63	8.4	ug/Kg		07/02/16 14:05	07/06/16 17:03	1
Acenaphthylene	ND		63	8.4	ug/Kg		07/02/16 14:05	07/06/16 17:03	1
Anthracene	ND		63	8.4	ug/Kg		07/02/16 14:05	07/06/16 17:03	1
Benzo[a]anthracene	15	J	63	8.4	ug/Kg		07/02/16 14:05	07/06/16 17:03	1
Benzo[a]pyrene	26	J	63	8.4	ug/Kg		07/02/16 14:05	07/06/16 17:03	1
Benzo[b]fluoranthene	25	J	63	8.4	ug/Kg		07/02/16 14:05	07/06/16 17:03	1
Benzo[g,h,i]perylene	26	J	63	8.4	ug/Kg		07/02/16 14:05	07/06/16 17:03	1
Benzo[k]fluoranthene	9.4	J	63	8.4	ug/Kg		07/02/16 14:05	07/06/16 17:03	1
Chrysene	20	J	63	8.4	ug/Kg		07/02/16 14:05	07/06/16 17:03	1
Dibenz(a,h)anthracene	ND		63	8.4	ug/Kg		07/02/16 14:05	07/06/16 17:03	1
Fluoranthene	35	J	63	8.4	ug/Kg		07/02/16 14:05	07/06/16 17:03	1

TestAmerica Irvine

# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B4,3'**  
**Date Collected: 06/30/16 08:10**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-6**  
**Matrix: Solid**

## Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		63	8.4	ug/Kg		07/02/16 14:05	07/06/16 17:03	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>19</b>	<b>J</b>	63	8.4	ug/Kg		07/02/16 14:05	07/06/16 17:03	1
Naphthalene	ND		63	8.4	ug/Kg		07/02/16 14:05	07/06/16 17:03	1
<b>Phenanthrene</b>	<b>26</b>	<b>J</b>	63	8.4	ug/Kg		07/02/16 14:05	07/06/16 17:03	1
<b>Pyrene</b>	<b>43</b>	<b>J</b>	63	8.4	ug/Kg		07/02/16 14:05	07/06/16 17:03	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2-Fluorobiphenyl (Surr)	78		39 - 111				07/02/16 14:05	07/06/16 17:03	1
Nitrobenzene-d5	73		41 - 119				07/02/16 14:05	07/06/16 17:03	1
Terphenyl-d14	128		43 - 150				07/02/16 14:05	07/06/16 17:03	1

## Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		250	84	ug/Kg		07/05/16 17:15	07/08/16 21:30	1
Aroclor 1221	ND		250	84	ug/Kg		07/05/16 17:15	07/08/16 21:30	1
Aroclor 1232	ND		250	84	ug/Kg		07/05/16 17:15	07/08/16 21:30	1
Aroclor 1242	ND		250	84	ug/Kg		07/05/16 17:15	07/08/16 21:30	1
Aroclor 1248	ND		250	84	ug/Kg		07/05/16 17:15	07/08/16 21:30	1
Aroclor 1254	ND		250	84	ug/Kg		07/05/16 17:15	07/08/16 21:30	1
Aroclor 1260	ND		250	84	ug/Kg		07/05/16 17:15	07/08/16 21:30	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
DCB Decachlorobiphenyl (Surr)	62		45 - 120				07/05/16 17:15	07/08/16 21:30	1

## Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Lead</b>	<b>19</b>		0.50	0.25	mg/Kg		07/05/16 08:40	07/06/16 17:55	20

**Client Sample ID: B1,1'**  
**Date Collected: 06/30/16 09:30**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-9**  
**Matrix: Solid**

## Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 17:24	1
Acenaphthylene	ND		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 17:24	1
Anthracene	ND		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 17:24	1
<b>Benzo[a]anthracene</b>	<b>11</b>	<b>J</b>	30	4.0	ug/Kg		07/02/16 14:05	07/06/16 17:24	1
<b>Benzo[a]pyrene</b>	<b>11</b>	<b>J</b>	30	4.0	ug/Kg		07/02/16 14:05	07/06/16 17:24	1
<b>Benzo[b]fluoranthene</b>	<b>15</b>	<b>J</b>	30	4.0	ug/Kg		07/02/16 14:05	07/06/16 17:24	1
<b>Benzo[g,h,i]perylene</b>	<b>5.9</b>	<b>J</b>	30	4.0	ug/Kg		07/02/16 14:05	07/06/16 17:24	1
<b>Benzo[k]fluoranthene</b>	<b>4.9</b>	<b>J</b>	30	4.0	ug/Kg		07/02/16 14:05	07/06/16 17:24	1
<b>Chrysene</b>	<b>20</b>	<b>J</b>	30	4.0	ug/Kg		07/02/16 14:05	07/06/16 17:24	1
Dibenz(a,h)anthracene	ND		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 17:24	1
<b>Fluoranthene</b>	<b>30</b>		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 17:24	1
Fluorene	ND		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 17:24	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>5.1</b>	<b>J</b>	30	4.0	ug/Kg		07/02/16 14:05	07/06/16 17:24	1
Naphthalene	ND		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 17:24	1
<b>Phenanthrene</b>	<b>34</b>		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 17:24	1
<b>Pyrene</b>	<b>31</b>		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 17:24	1

TestAmerica Irvine

# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B1,1'**  
**Date Collected: 06/30/16 09:30**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-9**  
**Matrix: Solid**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	78		39 - 111	07/02/16 14:05	07/06/16 17:24	1
Nitrobenzene-d5	70		41 - 119	07/02/16 14:05	07/06/16 17:24	1
Terphenyl-d14	123		43 - 150	07/02/16 14:05	07/06/16 17:24	1

## Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		110	36	ug/Kg		07/05/16 17:15	07/08/16 21:44	1
Aroclor 1221	ND		110	36	ug/Kg		07/05/16 17:15	07/08/16 21:44	1
Aroclor 1232	ND		110	36	ug/Kg		07/05/16 17:15	07/08/16 21:44	1
Aroclor 1242	ND		110	36	ug/Kg		07/05/16 17:15	07/08/16 21:44	1
Aroclor 1248	ND		110	36	ug/Kg		07/05/16 17:15	07/08/16 21:44	1
Aroclor 1254	ND		110	36	ug/Kg		07/05/16 17:15	07/08/16 21:44	1
Aroclor 1260	ND		110	36	ug/Kg		07/05/16 17:15	07/08/16 21:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	51		45 - 120	07/05/16 17:15	07/08/16 21:44	1

## Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	17		0.50	0.25	mg/Kg		07/05/16 08:40	07/06/16 18:11	20

**Client Sample ID: B1,3'**  
**Date Collected: 06/30/16 09:34**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-10**  
**Matrix: Solid**

## Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		29	3.9	ug/Kg		07/02/16 14:05	07/06/16 17:44	1
Acenaphthylene	ND		29	3.9	ug/Kg		07/02/16 14:05	07/06/16 17:44	1
Anthracene	5.8	J	29	3.9	ug/Kg		07/02/16 14:05	07/06/16 17:44	1
Benzo[a]anthracene	15	J	29	3.9	ug/Kg		07/02/16 14:05	07/06/16 17:44	1
Benzo[a]pyrene	12	J	29	3.9	ug/Kg		07/02/16 14:05	07/06/16 17:44	1
Benzo[b]fluoranthene	19	J	29	3.9	ug/Kg		07/02/16 14:05	07/06/16 17:44	1
Benzo[g,h,i]perylene	7.2	J	29	3.9	ug/Kg		07/02/16 14:05	07/06/16 17:44	1
Benzo[k]fluoranthene	6.7	J	29	3.9	ug/Kg		07/02/16 14:05	07/06/16 17:44	1
Chrysene	23	J	29	3.9	ug/Kg		07/02/16 14:05	07/06/16 17:44	1
Dibenz(a,h)anthracene	ND		29	3.9	ug/Kg		07/02/16 14:05	07/06/16 17:44	1
Fluoranthene	46		29	3.9	ug/Kg		07/02/16 14:05	07/06/16 17:44	1
Fluorene	ND		29	3.9	ug/Kg		07/02/16 14:05	07/06/16 17:44	1
Indeno[1,2,3-cd]pyrene	6.4	J	29	3.9	ug/Kg		07/02/16 14:05	07/06/16 17:44	1
Naphthalene	7.3	J	29	3.9	ug/Kg		07/02/16 14:05	07/06/16 17:44	1
Phenanthrene	47		29	3.9	ug/Kg		07/02/16 14:05	07/06/16 17:44	1
Pyrene	42		29	3.9	ug/Kg		07/02/16 14:05	07/06/16 17:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	76		39 - 111	07/02/16 14:05	07/06/16 17:44	1
Nitrobenzene-d5	68		41 - 119	07/02/16 14:05	07/06/16 17:44	1
Terphenyl-d14	129		43 - 150	07/02/16 14:05	07/06/16 17:44	1

TestAmerica Irvine

# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B1,3'**  
**Date Collected: 06/30/16 09:34**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-10**  
**Matrix: Solid**

## Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		100	36	ug/Kg		07/05/16 17:15	07/08/16 21:57	1
Aroclor 1221	ND		100	36	ug/Kg		07/05/16 17:15	07/08/16 21:57	1
Aroclor 1232	ND		100	36	ug/Kg		07/05/16 17:15	07/08/16 21:57	1
Aroclor 1242	ND		100	36	ug/Kg		07/05/16 17:15	07/08/16 21:57	1
Aroclor 1248	ND		100	36	ug/Kg		07/05/16 17:15	07/08/16 21:57	1
Aroclor 1254	ND		100	36	ug/Kg		07/05/16 17:15	07/08/16 21:57	1
Aroclor 1260	ND		100	36	ug/Kg		07/05/16 17:15	07/08/16 21:57	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
DCB Decachlorobiphenyl (Surr)	51		45 - 120				07/05/16 17:15	07/08/16 21:57	1

## Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	9.0		0.50	0.25	mg/Kg		07/05/16 08:40	07/06/16 18:14	20

**Client Sample ID: B1,5'**  
**Date Collected: 06/30/16 09:35**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-11**  
**Matrix: Solid**

## Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		29	3.9	ug/Kg		07/02/16 14:05	07/06/16 18:05	1
Acenaphthylene	ND		29	3.9	ug/Kg		07/02/16 14:05	07/06/16 18:05	1
Anthracene	5.3	J	29	3.9	ug/Kg		07/02/16 14:05	07/06/16 18:05	1
Benzo[a]anthracene	17	J	29	3.9	ug/Kg		07/02/16 14:05	07/06/16 18:05	1
Benzo[a]pyrene	16	J	29	3.9	ug/Kg		07/02/16 14:05	07/06/16 18:05	1
Benzo[b]fluoranthene	24	J	29	3.9	ug/Kg		07/02/16 14:05	07/06/16 18:05	1
Benzo[g,h,i]perylene	8.9	J	29	3.9	ug/Kg		07/02/16 14:05	07/06/16 18:05	1
Benzo[k]fluoranthene	8.2	J	29	3.9	ug/Kg		07/02/16 14:05	07/06/16 18:05	1
Chrysene	27	J	29	3.9	ug/Kg		07/02/16 14:05	07/06/16 18:05	1
Dibenz(a,h)anthracene	ND		29	3.9	ug/Kg		07/02/16 14:05	07/06/16 18:05	1
Fluoranthene	39		29	3.9	ug/Kg		07/02/16 14:05	07/06/16 18:05	1
Fluorene	ND		29	3.9	ug/Kg		07/02/16 14:05	07/06/16 18:05	1
Indeno[1,2,3-cd]pyrene	8.8	J	29	3.9	ug/Kg		07/02/16 14:05	07/06/16 18:05	1
Naphthalene	4.3	J	29	3.9	ug/Kg		07/02/16 14:05	07/06/16 18:05	1
Phenanthrene	39		29	3.9	ug/Kg		07/02/16 14:05	07/06/16 18:05	1
Pyrene	41		29	3.9	ug/Kg		07/02/16 14:05	07/06/16 18:05	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2-Fluorobiphenyl (Surr)	71		39 - 111				07/02/16 14:05	07/06/16 18:05	1
Nitrobenzene-d5	64		41 - 119				07/02/16 14:05	07/06/16 18:05	1
Terphenyl-d14	122		43 - 150				07/02/16 14:05	07/06/16 18:05	1

## Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		100	35	ug/Kg		07/05/16 17:15	07/08/16 22:11	1
Aroclor 1221	ND		100	35	ug/Kg		07/05/16 17:15	07/08/16 22:11	1
Aroclor 1232	ND		100	35	ug/Kg		07/05/16 17:15	07/08/16 22:11	1
Aroclor 1242	ND		100	35	ug/Kg		07/05/16 17:15	07/08/16 22:11	1
Aroclor 1248	ND		100	35	ug/Kg		07/05/16 17:15	07/08/16 22:11	1
Aroclor 1254	ND		100	35	ug/Kg		07/05/16 17:15	07/08/16 22:11	1

TestAmerica Irvine

# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B1,5'**  
**Date Collected: 06/30/16 09:35**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-11**  
**Matrix: Solid**

**Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1260	ND		100	35	ug/Kg		07/05/16 17:15	07/08/16 22:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	48		45 - 120	07/05/16 17:15	07/08/16 22:11	1

**Method: 6020 - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	8.5		0.50	0.25	mg/Kg		07/05/16 08:40	07/06/16 18:17	20

**Client Sample ID: B2,1'**  
**Date Collected: 06/30/16 09:45**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-13**  
**Matrix: Solid**

**Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 18:25	1
Acenaphthylene	ND		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 18:25	1
<b>Anthracene</b>	<b>7.1</b>	<b>J</b>	30	4.0	ug/Kg		07/02/16 14:05	07/06/16 18:25	1
<b>Benzo[a]anthracene</b>	<b>27</b>	<b>J</b>	30	4.0	ug/Kg		07/02/16 14:05	07/06/16 18:25	1
<b>Benzo[a]pyrene</b>	<b>27</b>	<b>J</b>	30	4.0	ug/Kg		07/02/16 14:05	07/06/16 18:25	1
<b>Benzo[b]fluoranthene</b>	<b>37</b>		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 18:25	1
<b>Benzo[g,h,i]perylene</b>	<b>16</b>	<b>J</b>	30	4.0	ug/Kg		07/02/16 14:05	07/06/16 18:25	1
<b>Benzo[k]fluoranthene</b>	<b>14</b>	<b>J</b>	30	4.0	ug/Kg		07/02/16 14:05	07/06/16 18:25	1
<b>Chrysene</b>	<b>37</b>		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 18:25	1
Dibenz(a,h)anthracene	ND		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 18:25	1
<b>Fluoranthene</b>	<b>61</b>		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 18:25	1
Fluorene	ND		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 18:25	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>13</b>	<b>J</b>	30	4.0	ug/Kg		07/02/16 14:05	07/06/16 18:25	1
<b>Naphthalene</b>	<b>4.7</b>	<b>J</b>	30	4.0	ug/Kg		07/02/16 14:05	07/06/16 18:25	1
<b>Phenanthrene</b>	<b>48</b>		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 18:25	1
<b>Pyrene</b>	<b>57</b>		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 18:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	82		39 - 111	07/02/16 14:05	07/06/16 18:25	1
Nitrobenzene-d5	72		41 - 119	07/02/16 14:05	07/06/16 18:25	1
Terphenyl-d14	141		43 - 150	07/02/16 14:05	07/06/16 18:25	1

**Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		100	35	ug/Kg		07/05/16 17:15	07/08/16 22:25	1
Aroclor 1221	ND		100	35	ug/Kg		07/05/16 17:15	07/08/16 22:25	1
Aroclor 1232	ND		100	35	ug/Kg		07/05/16 17:15	07/08/16 22:25	1
Aroclor 1242	ND		100	35	ug/Kg		07/05/16 17:15	07/08/16 22:25	1
Aroclor 1248	ND		100	35	ug/Kg		07/05/16 17:15	07/08/16 22:25	1
Aroclor 1254	ND		100	35	ug/Kg		07/05/16 17:15	07/08/16 22:25	1
Aroclor 1260	ND		100	35	ug/Kg		07/05/16 17:15	07/08/16 22:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	43	X	45 - 120	07/05/16 17:15	07/08/16 22:25	1

TestAmerica Irvine



# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B2,1'**  
**Date Collected: 06/30/16 09:45**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-13**  
**Matrix: Solid**

**Method: 6020 - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	11		0.50	0.25	mg/Kg		07/05/16 08:40	07/06/16 18:22	20

**Client Sample ID: B2,3'**  
**Date Collected: 06/30/16 09:49**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-14**  
**Matrix: Solid**

**Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		54	7.2	ug/Kg		07/02/16 14:05	07/06/16 18:46	1
Acenaphthylene	ND		54	7.2	ug/Kg		07/02/16 14:05	07/06/16 18:46	1
Anthracene	ND		54	7.2	ug/Kg		07/02/16 14:05	07/06/16 18:46	1
<b>Benzo[a]anthracene</b>	<b>14</b>	<b>J</b>	54	7.2	ug/Kg		07/02/16 14:05	07/06/16 18:46	1
<b>Benzo[a]pyrene</b>	<b>13</b>	<b>J</b>	54	7.2	ug/Kg		07/02/16 14:05	07/06/16 18:46	1
<b>Benzo[b]fluoranthene</b>	<b>18</b>	<b>J</b>	54	7.2	ug/Kg		07/02/16 14:05	07/06/16 18:46	1
<b>Benzo[g,h,i]perylene</b>	<b>15</b>	<b>J</b>	54	7.2	ug/Kg		07/02/16 14:05	07/06/16 18:46	1
<b>Benzo[k]fluoranthene</b>	<b>7.2</b>	<b>J</b>	54	7.2	ug/Kg		07/02/16 14:05	07/06/16 18:46	1
<b>Chrysene</b>	<b>21</b>	<b>J</b>	54	7.2	ug/Kg		07/02/16 14:05	07/06/16 18:46	1
Dibenz(a,h)anthracene	ND		54	7.2	ug/Kg		07/02/16 14:05	07/06/16 18:46	1
<b>Fluoranthene</b>	<b>32</b>	<b>J</b>	54	7.2	ug/Kg		07/02/16 14:05	07/06/16 18:46	1
Fluorene	ND		54	7.2	ug/Kg		07/02/16 14:05	07/06/16 18:46	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>12</b>	<b>J</b>	54	7.2	ug/Kg		07/02/16 14:05	07/06/16 18:46	1
Naphthalene	ND		54	7.2	ug/Kg		07/02/16 14:05	07/06/16 18:46	1
<b>Phenanthrene</b>	<b>34</b>	<b>J</b>	54	7.2	ug/Kg		07/02/16 14:05	07/06/16 18:46	1
<b>Pyrene</b>	<b>30</b>	<b>J</b>	54	7.2	ug/Kg		07/02/16 14:05	07/06/16 18:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	77		39 - 111	07/02/16 14:05	07/06/16 18:46	1
Nitrobenzene-d5	68		41 - 119	07/02/16 14:05	07/06/16 18:46	1
Terphenyl-d14	127		43 - 150	07/02/16 14:05	07/06/16 18:46	1

**Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		110	36	ug/Kg		07/05/16 17:15	07/08/16 22:39	1
Aroclor 1221	ND		110	36	ug/Kg		07/05/16 17:15	07/08/16 22:39	1
Aroclor 1232	ND		110	36	ug/Kg		07/05/16 17:15	07/08/16 22:39	1
Aroclor 1242	ND		110	36	ug/Kg		07/05/16 17:15	07/08/16 22:39	1
Aroclor 1248	ND		110	36	ug/Kg		07/05/16 17:15	07/08/16 22:39	1
Aroclor 1254	ND		110	36	ug/Kg		07/05/16 17:15	07/08/16 22:39	1
Aroclor 1260	ND		110	36	ug/Kg		07/05/16 17:15	07/08/16 22:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	49		45 - 120	07/05/16 17:15	07/08/16 22:39	1

**Method: 6020 - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	9.7		0.50	0.25	mg/Kg		07/05/16 08:40	07/06/16 18:25	20

TestAmerica Irvine

# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B2,5'**  
**Date Collected: 06/30/16 09:53**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-15**  
**Matrix: Solid**

## Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		62	8.3	ug/Kg		07/02/16 14:05	07/06/16 19:07	1
Acenaphthylene	ND		62	8.3	ug/Kg		07/02/16 14:05	07/06/16 19:07	1
<b>Anthracene</b>	<b>11</b>	<b>J</b>	62	8.3	ug/Kg		07/02/16 14:05	07/06/16 19:07	1
<b>Benzo[a]anthracene</b>	<b>38</b>	<b>J</b>	62	8.3	ug/Kg		07/02/16 14:05	07/06/16 19:07	1
<b>Benzo[a]pyrene</b>	<b>35</b>	<b>J*</b>	62	8.3	ug/Kg		07/02/16 14:05	07/06/16 19:07	1
<b>Benzo[b]fluoranthene</b>	<b>50</b>	<b>J*</b>	62	8.3	ug/Kg		07/02/16 14:05	07/06/16 19:07	1
<b>Benzo[g,h,i]perylene</b>	<b>13</b>	<b>J*</b>	62	8.3	ug/Kg		07/02/16 14:05	07/06/16 19:07	1
<b>Benzo[k]fluoranthene</b>	<b>16</b>	<b>J*</b>	62	8.3	ug/Kg		07/02/16 14:05	07/06/16 19:07	1
<b>Chrysene</b>	<b>55</b>	<b>J</b>	62	8.3	ug/Kg		07/02/16 14:05	07/06/16 19:07	1
Dibenz(a,h)anthracene	ND	*	62	8.3	ug/Kg		07/02/16 14:05	07/06/16 19:07	1
<b>Fluoranthene</b>	<b>75</b>		62	8.3	ug/Kg		07/02/16 14:05	07/06/16 19:07	1
Fluorene	ND		62	8.3	ug/Kg		07/02/16 14:05	07/06/16 19:07	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>13</b>	<b>J*</b>	62	8.3	ug/Kg		07/02/16 14:05	07/06/16 19:07	1
Naphthalene	ND		62	8.3	ug/Kg		07/02/16 14:05	07/06/16 19:07	1
<b>Phenanthrene</b>	<b>89</b>		62	8.3	ug/Kg		07/02/16 14:05	07/06/16 19:07	1
<b>Pyrene</b>	<b>72</b>		62	8.3	ug/Kg		07/02/16 14:05	07/06/16 19:07	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2-Fluorobiphenyl (Surr)	76		39 - 111				07/02/16 14:05	07/06/16 19:07	1
Nitrobenzene-d5	68		41 - 119				07/02/16 14:05	07/06/16 19:07	1
Terphenyl-d14	131		43 - 150				07/02/16 14:05	07/06/16 19:07	1

## Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		100	35	ug/Kg		07/05/16 17:15	07/08/16 22:53	1
Aroclor 1221	ND		100	35	ug/Kg		07/05/16 17:15	07/08/16 22:53	1
Aroclor 1232	ND		100	35	ug/Kg		07/05/16 17:15	07/08/16 22:53	1
Aroclor 1242	ND		100	35	ug/Kg		07/05/16 17:15	07/08/16 22:53	1
Aroclor 1248	ND		100	35	ug/Kg		07/05/16 17:15	07/08/16 22:53	1
Aroclor 1254	ND		100	35	ug/Kg		07/05/16 17:15	07/08/16 22:53	1
Aroclor 1260	ND		100	35	ug/Kg		07/05/16 17:15	07/08/16 22:53	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
DCB Decachlorobiphenyl (Surr)	45		45 - 120				07/05/16 17:15	07/08/16 22:53	1

## Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Lead</b>	<b>18</b>		0.49	0.25	mg/Kg		07/07/16 08:33	07/08/16 14:24	20

**Client Sample ID: B13,10'**  
**Date Collected: 06/30/16 10:05**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-18**  
**Matrix: Solid**

## Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	ND	F1	99	70	ug/Kg			07/06/16 20:39	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Dibromofluoromethane (Surr)	107		60 - 120					07/06/16 20:39	1
4-Bromofluorobenzene (Surr)	109		79 - 120					07/06/16 20:39	1
Toluene-d8 (Surr)	114		79 - 123					07/06/16 20:39	1

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# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	0.99	ug/Kg			07/06/16 20:39	1
1,1,1-Trichloroethane	ND		2.0	0.99	ug/Kg			07/06/16 20:39	1
1,1,2,2-Tetrachloroethane	ND		2.0	0.99	ug/Kg			07/06/16 20:39	1
1,1,2-Trichloroethane	ND		2.0	0.99	ug/Kg			07/06/16 20:39	1
1,1-Dichloroethane	ND		2.0	0.99	ug/Kg			07/06/16 20:39	1
1,1-Dichloroethene	ND		5.0	0.99	ug/Kg			07/06/16 20:39	1
1,1-Dichloropropene	ND		2.0	0.99	ug/Kg			07/06/16 20:39	1
1,2,3-Trichlorobenzene	ND		5.0	0.99	ug/Kg			07/06/16 20:39	1
1,2,3-Trichloropropane	ND		9.9	0.99	ug/Kg			07/06/16 20:39	1
1,2,4-Trichlorobenzene	ND		5.0	0.99	ug/Kg			07/06/16 20:39	1
1,2,4-Trimethylbenzene	ND		2.0	0.99	ug/Kg			07/06/16 20:39	1
1,2-Dibromo-3-Chloropropane	ND		5.0	2.0	ug/Kg			07/06/16 20:39	1
1,2-Dibromoethane (EDB)	ND		2.0	0.99	ug/Kg			07/06/16 20:39	1
1,2-Dichlorobenzene	ND		2.0	0.99	ug/Kg			07/06/16 20:39	1
1,2-Dichloroethane	ND		2.0	0.99	ug/Kg			07/06/16 20:39	1
1,2-Dichloropropane	ND	F1	2.0	0.99	ug/Kg			07/06/16 20:39	1
1,3,5-Trimethylbenzene	ND		2.0	0.99	ug/Kg			07/06/16 20:39	1
1,3-Dichlorobenzene	ND		2.0	0.99	ug/Kg			07/06/16 20:39	1
1,3-Dichloropropane	ND		2.0	0.99	ug/Kg			07/06/16 20:39	1
1,4-Dichlorobenzene	ND		2.0	0.99	ug/Kg			07/06/16 20:39	1
2,2-Dichloropropane	ND		2.0	0.99	ug/Kg			07/06/16 20:39	1
2-Chlorotoluene	ND		5.0	0.99	ug/Kg			07/06/16 20:39	1
4-Chlorotoluene	ND		5.0	0.99	ug/Kg			07/06/16 20:39	1
Benzene	ND		2.0	0.99	ug/Kg			07/06/16 20:39	1
Bromobenzene	ND		5.0	0.99	ug/Kg			07/06/16 20:39	1
Bromochloromethane	ND		5.0	0.99	ug/Kg			07/06/16 20:39	1
Bromodichloromethane	ND		2.0	0.99	ug/Kg			07/06/16 20:39	1
Bromoform	ND		5.0	2.0	ug/Kg			07/06/16 20:39	1
Bromomethane	ND		5.0	0.99	ug/Kg			07/06/16 20:39	1
Carbon tetrachloride	ND		5.0	0.99	ug/Kg			07/06/16 20:39	1
Chlorobenzene	ND		2.0	0.99	ug/Kg			07/06/16 20:39	1
Chloroethane	ND		5.0	2.0	ug/Kg			07/06/16 20:39	1
Chloroform	ND		2.0	0.99	ug/Kg			07/06/16 20:39	1
Chloromethane	ND		5.0	0.99	ug/Kg			07/06/16 20:39	1
cis-1,2-Dichloroethene	ND		2.0	0.99	ug/Kg			07/06/16 20:39	1
cis-1,3-Dichloropropene	ND		2.0	0.99	ug/Kg			07/06/16 20:39	1
Dibromochloromethane	ND		2.0	0.99	ug/Kg			07/06/16 20:39	1
Dibromomethane	ND		2.0	0.99	ug/Kg			07/06/16 20:39	1
Dichlorodifluoromethane	ND		5.0	2.0	ug/Kg			07/06/16 20:39	1
Isopropyl Ether (DIPE)	ND		5.0	0.99	ug/Kg			07/06/16 20:39	1
Ethanol	ND		300	99	ug/Kg			07/06/16 20:39	1
Ethyl-t-butyl ether (ETBE)	ND		5.0	0.99	ug/Kg			07/06/16 20:39	1
Ethylbenzene	ND		2.0	0.99	ug/Kg			07/06/16 20:39	1
Hexachlorobutadiene	ND		5.0	0.99	ug/Kg			07/06/16 20:39	1
Isopropylbenzene	ND		2.0	0.99	ug/Kg			07/06/16 20:39	1
m,p-Xylene	ND		4.0	2.0	ug/Kg			07/06/16 20:39	1
Methylene Chloride	ND		20	5.0	ug/Kg			07/06/16 20:39	1
Methyl-t-Butyl Ether (MTBE)	ND		5.0	0.99	ug/Kg			07/06/16 20:39	1
Naphthalene	ND		5.0	2.0	ug/Kg			07/06/16 20:39	1
n-Butylbenzene	ND		5.0	0.99	ug/Kg			07/06/16 20:39	1
N-Propylbenzene	ND		2.0	0.99	ug/Kg			07/06/16 20:39	1
o-Xylene	ND		2.0	0.99	ug/Kg			07/06/16 20:39	1
sec-Butylbenzene	ND		5.0	0.99	ug/Kg			07/06/16 20:39	1

TestAmerica Irvine

# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B13,10'**

**Date Collected: 06/30/16 10:05**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-18**

**Matrix: Solid**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		2.0	0.99	ug/Kg			07/06/16 20:39	1
Tert-amyl-methyl ether (TAME)	ND		5.0	0.99	ug/Kg			07/06/16 20:39	1
tert-Butyl alcohol (TBA)	ND		99	9.9	ug/Kg			07/06/16 20:39	1
tert-Butylbenzene	ND		5.0	0.99	ug/Kg			07/06/16 20:39	1
Tetrachloroethene	ND		2.0	0.99	ug/Kg			07/06/16 20:39	1
Toluene	ND		2.0	0.99	ug/Kg			07/06/16 20:39	1
trans-1,2-Dichloroethene	ND		2.0	0.99	ug/Kg			07/06/16 20:39	1
trans-1,3-Dichloropropene	ND		2.0	0.99	ug/Kg			07/06/16 20:39	1
Trichloroethene	ND		2.0	0.99	ug/Kg			07/06/16 20:39	1
Trichlorofluoromethane	ND		5.0	0.99	ug/Kg			07/06/16 20:39	1
Vinyl chloride	ND		5.0	0.99	ug/Kg			07/06/16 20:39	1
Xylenes, Total	ND		4.0	2.0	ug/Kg			07/06/16 20:39	1
p-Isopropyltoluene	ND		2.0	0.99	ug/Kg			07/06/16 20:39	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Toluene-d8 (Surr)	114		79 - 123					07/06/16 20:39	1
4-Bromofluorobenzene (Surr)	109		79 - 120					07/06/16 20:39	1
Dibromofluoromethane (Surr)	107		60 - 120					07/06/16 20:39	1

## Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	6.3	J	10	5.1	mg/Kg		07/02/16 14:02	07/05/16 22:41	1
C23-C40	12		10	5.1	mg/Kg		07/02/16 14:02	07/05/16 22:41	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
n-Octacosane	78		40 - 140				07/02/16 14:02	07/05/16 22:41	1

**Client Sample ID: B13,15'**

**Date Collected: 06/30/16 10:10**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-19**

**Matrix: Solid**

## Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	ND		100	70	ug/Kg			07/07/16 11:23	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Dibromofluoromethane (Surr)	116		60 - 120					07/07/16 11:23	1
4-Bromofluorobenzene (Surr)	120	*	79 - 120					07/07/16 11:23	1
Toluene-d8 (Surr)	122		79 - 123					07/07/16 11:23	1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	1.0	ug/Kg			07/07/16 11:23	1
1,1,1-Trichloroethane	ND		2.0	1.0	ug/Kg			07/07/16 11:23	1
1,1,1,2,2-Tetrachloroethane	ND	*	2.0	1.0	ug/Kg			07/07/16 11:23	1
1,1,2-Trichloroethane	ND		2.0	1.0	ug/Kg			07/07/16 11:23	1
1,1-Dichloroethane	ND		2.0	1.0	ug/Kg			07/07/16 11:23	1
1,1-Dichloroethene	ND		5.0	1.0	ug/Kg			07/07/16 11:23	1
1,1-Dichloropropene	ND		2.0	1.0	ug/Kg			07/07/16 11:23	1
1,2,3-Trichlorobenzene	ND	*	5.0	1.0	ug/Kg			07/07/16 11:23	1
1,2,3-Trichloropropane	ND	*	10	1.0	ug/Kg			07/07/16 11:23	1

TestAmerica Irvine

# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B13,15'**

**Date Collected: 06/30/16 10:10**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-19**

**Matrix: Solid**

**Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND	*	5.0	1.0	ug/Kg			07/07/16 11:23	1
1,2,4-Trimethylbenzene	ND	*	2.0	1.0	ug/Kg			07/07/16 11:23	1
1,2-Dibromo-3-Chloropropane	ND	*	5.0	2.0	ug/Kg			07/07/16 11:23	1
1,2-Dibromoethane (EDB)	ND		2.0	1.0	ug/Kg			07/07/16 11:23	1
1,2-Dichlorobenzene	ND	*	2.0	1.0	ug/Kg			07/07/16 11:23	1
1,2-Dichloroethane	ND		2.0	1.0	ug/Kg			07/07/16 11:23	1
1,2-Dichloropropane	ND		2.0	1.0	ug/Kg			07/07/16 11:23	1
1,3,5-Trimethylbenzene	ND	*	2.0	1.0	ug/Kg			07/07/16 11:23	1
1,3-Dichlorobenzene	ND	*	2.0	1.0	ug/Kg			07/07/16 11:23	1
1,3-Dichloropropane	ND		2.0	1.0	ug/Kg			07/07/16 11:23	1
1,4-Dichlorobenzene	ND	*	2.0	1.0	ug/Kg			07/07/16 11:23	1
2,2-Dichloropropane	ND		2.0	1.0	ug/Kg			07/07/16 11:23	1
2-Chlorotoluene	ND	*	5.0	1.0	ug/Kg			07/07/16 11:23	1
4-Chlorotoluene	ND	*	5.0	1.0	ug/Kg			07/07/16 11:23	1
Benzene	ND		2.0	1.0	ug/Kg			07/07/16 11:23	1
Bromobenzene	ND	*	5.0	1.0	ug/Kg			07/07/16 11:23	1
Bromochloromethane	ND		5.0	1.0	ug/Kg			07/07/16 11:23	1
Bromodichloromethane	ND		2.0	1.0	ug/Kg			07/07/16 11:23	1
Bromoform	ND		5.0	2.0	ug/Kg			07/07/16 11:23	1
Bromomethane	ND		5.0	1.0	ug/Kg			07/07/16 11:23	1
Carbon tetrachloride	ND		5.0	1.0	ug/Kg			07/07/16 11:23	1
Chlorobenzene	ND		2.0	1.0	ug/Kg			07/07/16 11:23	1
Chloroethane	ND		5.0	2.0	ug/Kg			07/07/16 11:23	1
Chloroform	ND		2.0	1.0	ug/Kg			07/07/16 11:23	1
Chloromethane	ND		5.0	1.0	ug/Kg			07/07/16 11:23	1
cis-1,2-Dichloroethene	ND		2.0	1.0	ug/Kg			07/07/16 11:23	1
cis-1,3-Dichloropropene	ND		2.0	1.0	ug/Kg			07/07/16 11:23	1
Dibromochloromethane	ND		2.0	1.0	ug/Kg			07/07/16 11:23	1
Dibromomethane	ND		2.0	1.0	ug/Kg			07/07/16 11:23	1
Dichlorodifluoromethane	ND		5.0	2.0	ug/Kg			07/07/16 11:23	1
Isopropyl Ether (DIPE)	ND		5.0	1.0	ug/Kg			07/07/16 11:23	1
Ethanol	ND		300	100	ug/Kg			07/07/16 11:23	1
Ethyl-t-butyl ether (ETBE)	ND		5.0	1.0	ug/Kg			07/07/16 11:23	1
Ethylbenzene	ND		2.0	1.0	ug/Kg			07/07/16 11:23	1
Hexachlorobutadiene	ND	*	5.0	1.0	ug/Kg			07/07/16 11:23	1
Isopropylbenzene	ND		2.0	1.0	ug/Kg			07/07/16 11:23	1
m,p-Xylene	ND		4.0	2.0	ug/Kg			07/07/16 11:23	1
Methylene Chloride	ND		20	5.0	ug/Kg			07/07/16 11:23	1
Methyl-t-Butyl Ether (MTBE)	ND		5.0	1.0	ug/Kg			07/07/16 11:23	1
Naphthalene	ND	*	5.0	2.0	ug/Kg			07/07/16 11:23	1
n-Butylbenzene	ND	*	5.0	1.0	ug/Kg			07/07/16 11:23	1
N-Propylbenzene	ND	*	2.0	1.0	ug/Kg			07/07/16 11:23	1
o-Xylene	ND		2.0	1.0	ug/Kg			07/07/16 11:23	1
sec-Butylbenzene	ND	*	5.0	1.0	ug/Kg			07/07/16 11:23	1
Styrene	ND		2.0	1.0	ug/Kg			07/07/16 11:23	1
Tert-amyl-methyl ether (TAME)	ND		5.0	1.0	ug/Kg			07/07/16 11:23	1
tert-Butyl alcohol (TBA)	ND		100	10	ug/Kg			07/07/16 11:23	1
tert-Butylbenzene	ND	*	5.0	1.0	ug/Kg			07/07/16 11:23	1
Tetrachloroethene	ND		2.0	1.0	ug/Kg			07/07/16 11:23	1

TestAmerica Irvine

# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B13,15'**

**Date Collected: 06/30/16 10:10**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-19**

**Matrix: Solid**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND		2.0	1.0	ug/Kg			07/07/16 11:23	1
trans-1,2-Dichloroethene	ND		2.0	1.0	ug/Kg			07/07/16 11:23	1
trans-1,3-Dichloropropene	ND		2.0	1.0	ug/Kg			07/07/16 11:23	1
Trichloroethene	ND		2.0	1.0	ug/Kg			07/07/16 11:23	1
Trichlorofluoromethane	ND		5.0	1.0	ug/Kg			07/07/16 11:23	1
Vinyl chloride	ND		5.0	1.0	ug/Kg			07/07/16 11:23	1
Xylenes, Total	ND		4.0	2.0	ug/Kg			07/07/16 11:23	1
p-Isopropyltoluene	ND	*	2.0	1.0	ug/Kg			07/07/16 11:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	122		79 - 123		07/07/16 11:23	1
4-Bromofluorobenzene (Surr)	120	*	79 - 120		07/07/16 11:23	1
Dibromofluoromethane (Surr)	116		60 - 120		07/07/16 11:23	1

## Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	28		19	9.4	mg/Kg		07/02/16 14:02	07/05/16 22:19	1
C23-C40	130		19	9.4	mg/Kg		07/02/16 14:02	07/05/16 22:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	81		40 - 140	07/02/16 14:02	07/05/16 22:19	1

**Client Sample ID: B14,10'**

**Date Collected: 06/30/16 14:00**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-21**

**Matrix: Solid**

## Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	ND		100	70	ug/Kg			07/07/16 11:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	113		60 - 120		07/07/16 11:52	1
4-Bromofluorobenzene (Surr)	127	X *	79 - 120		07/07/16 11:52	1
Toluene-d8 (Surr)	119		79 - 123		07/07/16 11:52	1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	1.0	ug/Kg			07/07/16 11:52	1
1,1,1-Trichloroethane	ND		2.0	1.0	ug/Kg			07/07/16 11:52	1
1,1,2,2-Tetrachloroethane	ND	*	2.0	1.0	ug/Kg			07/07/16 11:52	1
1,1,2-Trichloroethane	ND		2.0	1.0	ug/Kg			07/07/16 11:52	1
1,1-Dichloroethane	ND		2.0	1.0	ug/Kg			07/07/16 11:52	1
1,1-Dichloroethene	ND		5.0	1.0	ug/Kg			07/07/16 11:52	1
1,1-Dichloropropene	ND		2.0	1.0	ug/Kg			07/07/16 11:52	1
1,2,3-Trichlorobenzene	ND	*	5.0	1.0	ug/Kg			07/07/16 11:52	1
1,2,3-Trichloropropane	ND	*	10	1.0	ug/Kg			07/07/16 11:52	1
1,2,4-Trichlorobenzene	ND	*	5.0	1.0	ug/Kg			07/07/16 11:52	1
1,2,4-Trimethylbenzene	ND	*	2.0	1.0	ug/Kg			07/07/16 11:52	1
1,2-Dibromo-3-Chloropropane	ND	*	5.0	2.0	ug/Kg			07/07/16 11:52	1
1,2-Dibromoethane (EDB)	ND		2.0	1.0	ug/Kg			07/07/16 11:52	1
1,2-Dichlorobenzene	ND	*	2.0	1.0	ug/Kg			07/07/16 11:52	1

TestAmerica Irvine

# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B14,10'**

**Lab Sample ID: 440-151548-21**

**Date Collected: 06/30/16 14:00**

**Matrix: Solid**

**Date Received: 07/02/16 11:20**

**Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		2.0	1.0	ug/Kg			07/07/16 11:52	1
1,2-Dichloropropane	ND		2.0	1.0	ug/Kg			07/07/16 11:52	1
1,3,5-Trimethylbenzene	ND	*	2.0	1.0	ug/Kg			07/07/16 11:52	1
1,3-Dichlorobenzene	ND	*	2.0	1.0	ug/Kg			07/07/16 11:52	1
1,3-Dichloropropane	ND		2.0	1.0	ug/Kg			07/07/16 11:52	1
1,4-Dichlorobenzene	ND	*	2.0	1.0	ug/Kg			07/07/16 11:52	1
2,2-Dichloropropane	ND		2.0	1.0	ug/Kg			07/07/16 11:52	1
2-Chlorotoluene	ND	*	5.0	1.0	ug/Kg			07/07/16 11:52	1
4-Chlorotoluene	ND	*	5.0	1.0	ug/Kg			07/07/16 11:52	1
Benzene	ND		2.0	1.0	ug/Kg			07/07/16 11:52	1
Bromobenzene	ND	*	5.0	1.0	ug/Kg			07/07/16 11:52	1
Bromochloromethane	ND		5.0	1.0	ug/Kg			07/07/16 11:52	1
Bromodichloromethane	ND		2.0	1.0	ug/Kg			07/07/16 11:52	1
Bromoform	ND		5.0	2.0	ug/Kg			07/07/16 11:52	1
Bromomethane	ND		5.0	1.0	ug/Kg			07/07/16 11:52	1
Carbon tetrachloride	ND		5.0	1.0	ug/Kg			07/07/16 11:52	1
Chlorobenzene	ND		2.0	1.0	ug/Kg			07/07/16 11:52	1
Chloroethane	ND		5.0	2.0	ug/Kg			07/07/16 11:52	1
Chloroform	ND		2.0	1.0	ug/Kg			07/07/16 11:52	1
Chloromethane	ND		5.0	1.0	ug/Kg			07/07/16 11:52	1
cis-1,2-Dichloroethene	ND		2.0	1.0	ug/Kg			07/07/16 11:52	1
cis-1,3-Dichloropropene	ND		2.0	1.0	ug/Kg			07/07/16 11:52	1
Dibromochloromethane	ND		2.0	1.0	ug/Kg			07/07/16 11:52	1
Dibromomethane	ND		2.0	1.0	ug/Kg			07/07/16 11:52	1
Dichlorodifluoromethane	ND		5.0	2.0	ug/Kg			07/07/16 11:52	1
Isopropyl Ether (DIPE)	ND		5.0	1.0	ug/Kg			07/07/16 11:52	1
Ethanol	ND		300	100	ug/Kg			07/07/16 11:52	1
Ethyl-t-butyl ether (ETBE)	ND		5.0	1.0	ug/Kg			07/07/16 11:52	1
Ethylbenzene	ND		2.0	1.0	ug/Kg			07/07/16 11:52	1
Hexachlorobutadiene	ND	*	5.0	1.0	ug/Kg			07/07/16 11:52	1
Isopropylbenzene	ND		2.0	1.0	ug/Kg			07/07/16 11:52	1
m,p-Xylene	ND		4.0	2.0	ug/Kg			07/07/16 11:52	1
Methylene Chloride	ND		20	5.0	ug/Kg			07/07/16 11:52	1
Methyl-t-Butyl Ether (MTBE)	ND		5.0	1.0	ug/Kg			07/07/16 11:52	1
Naphthalene	ND	*	5.0	2.0	ug/Kg			07/07/16 11:52	1
n-Butylbenzene	ND	*	5.0	1.0	ug/Kg			07/07/16 11:52	1
N-Propylbenzene	ND	*	2.0	1.0	ug/Kg			07/07/16 11:52	1
o-Xylene	ND		2.0	1.0	ug/Kg			07/07/16 11:52	1
sec-Butylbenzene	ND	*	5.0	1.0	ug/Kg			07/07/16 11:52	1
Styrene	ND		2.0	1.0	ug/Kg			07/07/16 11:52	1
Tert-amyl-methyl ether (TAME)	ND		5.0	1.0	ug/Kg			07/07/16 11:52	1
tert-Butyl alcohol (TBA)	ND		100	10	ug/Kg			07/07/16 11:52	1
tert-Butylbenzene	ND	*	5.0	1.0	ug/Kg			07/07/16 11:52	1
Tetrachloroethene	ND		2.0	1.0	ug/Kg			07/07/16 11:52	1
Toluene	ND		2.0	1.0	ug/Kg			07/07/16 11:52	1
trans-1,2-Dichloroethene	ND		2.0	1.0	ug/Kg			07/07/16 11:52	1
trans-1,3-Dichloropropene	ND		2.0	1.0	ug/Kg			07/07/16 11:52	1
Trichloroethene	ND		2.0	1.0	ug/Kg			07/07/16 11:52	1
Trichlorofluoromethane	ND		5.0	1.0	ug/Kg			07/07/16 11:52	1

TestAmerica Irvine

# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B14,10'**

**Date Collected: 06/30/16 14:00**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-21**

**Matrix: Solid**

**Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		5.0	1.0	ug/Kg			07/07/16 11:52	1
Xylenes, Total	ND		4.0	2.0	ug/Kg			07/07/16 11:52	1
p-Isopropyltoluene	ND	*	2.0	1.0	ug/Kg			07/07/16 11:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	119		79 - 123					07/07/16 11:52	1
4-Bromofluorobenzene (Surr)	127	* X	79 - 120					07/07/16 11:52	1
Dibromofluoromethane (Surr)	113		60 - 120					07/07/16 11:52	1

**Method: 8015B - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		11	5.3	mg/Kg		07/02/16 14:02	07/08/16 22:26	1
C23-C40	ND		11	5.3	mg/Kg		07/02/16 14:02	07/08/16 22:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Octacosane	88		40 - 140				07/02/16 14:02	07/08/16 22:26	1

**Client Sample ID: B14,15'**

**Date Collected: 06/30/16 14:02**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-22**

**Matrix: Solid**

**Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	ND		100	70	ug/Kg			07/07/16 12:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	112		60 - 120					07/07/16 12:21	1
4-Bromofluorobenzene (Surr)	112		79 - 120					07/07/16 12:21	1
Toluene-d8 (Surr)	114		79 - 123					07/07/16 12:21	1

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	1.0	ug/Kg			07/07/16 12:21	1
1,1,1-Trichloroethane	ND		2.0	1.0	ug/Kg			07/07/16 12:21	1
1,1,2,2-Tetrachloroethane	ND		2.0	1.0	ug/Kg			07/07/16 12:21	1
1,1,2-Trichloroethane	ND		2.0	1.0	ug/Kg			07/07/16 12:21	1
1,1-Dichloroethane	ND		2.0	1.0	ug/Kg			07/07/16 12:21	1
1,1-Dichloroethene	ND		5.0	1.0	ug/Kg			07/07/16 12:21	1
1,1-Dichloropropene	ND		2.0	1.0	ug/Kg			07/07/16 12:21	1
1,2,3-Trichlorobenzene	ND		5.0	1.0	ug/Kg			07/07/16 12:21	1
1,2,3-Trichloropropane	ND		10	1.0	ug/Kg			07/07/16 12:21	1
1,2,4-Trichlorobenzene	ND		5.0	1.0	ug/Kg			07/07/16 12:21	1
1,2,4-Trimethylbenzene	ND		2.0	1.0	ug/Kg			07/07/16 12:21	1
1,2-Dibromo-3-Chloropropane	ND		5.0	2.0	ug/Kg			07/07/16 12:21	1
1,2-Dibromoethane (EDB)	ND		2.0	1.0	ug/Kg			07/07/16 12:21	1
1,2-Dichlorobenzene	ND		2.0	1.0	ug/Kg			07/07/16 12:21	1
1,2-Dichloroethane	ND		2.0	1.0	ug/Kg			07/07/16 12:21	1
1,2-Dichloropropane	ND		2.0	1.0	ug/Kg			07/07/16 12:21	1
1,3,5-Trimethylbenzene	ND		2.0	1.0	ug/Kg			07/07/16 12:21	1
1,3-Dichlorobenzene	ND		2.0	1.0	ug/Kg			07/07/16 12:21	1
1,3-Dichloropropane	ND		2.0	1.0	ug/Kg			07/07/16 12:21	1

TestAmerica Irvine



# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B14,15'**

**Lab Sample ID: 440-151548-22**

**Date Collected: 06/30/16 14:02**

**Matrix: Solid**

**Date Received: 07/02/16 11:20**

**Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		2.0	1.0	ug/Kg			07/07/16 12:21	1
2,2-Dichloropropane	ND		2.0	1.0	ug/Kg			07/07/16 12:21	1
2-Chlorotoluene	ND		5.0	1.0	ug/Kg			07/07/16 12:21	1
4-Chlorotoluene	ND		5.0	1.0	ug/Kg			07/07/16 12:21	1
Benzene	ND		2.0	1.0	ug/Kg			07/07/16 12:21	1
Bromobenzene	ND		5.0	1.0	ug/Kg			07/07/16 12:21	1
Bromochloromethane	ND		5.0	1.0	ug/Kg			07/07/16 12:21	1
Bromodichloromethane	ND		2.0	1.0	ug/Kg			07/07/16 12:21	1
Bromoform	ND		5.0	2.0	ug/Kg			07/07/16 12:21	1
Bromomethane	ND		5.0	1.0	ug/Kg			07/07/16 12:21	1
Carbon tetrachloride	ND		5.0	1.0	ug/Kg			07/07/16 12:21	1
Chlorobenzene	ND		2.0	1.0	ug/Kg			07/07/16 12:21	1
Chloroethane	ND		5.0	2.0	ug/Kg			07/07/16 12:21	1
Chloroform	ND		2.0	1.0	ug/Kg			07/07/16 12:21	1
Chloromethane	ND		5.0	1.0	ug/Kg			07/07/16 12:21	1
cis-1,2-Dichloroethene	ND		2.0	1.0	ug/Kg			07/07/16 12:21	1
cis-1,3-Dichloropropene	ND		2.0	1.0	ug/Kg			07/07/16 12:21	1
Dibromochloromethane	ND		2.0	1.0	ug/Kg			07/07/16 12:21	1
Dibromomethane	ND		2.0	1.0	ug/Kg			07/07/16 12:21	1
Dichlorodifluoromethane	ND		5.0	2.0	ug/Kg			07/07/16 12:21	1
Isopropyl Ether (DIPE)	ND		5.0	1.0	ug/Kg			07/07/16 12:21	1
Ethanol	ND		300	100	ug/Kg			07/07/16 12:21	1
Ethyl-t-butyl ether (ETBE)	ND		5.0	1.0	ug/Kg			07/07/16 12:21	1
Ethylbenzene	ND		2.0	1.0	ug/Kg			07/07/16 12:21	1
Hexachlorobutadiene	ND		5.0	1.0	ug/Kg			07/07/16 12:21	1
Isopropylbenzene	ND		2.0	1.0	ug/Kg			07/07/16 12:21	1
m,p-Xylene	ND		4.0	2.0	ug/Kg			07/07/16 12:21	1
Methylene Chloride	ND		20	5.0	ug/Kg			07/07/16 12:21	1
Methyl-t-Butyl Ether (MTBE)	ND		5.0	1.0	ug/Kg			07/07/16 12:21	1
Naphthalene	ND		5.0	2.0	ug/Kg			07/07/16 12:21	1
n-Butylbenzene	ND		5.0	1.0	ug/Kg			07/07/16 12:21	1
N-Propylbenzene	ND		2.0	1.0	ug/Kg			07/07/16 12:21	1
o-Xylene	ND		2.0	1.0	ug/Kg			07/07/16 12:21	1
sec-Butylbenzene	ND		5.0	1.0	ug/Kg			07/07/16 12:21	1
Styrene	ND		2.0	1.0	ug/Kg			07/07/16 12:21	1
Tert-amyl-methyl ether (TAME)	ND		5.0	1.0	ug/Kg			07/07/16 12:21	1
tert-Butyl alcohol (TBA)	ND		100	10	ug/Kg			07/07/16 12:21	1
tert-Butylbenzene	ND		5.0	1.0	ug/Kg			07/07/16 12:21	1
Tetrachloroethene	ND		2.0	1.0	ug/Kg			07/07/16 12:21	1
Toluene	ND		2.0	1.0	ug/Kg			07/07/16 12:21	1
trans-1,2-Dichloroethene	ND		2.0	1.0	ug/Kg			07/07/16 12:21	1
trans-1,3-Dichloropropene	ND		2.0	1.0	ug/Kg			07/07/16 12:21	1
Trichloroethene	ND		2.0	1.0	ug/Kg			07/07/16 12:21	1
Trichlorofluoromethane	ND		5.0	1.0	ug/Kg			07/07/16 12:21	1
Vinyl chloride	ND		5.0	1.0	ug/Kg			07/07/16 12:21	1
Xylenes, Total	ND		4.0	2.0	ug/Kg			07/07/16 12:21	1
p-Isopropyltoluene	ND		2.0	1.0	ug/Kg			07/07/16 12:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	114		79 - 123		07/07/16 12:21	1

TestAmerica Irvine

# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B14,15'**

**Date Collected: 06/30/16 14:02**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-22**

**Matrix: Solid**

**Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		79 - 120		07/07/16 12:21	1
Dibromofluoromethane (Surr)	112		60 - 120		07/07/16 12:21	1

**Method: 8015B - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		9.9	5.0	mg/Kg		07/02/16 14:02	07/09/16 01:42	1
<b>C23-C40</b>	<b>9.2</b>	<b>J</b>	9.9	5.0	mg/Kg		07/02/16 14:02	07/09/16 01:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	84		40 - 140	07/02/16 14:02	07/09/16 01:42	1

**Client Sample ID: B15,10'**

**Date Collected: 06/30/16 14:16**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-24**

**Matrix: Solid**

**Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	ND		99	69	ug/Kg			07/07/16 12:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	111		60 - 120		07/07/16 12:51	1
4-Bromofluorobenzene (Surr)	107		79 - 120		07/07/16 12:51	1
Toluene-d8 (Surr)	110		79 - 123		07/07/16 12:51	1

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	0.99	ug/Kg			07/07/16 12:51	1
1,1,1-Trichloroethane	ND		2.0	0.99	ug/Kg			07/07/16 12:51	1
1,1,2,2-Tetrachloroethane	ND		2.0	0.99	ug/Kg			07/07/16 12:51	1
1,1,2-Trichloroethane	ND		2.0	0.99	ug/Kg			07/07/16 12:51	1
1,1-Dichloroethane	ND		2.0	0.99	ug/Kg			07/07/16 12:51	1
1,1-Dichloroethene	ND		5.0	0.99	ug/Kg			07/07/16 12:51	1
1,1-Dichloropropene	ND		2.0	0.99	ug/Kg			07/07/16 12:51	1
1,2,3-Trichlorobenzene	ND		5.0	0.99	ug/Kg			07/07/16 12:51	1
1,2,3-Trichloropropane	ND		9.9	0.99	ug/Kg			07/07/16 12:51	1
1,2,4-Trichlorobenzene	ND		5.0	0.99	ug/Kg			07/07/16 12:51	1
1,2,4-Trimethylbenzene	ND		2.0	0.99	ug/Kg			07/07/16 12:51	1
1,2-Dibromo-3-Chloropropane	ND		5.0	2.0	ug/Kg			07/07/16 12:51	1
1,2-Dibromoethane (EDB)	ND		2.0	0.99	ug/Kg			07/07/16 12:51	1
1,2-Dichlorobenzene	ND		2.0	0.99	ug/Kg			07/07/16 12:51	1
1,2-Dichloroethane	ND		2.0	0.99	ug/Kg			07/07/16 12:51	1
1,2-Dichloropropane	ND		2.0	0.99	ug/Kg			07/07/16 12:51	1
1,3,5-Trimethylbenzene	ND		2.0	0.99	ug/Kg			07/07/16 12:51	1
1,3-Dichlorobenzene	ND		2.0	0.99	ug/Kg			07/07/16 12:51	1
1,3-Dichloropropane	ND		2.0	0.99	ug/Kg			07/07/16 12:51	1
1,4-Dichlorobenzene	ND		2.0	0.99	ug/Kg			07/07/16 12:51	1
2,2-Dichloropropane	ND		2.0	0.99	ug/Kg			07/07/16 12:51	1
2-Chlorotoluene	ND		5.0	0.99	ug/Kg			07/07/16 12:51	1
4-Chlorotoluene	ND		5.0	0.99	ug/Kg			07/07/16 12:51	1
Benzene	ND		2.0	0.99	ug/Kg			07/07/16 12:51	1

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# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B15,10'**

**Lab Sample ID: 440-151548-24**

**Date Collected: 06/30/16 14:16**

**Matrix: Solid**

**Date Received: 07/02/16 11:20**

**Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromobenzene	ND		5.0	0.99	ug/Kg			07/07/16 12:51	1
Bromochloromethane	ND		5.0	0.99	ug/Kg			07/07/16 12:51	1
Bromodichloromethane	ND		2.0	0.99	ug/Kg			07/07/16 12:51	1
Bromoform	ND		5.0	2.0	ug/Kg			07/07/16 12:51	1
Bromomethane	ND		5.0	0.99	ug/Kg			07/07/16 12:51	1
Carbon tetrachloride	ND		5.0	0.99	ug/Kg			07/07/16 12:51	1
Chlorobenzene	ND		2.0	0.99	ug/Kg			07/07/16 12:51	1
Chloroethane	ND		5.0	2.0	ug/Kg			07/07/16 12:51	1
Chloroform	ND		2.0	0.99	ug/Kg			07/07/16 12:51	1
Chloromethane	ND		5.0	0.99	ug/Kg			07/07/16 12:51	1
cis-1,2-Dichloroethene	ND		2.0	0.99	ug/Kg			07/07/16 12:51	1
cis-1,3-Dichloropropene	ND		2.0	0.99	ug/Kg			07/07/16 12:51	1
Dibromochloromethane	ND		2.0	0.99	ug/Kg			07/07/16 12:51	1
Dibromomethane	ND		2.0	0.99	ug/Kg			07/07/16 12:51	1
Dichlorodifluoromethane	ND		5.0	2.0	ug/Kg			07/07/16 12:51	1
Isopropyl Ether (DIPE)	ND		5.0	0.99	ug/Kg			07/07/16 12:51	1
Ethanol	ND		300	99	ug/Kg			07/07/16 12:51	1
Ethyl-t-butyl ether (ETBE)	ND		5.0	0.99	ug/Kg			07/07/16 12:51	1
Ethylbenzene	ND		2.0	0.99	ug/Kg			07/07/16 12:51	1
Hexachlorobutadiene	ND		5.0	0.99	ug/Kg			07/07/16 12:51	1
Isopropylbenzene	ND		2.0	0.99	ug/Kg			07/07/16 12:51	1
m,p-Xylene	ND		4.0	2.0	ug/Kg			07/07/16 12:51	1
Methylene Chloride	ND		20	5.0	ug/Kg			07/07/16 12:51	1
Methyl-t-Butyl Ether (MTBE)	ND		5.0	0.99	ug/Kg			07/07/16 12:51	1
Naphthalene	ND		5.0	2.0	ug/Kg			07/07/16 12:51	1
n-Butylbenzene	ND		5.0	0.99	ug/Kg			07/07/16 12:51	1
N-Propylbenzene	ND		2.0	0.99	ug/Kg			07/07/16 12:51	1
o-Xylene	ND		2.0	0.99	ug/Kg			07/07/16 12:51	1
sec-Butylbenzene	ND		5.0	0.99	ug/Kg			07/07/16 12:51	1
Styrene	ND		2.0	0.99	ug/Kg			07/07/16 12:51	1
Tert-amyl-methyl ether (TAME)	ND		5.0	0.99	ug/Kg			07/07/16 12:51	1
tert-Butyl alcohol (TBA)	ND		99	9.9	ug/Kg			07/07/16 12:51	1
tert-Butylbenzene	ND		5.0	0.99	ug/Kg			07/07/16 12:51	1
Tetrachloroethene	ND		2.0	0.99	ug/Kg			07/07/16 12:51	1
Toluene	ND		2.0	0.99	ug/Kg			07/07/16 12:51	1
trans-1,2-Dichloroethene	ND		2.0	0.99	ug/Kg			07/07/16 12:51	1
trans-1,3-Dichloropropene	ND		2.0	0.99	ug/Kg			07/07/16 12:51	1
Trichloroethene	ND		2.0	0.99	ug/Kg			07/07/16 12:51	1
Trichlorofluoromethane	ND		5.0	0.99	ug/Kg			07/07/16 12:51	1
Vinyl chloride	ND		5.0	0.99	ug/Kg			07/07/16 12:51	1
Xylenes, Total	ND		4.0	2.0	ug/Kg			07/07/16 12:51	1
p-Isopropyltoluene	ND		2.0	0.99	ug/Kg			07/07/16 12:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	110		79 - 123		07/07/16 12:51	1
4-Bromofluorobenzene (Surr)	107		79 - 120		07/07/16 12:51	1
Dibromofluoromethane (Surr)	111		60 - 120		07/07/16 12:51	1

TestAmerica Irvine

# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B15,10'**

**Date Collected: 06/30/16 14:16**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-24**

**Matrix: Solid**

**Method: 8015B - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		11	5.3	mg/Kg		07/02/16 14:02	07/09/16 01:22	1
C23-C40	ND		11	5.3	mg/Kg		07/02/16 14:02	07/09/16 01:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>n</i> -Octacosane	59		40 - 140				07/02/16 14:02	07/09/16 01:22	1

**Client Sample ID: B15,15'**

**Date Collected: 06/30/16 14:19**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-25**

**Matrix: Solid**

**Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	ND		99	69	ug/Kg			07/07/16 02:03	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>Dibromofluoromethane (Surr)</i>	110		60 - 120					07/07/16 02:03	1
<i>4-Bromofluorobenzene (Surr)</i>	106		79 - 120					07/07/16 02:03	1
<i>Toluene-d8 (Surr)</i>	111		79 - 123					07/07/16 02:03	1

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.9	0.99	ug/Kg			07/07/16 02:03	1
1,1,1-Trichloroethane	ND		2.0	0.99	ug/Kg			07/07/16 02:03	1
1,1,2,2-Tetrachloroethane	ND		2.0	0.99	ug/Kg			07/07/16 02:03	1
1,1,2-Trichloroethane	ND		2.0	0.99	ug/Kg			07/07/16 02:03	1
1,1-Dichloroethane	ND		2.0	0.99	ug/Kg			07/07/16 02:03	1
1,1-Dichloroethene	ND		4.9	0.99	ug/Kg			07/07/16 02:03	1
1,1-Dichloropropene	ND		2.0	0.99	ug/Kg			07/07/16 02:03	1
1,2,3-Trichlorobenzene	ND		4.9	0.99	ug/Kg			07/07/16 02:03	1
1,2,3-Trichloropropane	ND		9.9	0.99	ug/Kg			07/07/16 02:03	1
1,2,4-Trichlorobenzene	ND		4.9	0.99	ug/Kg			07/07/16 02:03	1
1,2,4-Trimethylbenzene	ND		2.0	0.99	ug/Kg			07/07/16 02:03	1
1,2-Dibromo-3-Chloropropane	ND		4.9	2.0	ug/Kg			07/07/16 02:03	1
1,2-Dibromoethane (EDB)	ND		2.0	0.99	ug/Kg			07/07/16 02:03	1
1,2-Dichlorobenzene	ND		2.0	0.99	ug/Kg			07/07/16 02:03	1
1,2-Dichloroethane	ND		2.0	0.99	ug/Kg			07/07/16 02:03	1
1,2-Dichloropropane	ND		2.0	0.99	ug/Kg			07/07/16 02:03	1
1,3,5-Trimethylbenzene	ND		2.0	0.99	ug/Kg			07/07/16 02:03	1
1,3-Dichlorobenzene	ND		2.0	0.99	ug/Kg			07/07/16 02:03	1
1,3-Dichloropropane	ND		2.0	0.99	ug/Kg			07/07/16 02:03	1
1,4-Dichlorobenzene	ND		2.0	0.99	ug/Kg			07/07/16 02:03	1
2,2-Dichloropropane	ND		2.0	0.99	ug/Kg			07/07/16 02:03	1
2-Chlorotoluene	ND		4.9	0.99	ug/Kg			07/07/16 02:03	1
4-Chlorotoluene	ND		4.9	0.99	ug/Kg			07/07/16 02:03	1
Benzene	ND		2.0	0.99	ug/Kg			07/07/16 02:03	1
Bromobenzene	ND		4.9	0.99	ug/Kg			07/07/16 02:03	1
Bromochloromethane	ND		4.9	0.99	ug/Kg			07/07/16 02:03	1
Bromodichloromethane	ND		2.0	0.99	ug/Kg			07/07/16 02:03	1
Bromoform	ND		4.9	2.0	ug/Kg			07/07/16 02:03	1
Bromomethane	ND		4.9	0.99	ug/Kg			07/07/16 02:03	1

TestAmerica Irvine

# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B15,15'**

**Date Collected: 06/30/16 14:19**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-25**

**Matrix: Solid**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	ND		4.9	0.99	ug/Kg			07/07/16 02:03	1
Chlorobenzene	ND		2.0	0.99	ug/Kg			07/07/16 02:03	1
Chloroethane	ND		4.9	2.0	ug/Kg			07/07/16 02:03	1
Chloroform	ND		2.0	0.99	ug/Kg			07/07/16 02:03	1
Chloromethane	ND		4.9	0.99	ug/Kg			07/07/16 02:03	1
cis-1,2-Dichloroethene	ND		2.0	0.99	ug/Kg			07/07/16 02:03	1
cis-1,3-Dichloropropene	ND		2.0	0.99	ug/Kg			07/07/16 02:03	1
Dibromochloromethane	ND		2.0	0.99	ug/Kg			07/07/16 02:03	1
Dibromomethane	ND		2.0	0.99	ug/Kg			07/07/16 02:03	1
Dichlorodifluoromethane	ND		4.9	2.0	ug/Kg			07/07/16 02:03	1
Isopropyl Ether (DIPE)	ND		4.9	0.99	ug/Kg			07/07/16 02:03	1
Ethanol	ND		300	99	ug/Kg			07/07/16 02:03	1
Ethyl-t-butyl ether (ETBE)	ND		4.9	0.99	ug/Kg			07/07/16 02:03	1
Ethylbenzene	ND		2.0	0.99	ug/Kg			07/07/16 02:03	1
Hexachlorobutadiene	ND		4.9	0.99	ug/Kg			07/07/16 02:03	1
Isopropylbenzene	ND		2.0	0.99	ug/Kg			07/07/16 02:03	1
m,p-Xylene	ND		3.9	2.0	ug/Kg			07/07/16 02:03	1
Methylene Chloride	ND		20	4.9	ug/Kg			07/07/16 02:03	1
Methyl-t-Butyl Ether (MTBE)	ND		4.9	0.99	ug/Kg			07/07/16 02:03	1
Naphthalene	ND		4.9	2.0	ug/Kg			07/07/16 02:03	1
n-Butylbenzene	ND		4.9	0.99	ug/Kg			07/07/16 02:03	1
N-Propylbenzene	ND		2.0	0.99	ug/Kg			07/07/16 02:03	1
o-Xylene	ND		2.0	0.99	ug/Kg			07/07/16 02:03	1
sec-Butylbenzene	ND		4.9	0.99	ug/Kg			07/07/16 02:03	1
Styrene	ND		2.0	0.99	ug/Kg			07/07/16 02:03	1
Tert-amyl-methyl ether (TAME)	ND		4.9	0.99	ug/Kg			07/07/16 02:03	1
tert-Butyl alcohol (TBA)	ND		99	9.9	ug/Kg			07/07/16 02:03	1
tert-Butylbenzene	ND		4.9	0.99	ug/Kg			07/07/16 02:03	1
Tetrachloroethene	ND		2.0	0.99	ug/Kg			07/07/16 02:03	1
Toluene	ND		2.0	0.99	ug/Kg			07/07/16 02:03	1
trans-1,2-Dichloroethene	ND		2.0	0.99	ug/Kg			07/07/16 02:03	1
trans-1,3-Dichloropropene	ND		2.0	0.99	ug/Kg			07/07/16 02:03	1
Trichloroethene	ND		2.0	0.99	ug/Kg			07/07/16 02:03	1
Trichlorofluoromethane	ND		4.9	0.99	ug/Kg			07/07/16 02:03	1
Vinyl chloride	ND		4.9	0.99	ug/Kg			07/07/16 02:03	1
Xylenes, Total	ND		3.9	2.0	ug/Kg			07/07/16 02:03	1
p-Isopropyltoluene	ND		2.0	0.99	ug/Kg			07/07/16 02:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	111		79 - 123		07/07/16 02:03	1
4-Bromofluorobenzene (Surr)	106		79 - 120		07/07/16 02:03	1
Dibromofluoromethane (Surr)	110		60 - 120		07/07/16 02:03	1

## Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		10	5.0	mg/Kg		07/02/16 14:02	07/09/16 00:23	1
C23-C40	ND		10	5.0	mg/Kg		07/02/16 14:02	07/09/16 00:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	82		40 - 140	07/02/16 14:02	07/09/16 00:23	1

TestAmerica Irvine

# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B3,1'**  
**Date Collected: 06/30/16 14:34**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-26**  
**Matrix: Solid**

## Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		30	3.9	ug/Kg		07/02/16 14:05	07/06/16 19:27	1
Acenaphthylene	ND		30	3.9	ug/Kg		07/02/16 14:05	07/06/16 19:27	1
<b>Anthracene</b>	<b>5.1</b>	<b>J</b>	30	3.9	ug/Kg		07/02/16 14:05	07/06/16 19:27	1
<b>Benzo[a]anthracene</b>	<b>18</b>	<b>J</b>	30	3.9	ug/Kg		07/02/16 14:05	07/06/16 19:27	1
<b>Benzo[a]pyrene</b>	<b>16</b>	<b>J</b>	30	3.9	ug/Kg		07/02/16 14:05	07/06/16 19:27	1
<b>Benzo[b]fluoranthene</b>	<b>23</b>	<b>J</b>	30	3.9	ug/Kg		07/02/16 14:05	07/06/16 19:27	1
<b>Benzo[g,h,i]perylene</b>	<b>8.7</b>	<b>J</b>	30	3.9	ug/Kg		07/02/16 14:05	07/06/16 19:27	1
<b>Benzo[k]fluoranthene</b>	<b>8.1</b>	<b>J</b>	30	3.9	ug/Kg		07/02/16 14:05	07/06/16 19:27	1
<b>Chrysene</b>	<b>27</b>	<b>J</b>	30	3.9	ug/Kg		07/02/16 14:05	07/06/16 19:27	1
Dibenz(a,h)anthracene	ND		30	3.9	ug/Kg		07/02/16 14:05	07/06/16 19:27	1
<b>Fluoranthene</b>	<b>40</b>		30	3.9	ug/Kg		07/02/16 14:05	07/06/16 19:27	1
Fluorene	ND		30	3.9	ug/Kg		07/02/16 14:05	07/06/16 19:27	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>7.9</b>	<b>J</b>	30	3.9	ug/Kg		07/02/16 14:05	07/06/16 19:27	1
<b>Naphthalene</b>	<b>6.3</b>	<b>J</b>	30	3.9	ug/Kg		07/02/16 14:05	07/06/16 19:27	1
<b>Phenanthrene</b>	<b>43</b>		30	3.9	ug/Kg		07/02/16 14:05	07/06/16 19:27	1
<b>Pyrene</b>	<b>40</b>		30	3.9	ug/Kg		07/02/16 14:05	07/06/16 19:27	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2-Fluorobiphenyl (Surr)	75		39 - 111				07/02/16 14:05	07/06/16 19:27	1
Nitrobenzene-d5	69		41 - 119				07/02/16 14:05	07/06/16 19:27	1
Terphenyl-d14	129		43 - 150				07/02/16 14:05	07/06/16 19:27	1

## Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		110	36	ug/Kg		07/07/16 09:17	07/08/16 12:46	1
Aroclor 1221	ND		110	36	ug/Kg		07/07/16 09:17	07/08/16 12:46	1
Aroclor 1232	ND		110	36	ug/Kg		07/07/16 09:17	07/08/16 12:46	1
Aroclor 1242	ND		110	36	ug/Kg		07/07/16 09:17	07/08/16 12:46	1
Aroclor 1248	ND		110	36	ug/Kg		07/07/16 09:17	07/08/16 12:46	1
Aroclor 1254	ND		110	36	ug/Kg		07/07/16 09:17	07/08/16 12:46	1
Aroclor 1260	ND		110	36	ug/Kg		07/07/16 09:17	07/08/16 12:46	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
DCB Decachlorobiphenyl (Surr)	98		45 - 120				07/07/16 09:17	07/08/16 12:46	1

## Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Lead</b>	<b>31</b>		0.49	0.25	mg/Kg		07/06/16 08:26	07/07/16 13:38	20

**Client Sample ID: B3,3'**  
**Date Collected: 06/30/16 14:37**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-27**  
**Matrix: Solid**

## Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		56	7.5	ug/Kg		07/02/16 14:05	07/06/16 19:48	1
Acenaphthylene	ND		56	7.5	ug/Kg		07/02/16 14:05	07/06/16 19:48	1
Anthracene	ND		56	7.5	ug/Kg		07/02/16 14:05	07/06/16 19:48	1
<b>Benzo[a]anthracene</b>	<b>12</b>	<b>J</b>	56	7.5	ug/Kg		07/02/16 14:05	07/06/16 19:48	1
<b>Benzo[a]pyrene</b>	<b>12</b>	<b>J</b>	56	7.5	ug/Kg		07/02/16 14:05	07/06/16 19:48	1
<b>Benzo[b]fluoranthene</b>	<b>17</b>	<b>J</b>	56	7.5	ug/Kg		07/02/16 14:05	07/06/16 19:48	1

TestAmerica Irvine

# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B3,3'**  
**Date Collected: 06/30/16 14:37**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-27**  
**Matrix: Solid**

## Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Benzo[g,h,i]perylene</b>	<b>9.4</b>	<b>J</b>	56	7.5	ug/Kg		07/02/16 14:05	07/06/16 19:48	1
Benzo[k]fluoranthene	ND		56	7.5	ug/Kg		07/02/16 14:05	07/06/16 19:48	1
<b>Chrysene</b>	<b>18</b>	<b>J</b>	56	7.5	ug/Kg		07/02/16 14:05	07/06/16 19:48	1
Dibenz(a,h)anthracene	ND		56	7.5	ug/Kg		07/02/16 14:05	07/06/16 19:48	1
<b>Fluoranthene</b>	<b>29</b>	<b>J</b>	56	7.5	ug/Kg		07/02/16 14:05	07/06/16 19:48	1
Fluorene	ND		56	7.5	ug/Kg		07/02/16 14:05	07/06/16 19:48	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>9.2</b>	<b>J</b>	56	7.5	ug/Kg		07/02/16 14:05	07/06/16 19:48	1
Naphthalene	ND		56	7.5	ug/Kg		07/02/16 14:05	07/06/16 19:48	1
<b>Phenanthrene</b>	<b>29</b>	<b>J</b>	56	7.5	ug/Kg		07/02/16 14:05	07/06/16 19:48	1
<b>Pyrene</b>	<b>28</b>	<b>J</b>	56	7.5	ug/Kg		07/02/16 14:05	07/06/16 19:48	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2-Fluorobiphenyl (Surr)	68		39 - 111				07/02/16 14:05	07/06/16 19:48	1
Nitrobenzene-d5	62		41 - 119				07/02/16 14:05	07/06/16 19:48	1
Terphenyl-d14	109		43 - 150				07/02/16 14:05	07/06/16 19:48	1

## Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		110	36	ug/Kg		07/07/16 09:17	07/08/16 13:01	1
Aroclor 1221	ND		110	36	ug/Kg		07/07/16 09:17	07/08/16 13:01	1
Aroclor 1232	ND		110	36	ug/Kg		07/07/16 09:17	07/08/16 13:01	1
Aroclor 1242	ND		110	36	ug/Kg		07/07/16 09:17	07/08/16 13:01	1
Aroclor 1248	ND		110	36	ug/Kg		07/07/16 09:17	07/08/16 13:01	1
Aroclor 1254	ND		110	36	ug/Kg		07/07/16 09:17	07/08/16 13:01	1
Aroclor 1260	ND		110	36	ug/Kg		07/07/16 09:17	07/08/16 13:01	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
DCB Decachlorobiphenyl (Surr)	89		45 - 120				07/07/16 09:17	07/08/16 13:01	1

## Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Lead</b>	<b>11</b>		0.49	0.25	mg/Kg		07/06/16 08:26	07/07/16 13:41	20

**Client Sample ID: B6,1'**  
**Date Collected: 06/30/16 14:46**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-29**  
**Matrix: Solid**

## Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 21:31	1
Acenaphthylene	ND		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 21:31	1
<b>Anthracene</b>	<b>6.4</b>	<b>J</b>	30	4.0	ug/Kg		07/02/16 14:05	07/06/16 21:31	1
<b>Benzo[a]anthracene</b>	<b>22</b>	<b>J</b>	30	4.0	ug/Kg		07/02/16 14:05	07/06/16 21:31	1
<b>Benzo[a]pyrene</b>	<b>30</b>		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 21:31	1
<b>Benzo[b]fluoranthene</b>	<b>39</b>		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 21:31	1
<b>Benzo[g,h,i]perylene</b>	<b>21</b>	<b>J</b>	30	4.0	ug/Kg		07/02/16 14:05	07/06/16 21:31	1
<b>Benzo[k]fluoranthene</b>	<b>14</b>	<b>J</b>	30	4.0	ug/Kg		07/02/16 14:05	07/06/16 21:31	1
<b>Chrysene</b>	<b>34</b>		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 21:31	1
<b>Dibenz(a,h)anthracene</b>	<b>5.8</b>	<b>J</b>	30	4.0	ug/Kg		07/02/16 14:05	07/06/16 21:31	1
<b>Fluoranthene</b>	<b>55</b>		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 21:31	1
Fluorene	ND		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 21:31	1

TestAmerica Irvine

# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B6,1'**  
**Date Collected: 06/30/16 14:46**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-29**  
**Matrix: Solid**

### Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indeno[1,2,3-cd]pyrene	18	J	30	4.0	ug/Kg		07/02/16 14:05	07/06/16 21:31	1
Naphthalene	9.4	J	30	4.0	ug/Kg		07/02/16 14:05	07/06/16 21:31	1
Phenanthrene	45		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 21:31	1
Pyrene	57		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 21:31	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2-Fluorobiphenyl (Surr)	76		39 - 111				07/02/16 14:05	07/06/16 21:31	1
Nitrobenzene-d5	68		41 - 119				07/02/16 14:05	07/06/16 21:31	1
Terphenyl-d14	122		43 - 150				07/02/16 14:05	07/06/16 21:31	1

### Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		50	17	ug/Kg		07/07/16 09:17	07/08/16 13:16	1
Aroclor 1221	ND		50	17	ug/Kg		07/07/16 09:17	07/08/16 13:16	1
Aroclor 1232	ND		50	17	ug/Kg		07/07/16 09:17	07/08/16 13:16	1
Aroclor 1242	ND		50	17	ug/Kg		07/07/16 09:17	07/08/16 13:16	1
Aroclor 1248	ND		50	17	ug/Kg		07/07/16 09:17	07/08/16 13:16	1
Aroclor 1254	ND		50	17	ug/Kg		07/07/16 09:17	07/08/16 13:16	1
Aroclor 1260	ND		50	17	ug/Kg		07/07/16 09:17	07/08/16 13:16	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
DCB Decachlorobiphenyl (Surr)	66		45 - 120				07/07/16 09:17	07/08/16 13:16	1

### Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	14		0.50	0.25	mg/Kg		07/06/16 08:26	07/07/16 13:43	20

**Client Sample ID: B6,3'**  
**Date Collected: 06/30/16 14:49**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-30**  
**Matrix: Solid**

### Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		63	8.5	ug/Kg		07/02/16 14:05	07/08/16 17:53	1
Acenaphthylene	ND		63	8.5	ug/Kg		07/02/16 14:05	07/08/16 17:53	1
Anthracene	ND		63	8.5	ug/Kg		07/02/16 14:05	07/08/16 17:53	1
Benzo[a]anthracene	24	J	63	8.5	ug/Kg		07/02/16 14:05	07/08/16 17:53	1
Benzo[a]pyrene	32	J	63	8.5	ug/Kg		07/02/16 14:05	07/08/16 17:53	1
Benzo[b]fluoranthene	42	J	63	8.5	ug/Kg		07/02/16 14:05	07/08/16 17:53	1
Benzo[g,h,i]perylene	10	J	63	8.5	ug/Kg		07/02/16 14:05	07/08/16 17:53	1
Benzo[k]fluoranthene	15	J	63	8.5	ug/Kg		07/02/16 14:05	07/08/16 17:53	1
Chrysene	36	J	63	8.5	ug/Kg		07/02/16 14:05	07/08/16 17:53	1
Dibenz(a,h)anthracene	ND		63	8.5	ug/Kg		07/02/16 14:05	07/08/16 17:53	1
Fluoranthene	60	J	63	8.5	ug/Kg		07/02/16 14:05	07/08/16 17:53	1
Fluorene	ND		63	8.5	ug/Kg		07/02/16 14:05	07/08/16 17:53	1
Indeno[1,2,3-cd]pyrene	15	J	63	8.5	ug/Kg		07/02/16 14:05	07/08/16 17:53	1
Naphthalene	11	J	63	8.5	ug/Kg		07/02/16 14:05	07/08/16 17:53	1
Phenanthrene	45	J	63	8.5	ug/Kg		07/02/16 14:05	07/08/16 17:53	1
Pyrene	64		63	8.5	ug/Kg		07/02/16 14:05	07/08/16 17:53	1

TestAmerica Irvine



# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B6,3'**  
**Date Collected: 06/30/16 14:49**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-30**  
**Matrix: Solid**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	78		39 - 111	07/02/16 14:05	07/08/16 17:53	1
Nitrobenzene-d5	71		41 - 119	07/02/16 14:05	07/08/16 17:53	1
Terphenyl-d14	124		43 - 150	07/02/16 14:05	07/08/16 17:53	1

### Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		110	36	ug/Kg		07/07/16 09:17	07/08/16 13:31	1
Aroclor 1221	ND		110	36	ug/Kg		07/07/16 09:17	07/08/16 13:31	1
Aroclor 1232	ND		110	36	ug/Kg		07/07/16 09:17	07/08/16 13:31	1
Aroclor 1242	ND		110	36	ug/Kg		07/07/16 09:17	07/08/16 13:31	1
Aroclor 1248	ND		110	36	ug/Kg		07/07/16 09:17	07/08/16 13:31	1
Aroclor 1254	ND		110	36	ug/Kg		07/07/16 09:17	07/08/16 13:31	1
Aroclor 1260	ND		110	36	ug/Kg		07/07/16 09:17	07/08/16 13:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	87		45 - 120	07/07/16 09:17	07/08/16 13:31	1

### Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	14		0.50	0.25	mg/Kg		07/06/16 08:26	07/07/16 13:46	20

**Client Sample ID: B10,1'**  
**Date Collected: 06/30/16 15:36**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-32**  
**Matrix: Solid**

### Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	ND		100	70	ug/Kg			07/14/16 15:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	6	X	60 - 120		07/14/16 15:56	1
4-Bromofluorobenzene (Surr)	104		79 - 120		07/14/16 15:56	1
Toluene-d8 (Surr)	107		79 - 123		07/14/16 15:56	1

### Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	8.8	J	30	3.9	ug/Kg		07/02/16 14:05	07/08/16 18:13	1
Acenaphthylene	ND		30	3.9	ug/Kg		07/02/16 14:05	07/08/16 18:13	1
Anthracene	18	J	30	3.9	ug/Kg		07/02/16 14:05	07/08/16 18:13	1
Benzo[a]anthracene	37		30	3.9	ug/Kg		07/02/16 14:05	07/08/16 18:13	1
Benzo[a]pyrene	32		30	3.9	ug/Kg		07/02/16 14:05	07/08/16 18:13	1
Benzo[b]fluoranthene	43		30	3.9	ug/Kg		07/02/16 14:05	07/08/16 18:13	1
Benzo[g,h,i]perylene	13	J	30	3.9	ug/Kg		07/02/16 14:05	07/08/16 18:13	1
Benzo[k]fluoranthene	16	J	30	3.9	ug/Kg		07/02/16 14:05	07/08/16 18:13	1
Chrysene	51		30	3.9	ug/Kg		07/02/16 14:05	07/08/16 18:13	1
Dibenz(a,h)anthracene	ND		30	3.9	ug/Kg		07/02/16 14:05	07/08/16 18:13	1
Fluoranthene	89		30	3.9	ug/Kg		07/02/16 14:05	07/08/16 18:13	1
Fluorene	ND		30	3.9	ug/Kg		07/02/16 14:05	07/08/16 18:13	1
Indeno[1,2,3-cd]pyrene	11	J	30	3.9	ug/Kg		07/02/16 14:05	07/08/16 18:13	1
Naphthalene	5.1	J	30	3.9	ug/Kg		07/02/16 14:05	07/08/16 18:13	1
Phenanthrene	120		30	3.9	ug/Kg		07/02/16 14:05	07/08/16 18:13	1

TestAmerica Irvine

# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B10,1'**  
**Date Collected: 06/30/16 15:36**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-32**  
**Matrix: Solid**

## Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	82		30	3.9	ug/Kg		07/02/16 14:05	07/08/16 18:13	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2-Fluorobiphenyl (Surr)	72		39 - 111				07/02/16 14:05	07/08/16 18:13	1
Nitrobenzene-d5	64		41 - 119				07/02/16 14:05	07/08/16 18:13	1
Terphenyl-d14	114		43 - 150				07/02/16 14:05	07/08/16 18:13	1

## Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	13		4.9	2.5	mg/Kg		07/14/16 17:51	07/15/16 21:16	1
C23-C40	61		4.9	2.5	mg/Kg		07/14/16 17:51	07/15/16 21:16	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
n-Octacosane	82		40 - 140				07/14/16 17:51	07/15/16 21:16	1

## Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		50	17	ug/Kg		07/07/16 09:17	07/08/16 13:47	1
Aroclor 1221	ND		50	17	ug/Kg		07/07/16 09:17	07/08/16 13:47	1
Aroclor 1232	ND		50	17	ug/Kg		07/07/16 09:17	07/08/16 13:47	1
Aroclor 1242	ND		50	17	ug/Kg		07/07/16 09:17	07/08/16 13:47	1
Aroclor 1248	ND		50	17	ug/Kg		07/07/16 09:17	07/08/16 13:47	1
Aroclor 1254	ND		50	17	ug/Kg		07/07/16 09:17	07/08/16 13:47	1
Aroclor 1260	ND		50	17	ug/Kg		07/07/16 09:17	07/08/16 13:47	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
DCB Decachlorobiphenyl (Surr)	87		45 - 120				07/07/16 09:17	07/08/16 13:47	1

## Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	18		0.50	0.25	mg/Kg		07/06/16 08:26	07/07/16 13:48	20
Silver	ND		0.50	0.099	mg/Kg		07/06/16 08:26	07/07/16 13:48	20
Arsenic	5.7		0.50	0.25	mg/Kg		07/06/16 08:26	07/07/16 13:48	20
Barium	280		0.50	0.25	mg/Kg		07/06/16 08:26	07/07/16 13:48	20
Beryllium	0.50		0.30	0.15	mg/Kg		07/06/16 08:26	07/07/16 13:48	20
Cadmium	0.35	J	0.50	0.25	mg/Kg		07/06/16 08:26	07/07/16 13:48	20
Chromium	54		0.99	0.50	mg/Kg		07/06/16 08:26	07/07/16 13:48	20
Cobalt	8.4		0.50	0.21	mg/Kg		07/06/16 08:26	07/07/16 13:48	20
Copper	36		0.99	0.50	mg/Kg		07/06/16 08:26	07/07/16 13:48	20
Lead	18		0.50	0.25	mg/Kg		07/06/16 08:26	07/07/16 13:48	20
Molybdenum	1.8		0.99	0.50	mg/Kg		07/06/16 08:26	07/07/16 13:48	20
Nickel	55		0.99	0.50	mg/Kg		07/06/16 08:26	07/07/16 13:48	20
Selenium	0.81	J	0.99	0.20	mg/Kg		07/06/16 08:26	07/07/16 13:48	20
Thallium	ND		0.50	0.25	mg/Kg		07/06/16 08:26	07/07/16 13:48	20
Vanadium	81		0.99	0.50	mg/Kg		07/06/16 08:26	07/07/16 13:48	20
Zinc	120		9.9	5.0	mg/Kg		07/06/16 08:26	07/07/16 13:48	20
Antimony	0.38	J	0.99	0.27	mg/Kg		07/06/16 08:26	07/07/16 13:48	20

## Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.12		0.020	0.012	mg/Kg		07/07/16 12:30	07/07/16 19:17	1

TestAmerica Irvine



# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B10,3'**  
**Date Collected: 06/30/16 15:39**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-33**  
**Matrix: Solid**

### Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	ND		100	70	ug/Kg			07/14/16 16:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	107		60 - 120					07/14/16 16:24	1
4-Bromofluorobenzene (Surr)	97		79 - 120					07/14/16 16:24	1
Toluene-d8 (Surr)	106		79 - 123					07/14/16 16:24	1

### Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		11	5.3	mg/Kg		07/14/16 17:51	07/15/16 23:25	1
C23-C40	ND		11	5.3	mg/Kg		07/14/16 17:51	07/15/16 23:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Octacosane	62		40 - 140				07/14/16 17:51	07/15/16 23:25	1

### Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.50	0.10	mg/Kg		07/06/16 08:26	07/07/16 13:51	20
Arsenic	3.7		0.50	0.25	mg/Kg		07/06/16 08:26	07/07/16 13:51	20
Barium	85		0.50	0.25	mg/Kg		07/06/16 08:26	07/07/16 13:51	20
Beryllium	0.31		0.30	0.15	mg/Kg		07/06/16 08:26	07/07/16 13:51	20
Cadmium	ND		0.50	0.25	mg/Kg		07/06/16 08:26	07/07/16 13:51	20
Chromium	58		1.0	0.50	mg/Kg		07/06/16 08:26	07/07/16 13:51	20
Cobalt	7.1		0.50	0.21	mg/Kg		07/06/16 08:26	07/07/16 13:51	20
Copper	12		1.0	0.50	mg/Kg		07/06/16 08:26	07/07/16 13:51	20
Lead	5.4		0.50	0.25	mg/Kg		07/06/16 08:26	07/07/16 13:51	20
Molybdenum	ND		1.0	0.50	mg/Kg		07/06/16 08:26	07/07/16 13:51	20
Nickel	45		1.0	0.50	mg/Kg		07/06/16 08:26	07/07/16 13:51	20
Selenium	0.62 J		1.0	0.20	mg/Kg		07/06/16 08:26	07/07/16 13:51	20
Thallium	ND		0.50	0.25	mg/Kg		07/06/16 08:26	07/07/16 13:51	20
Vanadium	43		1.0	0.50	mg/Kg		07/06/16 08:26	07/07/16 13:51	20
Zinc	32		10	5.0	mg/Kg		07/06/16 08:26	07/07/16 13:51	20
Antimony	ND		1.0	0.27	mg/Kg		07/06/16 08:26	07/07/16 13:51	20

### Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.096		0.020	0.012	mg/Kg		07/07/16 12:30	07/07/16 19:14	1

**Client Sample ID: B10,5'**  
**Date Collected: 06/30/16 15:44**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-34**  
**Matrix: Solid**

### Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	ND		98	68	ug/Kg			07/07/16 02:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	113		60 - 120					07/07/16 02:33	1
4-Bromofluorobenzene (Surr)	103		79 - 120					07/07/16 02:33	1
Toluene-d8 (Surr)	111		79 - 123					07/07/16 02:33	1

TestAmerica Irvine

# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B10,5'**

**Date Collected: 06/30/16 15:44**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-34**

**Matrix: Solid**

**Method: 8015B - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		10	5.2	mg/Kg		07/02/16 14:02	07/08/16 23:25	1
C23-C40	ND		10	5.2	mg/Kg		07/02/16 14:02	07/08/16 23:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>n</i> -Octacosane	79		40 - 140				07/02/16 14:02	07/08/16 23:25	1

**Method: 6020 - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.50	0.099	mg/Kg		07/06/16 08:27	07/07/16 14:26	20
<b>Arsenic</b>	<b>2.9</b>		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 14:26	20
<b>Barium</b>	<b>55</b>	<b>F1</b>	0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 14:26	20
<b>Beryllium</b>	<b>0.15</b>	<b>J F1</b>	0.30	0.15	mg/Kg		07/06/16 08:27	07/07/16 14:26	20
Cadmium	ND		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 14:26	20
<b>Chromium</b>	<b>65</b>	<b>F1</b>	0.99	0.50	mg/Kg		07/06/16 08:27	07/07/16 14:26	20
<b>Cobalt</b>	<b>4.9</b>		0.50	0.21	mg/Kg		07/06/16 08:27	07/07/16 14:26	20
<b>Copper</b>	<b>8.1</b>		0.99	0.50	mg/Kg		07/06/16 08:27	07/07/16 14:26	20
<b>Lead</b>	<b>3.0</b>		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 14:26	20
Molybdenum	ND		0.99	0.50	mg/Kg		07/06/16 08:27	07/07/16 14:26	20
<b>Nickel</b>	<b>34</b>	<b>F1</b>	0.99	0.50	mg/Kg		07/06/16 08:27	07/07/16 14:26	20
<b>Selenium</b>	<b>0.37</b>	<b>J</b>	0.99	0.20	mg/Kg		07/06/16 08:27	07/07/16 14:26	20
Thallium	ND		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 14:26	20
<b>Vanadium</b>	<b>33</b>		0.99	0.50	mg/Kg		07/06/16 08:27	07/07/16 14:26	20
<b>Zinc</b>	<b>22</b>		9.9	5.0	mg/Kg		07/06/16 08:27	07/07/16 14:26	20
Antimony	ND	F1	0.99	0.27	mg/Kg		07/06/16 08:27	07/07/16 14:26	20

**Method: 7471A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.024</b>		0.020	0.012	mg/Kg		07/07/16 12:30	07/07/16 19:19	1

**Client Sample ID: B9,1'**

**Date Collected: 06/30/16 15:44**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-35**

**Matrix: Solid**

**Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acenaphthene</b>	<b>18</b>	<b>J</b>	63	8.5	ug/Kg		07/06/16 21:36	07/08/16 16:30	1
Acenaphthylene	ND		63	8.5	ug/Kg		07/06/16 21:36	07/08/16 16:30	1
<b>Anthracene</b>	<b>20</b>	<b>J</b>	63	8.5	ug/Kg		07/06/16 21:36	07/08/16 16:30	1
<b>Benzo[a]anthracene</b>	<b>35</b>	<b>J</b>	63	8.5	ug/Kg		07/06/16 21:36	07/08/16 16:30	1
<b>Benzo[a]pyrene</b>	<b>32</b>	<b>J</b>	63	8.5	ug/Kg		07/06/16 21:36	07/08/16 16:30	1
<b>Benzo[b]fluoranthene</b>	<b>46</b>	<b>J</b>	63	8.5	ug/Kg		07/06/16 21:36	07/08/16 16:30	1
Benzo[g,h,i]perylene	ND		63	8.5	ug/Kg		07/06/16 21:36	07/08/16 16:30	1
<b>Benzo[k]fluoranthene</b>	<b>17</b>	<b>J</b>	63	8.5	ug/Kg		07/06/16 21:36	07/08/16 16:30	1
<b>Chrysene</b>	<b>48</b>	<b>J</b>	63	8.5	ug/Kg		07/06/16 21:36	07/08/16 16:30	1
Dibenz(a,h)anthracene	ND		63	8.5	ug/Kg		07/06/16 21:36	07/08/16 16:30	1
<b>Fluoranthene</b>	<b>92</b>		63	8.5	ug/Kg		07/06/16 21:36	07/08/16 16:30	1
<b>Fluorene</b>	<b>12</b>	<b>J</b>	63	8.5	ug/Kg		07/06/16 21:36	07/08/16 16:30	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>9.1</b>	<b>J</b>	63	8.5	ug/Kg		07/06/16 21:36	07/08/16 16:30	1
<b>Naphthalene</b>	<b>15</b>	<b>J</b>	63	8.5	ug/Kg		07/06/16 21:36	07/08/16 16:30	1
<b>Phenanthrene</b>	<b>140</b>		63	8.5	ug/Kg		07/06/16 21:36	07/08/16 16:30	1

TestAmerica Irvine

# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B9,1'**  
**Date Collected: 06/30/16 15:44**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-35**  
**Matrix: Solid**

**Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	84		63	8.5	ug/Kg		07/06/16 21:36	07/08/16 16:30	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2-Fluorobiphenyl (Surr)	76		39 - 111				07/06/16 21:36	07/08/16 16:30	1
Nitrobenzene-d5	69		41 - 119				07/06/16 21:36	07/08/16 16:30	1
Terphenyl-d14	125		43 - 150				07/06/16 21:36	07/08/16 16:30	1

**Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		50	17	ug/Kg		07/07/16 09:17	07/08/16 14:17	1
Aroclor 1221	ND		50	17	ug/Kg		07/07/16 09:17	07/08/16 14:17	1
Aroclor 1232	ND		50	17	ug/Kg		07/07/16 09:17	07/08/16 14:17	1
Aroclor 1242	ND		50	17	ug/Kg		07/07/16 09:17	07/08/16 14:17	1
Aroclor 1248	ND		50	17	ug/Kg		07/07/16 09:17	07/08/16 14:17	1
Aroclor 1254	ND		50	17	ug/Kg		07/07/16 09:17	07/08/16 14:17	1
Aroclor 1260	ND		50	17	ug/Kg		07/07/16 09:17	07/08/16 14:17	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
DCB Decachlorobiphenyl (Surr)	90		45 - 120				07/07/16 09:17	07/08/16 14:17	1

**Method: 6020 - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	43		0.49	0.25	mg/Kg		07/06/16 08:27	07/07/16 14:36	20

**Client Sample ID: B9,3'**  
**Date Collected: 06/30/16 15:45**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-36**  
**Matrix: Solid**

**Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		61	8.2	ug/Kg		07/06/16 21:36	07/08/16 16:51	1
Acenaphthylene	ND		61	8.2	ug/Kg		07/06/16 21:36	07/08/16 16:51	1
Anthracene	ND		61	8.2	ug/Kg		07/06/16 21:36	07/08/16 16:51	1
Benzo[a]anthracene	ND		61	8.2	ug/Kg		07/06/16 21:36	07/08/16 16:51	1
Benzo[a]pyrene	ND		61	8.2	ug/Kg		07/06/16 21:36	07/08/16 16:51	1
Benzo[b]fluoranthene	ND		61	8.2	ug/Kg		07/06/16 21:36	07/08/16 16:51	1
Benzo[g,h,i]perylene	ND		61	8.2	ug/Kg		07/06/16 21:36	07/08/16 16:51	1
Benzo[k]fluoranthene	ND		61	8.2	ug/Kg		07/06/16 21:36	07/08/16 16:51	1
Chrysene	ND		61	8.2	ug/Kg		07/06/16 21:36	07/08/16 16:51	1
Dibenz(a,h)anthracene	ND		61	8.2	ug/Kg		07/06/16 21:36	07/08/16 16:51	1
Fluoranthene	ND		61	8.2	ug/Kg		07/06/16 21:36	07/08/16 16:51	1
Fluorene	ND		61	8.2	ug/Kg		07/06/16 21:36	07/08/16 16:51	1
Indeno[1,2,3-cd]pyrene	ND		61	8.2	ug/Kg		07/06/16 21:36	07/08/16 16:51	1
Naphthalene	ND		61	8.2	ug/Kg		07/06/16 21:36	07/08/16 16:51	1
Phenanthrene	ND		61	8.2	ug/Kg		07/06/16 21:36	07/08/16 16:51	1
Pyrene	ND		61	8.2	ug/Kg		07/06/16 21:36	07/08/16 16:51	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2-Fluorobiphenyl (Surr)	66		39 - 111				07/06/16 21:36	07/08/16 16:51	1
Nitrobenzene-d5	59		41 - 119				07/06/16 21:36	07/08/16 16:51	1
Terphenyl-d14	105		43 - 150				07/06/16 21:36	07/08/16 16:51	1

TestAmerica Irvine

# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		50	17	ug/Kg		07/07/16 09:17	07/08/16 14:33	1
Aroclor 1221	ND		50	17	ug/Kg		07/07/16 09:17	07/08/16 14:33	1
Aroclor 1232	ND		50	17	ug/Kg		07/07/16 09:17	07/08/16 14:33	1
Aroclor 1242	ND		50	17	ug/Kg		07/07/16 09:17	07/08/16 14:33	1
Aroclor 1248	ND		50	17	ug/Kg		07/07/16 09:17	07/08/16 14:33	1
Aroclor 1254	ND		50	17	ug/Kg		07/07/16 09:17	07/08/16 14:33	1
Aroclor 1260	ND		50	17	ug/Kg		07/07/16 09:17	07/08/16 14:33	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
DCB Decachlorobiphenyl (Surr)	74		45 - 120				07/07/16 09:17	07/08/16 14:33	1

## Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	3.9		0.49	0.25	mg/Kg		07/06/16 08:27	07/07/16 14:51	20

Client Sample ID: B7,1'

Lab Sample ID: 440-151548-38

Date Collected: 06/30/16 16:15

Matrix: Solid

Date Received: 07/02/16 11:20

## Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	ND		99	69	ug/Kg			07/07/16 13:21	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Dibromofluoromethane (Surr)	133	X	60 - 120					07/07/16 13:21	1
4-Bromofluorobenzene (Surr)	170	X *	79 - 120					07/07/16 13:21	1
Toluene-d8 (Surr)	147	X *	79 - 123					07/07/16 13:21	1

## Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	9.9		5.0	2.5	mg/Kg		07/02/16 14:02	07/05/16 16:29	1
C23-C40	54		5.0	2.5	mg/Kg		07/02/16 14:02	07/05/16 16:29	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
n-Octacosane	39	X	40 - 140				07/02/16 14:02	07/05/16 16:29	1

## Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.50	0.10	mg/Kg		07/06/16 08:27	07/07/16 14:53	20
Arsenic	3.7		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 14:53	20
Barium	110		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 14:53	20
Beryllium	0.21	J	0.30	0.15	mg/Kg		07/06/16 08:27	07/07/16 14:53	20
Cadmium	ND		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 14:53	20
Chromium	37		1.0	0.50	mg/Kg		07/06/16 08:27	07/07/16 14:53	20
Cobalt	5.8		0.50	0.21	mg/Kg		07/06/16 08:27	07/07/16 14:53	20
Copper	15		1.0	0.50	mg/Kg		07/06/16 08:27	07/07/16 14:53	20
Lead	10		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 14:53	20
Molybdenum	ND		1.0	0.50	mg/Kg		07/06/16 08:27	07/07/16 14:53	20
Nickel	34		1.0	0.50	mg/Kg		07/06/16 08:27	07/07/16 14:53	20
Selenium	0.57	J	1.0	0.20	mg/Kg		07/06/16 08:27	07/07/16 14:53	20
Thallium	ND		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 14:53	20
Vanadium	40		1.0	0.50	mg/Kg		07/06/16 08:27	07/07/16 14:53	20
Zinc	38		10	5.0	mg/Kg		07/06/16 08:27	07/07/16 14:53	20
Antimony	ND		1.0	0.27	mg/Kg		07/06/16 08:27	07/07/16 14:53	20

TestAmerica Irvine

# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B7,1'**  
**Date Collected: 06/30/16 16:15**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-38**  
**Matrix: Solid**

**Method: 7471A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20		0.020	0.012	mg/Kg		07/07/16 11:46	07/07/16 18:02	1

**Client Sample ID: B7,3'**  
**Date Collected: 06/30/16 16:20**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-39**  
**Matrix: Solid**

**Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	ND		99	70	ug/Kg			07/07/16 13:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	28	X	60 - 120		07/07/16 13:50	1
4-Bromofluorobenzene (Surr)	101		79 - 120		07/07/16 13:50	1
Toluene-d8 (Surr)	111		79 - 123		07/07/16 13:50	1

**Method: 8015B - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	15		10	5.2	mg/Kg		07/02/16 14:02	07/05/16 15:45	1
C23-C40	29		10	5.2	mg/Kg		07/02/16 14:02	07/05/16 15:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	76		40 - 140	07/02/16 14:02	07/05/16 15:45	1

**Method: 6020 - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.50	0.10	mg/Kg		07/06/16 08:27	07/07/16 14:56	20
Arsenic	2.3		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 14:56	20
Barium	73		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 14:56	20
Beryllium	ND		0.30	0.15	mg/Kg		07/06/16 08:27	07/07/16 14:56	20
Cadmium	ND		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 14:56	20
Chromium	46		1.0	0.50	mg/Kg		07/06/16 08:27	07/07/16 14:56	20
Cobalt	5.1		0.50	0.21	mg/Kg		07/06/16 08:27	07/07/16 14:56	20
Copper	8.9		1.0	0.50	mg/Kg		07/06/16 08:27	07/07/16 14:56	20
Lead	6.3		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 14:56	20
Molybdenum	0.97	J	1.0	0.50	mg/Kg		07/06/16 08:27	07/07/16 14:56	20
Nickel	35		1.0	0.50	mg/Kg		07/06/16 08:27	07/07/16 14:56	20
Selenium	0.31	J	1.0	0.20	mg/Kg		07/06/16 08:27	07/07/16 14:56	20
Thallium	ND		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 14:56	20
Vanadium	30		1.0	0.50	mg/Kg		07/06/16 08:27	07/07/16 14:56	20
Zinc	25		10	5.0	mg/Kg		07/06/16 08:27	07/07/16 14:56	20
Antimony	ND		1.0	0.27	mg/Kg		07/06/16 08:27	07/07/16 14:56	20

**Method: 7471A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.021		0.020	0.012	mg/Kg		07/07/16 11:46	07/07/16 18:05	1

TestAmerica Irvine

# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B7,5'**  
**Date Collected: 06/30/16 16:23**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-40**  
**Matrix: Solid**

### Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	ND		99	69	ug/Kg			07/07/16 14:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	4	X	60 - 120					07/07/16 14:20	1
4-Bromofluorobenzene (Surr)	105	*	79 - 120					07/07/16 14:20	1
Toluene-d8 (Surr)	110		79 - 123					07/07/16 14:20	1

### Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		10	5.2	mg/Kg		07/05/16 17:07	07/06/16 23:16	1
<b>C23-C40</b>	<b>24</b>		10	5.2	mg/Kg		07/05/16 17:07	07/06/16 23:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Octacosane	82		40 - 140				07/05/16 17:07	07/06/16 23:16	1

### Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.50	0.099	mg/Kg		07/06/16 08:27	07/07/16 14:58	20
<b>Arsenic</b>	<b>3.0</b>		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 14:58	20
<b>Barium</b>	<b>200</b>		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 14:58	20
<b>Beryllium</b>	<b>0.32</b>		0.30	0.15	mg/Kg		07/06/16 08:27	07/07/16 14:58	20
Cadmium	ND		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 14:58	20
<b>Chromium</b>	<b>34</b>		0.99	0.50	mg/Kg		07/06/16 08:27	07/07/16 14:58	20
<b>Cobalt</b>	<b>6.2</b>		0.50	0.21	mg/Kg		07/06/16 08:27	07/07/16 14:58	20
<b>Copper</b>	<b>22</b>		0.99	0.50	mg/Kg		07/06/16 08:27	07/07/16 14:58	20
<b>Lead</b>	<b>9.1</b>		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 14:58	20
<b>Molybdenum</b>	<b>1.1</b>		0.99	0.50	mg/Kg		07/06/16 08:27	07/07/16 14:58	20
<b>Nickel</b>	<b>33</b>		0.99	0.50	mg/Kg		07/06/16 08:27	07/07/16 14:58	20
<b>Selenium</b>	<b>0.49 J</b>		0.99	0.20	mg/Kg		07/06/16 08:27	07/07/16 14:58	20
Thallium	ND		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 14:58	20
<b>Vanadium</b>	<b>44</b>		0.99	0.50	mg/Kg		07/06/16 08:27	07/07/16 14:58	20
<b>Zinc</b>	<b>33</b>		9.9	5.0	mg/Kg		07/06/16 08:27	07/07/16 14:58	20
Antimony	ND		0.99	0.27	mg/Kg		07/06/16 08:27	07/07/16 14:58	20

### Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.086</b>		0.020	0.012	mg/Kg		07/07/16 11:46	07/07/16 18:07	1

**Client Sample ID: B8,1'**  
**Date Collected: 06/30/16 16:30**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-41**  
**Matrix: Solid**

### Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	ND		100	70	ug/Kg			07/07/16 14:49	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	1	X	60 - 120					07/07/16 14:49	1
4-Bromofluorobenzene (Surr)	113		79 - 120					07/07/16 14:49	1
Toluene-d8 (Surr)	111		79 - 123					07/07/16 14:49	1

TestAmerica Irvine



# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B8,1'**  
**Date Collected: 06/30/16 16:30**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-41**  
**Matrix: Solid**

### Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	18		4.9	2.5	mg/Kg		07/05/16 17:07	07/06/16 23:38	1
C23-C40	83		4.9	2.5	mg/Kg		07/05/16 17:07	07/06/16 23:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Octacosane	66		40 - 140				07/05/16 17:07	07/06/16 23:38	1

### Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.50	0.099	mg/Kg		07/06/16 08:27	07/07/16 15:01	20
Arsenic	4.0		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:01	20
Barium	190		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:01	20
Beryllium	0.35		0.30	0.15	mg/Kg		07/06/16 08:27	07/07/16 15:01	20
Cadmium	0.26	J	0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:01	20
Chromium	45		0.99	0.50	mg/Kg		07/06/16 08:27	07/07/16 15:01	20
Cobalt	6.5		0.50	0.21	mg/Kg		07/06/16 08:27	07/07/16 15:01	20
Copper	23		0.99	0.50	mg/Kg		07/06/16 08:27	07/07/16 15:01	20
Lead	16		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:01	20
Molybdenum	1.2		0.99	0.50	mg/Kg		07/06/16 08:27	07/07/16 15:01	20
Nickel	42		0.99	0.50	mg/Kg		07/06/16 08:27	07/07/16 15:01	20
Selenium	0.72	J	0.99	0.20	mg/Kg		07/06/16 08:27	07/07/16 15:01	20
Thallium	ND		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:01	20
Vanadium	58		0.99	0.50	mg/Kg		07/06/16 08:27	07/07/16 15:01	20
Zinc	49		9.9	5.0	mg/Kg		07/06/16 08:27	07/07/16 15:01	20
Antimony	ND		0.99	0.27	mg/Kg		07/06/16 08:27	07/07/16 15:01	20

### Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.15		0.020	0.012	mg/Kg		07/07/16 11:46	07/07/16 18:10	1

**Client Sample ID: B8,3'**  
**Date Collected: 06/30/16 16:31**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-42**  
**Matrix: Solid**

### Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	ND		99	69	ug/Kg			07/07/16 15:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	2	X	60 - 120					07/07/16 15:19	1
4-Bromofluorobenzene (Surr)	110		79 - 120					07/07/16 15:19	1
Toluene-d8 (Surr)	113		79 - 123					07/07/16 15:19	1

### Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	28		11	5.3	mg/Kg		07/05/16 17:07	07/06/16 23:59	1
C23-C40	310		11	5.3	mg/Kg		07/05/16 17:07	07/06/16 23:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Octacosane	83		40 - 140				07/05/16 17:07	07/06/16 23:59	1

TestAmerica Irvine

# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B8,3'**  
**Date Collected: 06/30/16 16:31**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-42**  
**Matrix: Solid**

### Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.50	0.10	mg/Kg		07/06/16 08:27	07/07/16 15:03	20
<b>Arsenic</b>	<b>4.6</b>		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:03	20
<b>Barium</b>	<b>180</b>		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:03	20
<b>Beryllium</b>	<b>0.34</b>		0.30	0.15	mg/Kg		07/06/16 08:27	07/07/16 15:03	20
Cadmium	ND		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:03	20
<b>Chromium</b>	<b>41</b>		1.0	0.50	mg/Kg		07/06/16 08:27	07/07/16 15:03	20
<b>Cobalt</b>	<b>7.3</b>		0.50	0.21	mg/Kg		07/06/16 08:27	07/07/16 15:03	20
<b>Copper</b>	<b>26</b>		1.0	0.50	mg/Kg		07/06/16 08:27	07/07/16 15:03	20
<b>Lead</b>	<b>16</b>		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:03	20
<b>Molybdenum</b>	<b>1.4</b>		1.0	0.50	mg/Kg		07/06/16 08:27	07/07/16 15:03	20
<b>Nickel</b>	<b>39</b>		1.0	0.50	mg/Kg		07/06/16 08:27	07/07/16 15:03	20
<b>Selenium</b>	<b>0.65</b>	J	1.0	0.20	mg/Kg		07/06/16 08:27	07/07/16 15:03	20
Thallium	ND		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:03	20
<b>Vanadium</b>	<b>56</b>		1.0	0.50	mg/Kg		07/06/16 08:27	07/07/16 15:03	20
<b>Zinc</b>	<b>58</b>		10	5.0	mg/Kg		07/06/16 08:27	07/07/16 15:03	20
<b>Antimony</b>	<b>0.42</b>	J	1.0	0.27	mg/Kg		07/06/16 08:27	07/07/16 15:03	20

### Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.12</b>		0.020	0.012	mg/Kg		07/07/16 11:46	07/07/16 18:13	1

**Client Sample ID: B11,1'**  
**Date Collected: 06/30/16 16:44**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-43**  
**Matrix: Solid**

### Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	ND		99	69	ug/Kg			07/07/16 15:48	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
<i>Dibromofluoromethane (Surr)</i>	0.5	X	60 - 120					07/07/16 15:48	1
<i>4-Bromofluorobenzene (Surr)</i>	110		79 - 120					07/07/16 15:48	1
<i>Toluene-d8 (Surr)</i>	111		79 - 123					07/07/16 15:48	1

### Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>C13-C22</b>	<b>11</b>		4.9	2.4	mg/Kg		07/05/16 17:07	07/07/16 00:21	1
<b>C23-C40</b>	<b>47</b>		4.9	2.4	mg/Kg		07/05/16 17:07	07/07/16 00:21	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
<i>n-Octacosane</i>	89		40 - 140				07/05/16 17:07	07/07/16 00:21	1

### Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.49	0.099	mg/Kg		07/06/16 08:27	07/07/16 15:06	20
<b>Arsenic</b>	<b>4.5</b>		0.49	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:06	20
<b>Barium</b>	<b>180</b>		0.49	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:06	20
<b>Beryllium</b>	<b>0.21</b>	J	0.30	0.15	mg/Kg		07/06/16 08:27	07/07/16 15:06	20
Cadmium	ND		0.49	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:06	20
<b>Chromium</b>	<b>39</b>		0.99	0.49	mg/Kg		07/06/16 08:27	07/07/16 15:06	20
<b>Cobalt</b>	<b>6.1</b>		0.49	0.21	mg/Kg		07/06/16 08:27	07/07/16 15:06	20

TestAmerica Irvine



# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B11,1'**  
**Date Collected: 06/30/16 16:44**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-43**  
**Matrix: Solid**

### Method: 6020 - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	20		0.99	0.49	mg/Kg		07/06/16 08:27	07/07/16 15:06	20
Lead	13		0.49	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:06	20
Molybdenum	0.98	J	0.99	0.49	mg/Kg		07/06/16 08:27	07/07/16 15:06	20
Nickel	42		0.99	0.49	mg/Kg		07/06/16 08:27	07/07/16 15:06	20
Selenium	0.58	J	0.99	0.20	mg/Kg		07/06/16 08:27	07/07/16 15:06	20
Thallium	ND		0.49	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:06	20
Vanadium	52		0.99	0.49	mg/Kg		07/06/16 08:27	07/07/16 15:06	20
Zinc	48		9.9	4.9	mg/Kg		07/06/16 08:27	07/07/16 15:06	20
Antimony	ND		0.99	0.27	mg/Kg		07/06/16 08:27	07/07/16 15:06	20

### Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.12		0.020	0.012	mg/Kg		07/07/16 11:46	07/07/16 18:15	1

**Client Sample ID: B11,3'**  
**Date Collected: 06/30/16 16:45**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-44**  
**Matrix: Solid**

### Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	ND	F2	99	70	ug/Kg			07/07/16 22:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	7	X	60 - 120		07/07/16 22:07	1
4-Bromofluorobenzene (Surr)	106		79 - 120		07/07/16 22:07	1
Toluene-d8 (Surr)	112		79 - 123		07/07/16 22:07	1

### Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	6.5		5.0	2.5	mg/Kg		07/05/16 17:07	07/07/16 00:43	1
C23-C40	31		5.0	2.5	mg/Kg		07/05/16 17:07	07/07/16 00:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	82		40 - 140	07/05/16 17:07	07/07/16 00:43	1

### Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.49	0.098	mg/Kg		07/06/16 08:27	07/07/16 15:08	20
Arsenic	3.7		0.49	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:08	20
Barium	180		0.49	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:08	20
Beryllium	0.29		0.29	0.15	mg/Kg		07/06/16 08:27	07/07/16 15:08	20
Cadmium	ND		0.49	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:08	20
Chromium	37		0.98	0.49	mg/Kg		07/06/16 08:27	07/07/16 15:08	20
Cobalt	5.8		0.49	0.21	mg/Kg		07/06/16 08:27	07/07/16 15:08	20
Copper	21		0.98	0.49	mg/Kg		07/06/16 08:27	07/07/16 15:08	20
Lead	11		0.49	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:08	20
Molybdenum	1.1		0.98	0.49	mg/Kg		07/06/16 08:27	07/07/16 15:08	20
Nickel	39		0.98	0.49	mg/Kg		07/06/16 08:27	07/07/16 15:08	20
Selenium	0.56	J	0.98	0.20	mg/Kg		07/06/16 08:27	07/07/16 15:08	20
Thallium	ND		0.49	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:08	20
Vanadium	48		0.98	0.49	mg/Kg		07/06/16 08:27	07/07/16 15:08	20

TestAmerica Irvine

# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B11,3'**  
**Date Collected: 06/30/16 16:45**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-44**  
**Matrix: Solid**

**Method: 6020 - Metals (ICP/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	43		9.8	4.9	mg/Kg		07/06/16 08:27	07/07/16 15:08	20
Antimony	ND		0.98	0.26	mg/Kg		07/06/16 08:27	07/07/16 15:08	20

**Method: 7471A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.11		0.020	0.012	mg/Kg		07/07/16 11:46	07/07/16 18:18	1

**Client Sample ID: B11,5'**  
**Date Collected: 06/30/16 16:50**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-45**  
**Matrix: Solid**

**Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	100		100	70	ug/Kg			07/07/16 23:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	3	X	60 - 120		07/07/16 23:35	1
4-Bromofluorobenzene (Surr)	104		79 - 120		07/07/16 23:35	1
Toluene-d8 (Surr)	112		79 - 123		07/07/16 23:35	1

**Method: 8015B - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		4.9	2.5	mg/Kg		07/14/16 18:24	07/15/16 20:32	1
C23-C40	7.1		4.9	2.5	mg/Kg		07/14/16 18:24	07/15/16 20:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	83		40 - 140	07/14/16 18:24	07/15/16 20:32	1

**Method: 6020 - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.49	0.099	mg/Kg		07/06/16 08:27	07/07/16 15:28	20
Arsenic	2.6		0.49	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:28	20
Barium	68		0.49	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:28	20
Beryllium	0.23	J	0.30	0.15	mg/Kg		07/06/16 08:27	07/07/16 15:28	20
Cadmium	ND		0.49	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:28	20
Chromium	45		0.99	0.49	mg/Kg		07/06/16 08:27	07/07/16 15:28	20
Cobalt	5.0		0.49	0.21	mg/Kg		07/06/16 08:27	07/07/16 15:28	20
Copper	7.8		0.99	0.49	mg/Kg		07/06/16 08:27	07/07/16 15:28	20
Lead	3.1		0.49	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:28	20
Molybdenum	ND		0.99	0.49	mg/Kg		07/06/16 08:27	07/07/16 15:28	20
Nickel	33		0.99	0.49	mg/Kg		07/06/16 08:27	07/07/16 15:28	20
Selenium	0.38	J	0.99	0.20	mg/Kg		07/06/16 08:27	07/07/16 15:28	20
Thallium	ND		0.49	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:28	20
Vanadium	30		0.99	0.49	mg/Kg		07/06/16 08:27	07/07/16 15:28	20
Zinc	22		9.9	4.9	mg/Kg		07/06/16 08:27	07/07/16 15:28	20
Antimony	ND		0.99	0.27	mg/Kg		07/06/16 08:27	07/07/16 15:28	20

**Method: 7471A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.023		0.020	0.012	mg/Kg		07/07/16 11:46	07/07/16 18:21	1

TestAmerica Irvine

# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B11,7'**  
**Date Collected: 06/30/16 16:51**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-46**  
**Matrix: Solid**

### Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	ND		100	70	ug/Kg			07/08/16 00:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	29	X	60 - 120					07/08/16 00:05	1
4-Bromofluorobenzene (Surr)	104		79 - 120					07/08/16 00:05	1
Toluene-d8 (Surr)	109		79 - 123					07/08/16 00:05	1

### Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		5.0	2.5	mg/Kg		07/14/16 18:24	07/16/16 01:11	1
C23-C40	ND		5.0	2.5	mg/Kg		07/14/16 18:24	07/16/16 01:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Octacosane	90		40 - 140				07/14/16 18:24	07/16/16 01:11	1

### Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.50	0.10	mg/Kg		07/06/16 08:27	07/07/16 15:10	20
Arsenic	2.0		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:10	20
Barium	54		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:10	20
Beryllium	0.20	J	0.30	0.15	mg/Kg		07/06/16 08:27	07/07/16 15:10	20
Cadmium	ND		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:10	20
Chromium	35		1.0	0.50	mg/Kg		07/06/16 08:27	07/07/16 15:10	20
Cobalt	4.5		0.50	0.21	mg/Kg		07/06/16 08:27	07/07/16 15:10	20
Copper	6.9		1.0	0.50	mg/Kg		07/06/16 08:27	07/07/16 15:10	20
Lead	2.5		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:10	20
Molybdenum	0.61	J	1.0	0.50	mg/Kg		07/06/16 08:27	07/07/16 15:10	20
Nickel	27		1.0	0.50	mg/Kg		07/06/16 08:27	07/07/16 15:10	20
Selenium	0.26	J	1.0	0.20	mg/Kg		07/06/16 08:27	07/07/16 15:10	20
Thallium	ND		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:10	20
Vanadium	28		1.0	0.50	mg/Kg		07/06/16 08:27	07/07/16 15:10	20
Zinc	22		10	5.0	mg/Kg		07/06/16 08:27	07/07/16 15:10	20
Antimony	ND		1.0	0.27	mg/Kg		07/06/16 08:27	07/07/16 15:10	20

### Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.057		0.020	0.012	mg/Kg		07/07/16 11:46	07/07/16 18:23	1

**Client Sample ID: B12,1'**  
**Date Collected: 06/30/16 16:58**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-47**  
**Matrix: Solid**

### Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	ND		99	70	ug/Kg			07/08/16 14:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	44	X	60 - 120					07/08/16 14:32	1
4-Bromofluorobenzene (Surr)	99		79 - 120					07/08/16 14:32	1
Toluene-d8 (Surr)	104		79 - 123					07/08/16 14:32	1

TestAmerica Irvine

# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B12,1'**  
**Date Collected: 06/30/16 16:58**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-47**  
**Matrix: Solid**

**Method: 8015B - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	5.7		5.0	2.5	mg/Kg		07/14/16 18:24	07/16/16 18:26	1
C23-C40	46		5.0	2.5	mg/Kg		07/14/16 18:24	07/16/16 18:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Octacosane	64		40 - 140				07/14/16 18:24	07/16/16 18:26	1

**Method: 6020 - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.50	0.10	mg/Kg		07/06/16 08:27	07/07/16 15:13	20
Arsenic	3.6		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:13	20
Barium	160		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:13	20
Beryllium	0.26	J	0.30	0.15	mg/Kg		07/06/16 08:27	07/07/16 15:13	20
Cadmium	ND		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:13	20
Chromium	43		1.0	0.50	mg/Kg		07/06/16 08:27	07/07/16 15:13	20
Cobalt	8.9		0.50	0.21	mg/Kg		07/06/16 08:27	07/07/16 15:13	20
Copper	27		1.0	0.50	mg/Kg		07/06/16 08:27	07/07/16 15:13	20
Lead	18		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:13	20
Molybdenum	0.66	J	1.0	0.50	mg/Kg		07/06/16 08:27	07/07/16 15:13	20
Nickel	42		1.0	0.50	mg/Kg		07/06/16 08:27	07/07/16 15:13	20
Selenium	0.45	J	1.0	0.20	mg/Kg		07/06/16 08:27	07/07/16 15:13	20
Thallium	ND		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:13	20
Vanadium	46		1.0	0.50	mg/Kg		07/06/16 08:27	07/07/16 15:13	20
Zinc	54		10	5.0	mg/Kg		07/06/16 08:27	07/07/16 15:13	20
Antimony	ND		1.0	0.27	mg/Kg		07/06/16 08:27	07/07/16 15:13	20

**Method: 7471A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.11		0.020	0.012	mg/Kg		07/07/16 11:46	07/07/16 18:26	1

**Client Sample ID: B12,3'**  
**Date Collected: 06/30/16 16:59**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-48**  
**Matrix: Solid**

**Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	ND		100	70	ug/Kg			07/07/16 18:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	110		60 - 120					07/07/16 18:16	1
4-Bromofluorobenzene (Surr)	105		79 - 120					07/07/16 18:16	1
Toluene-d8 (Surr)	111		79 - 123					07/07/16 18:16	1

**Method: 8015B - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		10	5.2	mg/Kg		07/14/16 18:24	07/16/16 00:12	1
C23-C40	ND		10	5.2	mg/Kg		07/14/16 18:24	07/16/16 00:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Octacosane	87		40 - 140				07/14/16 18:24	07/16/16 00:12	1

TestAmerica Irvine

# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B12,3'**  
**Date Collected: 06/30/16 16:59**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-48**  
**Matrix: Solid**

**Method: 6020 - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.50	0.099	mg/Kg		07/06/16 08:27	07/07/16 15:20	20
<b>Arsenic</b>	<b>2.6</b>		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:20	20
<b>Barium</b>	<b>58</b>		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:20	20
<b>Beryllium</b>	<b>0.30</b>		0.30	0.15	mg/Kg		07/06/16 08:27	07/07/16 15:20	20
Cadmium	ND		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:20	20
<b>Chromium</b>	<b>31</b>		0.99	0.50	mg/Kg		07/06/16 08:27	07/07/16 15:20	20
<b>Cobalt</b>	<b>5.4</b>		0.50	0.21	mg/Kg		07/06/16 08:27	07/07/16 15:20	20
<b>Copper</b>	<b>7.6</b>		0.99	0.50	mg/Kg		07/06/16 08:27	07/07/16 15:20	20
<b>Lead</b>	<b>3.1</b>		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:20	20
Molybdenum	ND		0.99	0.50	mg/Kg		07/06/16 08:27	07/07/16 15:20	20
<b>Nickel</b>	<b>31</b>		0.99	0.50	mg/Kg		07/06/16 08:27	07/07/16 15:20	20
<b>Selenium</b>	<b>0.29</b>	<b>J</b>	0.99	0.20	mg/Kg		07/06/16 08:27	07/07/16 15:20	20
Thallium	ND		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:20	20
<b>Vanadium</b>	<b>27</b>		0.99	0.50	mg/Kg		07/06/16 08:27	07/07/16 15:20	20
<b>Zinc</b>	<b>21</b>		9.9	5.0	mg/Kg		07/06/16 08:27	07/07/16 15:20	20
Antimony	ND		0.99	0.27	mg/Kg		07/06/16 08:27	07/07/16 15:20	20

**Method: 7471A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.028</b>		0.020	0.012	mg/Kg		07/07/16 11:46	07/07/16 18:34	1

**Client Sample ID: B12,5'**  
**Date Collected: 06/30/16 17:02**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-49**  
**Matrix: Solid**

**Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Volatile Fuel Hydrocarbons (C4-C12)</b>	<b>70</b>	<b>J</b>	100	70	ug/Kg			07/08/16 00:35	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
<i>Dibromofluoromethane (Surr)</i>	112		60 - 120					07/08/16 00:35	1
<i>4-Bromofluorobenzene (Surr)</i>	109		79 - 120					07/08/16 00:35	1
<i>Toluene-d8 (Surr)</i>	111		79 - 123					07/08/16 00:35	1

**Method: 8015B - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		22	11	mg/Kg		07/14/16 18:24	07/16/16 00:31	1
C23-C40	ND		22	11	mg/Kg		07/14/16 18:24	07/16/16 00:31	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
<i>n-Octacosane</i>	84		40 - 140				07/14/16 18:24	07/16/16 00:31	1

**Method: 6020 - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.49	0.099	mg/Kg		07/06/16 08:27	07/07/16 15:23	20
<b>Arsenic</b>	<b>2.5</b>		0.49	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:23	20
<b>Barium</b>	<b>65</b>		0.49	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:23	20
<b>Beryllium</b>	<b>0.23</b>	<b>J</b>	0.30	0.15	mg/Kg		07/06/16 08:27	07/07/16 15:23	20
Cadmium	ND		0.49	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:23	20
<b>Chromium</b>	<b>37</b>		0.99	0.49	mg/Kg		07/06/16 08:27	07/07/16 15:23	20

TestAmerica Irvine

# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B12,5'**  
**Date Collected: 06/30/16 17:02**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-49**  
**Matrix: Solid**

### Method: 6020 - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	5.4		0.49	0.21	mg/Kg		07/06/16 08:27	07/07/16 15:23	20
Copper	7.9		0.99	0.49	mg/Kg		07/06/16 08:27	07/07/16 15:23	20
Lead	3.0		0.49	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:23	20
Molybdenum	ND		0.99	0.49	mg/Kg		07/06/16 08:27	07/07/16 15:23	20
Nickel	32		0.99	0.49	mg/Kg		07/06/16 08:27	07/07/16 15:23	20
Selenium	0.46	J	0.99	0.20	mg/Kg		07/06/16 08:27	07/07/16 15:23	20
Thallium	ND		0.49	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:23	20
Vanadium	29		0.99	0.49	mg/Kg		07/06/16 08:27	07/07/16 15:23	20
Zinc	23		9.9	4.9	mg/Kg		07/06/16 08:27	07/07/16 15:23	20
Antimony	ND		0.99	0.27	mg/Kg		07/06/16 08:27	07/07/16 15:23	20

### Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.12		0.020	0.012	mg/Kg		07/07/16 11:46	07/07/16 18:37	1

**Client Sample ID: B12,7'**  
**Date Collected: 06/30/16 17:03**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-50**  
**Matrix: Solid**

### Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	ND	F1	100	70	ug/Kg			07/07/16 09:54	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Dibromofluoromethane (Surr)	107		60 - 120					07/07/16 09:54	1
4-Bromofluorobenzene (Surr)	105		79 - 120					07/07/16 09:54	1
Toluene-d8 (Surr)	113		79 - 123					07/07/16 09:54	1

### Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		10	5.0	mg/Kg		07/14/16 18:24	07/16/16 00:51	1
C23-C40	ND		10	5.0	mg/Kg		07/14/16 18:24	07/16/16 00:51	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
n-Octacosane	90		40 - 140				07/14/16 18:24	07/16/16 00:51	1

### Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.50	0.099	mg/Kg		07/06/16 08:27	07/07/16 15:25	20
Arsenic	2.2		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:25	20
Barium	66		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:25	20
Beryllium	0.21	J	0.30	0.15	mg/Kg		07/06/16 08:27	07/07/16 15:25	20
Cadmium	ND		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:25	20
Chromium	53		0.99	0.50	mg/Kg		07/06/16 08:27	07/07/16 15:25	20
Cobalt	6.0		0.50	0.21	mg/Kg		07/06/16 08:27	07/07/16 15:25	20
Copper	7.8		0.99	0.50	mg/Kg		07/06/16 08:27	07/07/16 15:25	20
Lead	2.6		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:25	20
Molybdenum	ND		0.99	0.50	mg/Kg		07/06/16 08:27	07/07/16 15:25	20
Nickel	38		0.99	0.50	mg/Kg		07/06/16 08:27	07/07/16 15:25	20
Selenium	0.42	J	0.99	0.20	mg/Kg		07/06/16 08:27	07/07/16 15:25	20
Thallium	ND		0.50	0.25	mg/Kg		07/06/16 08:27	07/07/16 15:25	20

TestAmerica Irvine

# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B12,7'**  
**Date Collected: 06/30/16 17:03**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-50**  
**Matrix: Solid**

## Method: 6020 - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vanadium	40		0.99	0.50	mg/Kg		07/06/16 08:27	07/07/16 15:25	20
Zinc	28		9.9	5.0	mg/Kg		07/06/16 08:27	07/07/16 15:25	20
Antimony	ND		0.99	0.27	mg/Kg		07/06/16 08:27	07/07/16 15:25	20

## Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.097		0.020	0.012	mg/Kg		07/07/16 11:46	07/07/16 18:39	1

# Method Summary

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8260B/CA_LUFTM S	Volatile Organic Compounds by GC/MS	SW846	TAL IRV
8270C SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL IRV
8015B	Diesel Range Organics (DRO) (GC)	SW846	TAL IRV
8082	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL IRV
6020	Metals (ICP/MS)	SW846	TAL IRV
7471A	Mercury (CVAA)	SW846	TAL IRV

**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022





# Lab Chronicle

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B5,1'**  
**Date Collected: 06/30/16 07:30**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-1**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.23 g	1 mL	340132	07/02/16 14:05	KDP	TAL IRV
Total/NA	Analysis	8270C SIM		1			340498	07/06/16 15:41	AI	TAL IRV
Total/NA	Prep	3546			7.12 g	2 mL	340400	07/05/16 17:15	VA	TAL IRV
Total/NA	Analysis	8082		1			341026	07/08/16 14:41	JM	TAL IRV
Total/NA	Prep	3050B			2.01 g	50 mL	340233	07/05/16 08:40	DT	TAL IRV
Total/NA	Analysis	6020		20			340689	07/06/16 17:42	RC	TAL IRV

**Client Sample ID: B5,3'**  
**Date Collected: 06/30/16 07:40**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-2**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			14.73 g	1 mL	340132	07/02/16 14:05	KDP	TAL IRV
Total/NA	Analysis	8270C SIM		1			340498	07/06/16 16:02	AI	TAL IRV
Total/NA	Prep	3546			7.43 g	2 mL	340400	07/05/16 17:15	VA	TAL IRV
Total/NA	Analysis	8082		1			341026	07/08/16 20:48	JM	TAL IRV
Total/NA	Prep	3050B			2.04 g	50 mL	340233	07/05/16 08:40	DT	TAL IRV
Total/NA	Analysis	6020		20			340689	07/06/16 17:45	RC	TAL IRV

**Client Sample ID: B5,5'**  
**Date Collected: 06/30/16 07:50**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-3**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			14.96 g	1 mL	340132	07/02/16 14:05	KDP	TAL IRV
Total/NA	Analysis	8270C SIM		1			340498	07/06/16 16:22	AI	TAL IRV
Total/NA	Prep	3546			7.14 g	2 mL	340400	07/05/16 17:15	VA	TAL IRV
Total/NA	Analysis	8082		1			341026	07/08/16 21:02	JM	TAL IRV
Total/NA	Prep	3050B			2.03 g	50 mL	340233	07/05/16 08:40	DT	TAL IRV
Total/NA	Analysis	6020		20			340689	07/06/16 17:47	RC	TAL IRV

**Client Sample ID: B5,7'**  
**Date Collected: 06/30/16 08:00**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-4**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			14.91 g	1 mL	340131	07/02/16 14:02	KDP	TAL IRV
Total/NA	Analysis	8015B		1			340314	07/05/16 17:57	AMH	TAL IRV

# Lab Chronicle

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B4,1'**

**Date Collected: 06/30/16 08:05**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-5**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.28 g	1 mL	340132	07/02/16 14:05	KDP	TAL IRV
Total/NA	Analysis	8270C SIM		1			340498	07/06/16 16:43	AI	TAL IRV
Total/NA	Prep	3546			7.16 g	2 mL	340400	07/05/16 17:15	VA	TAL IRV
Total/NA	Analysis	8082		1			341026	07/08/16 21:16	JM	TAL IRV
Total/NA	Prep	3050B			2.02 g	50 mL	340233	07/05/16 08:40	DT	TAL IRV
Total/NA	Analysis	6020		20			340689	07/06/16 17:53	RC	TAL IRV

**Client Sample ID: B4,3'**

**Date Collected: 06/30/16 08:10**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-6**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			7.17 g	1 mL	340132	07/02/16 14:05	KDP	TAL IRV
Total/NA	Analysis	8270C SIM		1			340498	07/06/16 17:03	AI	TAL IRV
Total/NA	Prep	3546			3.04 g	2 mL	340400	07/05/16 17:15	VA	TAL IRV
Total/NA	Analysis	8082		1			341026	07/08/16 21:30	JM	TAL IRV
Total/NA	Prep	3050B			2.00 g	50 mL	340233	07/05/16 08:40	DT	TAL IRV
Total/NA	Analysis	6020		20			340689	07/06/16 17:55	RC	TAL IRV

**Client Sample ID: B1,1'**

**Date Collected: 06/30/16 09:30**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-9**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			14.84 g	1 mL	340132	07/02/16 14:05	KDP	TAL IRV
Total/NA	Analysis	8270C SIM		1			340498	07/06/16 17:24	AI	TAL IRV
Total/NA	Prep	3546			7.11 g	2 mL	340400	07/05/16 17:15	VA	TAL IRV
Total/NA	Analysis	8082		1			341026	07/08/16 21:44	JM	TAL IRV
Total/NA	Prep	3050B			2.01 g	50 mL	340233	07/05/16 08:40	DT	TAL IRV
Total/NA	Analysis	6020		20			340689	07/06/16 18:11	RC	TAL IRV

**Client Sample ID: B1,3'**

**Date Collected: 06/30/16 09:34**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-10**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.33 g	1 mL	340132	07/02/16 14:05	KDP	TAL IRV
Total/NA	Analysis	8270C SIM		1			340498	07/06/16 17:44	AI	TAL IRV
Total/NA	Prep	3546			7.17 g	2 mL	340400	07/05/16 17:15	VA	TAL IRV
Total/NA	Analysis	8082		1			341026	07/08/16 21:57	JM	TAL IRV
Total/NA	Prep	3050B			2.02 g	50 mL	340233	07/05/16 08:40	DT	TAL IRV
Total/NA	Analysis	6020		20			340689	07/06/16 18:14	RC	TAL IRV

TestAmerica Irvine

# Lab Chronicle

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B1,5'**

**Date Collected: 06/30/16 09:35**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-11**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.46 g	1 mL	340132	07/02/16 14:05	KDP	TAL IRV
Total/NA	Analysis	8270C SIM		1			340498	07/06/16 18:05	AI	TAL IRV
Total/NA	Prep	3546			7.35 g	2 mL	340400	07/05/16 17:15	VA	TAL IRV
Total/NA	Analysis	8082		1			341026	07/08/16 22:11	JM	TAL IRV
Total/NA	Prep	3050B			2.01 g	50 mL	340233	07/05/16 08:40	DT	TAL IRV
Total/NA	Analysis	6020		20			340689	07/06/16 18:17	RC	TAL IRV

**Client Sample ID: B2,1'**

**Date Collected: 06/30/16 09:45**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-13**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			14.96 g	1 mL	340132	07/02/16 14:05	KDP	TAL IRV
Total/NA	Analysis	8270C SIM		1			340498	07/06/16 18:25	AI	TAL IRV
Total/NA	Prep	3546			7.25 g	2 mL	340400	07/05/16 17:15	VA	TAL IRV
Total/NA	Analysis	8082		1			341026	07/08/16 22:25	JM	TAL IRV
Total/NA	Prep	3050B			2.02 g	50 mL	340233	07/05/16 08:40	DT	TAL IRV
Total/NA	Analysis	6020		20			340689	07/06/16 18:22	RC	TAL IRV

**Client Sample ID: B2,3'**

**Date Collected: 06/30/16 09:49**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-14**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			8.28 g	1 mL	340132	07/02/16 14:05	KDP	TAL IRV
Total/NA	Analysis	8270C SIM		1			340498	07/06/16 18:46	AI	TAL IRV
Total/NA	Prep	3546			7.00 g	2 mL	340400	07/05/16 17:15	VA	TAL IRV
Total/NA	Analysis	8082		1			341026	07/08/16 22:39	JM	TAL IRV
Total/NA	Prep	3050B			2.02 g	50 mL	340233	07/05/16 08:40	DT	TAL IRV
Total/NA	Analysis	6020		20			340689	07/06/16 18:25	RC	TAL IRV

**Client Sample ID: B2,5'**

**Date Collected: 06/30/16 09:53**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-15**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			7.21 g	1 mL	340132	07/02/16 14:05	KDP	TAL IRV
Total/NA	Analysis	8270C SIM		1			340498	07/06/16 19:07	AI	TAL IRV
Total/NA	Prep	3546			7.23 g	2 mL	340400	07/05/16 17:15	VA	TAL IRV
Total/NA	Analysis	8082		1			341026	07/08/16 22:53	JM	TAL IRV
Total/NA	Prep	3050B			2.03 g	50 mL	340749	07/07/16 08:33	DT	TAL IRV
Total/NA	Analysis	6020		20			341172	07/08/16 14:24	RC	TAL IRV

TestAmerica Irvine

# Lab Chronicle

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B13,10'**

**Date Collected: 06/30/16 10:05**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-18**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5.03 g	10 mL	340661	07/06/16 20:39	AA	TAL IRV
Total/NA	Analysis	8260B/CA_LUFTV S		1	5.03 g	10 mL	340662	07/06/16 20:39	AA	TAL IRV
Total/NA	Prep	3546			7.39 g	1 mL	340131	07/02/16 14:02	KDP	TAL IRV
Total/NA	Analysis	8015B		1			340314	07/05/16 22:41	AMH	TAL IRV

**Client Sample ID: B13,15'**

**Date Collected: 06/30/16 10:10**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-19**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5.02 g	10 mL	340727	07/07/16 11:23	AYL	TAL IRV
Total/NA	Analysis	8260B/CA_LUFTV S		1	5.02 g	10 mL	340728	07/07/16 11:23	AYL	TAL IRV
Total/NA	Prep	3546			3.99 g	1 mL	340131	07/02/16 14:02	KDP	TAL IRV
Total/NA	Analysis	8015B		1			340314	07/05/16 22:19	AMH	TAL IRV

**Client Sample ID: B14,10'**

**Date Collected: 06/30/16 14:00**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-21**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 g	10 mL	340727	07/07/16 11:52	AYL	TAL IRV
Total/NA	Analysis	8260B/CA_LUFTV S		1	5 g	10 mL	340728	07/07/16 11:52	AYL	TAL IRV
Total/NA	Prep	3546			7.14 g	1 mL	340131	07/02/16 14:02	KDP	TAL IRV
Total/NA	Analysis	8015B		1			341175	07/08/16 22:26	AMH	TAL IRV

**Client Sample ID: B14,15'**

**Date Collected: 06/30/16 14:02**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-22**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5.02 g	10 mL	340727	07/07/16 12:21	AYL	TAL IRV
Total/NA	Analysis	8260B/CA_LUFTV S		1	5.02 g	10 mL	340728	07/07/16 12:21	AYL	TAL IRV
Total/NA	Prep	3546			7.55 g	1 mL	340131	07/02/16 14:02	KDP	TAL IRV
Total/NA	Analysis	8015B		1			341175	07/09/16 01:42	AMH	TAL IRV

TestAmerica Irvine

# Lab Chronicle

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B15,10'**

**Date Collected: 06/30/16 14:16**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-24**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5.04 g	10 mL	340727	07/07/16 12:51	AYL	TAL IRV
Total/NA	Analysis	8260B/CA_LUFTMS		1	5.04 g	10 mL	340728	07/07/16 12:51	AYL	TAL IRV
Total/NA	Prep	3546			7.13 g	1 mL	340131	07/02/16 14:02	KDP	TAL IRV
Total/NA	Analysis	8015B		1			341175	07/09/16 01:22	AMH	TAL IRV

**Client Sample ID: B15,15'**

**Date Collected: 06/30/16 14:19**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-25**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5.07 g	10 mL	340661	07/07/16 02:03	AA	TAL IRV
Total/NA	Analysis	8260B/CA_LUFTMS		1	5.07 g	10 mL	340662	07/07/16 02:03	AA	TAL IRV
Total/NA	Prep	3546			7.45 g	1 mL	340131	07/02/16 14:02	KDP	TAL IRV
Total/NA	Analysis	8015B		1			341175	07/09/16 00:23	AMH	TAL IRV

**Client Sample ID: B3,1'**

**Date Collected: 06/30/16 14:34**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-26**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.22 g	1 mL	340132	07/02/16 14:05	KDP	TAL IRV
Total/NA	Analysis	8270C SIM		1			340498	07/06/16 19:27	AI	TAL IRV
Total/NA	Prep	3546			7.03 g	2 mL	340705	07/07/16 09:17	BAW	TAL IRV
Total/NA	Analysis	8082		1			341034	07/08/16 12:46	JM	TAL IRV
Total/NA	Prep	3050B			2.03 g	50 mL	340488	07/06/16 08:26	DT	TAL IRV
Total/NA	Analysis	6020		20			340878	07/07/16 13:38	RC	TAL IRV

**Client Sample ID: B3,3'**

**Date Collected: 06/30/16 14:37**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-27**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			8.04 g	1 mL	340132	07/02/16 14:05	KDP	TAL IRV
Total/NA	Analysis	8270C SIM		1			340498	07/06/16 19:48	AI	TAL IRV
Total/NA	Prep	3546			7.02 g	2 mL	340705	07/07/16 09:17	BAW	TAL IRV
Total/NA	Analysis	8082		1			341034	07/08/16 13:01	JM	TAL IRV
Total/NA	Prep	3050B			2.04 g	50 mL	340488	07/06/16 08:26	DT	TAL IRV
Total/NA	Analysis	6020		20			340878	07/07/16 13:41	RC	TAL IRV

TestAmerica Irvine

# Lab Chronicle

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B6,1'**

**Date Collected: 06/30/16 14:46**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-29**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.08 g	1 mL	340132	07/02/16 14:05	KDP	TAL IRV
Total/NA	Analysis	8270C SIM		1			340498	07/06/16 21:31	AI	TAL IRV
Total/NA	Prep	3546			15.01 g	2 mL	340705	07/07/16 09:17	BAW	TAL IRV
Total/NA	Analysis	8082		1			341034	07/08/16 13:16	JM	TAL IRV
Total/NA	Prep	3050B			2.01 g	50 mL	340488	07/06/16 08:26	DT	TAL IRV
Total/NA	Analysis	6020		20			340878	07/07/16 13:43	RC	TAL IRV

**Client Sample ID: B6,3'**

**Date Collected: 06/30/16 14:49**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-30**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			7.09 g	1 mL	340132	07/02/16 14:05	KDP	TAL IRV
Total/NA	Analysis	8270C SIM		1			341098	07/08/16 17:53	AI	TAL IRV
Total/NA	Prep	3546			7.02 g	2 mL	340705	07/07/16 09:17	BAW	TAL IRV
Total/NA	Analysis	8082		1			341034	07/08/16 13:31	JM	TAL IRV
Total/NA	Prep	3050B			2.00 g	50 mL	340488	07/06/16 08:26	DT	TAL IRV
Total/NA	Analysis	6020		20			340878	07/07/16 13:46	RC	TAL IRV

**Client Sample ID: B10,1'**

**Date Collected: 06/30/16 15:36**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-32**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTV S		1	4.99 g	10 mL	342266	07/14/16 15:56	ATL	TAL IRV
Total/NA	Prep	3546			15.22 g	1 mL	340132	07/02/16 14:05	KDP	TAL IRV
Total/NA	Analysis	8270C SIM		1			341098	07/08/16 18:13	AI	TAL IRV
Total/NA	Prep	3546			15.25 g	1 mL	342481	07/14/16 17:51	VA	TAL IRV
Total/NA	Analysis	8015B		1			342644	07/15/16 21:16	VS	TAL IRV
Total/NA	Prep	3546			15.05 g	2 mL	340705	07/07/16 09:17	BAW	TAL IRV
Total/NA	Analysis	8082		1			341034	07/08/16 13:47	JM	TAL IRV
Total/NA	Prep	3050B			2.02 g	50 mL	340488	07/06/16 08:26	DT	TAL IRV
Total/NA	Analysis	6020		20			340878	07/07/16 13:48	RC	TAL IRV
Total/NA	Prep	7471A			0.51 g	50 mL	340832	07/07/16 12:30	DB	TAL IRV
Total/NA	Analysis	7471A		1			341136	07/07/16 19:17	DB	TAL IRV

**Client Sample ID: B10,3'**

**Date Collected: 06/30/16 15:39**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-33**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTV S		1	4.98 g	10 mL	342266	07/14/16 16:24	ATL	TAL IRV

TestAmerica Irvine

# Lab Chronicle

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			7.01 g	1 mL	342481	07/14/16 17:51	VA	TAL IRV
Total/NA	Analysis	8015B		1			342375	07/15/16 23:25	JM	TAL IRV
Total/NA	Prep	3050B			2.01 g	50 mL	340488	07/06/16 08:26	DT	TAL IRV
Total/NA	Analysis	6020		20			340878	07/07/16 13:51	RC	TAL IRV
Total/NA	Prep	7471A			0.51 g	50 mL	340832	07/07/16 12:30	DB	TAL IRV
Total/NA	Analysis	7471A		1			341136	07/07/16 19:14	DB	TAL IRV

**Client Sample ID: B10,5'**

**Date Collected: 06/30/16 15:44**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-34**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTM S		1	5.11 g	10 mL	340662	07/07/16 02:33	AA	TAL IRV
Total/NA	Prep	3546			7.22 g	1 mL	340131	07/02/16 14:02	KDP	TAL IRV
Total/NA	Analysis	8015B		1			341175	07/08/16 23:25	AMH	TAL IRV
Total/NA	Prep	3050B			2.02 g	50 mL	340489	07/06/16 08:27	DT	TAL IRV
Total/NA	Analysis	6020		20			340972	07/07/16 14:26	RC	TAL IRV
Total/NA	Prep	7471A			0.50 g	50 mL	340832	07/07/16 12:30	DB	TAL IRV
Total/NA	Analysis	7471A		1			341136	07/07/16 19:19	DB	TAL IRV

**Client Sample ID: B9,1'**

**Date Collected: 06/30/16 15:44**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-35**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			7.09 g	1 mL	340700	07/06/16 21:36	BAW	TAL IRV
Total/NA	Analysis	8270C SIM		1			341098	07/08/16 16:30	AI	TAL IRV
Total/NA	Prep	3546			15.04 g	2 mL	340705	07/07/16 09:17	BAW	TAL IRV
Total/NA	Analysis	8082		1			341034	07/08/16 14:17	JM	TAL IRV
Total/NA	Prep	3050B			2.03 g	50 mL	340489	07/06/16 08:27	DT	TAL IRV
Total/NA	Analysis	6020		20			340972	07/07/16 14:36	RC	TAL IRV

**Client Sample ID: B9,3'**

**Date Collected: 06/30/16 15:45**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-36**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			7.33 g	1 mL	340700	07/06/16 21:36	BAW	TAL IRV
Total/NA	Analysis	8270C SIM		1			341098	07/08/16 16:51	AI	TAL IRV
Total/NA	Prep	3546			15.00 g	2 mL	340705	07/07/16 09:17	BAW	TAL IRV
Total/NA	Analysis	8082		1			341034	07/08/16 14:33	JM	TAL IRV
Total/NA	Prep	3050B			2.04 g	50 mL	340489	07/06/16 08:27	DT	TAL IRV
Total/NA	Analysis	6020		20			340972	07/07/16 14:51	RC	TAL IRV

TestAmerica Irvine



# Lab Chronicle

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B7,1'**

**Date Collected: 06/30/16 16:15**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-38**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	5.04 g	10 mL	340728	07/07/16 13:21	AYL	TAL IRV
Total/NA	Prep	3546			15.14 g	1 mL	340131	07/02/16 14:02	KDP	TAL IRV
Total/NA	Analysis	8015B		1			340314	07/05/16 16:29	AMH	TAL IRV
Total/NA	Prep	3050B			2.01 g	50 mL	340489	07/06/16 08:27	DT	TAL IRV
Total/NA	Analysis	6020		20			340972	07/07/16 14:53	RC	TAL IRV
Total/NA	Prep	7471A			0.51 g	50 mL	340821	07/07/16 11:46	DB	TAL IRV
Total/NA	Analysis	7471A		1			341135	07/07/16 18:02	DB	TAL IRV

**Client Sample ID: B7,3'**

**Date Collected: 06/30/16 16:20**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-39**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	5.03 g	10 mL	340728	07/07/16 13:50	AYL	TAL IRV
Total/NA	Prep	3546			7.19 g	1 mL	340131	07/02/16 14:02	KDP	TAL IRV
Total/NA	Analysis	8015B		1			340314	07/05/16 15:45	AMH	TAL IRV
Total/NA	Prep	3050B			2.01 g	50 mL	340489	07/06/16 08:27	DT	TAL IRV
Total/NA	Analysis	6020		20			340972	07/07/16 14:56	RC	TAL IRV
Total/NA	Prep	7471A			0.51 g	50 mL	340821	07/07/16 11:46	DB	TAL IRV
Total/NA	Analysis	7471A		1			341135	07/07/16 18:05	DB	TAL IRV

**Client Sample ID: B7,5'**

**Date Collected: 06/30/16 16:23**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-40**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	5.05 g	10 mL	340728	07/07/16 14:20	AYL	TAL IRV
Total/NA	Prep	3546			7.15 g	1 mL	340264	07/05/16 17:07	LEG	TAL IRV
Total/NA	Analysis	8015B		1			340555	07/06/16 23:16	AMH	TAL IRV
Total/NA	Prep	3050B			2.02 g	50 mL	340489	07/06/16 08:27	DT	TAL IRV
Total/NA	Analysis	6020		20			340972	07/07/16 14:58	RC	TAL IRV
Total/NA	Prep	7471A			0.50 g	50 mL	340821	07/07/16 11:46	DB	TAL IRV
Total/NA	Analysis	7471A		1			341135	07/07/16 18:07	DB	TAL IRV

**Client Sample ID: B8,1'**

**Date Collected: 06/30/16 16:30**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-41**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	5 g	10 mL	340728	07/07/16 14:49	AYL	TAL IRV

TestAmerica Irvine



# Lab Chronicle

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B8,1'**

**Date Collected: 06/30/16 16:30**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-41**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.20 g	1 mL	340264	07/05/16 17:07	LEG	TAL IRV
Total/NA	Analysis	8015B		1			340555	07/06/16 23:38	AMH	TAL IRV
Total/NA	Prep	3050B			2.02 g	50 mL	340489	07/06/16 08:27	DT	TAL IRV
Total/NA	Analysis	6020		20			340972	07/07/16 15:01	RC	TAL IRV
Total/NA	Prep	7471A			0.50 g	50 mL	340821	07/07/16 11:46	DB	TAL IRV
Total/NA	Analysis	7471A		1			341135	07/07/16 18:10	DB	TAL IRV

**Client Sample ID: B8,3'**

**Date Collected: 06/30/16 16:31**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-42**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTV S		1	5.04 g	10 mL	340728	07/07/16 15:19	AYL	TAL IRV
Total/NA	Prep	3546			7.02 g	1 mL	340264	07/05/16 17:07	LEG	TAL IRV
Total/NA	Analysis	8015B		1			340555	07/06/16 23:59	AMH	TAL IRV
Total/NA	Prep	3050B			2.00 g	50 mL	340489	07/06/16 08:27	DT	TAL IRV
Total/NA	Analysis	6020		20			340972	07/07/16 15:03	RC	TAL IRV
Total/NA	Prep	7471A			0.51 g	50 mL	340821	07/07/16 11:46	DB	TAL IRV
Total/NA	Analysis	7471A		1			341135	07/07/16 18:13	DB	TAL IRV

**Client Sample ID: B11,1'**

**Date Collected: 06/30/16 16:44**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-43**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTV S		1	5.04 g	10 mL	340728	07/07/16 15:48	AYL	TAL IRV
Total/NA	Prep	3546			15.44 g	1 mL	340264	07/05/16 17:07	LEG	TAL IRV
Total/NA	Analysis	8015B		1			340555	07/07/16 00:21	AMH	TAL IRV
Total/NA	Prep	3050B			2.03 g	50 mL	340489	07/06/16 08:27	DT	TAL IRV
Total/NA	Analysis	6020		20			340972	07/07/16 15:06	RC	TAL IRV
Total/NA	Prep	7471A			0.50 g	50 mL	340821	07/07/16 11:46	DB	TAL IRV
Total/NA	Analysis	7471A		1			341135	07/07/16 18:15	DB	TAL IRV

**Client Sample ID: B11,3'**

**Date Collected: 06/30/16 16:45**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-44**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTV S		1	5.03 g	10 mL	340955	07/07/16 22:07	AA	TAL IRV
Total/NA	Prep	3546			15.06 g	1 mL	340264	07/05/16 17:07	LEG	TAL IRV
Total/NA	Analysis	8015B		1			340555	07/07/16 00:43	AMH	TAL IRV

TestAmerica Irvine

# Lab Chronicle

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B11,3'**

**Date Collected: 06/30/16 16:45**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-44**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	50 mL	340489	07/06/16 08:27	DT	TAL IRV
Total/NA	Analysis	6020		20			340972	07/07/16 15:08	RC	TAL IRV
Total/NA	Prep	7471A			0.50 g	50 mL	340821	07/07/16 11:46	DB	TAL IRV
Total/NA	Analysis	7471A		1			341135	07/07/16 18:18	DB	TAL IRV

**Client Sample ID: B11,5'**

**Date Collected: 06/30/16 16:50**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-45**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTM S		1	5.02 g	10 mL	340955	07/07/16 23:35	AA	TAL IRV
Total/NA	Prep	3546			15.16 g	1 mL	342485	07/14/16 18:24	VA	TAL IRV
Total/NA	Analysis	8015B		1			342375	07/15/16 20:32	JM	TAL IRV
Total/NA	Prep	3050B			2.03 g	50 mL	340489	07/06/16 08:27	DT	TAL IRV
Total/NA	Analysis	6020		20			340972	07/07/16 15:28	RC	TAL IRV
Total/NA	Prep	7471A			0.50 g	50 mL	340821	07/07/16 11:46	DB	TAL IRV
Total/NA	Analysis	7471A		1			341135	07/07/16 18:21	DB	TAL IRV

**Client Sample ID: B11,7'**

**Date Collected: 06/30/16 16:51**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-46**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTM S		1	5.01 g	10 mL	340955	07/08/16 00:05	AA	TAL IRV
Total/NA	Prep	3546			15.06 g	1 mL	342485	07/14/16 18:24	VA	TAL IRV
Total/NA	Analysis	8015B		1			342652	07/16/16 01:11	VS	TAL IRV
Total/NA	Prep	3050B			2.01 g	50 mL	340489	07/06/16 08:27	DT	TAL IRV
Total/NA	Analysis	6020		20			340972	07/07/16 15:10	RC	TAL IRV
Total/NA	Prep	7471A			0.51 g	50 mL	340821	07/07/16 11:46	DB	TAL IRV
Total/NA	Analysis	7471A		1			341135	07/07/16 18:23	DB	TAL IRV

**Client Sample ID: B12,1'**

**Date Collected: 06/30/16 16:58**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-47**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTM S		1	5.03 g	10 mL	341013	07/08/16 14:32	HR	TAL IRV
Total/NA	Prep	3546			15.09 g	1 mL	342485	07/14/16 18:24	VA	TAL IRV
Total/NA	Analysis	8015B		1			342829	07/16/16 18:26	AMH	TAL IRV
Total/NA	Prep	3050B			2.01 g	50 mL	340489	07/06/16 08:27	DT	TAL IRV
Total/NA	Analysis	6020		20			340972	07/07/16 15:13	RC	TAL IRV

TestAmerica Irvine

# Lab Chronicle

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Client Sample ID: B12,1'**  
**Date Collected: 06/30/16 16:58**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-47**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			0.51 g	50 mL	340821	07/07/16 11:46	DB	TAL IRV
Total/NA	Analysis	7471A		1			341135	07/07/16 18:26	DB	TAL IRV

**Client Sample ID: B12,3'**  
**Date Collected: 06/30/16 16:59**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-48**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTV S		1	5.01 g	10 mL	340728	07/07/16 18:16	AYL	TAL IRV
Total/NA	Prep	3546			7.27 g	1 mL	342485	07/14/16 18:24	VA	TAL IRV
Total/NA	Analysis	8015B		1			342652	07/16/16 00:12	VS	TAL IRV
Total/NA	Prep	3050B			2.02 g	50 mL	340489	07/06/16 08:27	DT	TAL IRV
Total/NA	Analysis	6020		20			340972	07/07/16 15:20	RC	TAL IRV
Total/NA	Prep	7471A			0.51 g	50 mL	340821	07/07/16 11:46	DB	TAL IRV
Total/NA	Analysis	7471A		1			341135	07/07/16 18:34	DB	TAL IRV

**Client Sample ID: B12,5'**  
**Date Collected: 06/30/16 17:02**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-49**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTV S		1	5 g	10 mL	340955	07/08/16 00:35	AA	TAL IRV
Total/NA	Prep	3546			3.36 g	1 mL	342485	07/14/16 18:24	VA	TAL IRV
Total/NA	Analysis	8015B		1			342652	07/16/16 00:31	VS	TAL IRV
Total/NA	Prep	3050B			2.03 g	50 mL	340489	07/06/16 08:27	DT	TAL IRV
Total/NA	Analysis	6020		20			340972	07/07/16 15:23	RC	TAL IRV
Total/NA	Prep	7471A			0.51 g	50 mL	340821	07/07/16 11:46	DB	TAL IRV
Total/NA	Analysis	7471A		1			341135	07/07/16 18:37	DB	TAL IRV

**Client Sample ID: B12,7'**  
**Date Collected: 06/30/16 17:03**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151548-50**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTV S		1	5.01 g	10 mL	340728	07/07/16 09:54	AYL	TAL IRV
Total/NA	Prep	3546			7.47 g	1 mL	342485	07/14/16 18:24	VA	TAL IRV
Total/NA	Analysis	8015B		1			342652	07/16/16 00:51	VS	TAL IRV
Total/NA	Prep	3050B			2.02 g	50 mL	340489	07/06/16 08:27	DT	TAL IRV
Total/NA	Analysis	6020		20			340972	07/07/16 15:25	RC	TAL IRV
Total/NA	Prep	7471A			0.50 g	50 mL	340821	07/07/16 11:46	DB	TAL IRV
Total/NA	Analysis	7471A		1			341135	07/07/16 18:39	DB	TAL IRV

TestAmerica Irvine

# Lab Chronicle

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

**Laboratory References:**

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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# QC Sample Results

Client: Citadel Environmental Services Inc  
 Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 440-340661/4**

**Matrix: Solid**

**Analysis Batch: 340661**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	1.0	ug/Kg			07/06/16 19:10	1
1,1,1-Trichloroethane	ND		2.0	1.0	ug/Kg			07/06/16 19:10	1
1,1,2,2-Tetrachloroethane	ND		2.0	1.0	ug/Kg			07/06/16 19:10	1
1,1,2-Trichloroethane	ND		2.0	1.0	ug/Kg			07/06/16 19:10	1
1,1-Dichloroethane	ND		2.0	1.0	ug/Kg			07/06/16 19:10	1
1,1-Dichloroethene	ND		5.0	1.0	ug/Kg			07/06/16 19:10	1
1,1-Dichloropropene	ND		2.0	1.0	ug/Kg			07/06/16 19:10	1
1,2,3-Trichlorobenzene	ND		5.0	1.0	ug/Kg			07/06/16 19:10	1
1,2,3-Trichloropropane	ND		10	1.0	ug/Kg			07/06/16 19:10	1
1,2,4-Trichlorobenzene	ND		5.0	1.0	ug/Kg			07/06/16 19:10	1
1,2,4-Trimethylbenzene	ND		2.0	1.0	ug/Kg			07/06/16 19:10	1
1,2-Dibromo-3-Chloropropane	ND		5.0	2.0	ug/Kg			07/06/16 19:10	1
1,2-Dibromoethane (EDB)	ND		2.0	1.0	ug/Kg			07/06/16 19:10	1
1,2-Dichlorobenzene	ND		2.0	1.0	ug/Kg			07/06/16 19:10	1
1,2-Dichloroethane	ND		2.0	1.0	ug/Kg			07/06/16 19:10	1
1,2-Dichloropropane	ND		2.0	1.0	ug/Kg			07/06/16 19:10	1
1,3,5-Trimethylbenzene	ND		2.0	1.0	ug/Kg			07/06/16 19:10	1
1,3-Dichlorobenzene	ND		2.0	1.0	ug/Kg			07/06/16 19:10	1
1,3-Dichloropropane	ND		2.0	1.0	ug/Kg			07/06/16 19:10	1
1,4-Dichlorobenzene	ND		2.0	1.0	ug/Kg			07/06/16 19:10	1
2,2-Dichloropropane	ND		2.0	1.0	ug/Kg			07/06/16 19:10	1
2-Chlorotoluene	ND		5.0	1.0	ug/Kg			07/06/16 19:10	1
4-Chlorotoluene	ND		5.0	1.0	ug/Kg			07/06/16 19:10	1
Benzene	ND		2.0	1.0	ug/Kg			07/06/16 19:10	1
Bromobenzene	ND		5.0	1.0	ug/Kg			07/06/16 19:10	1
Bromochloromethane	ND		5.0	1.0	ug/Kg			07/06/16 19:10	1
Bromodichloromethane	ND		2.0	1.0	ug/Kg			07/06/16 19:10	1
Bromoform	ND		5.0	2.0	ug/Kg			07/06/16 19:10	1
Bromomethane	ND		5.0	1.0	ug/Kg			07/06/16 19:10	1
Carbon tetrachloride	ND		5.0	1.0	ug/Kg			07/06/16 19:10	1
Chlorobenzene	ND		2.0	1.0	ug/Kg			07/06/16 19:10	1
Chloroethane	ND		5.0	2.0	ug/Kg			07/06/16 19:10	1
Chloroform	ND		2.0	1.0	ug/Kg			07/06/16 19:10	1
Chloromethane	ND		5.0	1.0	ug/Kg			07/06/16 19:10	1
cis-1,2-Dichloroethene	ND		2.0	1.0	ug/Kg			07/06/16 19:10	1
cis-1,3-Dichloropropane	ND		2.0	1.0	ug/Kg			07/06/16 19:10	1
Dibromochloromethane	ND		2.0	1.0	ug/Kg			07/06/16 19:10	1
Dibromomethane	ND		2.0	1.0	ug/Kg			07/06/16 19:10	1
Dichlorodifluoromethane	ND		5.0	2.0	ug/Kg			07/06/16 19:10	1
Isopropyl Ether (DIPE)	ND		5.0	1.0	ug/Kg			07/06/16 19:10	1
Ethanol	ND		300	100	ug/Kg			07/06/16 19:10	1
Ethyl-t-butyl ether (ETBE)	ND		5.0	1.0	ug/Kg			07/06/16 19:10	1
Ethylbenzene	ND		2.0	1.0	ug/Kg			07/06/16 19:10	1
Hexachlorobutadiene	ND		5.0	1.0	ug/Kg			07/06/16 19:10	1
Isopropylbenzene	ND		2.0	1.0	ug/Kg			07/06/16 19:10	1
m,p-Xylene	ND		4.0	2.0	ug/Kg			07/06/16 19:10	1
Methylene Chloride	ND		20	5.0	ug/Kg			07/06/16 19:10	1
Methyl-t-Butyl Ether (MTBE)	ND		5.0	1.0	ug/Kg			07/06/16 19:10	1

TestAmerica Irvine

# QC Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 440-340661/4**  
**Matrix: Solid**  
**Analysis Batch: 340661**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		5.0	2.0	ug/Kg			07/06/16 19:10	1
n-Butylbenzene	ND		5.0	1.0	ug/Kg			07/06/16 19:10	1
N-Propylbenzene	ND		2.0	1.0	ug/Kg			07/06/16 19:10	1
o-Xylene	ND		2.0	1.0	ug/Kg			07/06/16 19:10	1
sec-Butylbenzene	ND		5.0	1.0	ug/Kg			07/06/16 19:10	1
Styrene	ND		2.0	1.0	ug/Kg			07/06/16 19:10	1
Tert-amyl-methyl ether (TAME)	ND		5.0	1.0	ug/Kg			07/06/16 19:10	1
tert-Butyl alcohol (TBA)	ND		100	10	ug/Kg			07/06/16 19:10	1
tert-Butylbenzene	ND		5.0	1.0	ug/Kg			07/06/16 19:10	1
Tetrachloroethene	ND		2.0	1.0	ug/Kg			07/06/16 19:10	1
Toluene	ND		2.0	1.0	ug/Kg			07/06/16 19:10	1
trans-1,2-Dichloroethene	ND		2.0	1.0	ug/Kg			07/06/16 19:10	1
trans-1,3-Dichloropropene	ND		2.0	1.0	ug/Kg			07/06/16 19:10	1
Trichloroethene	ND		2.0	1.0	ug/Kg			07/06/16 19:10	1
Trichlorofluoromethane	ND		5.0	1.0	ug/Kg			07/06/16 19:10	1
Vinyl chloride	ND		5.0	1.0	ug/Kg			07/06/16 19:10	1
Xylenes, Total	ND		4.0	2.0	ug/Kg			07/06/16 19:10	1
p-Isopropyltoluene	ND		2.0	1.0	ug/Kg			07/06/16 19:10	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	110		79 - 123		07/06/16 19:10	1
4-Bromofluorobenzene (Surr)	105		79 - 120		07/06/16 19:10	1
Dibromofluoromethane (Surr)	106		60 - 120		07/06/16 19:10	1

**Lab Sample ID: LCS 440-340661/5**  
**Matrix: Solid**  
**Analysis Batch: 340661**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	50.0	51.5		ug/Kg		103	70 - 130
1,1,1-Trichloroethane	50.0	48.0		ug/Kg		96	65 - 135
1,1,2,2-Tetrachloroethane	50.0	51.1		ug/Kg		102	55 - 140
1,1,2-Trichloroethane	50.0	53.3		ug/Kg		107	65 - 135
1,1-Dichloroethane	50.0	50.5		ug/Kg		101	70 - 130
1,1-Dichloroethene	50.0	50.1		ug/Kg		100	70 - 125
1,1-Dichloropropene	50.0	54.9		ug/Kg		110	70 - 130
1,2,3-Trichlorobenzene	50.0	54.1		ug/Kg		108	60 - 130
1,2,3-Trichloropropane	50.0	50.1		ug/Kg		100	60 - 135
1,2,4-Trichlorobenzene	50.0	58.7		ug/Kg		117	70 - 135
1,2,4-Trimethylbenzene	50.0	51.7		ug/Kg		103	70 - 125
1,2-Dibromo-3-Chloropropane	50.0	44.6		ug/Kg		89	50 - 135
1,2-Dibromoethane (EDB)	50.0	53.9		ug/Kg		108	70 - 130
1,2-Dichlorobenzene	50.0	52.5		ug/Kg		105	75 - 120
1,2-Dichloroethane	50.0	50.2		ug/Kg		100	60 - 140
1,2-Dichloropropane	50.0	57.0		ug/Kg		114	70 - 130
1,3,5-Trimethylbenzene	50.0	51.7		ug/Kg		103	70 - 125
1,3-Dichlorobenzene	50.0	51.5		ug/Kg		103	75 - 125
1,3-Dichloropropane	50.0	51.1		ug/Kg		102	70 - 125

TestAmerica Irvine

# QC Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 440-340661/5**

**Matrix: Solid**

**Analysis Batch: 340661**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	50.0	50.6		ug/Kg		101	75 - 120
2,2-Dichloropropane	50.0	52.6		ug/Kg		105	60 - 145
2-Chlorotoluene	50.0	53.9		ug/Kg		108	70 - 125
4-Chlorotoluene	50.0	54.4		ug/Kg		109	75 - 125
Benzene	50.0	53.4		ug/Kg		107	65 - 120
Bromobenzene	50.0	54.2		ug/Kg		108	75 - 120
Bromochloromethane	50.0	53.1		ug/Kg		106	70 - 135
Bromodichloromethane	50.0	51.2		ug/Kg		102	70 - 135
Bromoform	50.0	51.7		ug/Kg		103	55 - 135
Bromomethane	50.0	49.6		ug/Kg		99	60 - 145
Carbon tetrachloride	50.0	47.5		ug/Kg		95	65 - 140
Chlorobenzene	50.0	51.1		ug/Kg		102	75 - 120
Chloroethane	50.0	49.9		ug/Kg		100	60 - 140
Chloroform	50.0	49.8		ug/Kg		100	70 - 130
Chloromethane	50.0	52.6		ug/Kg		105	45 - 145
cis-1,2-Dichloroethene	50.0	55.0		ug/Kg		110	70 - 125
cis-1,3-Dichloropropene	50.0	54.5		ug/Kg		109	75 - 125
Dibromochloromethane	50.0	52.8		ug/Kg		106	65 - 140
Dibromomethane	50.0	51.3		ug/Kg		103	70 - 130
Dichlorodifluoromethane	50.0	43.9		ug/Kg		88	35 - 160
Isopropyl Ether (DIPE)	50.0	57.9		ug/Kg		116	60 - 140
Ethanol	2000	1890		ug/Kg		94	35 - 160
Ethyl-t-butyl ether (ETBE)	50.0	57.8		ug/Kg		116	60 - 140
Ethylbenzene	50.0	54.1		ug/Kg		108	70 - 125
Hexachlorobutadiene	50.0	49.7		ug/Kg		99	60 - 135
Isopropylbenzene	50.0	51.6		ug/Kg		103	75 - 130
m,p-Xylene	50.0	51.5		ug/Kg		103	70 - 125
Methylene Chloride	50.0	48.8		ug/Kg		98	55 - 135
Methyl-t-Butyl Ether (MTBE)	50.0	54.9		ug/Kg		110	60 - 140
Naphthalene	50.0	50.0		ug/Kg		100	55 - 135
n-Butylbenzene	50.0	51.2		ug/Kg		102	70 - 130
N-Propylbenzene	50.0	55.6		ug/Kg		111	70 - 130
o-Xylene	50.0	52.3		ug/Kg		105	70 - 125
sec-Butylbenzene	50.0	53.9		ug/Kg		108	70 - 125
Styrene	50.0	53.0		ug/Kg		106	75 - 130
Tert-amyl-methyl ether (TAME)	50.0	55.4		ug/Kg		111	60 - 145
tert-Butyl alcohol (TBA)	500	515		ug/Kg		103	70 - 135
tert-Butylbenzene	50.0	54.7		ug/Kg		109	70 - 125
Tetrachloroethene	50.0	51.0		ug/Kg		102	70 - 125
Toluene	50.0	54.2		ug/Kg		108	70 - 125
trans-1,2-Dichloroethene	50.0	56.0		ug/Kg		112	70 - 125
trans-1,3-Dichloropropene	50.0	53.6		ug/Kg		107	70 - 135
Trichloroethene	50.0	52.4		ug/Kg		105	70 - 125
Trichlorofluoromethane	50.0	44.9		ug/Kg		90	60 - 145
Vinyl chloride	50.0	44.4		ug/Kg		89	55 - 135
p-Isopropyltoluene	50.0	54.3		ug/Kg		109	75 - 125

TestAmerica Irvine



# QC Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 440-340661/5**  
**Matrix: Solid**  
**Analysis Batch: 340661**

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	105		79 - 123
4-Bromofluorobenzene (Surr)	103		79 - 120
Dibromofluoromethane (Surr)	104		60 - 120

**Lab Sample ID: 440-151548-18 MS**  
**Matrix: Solid**  
**Analysis Batch: 340661**

**Client Sample ID: B13,10'**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		49.1	57.2		ug/Kg		116	65 - 145
1,1,1-Trichloroethane	ND		49.1	53.9		ug/Kg		110	65 - 145
1,1,1,2,2-Tetrachloroethane	ND		49.1	60.0		ug/Kg		122	40 - 160
1,1,2-Trichloroethane	ND		49.1	59.9		ug/Kg		122	65 - 140
1,1-Dichloroethane	ND		49.1	55.8		ug/Kg		114	65 - 135
1,1-Dichloroethene	ND		49.1	56.6		ug/Kg		115	65 - 135
1,1-Dichloropropene	ND		49.1	60.5		ug/Kg		123	65 - 135
1,2,3-Trichlorobenzene	ND		49.1	48.3		ug/Kg		98	45 - 145
1,2,3-Trichloropropane	ND		49.1	58.1		ug/Kg		118	50 - 150
1,2,4-Trichlorobenzene	ND		49.1	54.4		ug/Kg		111	50 - 140
1,2,4-Trimethylbenzene	ND		49.1	57.6		ug/Kg		117	65 - 140
1,2-Dibromo-3-Chloropropane	ND		49.1	50.1		ug/Kg		102	40 - 150
1,2-Dibromoethane (EDB)	ND		49.1	61.8		ug/Kg		126	65 - 140
1,2-Dichlorobenzene	ND		49.1	57.5		ug/Kg		117	70 - 130
1,2-Dichloroethane	ND		49.1	55.2		ug/Kg		112	60 - 150
1,2-Dichloropropane	ND	F1	49.1	64.7	F1	ug/Kg		132	65 - 130
1,3,5-Trimethylbenzene	ND		49.1	58.1		ug/Kg		118	65 - 135
1,3-Dichlorobenzene	ND		49.1	55.0		ug/Kg		112	70 - 130
1,3-Dichloropropane	ND		49.1	60.7		ug/Kg		124	65 - 140
1,4-Dichlorobenzene	ND		49.1	54.4		ug/Kg		111	70 - 130
2,2-Dichloropropane	ND		49.1	60.4		ug/Kg		123	65 - 150
2-Chlorotoluene	ND		49.1	59.2		ug/Kg		121	60 - 135
4-Chlorotoluene	ND		49.1	59.3		ug/Kg		121	65 - 135
Benzene	ND		49.1	58.0		ug/Kg		118	65 - 130
Bromobenzene	ND		49.1	59.6		ug/Kg		121	65 - 140
Bromochloromethane	ND		49.1	60.0		ug/Kg		122	65 - 145
Bromodichloromethane	ND		49.1	57.3		ug/Kg		117	65 - 145
Bromoform	ND		49.1	58.0		ug/Kg		118	50 - 145
Bromomethane	ND		49.1	55.0		ug/Kg		112	60 - 155
Carbon tetrachloride	ND		49.1	53.9		ug/Kg		110	60 - 145
Chlorobenzene	ND		49.1	55.5		ug/Kg		113	70 - 130
Chloroethane	ND		49.1	56.0		ug/Kg		114	60 - 150
Chloroform	ND		49.1	55.5		ug/Kg		113	65 - 135
Chloromethane	ND		49.1	57.5		ug/Kg		117	40 - 145
cis-1,2-Dichloroethene	ND		49.1	61.8		ug/Kg		126	65 - 135
cis-1,3-Dichloropropene	ND		49.1	60.5		ug/Kg		123	70 - 135
Dibromochloromethane	ND		49.1	60.1		ug/Kg		122	60 - 145
Dibromomethane	ND		49.1	57.4		ug/Kg		117	65 - 140
Dichlorodifluoromethane	ND		49.1	51.8		ug/Kg		105	30 - 160

TestAmerica Irvine



# QC Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 440-151548-18 MS**

**Matrix: Solid**

**Analysis Batch: 340661**

**Client Sample ID: B13,10'**

**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Isopropyl Ether (DIPE)	ND		49.1	64.8		ug/Kg		132	60 - 150
Ethanol	ND		1960	2070		ug/Kg		105	30 - 165
Ethyl-t-butyl ether (ETBE)	ND		49.1	64.8		ug/Kg		132	60 - 145
Ethylbenzene	ND		49.1	60.7		ug/Kg		124	70 - 135
Hexachlorobutadiene	ND		49.1	51.6		ug/Kg		105	50 - 145
Isopropylbenzene	ND		49.1	57.5		ug/Kg		117	70 - 145
m,p-Xylene	ND		49.1	57.0		ug/Kg		116	70 - 130
Methylene Chloride	ND		49.1	58.0		ug/Kg		118	55 - 145
Methyl-t-Butyl Ether (MTBE)	ND		49.1	62.7		ug/Kg		128	55 - 155
Naphthalene	ND		49.1	44.9		ug/Kg		91	40 - 150
n-Butylbenzene	ND		49.1	56.9		ug/Kg		116	55 - 145
N-Propylbenzene	ND		49.1	63.2		ug/Kg		129	65 - 140
o-Xylene	ND		49.1	59.0		ug/Kg		120	65 - 130
sec-Butylbenzene	ND		49.1	61.0		ug/Kg		124	60 - 135
Styrene	ND		49.1	56.1		ug/Kg		114	70 - 140
Tert-amyl-methyl ether (TAME)	ND		49.1	63.3		ug/Kg		129	60 - 150
tert-Butyl alcohol (TBA)	ND		491	579		ug/Kg		118	65 - 145
tert-Butylbenzene	ND		49.1	62.3		ug/Kg		127	60 - 140
Tetrachloroethene	ND		49.1	56.9		ug/Kg		116	65 - 135
Toluene	ND		49.1	60.0		ug/Kg		122	70 - 130
trans-1,2-Dichloroethene	ND		49.1	61.6		ug/Kg		125	70 - 135
trans-1,3-Dichloropropene	ND		49.1	60.1		ug/Kg		122	60 - 145
Trichloroethene	ND		49.1	56.8		ug/Kg		116	65 - 140
Trichlorofluoromethane	ND		49.1	51.9		ug/Kg		106	55 - 155
Vinyl chloride	ND		49.1	51.3		ug/Kg		104	55 - 140
p-Isopropyltoluene	ND		49.1	61.1		ug/Kg		124	60 - 140

Surrogate	MS %Recovery	MS Qualifier	MS Limits
Toluene-d8 (Surr)	107		79 - 123
4-Bromofluorobenzene (Surr)	103		79 - 120
Dibromofluoromethane (Surr)	106		60 - 120

**Lab Sample ID: 440-151548-18 MSD**

**Matrix: Solid**

**Analysis Batch: 340661**

**Client Sample ID: B13,10'**

**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND		48.9	56.9		ug/Kg		116	65 - 145	1	20
1,1,1-Trichloroethane	ND		48.9	54.5		ug/Kg		111	65 - 145	1	20
1,1,2,2-Tetrachloroethane	ND		48.9	63.3		ug/Kg		129	40 - 160	5	30
1,1,2-Trichloroethane	ND		48.9	61.8		ug/Kg		126	65 - 140	3	30
1,1-Dichloroethane	ND		48.9	56.5		ug/Kg		115	65 - 135	1	25
1,1-Dichloroethene	ND		48.9	57.7		ug/Kg		118	65 - 135	2	25
1,1-Dichloropropene	ND		48.9	61.9		ug/Kg		126	65 - 135	2	20
1,2,3-Trichlorobenzene	ND		48.9	47.9		ug/Kg		98	45 - 145	1	30
1,2,3-Trichloropropane	ND		48.9	62.7		ug/Kg		128	50 - 150	8	30
1,2,4-Trichlorobenzene	ND		48.9	52.4		ug/Kg		107	50 - 140	4	30
1,2,4-Trimethylbenzene	ND		48.9	57.9		ug/Kg		118	65 - 140	1	25

TestAmerica Irvine

# QC Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-151548-18 MSD

Matrix: Solid

Analysis Batch: 340661

Client Sample ID: B13,10'

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dibromo-3-Chloropropane	ND		48.9	55.6		ug/Kg		114	40 - 150	10	30
1,2-Dibromoethane (EDB)	ND		48.9	63.1		ug/Kg		129	65 - 140	2	25
1,2-Dichlorobenzene	ND		48.9	57.1		ug/Kg		117	70 - 130	1	25
1,2-Dichloroethane	ND		48.9	57.4		ug/Kg		117	60 - 150	4	25
1,2-Dichloropropane	ND	F1	48.9	65.9	F1	ug/Kg		135	65 - 130	2	20
1,3,5-Trimethylbenzene	ND		48.9	58.7		ug/Kg		120	65 - 135	1	25
1,3-Dichlorobenzene	ND		48.9	55.0		ug/Kg		112	70 - 130	0	25
1,3-Dichloropropane	ND		48.9	61.8		ug/Kg		126	65 - 140	2	25
1,4-Dichlorobenzene	ND		48.9	54.3		ug/Kg		111	70 - 130	0	25
2,2-Dichloropropane	ND		48.9	59.9		ug/Kg		122	65 - 150	1	25
2-Chlorotoluene	ND		48.9	60.4		ug/Kg		124	60 - 135	2	25
4-Chlorotoluene	ND		48.9	59.5		ug/Kg		122	65 - 135	0	25
Benzene	ND		48.9	59.6		ug/Kg		122	65 - 130	3	20
Bromobenzene	ND		48.9	60.5		ug/Kg		124	65 - 140	2	25
Bromochloromethane	ND		48.9	62.2		ug/Kg		127	65 - 145	4	25
Bromodichloromethane	ND		48.9	57.3		ug/Kg		117	65 - 145	0	20
Bromoform	ND		48.9	58.0		ug/Kg		119	50 - 145	0	30
Bromomethane	ND		48.9	56.0		ug/Kg		114	60 - 155	2	25
Carbon tetrachloride	ND		48.9	53.7		ug/Kg		110	60 - 145	0	25
Chlorobenzene	ND		48.9	54.8		ug/Kg		112	70 - 130	1	25
Chloroethane	ND		48.9	57.7		ug/Kg		118	60 - 150	3	25
Chloroform	ND		48.9	56.2		ug/Kg		115	65 - 135	1	20
Chloromethane	ND		48.9	59.9		ug/Kg		122	40 - 145	4	25
cis-1,2-Dichloroethene	ND		48.9	61.7		ug/Kg		126	65 - 135	0	25
cis-1,3-Dichloropropene	ND		48.9	61.6		ug/Kg		126	70 - 135	2	25
Dibromochloromethane	ND		48.9	59.8		ug/Kg		122	60 - 145	0	25
Dibromomethane	ND		48.9	58.7		ug/Kg		120	65 - 140	2	25
Dichlorodifluoromethane	ND		48.9	53.9		ug/Kg		110	30 - 160	4	35
Isopropyl Ether (DIPE)	ND		48.9	66.2		ug/Kg		135	60 - 150	2	25
Ethanol	ND		1960	2070		ug/Kg		106	30 - 165	0	40
Ethyl-t-butyl ether (ETBE)	ND		48.9	67.4		ug/Kg		138	60 - 145	4	30
Ethylbenzene	ND		48.9	60.1		ug/Kg		123	70 - 135	1	25
Hexachlorobutadiene	ND		48.9	49.7		ug/Kg		102	50 - 145	4	35
Isopropylbenzene	ND		48.9	56.1		ug/Kg		115	70 - 145	3	25
m,p-Xylene	ND		48.9	56.0		ug/Kg		114	70 - 130	2	25
Methylene Chloride	ND		48.9	58.9		ug/Kg		120	55 - 145	2	25
Methyl-t-Butyl Ether (MTBE)	ND		48.9	64.4		ug/Kg		132	55 - 155	3	35
Naphthalene	ND		48.9	47.5		ug/Kg		97	40 - 150	6	40
n-Butylbenzene	ND		48.9	56.0		ug/Kg		114	55 - 145	2	30
N-Propylbenzene	ND		48.9	63.7		ug/Kg		130	65 - 140	1	25
o-Xylene	ND		48.9	57.0		ug/Kg		116	65 - 130	3	25
sec-Butylbenzene	ND		48.9	60.8		ug/Kg		124	60 - 135	0	25
Styrene	ND		48.9	53.9		ug/Kg		110	70 - 140	4	25
Tert-amyl-methyl ether (TAME)	ND		48.9	65.3		ug/Kg		133	60 - 150	3	25
tert-Butyl alcohol (TBA)	ND		489	562		ug/Kg		115	65 - 145	3	30
tert-Butylbenzene	ND		48.9	63.2		ug/Kg		129	60 - 140	1	25
Tetrachloroethene	ND		48.9	55.6		ug/Kg		114	65 - 135	2	25
Toluene	ND		48.9	60.2		ug/Kg		123	70 - 130	0	20

TestAmerica Irvine

# QC Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 440-151548-18 MSD**

**Matrix: Solid**

**Analysis Batch: 340661**

**Client Sample ID: B13,10'**

**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
trans-1,2-Dichloroethene	ND		48.9	62.5		ug/Kg		128	70 - 135	1	25
trans-1,3-Dichloropropene	ND		48.9	60.3		ug/Kg		123	60 - 145	0	25
Trichloroethene	ND		48.9	58.1		ug/Kg		119	65 - 140	2	25
Trichlorofluoromethane	ND		48.9	51.2		ug/Kg		105	55 - 155	1	25
Vinyl chloride	ND		48.9	52.3		ug/Kg		107	55 - 140	2	30
p-Isopropyltoluene	ND		48.9	61.5		ug/Kg		126	60 - 140	1	25

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
Toluene-d8 (Surr)	108		79 - 123
4-Bromofluorobenzene (Surr)	105		79 - 120
Dibromofluoromethane (Surr)	106		60 - 120

**Lab Sample ID: MB 440-340727/5**

**Matrix: Solid**

**Analysis Batch: 340727**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	1.0	ug/Kg			07/07/16 08:20	1
1,1,1-Trichloroethane	ND		2.0	1.0	ug/Kg			07/07/16 08:20	1
1,1,2,2-Tetrachloroethane	ND		2.0	1.0	ug/Kg			07/07/16 08:20	1
1,1,2-Trichloroethane	ND		2.0	1.0	ug/Kg			07/07/16 08:20	1
1,1-Dichloroethane	ND		2.0	1.0	ug/Kg			07/07/16 08:20	1
1,1-Dichloroethene	ND		5.0	1.0	ug/Kg			07/07/16 08:20	1
1,1-Dichloropropene	ND		2.0	1.0	ug/Kg			07/07/16 08:20	1
1,2,3-Trichlorobenzene	ND		5.0	1.0	ug/Kg			07/07/16 08:20	1
1,2,3-Trichloropropane	ND		10	1.0	ug/Kg			07/07/16 08:20	1
1,2,4-Trichlorobenzene	ND		5.0	1.0	ug/Kg			07/07/16 08:20	1
1,2,4-Trimethylbenzene	ND		2.0	1.0	ug/Kg			07/07/16 08:20	1
1,2-Dibromo-3-Chloropropane	ND		5.0	2.0	ug/Kg			07/07/16 08:20	1
1,2-Dibromoethane (EDB)	ND		2.0	1.0	ug/Kg			07/07/16 08:20	1
1,2-Dichlorobenzene	ND		2.0	1.0	ug/Kg			07/07/16 08:20	1
1,2-Dichloroethane	ND		2.0	1.0	ug/Kg			07/07/16 08:20	1
1,2-Dichloropropane	ND		2.0	1.0	ug/Kg			07/07/16 08:20	1
1,3,5-Trimethylbenzene	ND		2.0	1.0	ug/Kg			07/07/16 08:20	1
1,3-Dichlorobenzene	ND		2.0	1.0	ug/Kg			07/07/16 08:20	1
1,3-Dichloropropane	ND		2.0	1.0	ug/Kg			07/07/16 08:20	1
1,4-Dichlorobenzene	ND		2.0	1.0	ug/Kg			07/07/16 08:20	1
2,2-Dichloropropane	ND		2.0	1.0	ug/Kg			07/07/16 08:20	1
2-Chlorotoluene	ND		5.0	1.0	ug/Kg			07/07/16 08:20	1
4-Chlorotoluene	ND		5.0	1.0	ug/Kg			07/07/16 08:20	1
Benzene	ND		2.0	1.0	ug/Kg			07/07/16 08:20	1
Bromobenzene	ND		5.0	1.0	ug/Kg			07/07/16 08:20	1
Bromochloromethane	ND		5.0	1.0	ug/Kg			07/07/16 08:20	1
Bromodichloromethane	ND		2.0	1.0	ug/Kg			07/07/16 08:20	1
Bromoform	ND		5.0	2.0	ug/Kg			07/07/16 08:20	1
Bromomethane	ND		5.0	1.0	ug/Kg			07/07/16 08:20	1
Carbon tetrachloride	ND		5.0	1.0	ug/Kg			07/07/16 08:20	1
Chlorobenzene	ND		2.0	1.0	ug/Kg			07/07/16 08:20	1

TestAmerica Irvine

# QC Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 440-340727/5**  
**Matrix: Solid**  
**Analysis Batch: 340727**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	ND		5.0	2.0	ug/Kg			07/07/16 08:20	1
Chloroform	ND		2.0	1.0	ug/Kg			07/07/16 08:20	1
Chloromethane	ND		5.0	1.0	ug/Kg			07/07/16 08:20	1
cis-1,2-Dichloroethene	ND		2.0	1.0	ug/Kg			07/07/16 08:20	1
cis-1,3-Dichloropropene	ND		2.0	1.0	ug/Kg			07/07/16 08:20	1
Dibromochloromethane	ND		2.0	1.0	ug/Kg			07/07/16 08:20	1
Dibromomethane	ND		2.0	1.0	ug/Kg			07/07/16 08:20	1
Dichlorodifluoromethane	ND		5.0	2.0	ug/Kg			07/07/16 08:20	1
Isopropyl Ether (DIPE)	ND		5.0	1.0	ug/Kg			07/07/16 08:20	1
Ethanol	ND		300	100	ug/Kg			07/07/16 08:20	1
Ethyl-t-butyl ether (ETBE)	ND		5.0	1.0	ug/Kg			07/07/16 08:20	1
Ethylbenzene	ND		2.0	1.0	ug/Kg			07/07/16 08:20	1
Hexachlorobutadiene	ND		5.0	1.0	ug/Kg			07/07/16 08:20	1
Isopropylbenzene	ND		2.0	1.0	ug/Kg			07/07/16 08:20	1
m,p-Xylene	ND		4.0	2.0	ug/Kg			07/07/16 08:20	1
Methylene Chloride	ND		20	5.0	ug/Kg			07/07/16 08:20	1
Methyl-t-Butyl Ether (MTBE)	ND		5.0	1.0	ug/Kg			07/07/16 08:20	1
Naphthalene	ND		5.0	2.0	ug/Kg			07/07/16 08:20	1
n-Butylbenzene	ND		5.0	1.0	ug/Kg			07/07/16 08:20	1
N-Propylbenzene	ND		2.0	1.0	ug/Kg			07/07/16 08:20	1
o-Xylene	ND		2.0	1.0	ug/Kg			07/07/16 08:20	1
sec-Butylbenzene	ND		5.0	1.0	ug/Kg			07/07/16 08:20	1
Styrene	ND		2.0	1.0	ug/Kg			07/07/16 08:20	1
Tert-amyl-methyl ether (TAME)	ND		5.0	1.0	ug/Kg			07/07/16 08:20	1
tert-Butyl alcohol (TBA)	ND		100	10	ug/Kg			07/07/16 08:20	1
tert-Butylbenzene	ND		5.0	1.0	ug/Kg			07/07/16 08:20	1
Tetrachloroethene	ND		2.0	1.0	ug/Kg			07/07/16 08:20	1
Toluene	ND		2.0	1.0	ug/Kg			07/07/16 08:20	1
trans-1,2-Dichloroethene	ND		2.0	1.0	ug/Kg			07/07/16 08:20	1
trans-1,3-Dichloropropene	ND		2.0	1.0	ug/Kg			07/07/16 08:20	1
Trichloroethene	ND		2.0	1.0	ug/Kg			07/07/16 08:20	1
Trichlorofluoromethane	ND		5.0	1.0	ug/Kg			07/07/16 08:20	1
Vinyl chloride	ND		5.0	1.0	ug/Kg			07/07/16 08:20	1
Xylenes, Total	ND		4.0	2.0	ug/Kg			07/07/16 08:20	1
p-Isopropyltoluene	ND		2.0	1.0	ug/Kg			07/07/16 08:20	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	109		79 - 123		07/07/16 08:20	1
4-Bromofluorobenzene (Surr)	107		79 - 120		07/07/16 08:20	1
Dibromofluoromethane (Surr)	113		60 - 120		07/07/16 08:20	1

**Lab Sample ID: LCS 440-340727/6**  
**Matrix: Solid**  
**Analysis Batch: 340727**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	50.0	55.7		ug/Kg		111	70 - 130
1,1,1-Trichloroethane	50.0	49.8		ug/Kg		100	65 - 135

TestAmerica Irvine

# QC Sample Results

Client: Citadel Environmental Services Inc  
 Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 440-340727/6**

**Matrix: Solid**

**Analysis Batch: 340727**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2,2-Tetrachloroethane	50.0	55.2		ug/Kg		110	55 - 140
1,1,2-Trichloroethane	50.0	57.2		ug/Kg		114	65 - 135
1,1-Dichloroethane	50.0	52.0		ug/Kg		104	70 - 130
1,1-Dichloroethene	50.0	49.6		ug/Kg		99	70 - 125
1,1-Dichloropropene	50.0	53.3		ug/Kg		107	70 - 130
1,2,3-Trichlorobenzene	50.0	59.3		ug/Kg		119	60 - 130
1,2,3-Trichloropropane	50.0	55.4		ug/Kg		111	60 - 135
1,2,4-Trichlorobenzene	50.0	62.2		ug/Kg		124	70 - 135
1,2,4-Trimethylbenzene	50.0	50.8		ug/Kg		102	70 - 125
1,2-Dibromo-3-Chloropropane	50.0	51.6		ug/Kg		103	50 - 135
1,2-Dibromoethane (EDB)	50.0	60.7		ug/Kg		121	70 - 130
1,2-Dichlorobenzene	50.0	55.1		ug/Kg		110	75 - 120
1,2-Dichloroethane	50.0	60.2		ug/Kg		120	60 - 140
1,2-Dichloropropane	50.0	59.9		ug/Kg		120	70 - 130
1,3,5-Trimethylbenzene	50.0	49.5		ug/Kg		99	70 - 125
1,3-Dichlorobenzene	50.0	51.8		ug/Kg		104	75 - 125
1,3-Dichloropropane	50.0	55.8		ug/Kg		112	70 - 125
1,4-Dichlorobenzene	50.0	51.9		ug/Kg		104	75 - 120
2,2-Dichloropropane	50.0	54.2		ug/Kg		108	60 - 145
2-Chlorotoluene	50.0	52.2		ug/Kg		104	70 - 125
4-Chlorotoluene	50.0	52.6		ug/Kg		105	75 - 125
Benzene	50.0	55.0		ug/Kg		110	65 - 120
Bromobenzene	50.0	54.6		ug/Kg		109	75 - 120
Bromochloromethane	50.0	62.0		ug/Kg		124	70 - 135
Bromodichloromethane	50.0	59.7		ug/Kg		119	70 - 135
Bromoform	50.0	59.3		ug/Kg		119	55 - 135
Bromomethane	50.0	56.0		ug/Kg		112	60 - 145
Carbon tetrachloride	50.0	49.6		ug/Kg		99	65 - 140
Chlorobenzene	50.0	51.5		ug/Kg		103	75 - 120
Chloroethane	50.0	53.1		ug/Kg		106	60 - 140
Chloroform	50.0	54.6		ug/Kg		109	70 - 130
Chloromethane	50.0	53.0		ug/Kg		106	45 - 145
cis-1,2-Dichloroethene	50.0	57.7		ug/Kg		115	70 - 125
cis-1,3-Dichloropropene	50.0	56.4		ug/Kg		113	75 - 125
Dibromochloromethane	50.0	60.6		ug/Kg		121	65 - 140
Dibromomethane	50.0	62.7		ug/Kg		125	70 - 130
Dichlorodifluoromethane	50.0	46.4		ug/Kg		93	35 - 160
Isopropyl Ether (DIPE)	50.0	62.1		ug/Kg		124	60 - 140
Ethanol	2000	2010		ug/Kg		100	35 - 160
Ethyl-t-butyl ether (ETBE)	50.0	65.4		ug/Kg		131	60 - 140
Ethylbenzene	50.0	53.5		ug/Kg		107	70 - 125
Hexachlorobutadiene	50.0	50.2		ug/Kg		100	60 - 135
Isopropylbenzene	50.0	51.1		ug/Kg		102	75 - 130
m,p-Xylene	50.0	50.3		ug/Kg		101	70 - 125
Methylene Chloride	50.0	55.0		ug/Kg		110	55 - 135
Methyl-t-Butyl Ether (MTBE)	50.0	63.3		ug/Kg		127	60 - 140
Naphthalene	50.0	56.6		ug/Kg		113	55 - 135
n-Butylbenzene	50.0	48.8		ug/Kg		98	70 - 130

TestAmerica Irvine

# QC Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 440-340727/6**  
**Matrix: Solid**  
**Analysis Batch: 340727**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
N-Propylbenzene	50.0	51.7		ug/Kg		103	70 - 130
o-Xylene	50.0	54.2		ug/Kg		108	70 - 125
sec-Butylbenzene	50.0	51.3		ug/Kg		103	70 - 125
Styrene	50.0	54.9		ug/Kg		110	75 - 130
Tert-amyl-methyl ether (TAME)	50.0	63.5		ug/Kg		127	60 - 145
tert-Butyl alcohol (TBA)	500	555		ug/Kg		111	70 - 135
tert-Butylbenzene	50.0	52.2		ug/Kg		104	70 - 125
Tetrachloroethene	50.0	48.8		ug/Kg		98	70 - 125
Toluene	50.0	52.6		ug/Kg		105	70 - 125
trans-1,2-Dichloroethene	50.0	55.8		ug/Kg		112	70 - 125
trans-1,3-Dichloropropene	50.0	57.9		ug/Kg		116	70 - 135
Trichloroethene	50.0	53.9		ug/Kg		108	70 - 125
Trichlorofluoromethane	50.0	47.8		ug/Kg		96	60 - 145
Vinyl chloride	50.0	48.3		ug/Kg		97	55 - 135
p-Isopropyltoluene	50.0	52.0		ug/Kg		104	75 - 125

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	100		79 - 123
4-Bromofluorobenzene (Surr)	102		79 - 120
Dibromofluoromethane (Surr)	112		60 - 120

**Lab Sample ID: 440-151548-A-50 MS**  
**Matrix: Solid**  
**Analysis Batch: 340727**

**Client Sample ID: 440-151548-A-50 MS**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		49.8	55.2		ug/Kg		111	65 - 145
1,1,1-Trichloroethane	ND		49.8	53.7		ug/Kg		108	65 - 145
1,1,2,2-Tetrachloroethane	ND		49.8	54.9		ug/Kg		110	40 - 160
1,1,2-Trichloroethane	ND		49.8	56.5		ug/Kg		113	65 - 140
1,1-Dichloroethane	ND		49.8	51.7		ug/Kg		104	65 - 135
1,1-Dichloroethene	ND		49.8	54.1		ug/Kg		109	65 - 135
1,1-Dichloropropene	ND		49.8	58.0		ug/Kg		116	65 - 135
1,2,3-Trichlorobenzene	ND		49.8	59.6		ug/Kg		120	45 - 145
1,2,3-Trichloropropane	ND		49.8	54.1		ug/Kg		109	50 - 150
1,2,4-Trichlorobenzene	ND		49.8	63.7		ug/Kg		128	50 - 140
1,2,4-Trimethylbenzene	ND		49.8	54.1		ug/Kg		109	65 - 140
1,2-Dibromo-3-Chloropropane	ND		49.8	51.6		ug/Kg		104	40 - 150
1,2-Dibromoethane (EDB)	ND		49.8	61.4		ug/Kg		123	65 - 140
1,2-Dichlorobenzene	ND		49.8	56.6		ug/Kg		114	70 - 130
1,2-Dichloroethane	ND		49.8	56.4		ug/Kg		113	60 - 150
1,2-Dichloropropane	ND		49.8	59.9		ug/Kg		120	65 - 130
1,3,5-Trimethylbenzene	ND		49.8	54.6		ug/Kg		110	65 - 135
1,3-Dichlorobenzene	ND		49.8	54.1		ug/Kg		109	70 - 130
1,3-Dichloropropane	ND		49.8	57.5		ug/Kg		116	65 - 140
1,4-Dichlorobenzene	ND		49.8	54.0		ug/Kg		108	70 - 130
2,2-Dichloropropane	ND		49.8	57.2		ug/Kg		115	65 - 150
2-Chlorotoluene	ND		49.8	56.2		ug/Kg		113	60 - 135

TestAmerica Irvine



# QC Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-151548-A-50 MS

Matrix: Solid

Analysis Batch: 340727

Client Sample ID: 440-151548-A-50 MS

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Chlorotoluene	ND		49.8	56.8		ug/Kg		114	65 - 135
Benzene	ND		49.8	55.5		ug/Kg		112	65 - 130
Bromobenzene	ND		49.8	56.1		ug/Kg		113	65 - 140
Bromochloromethane	ND		49.8	58.1		ug/Kg		117	65 - 145
Bromodichloromethane	ND		49.8	56.8		ug/Kg		114	65 - 145
Bromoform	ND		49.8	58.2		ug/Kg		117	50 - 145
Bromomethane	ND		49.8	55.9		ug/Kg		112	60 - 155
Carbon tetrachloride	ND		49.8	54.7		ug/Kg		110	60 - 145
Chlorobenzene	ND		49.8	54.2		ug/Kg		109	70 - 130
Chloroethane	ND		49.8	54.9		ug/Kg		110	60 - 150
Chloroform	ND		49.8	53.9		ug/Kg		108	65 - 135
Chloromethane	ND		49.8	55.2		ug/Kg		111	40 - 145
cis-1,2-Dichloroethene	ND		49.8	56.3		ug/Kg		113	65 - 135
cis-1,3-Dichloropropene	ND		49.8	58.2		ug/Kg		117	70 - 135
Dibromochloromethane	ND		49.8	60.4		ug/Kg		121	60 - 145
Dibromomethane	ND		49.8	57.1		ug/Kg		115	65 - 140
Dichlorodifluoromethane	ND		49.8	51.7		ug/Kg		104	30 - 160
Isopropyl Ether (DIPE)	ND		49.8	60.2		ug/Kg		121	60 - 150
Ethanol	ND		1990	2060		ug/Kg		104	30 - 165
Ethyl-t-butyl ether (ETBE)	ND		49.8	61.8		ug/Kg		124	60 - 145
Ethylbenzene	ND		49.8	58.9		ug/Kg		118	70 - 135
Hexachlorobutadiene	ND		49.8	56.4		ug/Kg		113	50 - 145
Isopropylbenzene	ND		49.8	55.9		ug/Kg		112	70 - 145
m,p-Xylene	ND		49.8	55.0		ug/Kg		110	70 - 130
Methylene Chloride	ND		49.8	54.7		ug/Kg		110	55 - 145
Methyl-t-Butyl Ether (MTBE)	ND		49.8	59.0		ug/Kg		119	55 - 155
Naphthalene	ND		49.8	55.1		ug/Kg		111	40 - 150
n-Butylbenzene	ND		49.8	55.1		ug/Kg		111	55 - 145
N-Propylbenzene	ND		49.8	58.2		ug/Kg		117	65 - 140
o-Xylene	ND		49.8	57.1		ug/Kg		115	65 - 130
sec-Butylbenzene	ND		49.8	57.4		ug/Kg		115	60 - 135
Styrene	ND		49.8	56.7		ug/Kg		114	70 - 140
Tert-amyl-methyl ether (TAME)	ND		49.8	58.2		ug/Kg		117	60 - 150
tert-Butyl alcohol (TBA)	ND		498	559		ug/Kg		112	65 - 145
tert-Butylbenzene	ND		49.8	58.6		ug/Kg		118	60 - 140
Tetrachloroethene	ND		49.8	55.4		ug/Kg		111	65 - 135
Toluene	ND		49.8	58.9		ug/Kg		118	70 - 130
trans-1,2-Dichloroethene	ND		49.8	59.0		ug/Kg		118	70 - 135
trans-1,3-Dichloropropene	ND		49.8	57.9		ug/Kg		116	60 - 145
Trichloroethene	ND		49.8	56.1		ug/Kg		113	65 - 140
Trichlorofluoromethane	ND		49.8	53.7		ug/Kg		108	55 - 155
Vinyl chloride	ND		49.8	52.5		ug/Kg		106	55 - 140
p-Isopropyltoluene	ND		49.8	58.7		ug/Kg		118	60 - 140

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	105		79 - 123
4-Bromofluorobenzene (Surr)	100		79 - 120
Dibromofluoromethane (Surr)	105		60 - 120

TestAmerica Irvine

# QC Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

Lab Sample ID: 440-151548-A-50 MSD  
Matrix: Solid  
Analysis Batch: 340727

Client Sample ID: 440-151548-A-50 MSD  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND		49.7	56.8		ug/Kg		114	65 - 145	3	20
1,1,1-Trichloroethane	ND		49.7	54.1		ug/Kg		109	65 - 145	1	20
1,1,2,2-Tetrachloroethane	ND		49.7	57.1		ug/Kg		115	40 - 160	4	30
1,1,2-Trichloroethane	ND		49.7	58.8		ug/Kg		118	65 - 140	4	30
1,1-Dichloroethane	ND		49.7	53.7		ug/Kg		108	65 - 135	4	25
1,1-Dichloroethene	ND		49.7	56.0		ug/Kg		113	65 - 135	3	25
1,1-Dichloropropene	ND		49.7	58.7		ug/Kg		118	65 - 135	1	20
1,2,3-Trichlorobenzene	ND		49.7	60.2		ug/Kg		121	45 - 145	1	30
1,2,3-Trichloropropane	ND		49.7	54.6		ug/Kg		110	50 - 150	1	30
1,2,4-Trichlorobenzene	ND		49.7	65.2		ug/Kg		131	50 - 140	2	30
1,2,4-Trimethylbenzene	ND		49.7	55.3		ug/Kg		111	65 - 140	2	25
1,2-Dibromo-3-Chloropropane	ND		49.7	51.6		ug/Kg		104	40 - 150	0	30
1,2-Dibromoethane (EDB)	ND		49.7	61.3		ug/Kg		123	65 - 140	0	25
1,2-Dichlorobenzene	ND		49.7	57.2		ug/Kg		115	70 - 130	1	25
1,2-Dichloroethane	ND		49.7	57.8		ug/Kg		116	60 - 150	2	25
1,2-Dichloropropane	ND		49.7	62.3		ug/Kg		125	65 - 130	4	20
1,3,5-Trimethylbenzene	ND		49.7	54.7		ug/Kg		110	65 - 135	0	25
1,3-Dichlorobenzene	ND		49.7	55.0		ug/Kg		111	70 - 130	2	25
1,3-Dichloropropane	ND		49.7	59.9		ug/Kg		120	65 - 140	4	25
1,4-Dichlorobenzene	ND		49.7	54.9		ug/Kg		110	70 - 130	2	25
2,2-Dichloropropane	ND		49.7	57.6		ug/Kg		116	65 - 150	1	25
2-Chlorotoluene	ND		49.7	56.9		ug/Kg		114	60 - 135	1	25
4-Chlorotoluene	ND		49.7	57.3		ug/Kg		115	65 - 135	1	25
Benzene	ND		49.7	57.2		ug/Kg		115	65 - 130	3	20
Bromobenzene	ND		49.7	56.9		ug/Kg		115	65 - 140	2	25
Bromochloromethane	ND		49.7	59.3		ug/Kg		119	65 - 145	2	25
Bromodichloromethane	ND		49.7	58.4		ug/Kg		117	65 - 145	3	20
Bromoform	ND		49.7	59.3		ug/Kg		119	50 - 145	2	30
Bromomethane	ND		49.7	60.1		ug/Kg		121	60 - 155	7	25
Carbon tetrachloride	ND		49.7	54.4		ug/Kg		109	60 - 145	1	25
Chlorobenzene	ND		49.7	54.5		ug/Kg		110	70 - 130	1	25
Chloroethane	ND		49.7	59.6		ug/Kg		120	60 - 150	8	25
Chloroform	ND		49.7	55.2		ug/Kg		111	65 - 135	2	20
Chloromethane	ND		49.7	61.3		ug/Kg		123	40 - 145	10	25
cis-1,2-Dichloroethene	ND		49.7	58.7		ug/Kg		118	65 - 135	4	25
cis-1,3-Dichloropropene	ND		49.7	59.2		ug/Kg		119	70 - 135	2	25
Dibromochloromethane	ND		49.7	60.4		ug/Kg		121	60 - 145	0	25
Dibromomethane	ND		49.7	59.4		ug/Kg		119	65 - 140	4	25
Dichlorodifluoromethane	ND		49.7	55.6		ug/Kg		112	30 - 160	7	35
Isopropyl Ether (DIPE)	ND		49.7	63.0		ug/Kg		127	60 - 150	4	25
Ethanol	ND		1990	2210		ug/Kg		111	30 - 165	7	40
Ethyl-t-butyl ether (ETBE)	ND		49.7	64.0		ug/Kg		129	60 - 145	4	30
Ethylbenzene	ND		49.7	59.3		ug/Kg		119	70 - 135	1	25
Hexachlorobutadiene	ND		49.7	56.7		ug/Kg		114	50 - 145	1	35
Isopropylbenzene	ND		49.7	56.5		ug/Kg		114	70 - 145	1	25
m,p-Xylene	ND		49.7	55.5		ug/Kg		112	70 - 130	1	25
Methylene Chloride	ND		49.7	55.9		ug/Kg		113	55 - 145	2	25
Methyl-t-Butyl Ether (MTBE)	ND		49.7	61.7		ug/Kg		124	55 - 155	4	35
Naphthalene	ND		49.7	57.3		ug/Kg		115	40 - 150	4	40
n-Butylbenzene	ND		49.7	56.1		ug/Kg		113	55 - 145	2	30

TestAmerica Irvine



# QC Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 440-151548-A-50 MSD**

**Client Sample ID: 440-151548-A-50 MSD**

**Matrix: Solid**

**Prep Type: Total/NA**

**Analysis Batch: 340727**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
N-Propylbenzene	ND		49.7	58.7		ug/Kg		118	65 - 140	1	25
o-Xylene	ND		49.7	57.2		ug/Kg		115	65 - 130	0	25
sec-Butylbenzene	ND		49.7	58.8		ug/Kg		118	60 - 135	3	25
Styrene	ND		49.7	57.7		ug/Kg		116	70 - 140	2	25
Tert-amyl-methyl ether (TAME)	ND		49.7	61.2		ug/Kg		123	60 - 150	5	25
tert-Butyl alcohol (TBA)	ND		49.7	50.9		ug/Kg		102	65 - 145	9	30
tert-Butylbenzene	ND		49.7	59.1		ug/Kg		119	60 - 140	1	25
Tetrachloroethene	ND		49.7	54.9		ug/Kg		110	65 - 135	1	25
Toluene	ND		49.7	58.9		ug/Kg		118	70 - 130	0	20
trans-1,2-Dichloroethene	ND		49.7	60.4		ug/Kg		121	70 - 135	2	25
trans-1,3-Dichloropropene	ND		49.7	59.1		ug/Kg		119	60 - 145	2	25
Trichloroethene	ND		49.7	56.1		ug/Kg		113	65 - 140	0	25
Trichlorofluoromethane	ND		49.7	54.1		ug/Kg		109	55 - 155	1	25
Vinyl chloride	ND		49.7	56.0		ug/Kg		113	55 - 140	6	30
p-Isopropyltoluene	ND		49.7	59.1		ug/Kg		119	60 - 140	1	25

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
Toluene-d8 (Surr)	106		79 - 123
4-Bromofluorobenzene (Surr)	100		79 - 120
Dibromofluoromethane (Surr)	105		60 - 120

## Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 440-340662/4**

**Client Sample ID: Method Blank**

**Matrix: Solid**

**Prep Type: Total/NA**

**Analysis Batch: 340662**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	ND		100	70	ug/Kg			07/06/16 19:10	1

Surrogate	MB %Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	106		60 - 120		07/06/16 19:10	1
4-Bromofluorobenzene (Surr)	105		79 - 120		07/06/16 19:10	1
Toluene-d8 (Surr)	110		79 - 123		07/06/16 19:10	1

**Lab Sample ID: LCS 440-340662/6**

**Client Sample ID: Lab Control Sample**

**Matrix: Solid**

**Prep Type: Total/NA**

**Analysis Batch: 340662**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Volatile Fuel Hydrocarbons (C4-C12)	1000	852		ug/Kg		85	60 - 135

Surrogate	LCS %Recovery	LCS Qualifier	LCS Limits
Dibromofluoromethane (Surr)	103		60 - 120
4-Bromofluorobenzene (Surr)	104		79 - 120
Toluene-d8 (Surr)	108		79 - 123

TestAmerica Irvine

# QC Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: 440-151548-18 MS**

**Matrix: Solid**  
**Analysis Batch: 340662**

**Client Sample ID: B13,10'**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Volatile Fuel Hydrocarbons (C4-C12)	ND	F1	3390	4760		ug/Kg		140	55 - 140
<b>Surrogate</b>	<b>%Recovery</b>	<b>MS Qualifier</b>	<b>Limits</b>						
Dibromofluoromethane (Surr)	106		60 - 120						
4-Bromofluorobenzene (Surr)	103		79 - 120						
Toluene-d8 (Surr)	107		79 - 123						

**Lab Sample ID: 440-151548-18 MSD**

**Matrix: Solid**  
**Analysis Batch: 340662**

**Client Sample ID: B13,10'**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Volatile Fuel Hydrocarbons (C4-C12)	ND	F1	3380	4780	F1	ug/Kg		142	55 - 140	0	25
<b>Surrogate</b>	<b>%Recovery</b>	<b>MSD Qualifier</b>	<b>Limits</b>								
Dibromofluoromethane (Surr)	106		60 - 120								
4-Bromofluorobenzene (Surr)	105		79 - 120								
Toluene-d8 (Surr)	108		79 - 123								

**Lab Sample ID: MB 440-340728/5**

**Matrix: Solid**  
**Analysis Batch: 340728**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	ND		100	70	ug/Kg			07/07/16 08:20	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>MB Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Dibromofluoromethane (Surr)	113		60 - 120					07/07/16 08:20	1
4-Bromofluorobenzene (Surr)	107		79 - 120					07/07/16 08:20	1
Toluene-d8 (Surr)	109		79 - 123					07/07/16 08:20	1

**Lab Sample ID: LCS 440-340728/7**

**Matrix: Solid**  
**Analysis Batch: 340728**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Volatile Fuel Hydrocarbons (C4-C12)	1000	861		ug/Kg		86	60 - 135
<b>Surrogate</b>	<b>LCS %Recovery</b>	<b>LCS Qualifier</b>	<b>Limits</b>				
Dibromofluoromethane (Surr)	114		60 - 120				
4-Bromofluorobenzene (Surr)	106		79 - 120				
Toluene-d8 (Surr)	102		79 - 123				

TestAmerica Irvine

# QC Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: 440-151548-A-50 MS**

**Matrix: Solid**

**Analysis Batch: 340728**

**Client Sample ID: B12,7'**

**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Volatile Fuel Hydrocarbons (C4-C12)	ND	F1	3440	4870	F1	ug/Kg		142	55 - 140
<b>Surrogate</b>	<b>%Recovery</b>	<b>MS Qualifier</b>	<b>Limits</b>						
Dibromofluoromethane (Surr)	105		60 - 120						
4-Bromofluorobenzene (Surr)	100		79 - 120						
Toluene-d8 (Surr)	105		79 - 123						

**Lab Sample ID: 440-151548-A-50 MSD**

**Matrix: Solid**

**Analysis Batch: 340728**

**Client Sample ID: B12,7'**

**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Volatile Fuel Hydrocarbons (C4-C12)	ND	F1	3430	5070	F1	ug/Kg		148	55 - 140	4	25
<b>Surrogate</b>	<b>%Recovery</b>	<b>MSD Qualifier</b>	<b>Limits</b>								
Dibromofluoromethane (Surr)	105		60 - 120								
4-Bromofluorobenzene (Surr)	100		79 - 120								
Toluene-d8 (Surr)	106		79 - 123								

**Lab Sample ID: MB 440-340955/4**

**Matrix: Solid**

**Analysis Batch: 340955**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	ND		100	70	ug/Kg			07/07/16 20:39	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>MB Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Dibromofluoromethane (Surr)	115		60 - 120					07/07/16 20:39	1
4-Bromofluorobenzene (Surr)	106		79 - 120					07/07/16 20:39	1
Toluene-d8 (Surr)	108		79 - 123					07/07/16 20:39	1

**Lab Sample ID: LCS 440-340955/6**

**Matrix: Solid**

**Analysis Batch: 340955**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Volatile Fuel Hydrocarbons (C4-C12)	1000	939		ug/Kg		94	60 - 135
<b>Surrogate</b>	<b>LCS %Recovery</b>	<b>LCS Qualifier</b>	<b>Limits</b>				
Dibromofluoromethane (Surr)	109		60 - 120				
4-Bromofluorobenzene (Surr)	103		79 - 120				
Toluene-d8 (Surr)	106		79 - 123				

TestAmerica Irvine

# QC Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: 440-151548-44 MS**

**Matrix: Solid**  
**Analysis Batch: 340955**

**Client Sample ID: B11,3'**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Volatile Fuel Hydrocarbons (C4-C12)	ND	F2	3400	4510		ug/Kg		133	55 - 140
<b>Surrogate</b>	<b>%Recovery</b>	<b>MS Qualifier</b>	<b>Limits</b>						
Dibromofluoromethane (Surr)	7	X	60 - 120						
4-Bromofluorobenzene (Surr)	108		79 - 120						
Toluene-d8 (Surr)	106		79 - 123						

**Lab Sample ID: 440-151548-44 MSD**

**Matrix: Solid**  
**Analysis Batch: 340955**

**Client Sample ID: B11,3'**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Volatile Fuel Hydrocarbons (C4-C12)	ND	F2	3390	3460	F2	ug/Kg		102	55 - 140	26	25
<b>Surrogate</b>	<b>%Recovery</b>	<b>MSD Qualifier</b>	<b>Limits</b>								
Dibromofluoromethane (Surr)	2	X	60 - 120								
4-Bromofluorobenzene (Surr)	111		79 - 120								
Toluene-d8 (Surr)	108		79 - 123								

**Lab Sample ID: MB 440-341013/4**

**Matrix: Solid**  
**Analysis Batch: 341013**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	ND		100	70	ug/Kg			07/08/16 08:26	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>MB Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Dibromofluoromethane (Surr)	101		60 - 120					07/08/16 08:26	1
4-Bromofluorobenzene (Surr)	95		79 - 120					07/08/16 08:26	1
Toluene-d8 (Surr)	101		79 - 123					07/08/16 08:26	1

**Lab Sample ID: LCS 440-341013/6**

**Matrix: Solid**  
**Analysis Batch: 341013**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Volatile Fuel Hydrocarbons (C4-C12)	1000	928		ug/Kg		93	60 - 135
<b>Surrogate</b>	<b>LCS %Recovery</b>	<b>LCS Qualifier</b>	<b>Limits</b>				
Dibromofluoromethane (Surr)	99		60 - 120				
4-Bromofluorobenzene (Surr)	97		79 - 120				
Toluene-d8 (Surr)	101		79 - 123				

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# QC Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: 440-151362-A-14 MS**

**Matrix: Solid**  
**Analysis Batch: 341013**

**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
Volatile Fuel Hydrocarbons (C4-C12)	ND		3450	4410		ug/Kg		128	55 - 140
<b>Surrogate</b>	<b>%Recovery</b>	<b>MS Qualifier</b>	<b>Limits</b>						
Dibromofluoromethane (Surr)	103		60 - 120						
4-Bromofluorobenzene (Surr)	95		79 - 120						
Toluene-d8 (Surr)	103		79 - 123						

**Lab Sample ID: 440-151362-A-14 MSD**

**Matrix: Solid**  
**Analysis Batch: 341013**

**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
Volatile Fuel Hydrocarbons (C4-C12)	ND		3450	4130		ug/Kg		120	55 - 140	6	25
<b>Surrogate</b>	<b>%Recovery</b>	<b>MSD Qualifier</b>	<b>Limits</b>								
Dibromofluoromethane (Surr)	102		60 - 120								
4-Bromofluorobenzene (Surr)	97		79 - 120								
Toluene-d8 (Surr)	100		79 - 123								

**Lab Sample ID: MB 440-342266/4**

**Matrix: Solid**  
**Analysis Batch: 342266**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	ND		100	70	ug/Kg			07/14/16 08:20	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>MB Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Dibromofluoromethane (Surr)	102		60 - 120					07/14/16 08:20	1
4-Bromofluorobenzene (Surr)	100		79 - 120					07/14/16 08:20	1
Toluene-d8 (Surr)	106		79 - 123					07/14/16 08:20	1

**Lab Sample ID: LCS 440-342266/6**

**Matrix: Solid**  
**Analysis Batch: 342266**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Volatile Fuel Hydrocarbons (C4-C12)	1000	768		ug/Kg		77	60 - 135
<b>Surrogate</b>	<b>LCS %Recovery</b>	<b>LCS Qualifier</b>	<b>Limits</b>				
Dibromofluoromethane (Surr)	101		60 - 120				
4-Bromofluorobenzene (Surr)	101		79 - 120				
Toluene-d8 (Surr)	106		79 - 123				

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# QC Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: 440-152537-A-3 MS**

**Matrix: Solid**

**Analysis Batch: 342266**

**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
Volatile Fuel Hydrocarbons (C4-C12)	ND		3440	3410		ug/Kg		99	55 - 140
<b>Surrogate</b>	<b>%Recovery</b>	<b>MS Qualifier</b>	<b>Limits</b>						
Dibromofluoromethane (Surr)	102		60 - 120						
4-Bromofluorobenzene (Surr)	102		79 - 120						
Toluene-d8 (Surr)	106		79 - 123						

**Lab Sample ID: 440-152537-A-3 MSD**

**Matrix: Solid**

**Analysis Batch: 342266**

**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
Volatile Fuel Hydrocarbons (C4-C12)	ND		3420	3290		ug/Kg		96	55 - 140	4	25
<b>Surrogate</b>	<b>%Recovery</b>	<b>MSD Qualifier</b>	<b>Limits</b>								
Dibromofluoromethane (Surr)	104		60 - 120								
4-Bromofluorobenzene (Surr)	102		79 - 120								
Toluene-d8 (Surr)	105		79 - 123								

## Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

**Lab Sample ID: MB 440-340132/1-A**

**Matrix: Solid**

**Analysis Batch: 340498**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 340132**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 10:33	1
Acenaphthylene	ND		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 10:33	1
Anthracene	ND		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 10:33	1
Benzo[a]anthracene	ND		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 10:33	1
Benzo[a]pyrene	ND		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 10:33	1
Benzo[b]fluoranthene	ND		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 10:33	1
Benzo[g,h,i]perylene	ND		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 10:33	1
Benzo[k]fluoranthene	ND		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 10:33	1
Chrysene	ND		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 10:33	1
Dibenz(a,h)anthracene	ND		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 10:33	1
Fluoranthene	ND		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 10:33	1
Fluorene	ND		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 10:33	1
Indeno[1,2,3-cd]pyrene	ND		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 10:33	1
Naphthalene	ND		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 10:33	1
Phenanthrene	ND		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 10:33	1
Pyrene	ND		30	4.0	ug/Kg		07/02/16 14:05	07/06/16 10:33	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>MB Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2-Fluorobiphenyl (Surr)	73		39 - 111				07/02/16 14:05	07/06/16 10:33	1

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# QC Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: MB 440-340132/1-A**  
**Matrix: Solid**  
**Analysis Batch: 340498**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 340132**

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Nitrobenzene-d5	68		41 - 119	07/02/16 14:05	07/06/16 10:33	1
Terphenyl-d14	85		43 - 150	07/02/16 14:05	07/06/16 10:33	1

**Lab Sample ID: LCS 440-340132/2-A**  
**Matrix: Solid**  
**Analysis Batch: 340498**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 340132**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Acenaphthene	66.7	49.0		ug/Kg		74	53 - 120
Acenaphthylene	66.7	48.7		ug/Kg		73	54 - 120
Anthracene	66.7	49.5		ug/Kg		74	53 - 120
Benzo[a]anthracene	66.7	52.0		ug/Kg		78	56 - 120
Benzo[a]pyrene	66.7	54.4		ug/Kg		82	53 - 120
Benzo[b]fluoranthene	66.7	57.1		ug/Kg		86	53 - 120
Benzo[g,h,i]perylene	66.7	68.2		ug/Kg		102	51 - 150
Benzo[k]fluoranthene	66.7	59.7		ug/Kg		90	53 - 124
Chrysene	66.7	54.9		ug/Kg		82	56 - 120
Dibenz(a,h)anthracene	66.7	46.9		ug/Kg		70	51 - 131
Fluoranthene	66.7	52.8		ug/Kg		79	57 - 120
Fluorene	66.7	51.4		ug/Kg		77	54 - 120
Indeno[1,2,3-cd]pyrene	66.7	47.0		ug/Kg		70	50 - 137
Naphthalene	66.7	47.6		ug/Kg		71	49 - 120
Phenanthrene	66.7	51.3		ug/Kg		77	55 - 120
Pyrene	66.7	52.6		ug/Kg		79	56 - 121

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl (Surr)	72		39 - 111
Nitrobenzene-d5	68		41 - 119
Terphenyl-d14	84		43 - 150

**Lab Sample ID: 440-151403-B-4-C MS**  
**Matrix: Solid**  
**Analysis Batch: 340498**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 340132**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	Limits
				Result	Qualifier				
Acenaphthene	ND		66.6	49.1	J	ug/Kg		74	45 - 120
Acenaphthylene	31	J F1	66.6	50.4	J F1	ug/Kg		29	45 - 120
Anthracene	22	J F1	66.6	50.3	J F1	ug/Kg		42	55 - 120
Benzo[a]anthracene	76	J F1	66.6	65.3	J F1 *	ug/Kg		-16	50 - 120
Benzo[a]pyrene	96	J F1	66.6	67.5	J F1 *	ug/Kg		-43	45 - 125
Benzo[b]fluoranthene	120	F1	66.6	82.2	J F1 *	ug/Kg		-58	45 - 125
Benzo[g,h,i]perylene	63	J F1	66.6	73.4	J F1 *	ug/Kg		16	25 - 130
Benzo[k]fluoranthene	46	J F1	66.6	63.1	J F1 *	ug/Kg		26	45 - 125
Chrysene	110	J F1	66.6	82.1	J F1 *	ug/Kg		-40	55 - 120
Dibenz(a,h)anthracene	ND		66.6	31.5	J *	ug/Kg		47	25 - 135
Fluoranthene	230	F1	66.6	79.2	J F1	ug/Kg		-222	45 - 120
Fluorene	ND		66.6	53.4	J	ug/Kg		80	50 - 120
Indeno[1,2,3-cd]pyrene	50	J F1	66.6	56.0	J F1 *	ug/Kg		8	20 - 130

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# QC Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: 440-151403-B-4-C MS**  
**Matrix: Solid**  
**Analysis Batch: 340498**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 340132**  
**%Rec.**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Naphthalene	ND		66.6	46.6	J	ug/Kg		70	40 - 120
Phenanthrene	250	F1	66.6	69.6	J F1	ug/Kg		-277	50 - 120
Pyrene	250	F1	66.6	77.6	J F1	ug/Kg		-260	40 - 125

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Fluorobiphenyl (Surr)	67		39 - 111
Nitrobenzene-d5	65		41 - 119
Terphenyl-d14	123 *		43 - 150

**Lab Sample ID: 440-151403-B-4-D MSD**  
**Matrix: Solid**  
**Analysis Batch: 340498**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 340132**  
**%Rec.**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Acenaphthene	ND		65.1	45.5	J	ug/Kg		70	45 - 120	8	25
Acenaphthylene	31	J F1	65.1	46.1	J F1	ug/Kg		24	45 - 120	9	20
Anthracene	22	J F1	65.1	44.6	J F1	ug/Kg		34	55 - 120	12	25
Benzo[a]anthracene	76	J F1	65.1	64.4	J F1	ug/Kg		-18	50 - 120	1	25
Benzo[a]pyrene	96	J F1	65.1	63.5	J F1	ug/Kg		-50	45 - 125	6	25
Benzo[b]fluoranthene	120	F1	65.1	79.7	J F1	ug/Kg		-63	45 - 125	3	30
Benzo[g,h,i]perylene	63	J F1	65.1	58.8	J F1	ug/Kg		-7	25 - 130	22	30
Benzo[k]fluoranthene	46	J F1	65.1	60.8	J F1	ug/Kg		24	45 - 125	4	30
Chrysene	110	J F1	65.1	87.8	J F1	ug/Kg		-32	55 - 120	7	25
Dibenz(a,h)anthracene	ND		65.1	39.5	J	ug/Kg		61	25 - 135	23	30
Fluoranthene	230	F1	65.1	76.3	J F1	ug/Kg		-232	45 - 120	4	25
Fluorene	ND		65.1	46.8	J	ug/Kg		72	50 - 120	13	25
Indeno[1,2,3-cd]pyrene	50	J F1	65.1	63.1	J	ug/Kg		20	20 - 130	12	30
Naphthalene	ND		65.1	43.2	J	ug/Kg		66	40 - 120	8	25
Phenanthrene	250	F1	65.1	66.1	J F1	ug/Kg		-289	50 - 120	5	25
Pyrene	250	F1	65.1	76.8	J F1	ug/Kg		-267	40 - 125	1	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2-Fluorobiphenyl (Surr)	67		39 - 111
Nitrobenzene-d5	63		41 - 119
Terphenyl-d14	114		43 - 150

**Lab Sample ID: MB 440-340700/1-A**  
**Matrix: Solid**  
**Analysis Batch: 340820**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 340700**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		30	4.0	ug/Kg		07/06/16 21:36	07/07/16 13:39	1
Acenaphthylene	ND		30	4.0	ug/Kg		07/06/16 21:36	07/07/16 13:39	1
Anthracene	ND		30	4.0	ug/Kg		07/06/16 21:36	07/07/16 13:39	1
Benzo[a]anthracene	ND		30	4.0	ug/Kg		07/06/16 21:36	07/07/16 13:39	1
Benzo[a]pyrene	ND		30	4.0	ug/Kg		07/06/16 21:36	07/07/16 13:39	1
Benzo[b]fluoranthene	ND		30	4.0	ug/Kg		07/06/16 21:36	07/07/16 13:39	1
Benzo[g,h,i]perylene	ND		30	4.0	ug/Kg		07/06/16 21:36	07/07/16 13:39	1

TestAmerica Irvine

# QC Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: MB 440-340700/1-A**  
**Matrix: Solid**  
**Analysis Batch: 340820**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 340700**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	ND		30	4.0	ug/Kg		07/06/16 21:36	07/07/16 13:39	1
Chrysene	ND		30	4.0	ug/Kg		07/06/16 21:36	07/07/16 13:39	1
Dibenz(a,h)anthracene	ND		30	4.0	ug/Kg		07/06/16 21:36	07/07/16 13:39	1
Fluoranthene	ND		30	4.0	ug/Kg		07/06/16 21:36	07/07/16 13:39	1
Fluorene	ND		30	4.0	ug/Kg		07/06/16 21:36	07/07/16 13:39	1
Indeno[1,2,3-cd]pyrene	ND		30	4.0	ug/Kg		07/06/16 21:36	07/07/16 13:39	1
Naphthalene	ND		30	4.0	ug/Kg		07/06/16 21:36	07/07/16 13:39	1
Phenanthrene	ND		30	4.0	ug/Kg		07/06/16 21:36	07/07/16 13:39	1
Pyrene	ND		30	4.0	ug/Kg		07/06/16 21:36	07/07/16 13:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	81		39 - 111	07/06/16 21:36	07/07/16 13:39	1
Nitrobenzene-d5	73		41 - 119	07/06/16 21:36	07/07/16 13:39	1
Terphenyl-d14	99		43 - 150	07/06/16 21:36	07/07/16 13:39	1

**Lab Sample ID: LCS 440-340700/2-A**  
**Matrix: Solid**  
**Analysis Batch: 340820**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 340700**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Acenaphthene	66.7	46.8		ug/Kg		70	53 - 120
Acenaphthylene	66.7	46.7		ug/Kg		70	54 - 120
Anthracene	66.7	48.2		ug/Kg		72	53 - 120
Benzo[a]anthracene	66.7	51.0		ug/Kg		76	56 - 120
Benzo[a]pyrene	66.7	50.2		ug/Kg		75	53 - 120
Benzo[b]fluoranthene	66.7	51.8		ug/Kg		78	53 - 120
Benzo[g,h,i]perylene	66.7	71.3		ug/Kg		107	51 - 150
Benzo[k]fluoranthene	66.7	52.8		ug/Kg		79	53 - 124
Chrysene	66.7	51.5		ug/Kg		77	56 - 120
Dibenz(a,h)anthracene	66.7	49.1		ug/Kg		74	51 - 131
Fluoranthene	66.7	44.9		ug/Kg		67	57 - 120
Fluorene	66.7	47.0		ug/Kg		71	54 - 120
Indeno[1,2,3-cd]pyrene	66.7	51.7		ug/Kg		78	50 - 137
Naphthalene	66.7	44.5		ug/Kg		67	49 - 120
Phenanthrene	66.7	48.6		ug/Kg		73	55 - 120
Pyrene	66.7	43.9		ug/Kg		66	56 - 121

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl (Surr)	68		39 - 111
Nitrobenzene-d5	64		41 - 119
Terphenyl-d14	87		43 - 150

**Lab Sample ID: 440-151622-B-21-B MS**  
**Matrix: Solid**  
**Analysis Batch: 340820**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 340700**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Acenaphthene	ND		66.4	46.2		ug/Kg		70	45 - 120

TestAmerica Irvine

# QC Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: 440-151622-B-21-B MS**  
**Matrix: Solid**  
**Analysis Batch: 340820**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 340700**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier				
Acenaphthylene	ND		66.4	46.8		ug/Kg		71	45 - 120
Anthracene	ND		66.4	48.6		ug/Kg		73	55 - 120
Benzo[a]anthracene	16	J	66.4	56.8		ug/Kg		61	50 - 120
Benzo[a]pyrene	11	J	66.4	50.7		ug/Kg		60	45 - 125
Benzo[b]fluoranthene	34	F1	66.4	62.1	F1	ug/Kg		42	45 - 125
Benzo[g,h,i]perylene	6.0	J	66.4	81.5		ug/Kg		114	25 - 130
Benzo[k]fluoranthene	12	J	66.4	56.1		ug/Kg		66	45 - 125
Chrysene	42	F1	66.4	70.9	F1	ug/Kg		44	55 - 120
Dibenz(a,h)anthracene	ND		66.4	55.5		ug/Kg		84	25 - 135
Fluoranthene	85		66.4	124		ug/Kg		59	45 - 120
Fluorene	ND		66.4	48.6		ug/Kg		73	50 - 120
Indeno[1,2,3-cd]pyrene	8.7	J	66.4	76.5		ug/Kg		102	20 - 130
Naphthalene	ND		66.4	42.1		ug/Kg		63	40 - 120
Phenanthrene	74		66.4	108		ug/Kg		51	50 - 120
Pyrene	41		66.4	84.2		ug/Kg		65	40 - 125

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl (Surr)	64		39 - 111
Nitrobenzene-d5	56		41 - 119
Terphenyl-d14	89		43 - 150

**Lab Sample ID: 440-151622-B-21-C MSD**  
**Matrix: Solid**  
**Analysis Batch: 340820**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 340700**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
Acenaphthene	ND		65.7	52.9		ug/Kg		81	45 - 120	14	25
Acenaphthylene	ND		65.7	54.2		ug/Kg		82	45 - 120	15	20
Anthracene	ND		65.7	54.0		ug/Kg		82	55 - 120	10	25
Benzo[a]anthracene	16	J	65.7	63.9		ug/Kg		73	50 - 120	12	25
Benzo[a]pyrene	11	J	65.7	54.9		ug/Kg		67	45 - 125	8	25
Benzo[b]fluoranthene	34	F1	65.7	64.1		ug/Kg		46	45 - 125	3	30
Benzo[g,h,i]perylene	6.0	J	65.7	68.2		ug/Kg		95	25 - 130	18	30
Benzo[k]fluoranthene	12	J	65.7	58.7		ug/Kg		71	45 - 125	5	30
Chrysene	42	F1	65.7	81.4		ug/Kg		60	55 - 120	14	25
Dibenz(a,h)anthracene	ND		65.7	46.9		ug/Kg		71	25 - 135	17	30
Fluoranthene	85		65.7	141		ug/Kg		85	45 - 120	13	25
Fluorene	ND		65.7	54.1		ug/Kg		82	50 - 120	11	25
Indeno[1,2,3-cd]pyrene	8.7	J	65.7	65.7		ug/Kg		87	20 - 130	15	30
Naphthalene	ND		65.7	49.7		ug/Kg		76	40 - 120	17	25
Phenanthrene	74		65.7	120		ug/Kg		69	50 - 120	10	25
Pyrene	41		65.7	95.9		ug/Kg		83	40 - 125	13	30

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl (Surr)	77		39 - 111
Nitrobenzene-d5	68		41 - 119
Terphenyl-d14	110		43 - 150

TestAmerica Irvine

# QC Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Method: 8015B - Diesel Range Organics (DRO) (GC)

**Lab Sample ID: MB 440-340131/1-A**  
**Matrix: Solid**  
**Analysis Batch: 340312**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 340131**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		5.0	2.5	mg/Kg		07/02/16 14:02	07/05/16 17:18	1
C23-C40	ND		5.0	2.5	mg/Kg		07/02/16 14:02	07/05/16 17:18	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Octacosane	84		40 - 140				07/02/16 14:02	07/05/16 17:18	1

**Lab Sample ID: LCS 440-340131/2-A**  
**Matrix: Solid**  
**Analysis Batch: 340312**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 340131**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
C10-C28	66.7	53.5		mg/Kg		80	45 - 115
Surrogate	%Recovery	LCS Qualifier	Limits				
n-Octacosane	87		40 - 140				

**Lab Sample ID: 440-151548-4 MS**  
**Matrix: Solid**  
**Analysis Batch: 340314**

**Client Sample ID: B5,7'**  
**Prep Type: Total/NA**  
**Prep Batch: 340131**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
C10-C28	26		68.8	74.5		mg/Kg		71	40 - 120
Surrogate	%Recovery	MS Qualifier	Limits						
n-Octacosane	77		40 - 140						

**Lab Sample ID: 440-151548-4 MSD**  
**Matrix: Solid**  
**Analysis Batch: 340314**

**Client Sample ID: B5,7'**  
**Prep Type: Total/NA**  
**Prep Batch: 340131**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
C10-C28	26		65.1	78.2		mg/Kg		80	40 - 120	5	30
Surrogate	%Recovery	MSD Qualifier	Limits								
n-Octacosane	82		40 - 140								

**Lab Sample ID: MB 440-340264/1-A**  
**Matrix: Solid**  
**Analysis Batch: 340312**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 340264**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		5.0	2.5	mg/Kg		07/05/16 10:09	07/05/16 13:36	1
C23-C40	ND		5.0	2.5	mg/Kg		07/05/16 10:09	07/05/16 13:36	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Octacosane	89		40 - 140				07/05/16 10:09	07/05/16 13:36	1

TestAmerica Irvine

# QC Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

**Lab Sample ID: LCS 440-340264/2-A**  
**Matrix: Solid**  
**Analysis Batch: 340312**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 340264**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
C10-C28	66.7	52.9		mg/Kg		79	45 - 115
<b>Surrogate</b>		<b>LCS %Recovery</b>	<b>LCS Qualifier</b>				<b>Limits</b>
<i>n-Octacosane</i>		87					40 - 140

**Lab Sample ID: 440-151572-A-1-A MS**  
**Matrix: Solid**  
**Analysis Batch: 340312**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 340264**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
C10-C28	ND		65.9	37.7		mg/Kg		57	40 - 120
<b>Surrogate</b>		<b>MS %Recovery</b>		<b>MS Qualifier</b>					<b>Limits</b>
<i>n-Octacosane</i>		63							40 - 140

**Lab Sample ID: 440-151572-A-1-B MSD**  
**Matrix: Solid**  
**Analysis Batch: 340312**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 340264**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
C10-C28	ND		65.9	47.4		mg/Kg		72	40 - 120	23	30
<b>Surrogate</b>		<b>MSD %Recovery</b>		<b>MSD Qualifier</b>					<b>Limits</b>		
<i>n-Octacosane</i>		80							40 - 140		

**Lab Sample ID: MB 440-342481/1-A**  
**Matrix: Solid**  
**Analysis Batch: 342652**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 342481**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		5.0	2.5	mg/Kg		07/14/16 17:51	07/15/16 18:58	1
C23-C40	ND		5.0	2.5	mg/Kg		07/14/16 17:51	07/15/16 18:58	1
<b>Surrogate</b>		<b>MB %Recovery</b>		<b>MB Qualifier</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
<i>n-Octacosane</i>		92					07/14/16 17:51	07/15/16 18:58	1

**Lab Sample ID: LCS 440-342481/2-A**  
**Matrix: Solid**  
**Analysis Batch: 342652**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 342481**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
C10-C28	66.7	51.9		mg/Kg		78	45 - 115
<b>Surrogate</b>		<b>LCS %Recovery</b>	<b>LCS Qualifier</b>				<b>Limits</b>
<i>n-Octacosane</i>		93					40 - 140

TestAmerica Irvine

# QC Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

**Lab Sample ID: 440-151548-32 MS**

**Matrix: Solid**  
**Analysis Batch: 342644**

**Client Sample ID: B10,1'**

**Prep Type: Total/NA**  
**Prep Batch: 342481**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
C10-C28	47		66.7	84.2		mg/Kg		56	40 - 120
<b>Surrogate</b>	<b>%Recovery</b>	<b>MS Qualifier</b>	<b>Limits</b>						
<i>n-Octacosane</i>	81		40 - 140						

**Lab Sample ID: 440-151548-32 MSD**

**Matrix: Solid**  
**Analysis Batch: 342644**

**Client Sample ID: B10,1'**

**Prep Type: Total/NA**  
**Prep Batch: 342481**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
C10-C28	47		66.4	111		mg/Kg		97	40 - 120	27	30
<b>Surrogate</b>	<b>%Recovery</b>	<b>MSD Qualifier</b>	<b>Limits</b>								
<i>n-Octacosane</i>	82		40 - 140								

**Lab Sample ID: MB 440-342485/1-A**

**Matrix: Solid**  
**Analysis Batch: 342652**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**  
**Prep Batch: 342485**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		5.0	2.5	mg/Kg		07/14/16 18:24	07/15/16 17:42	1
C23-C40	ND		5.0	2.5	mg/Kg		07/14/16 18:24	07/15/16 17:42	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>MB Qualifier</b>	<b>Limits</b>	<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>			
<i>n-Octacosane</i>	91		40 - 140	07/14/16 18:24	07/15/16 17:42	1			

**Lab Sample ID: LCS 440-342485/2-A**

**Matrix: Solid**  
**Analysis Batch: 342652**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**  
**Prep Batch: 342485**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
C10-C28	66.7	56.5		mg/Kg		85	45 - 115
<b>Surrogate</b>	<b>%Recovery</b>	<b>LCS Qualifier</b>	<b>Limits</b>				
<i>n-Octacosane</i>	93		40 - 140				

**Lab Sample ID: 440-151548-45 MS**

**Matrix: Solid**  
**Analysis Batch: 342375**

**Client Sample ID: B11,5'**

**Prep Type: Total/NA**  
**Prep Batch: 342485**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
C10-C28	2.5	J	66.5	40.1		mg/Kg		60	40 - 120
<b>Surrogate</b>	<b>%Recovery</b>	<b>MS Qualifier</b>	<b>Limits</b>						
<i>n-Octacosane</i>	67		40 - 140						

TestAmerica Irvine

# QC Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

**Lab Sample ID: 440-151548-45 MSD**

**Matrix: Solid**

**Analysis Batch: 342375**

**Client Sample ID: B11,5'**

**Prep Type: Total/NA**

**Prep Batch: 342485**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
C10-C28	2.5	J	66.3	41.0		mg/Kg		62	40 - 120	2	30
<b>Surrogate</b>	<b>%Recovery</b>	<b>MSD Qualifier</b>	<b>Limits</b>								
<i>n-Octacosane</i>	71		40 - 140								

## Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

**Lab Sample ID: MB 440-340400/1-A**

**Matrix: Solid**

**Analysis Batch: 341026**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 340400**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		50	17	ug/Kg		07/05/16 17:15	07/08/16 13:45	1
Aroclor 1221	ND		50	17	ug/Kg		07/05/16 17:15	07/08/16 13:45	1
Aroclor 1232	ND		50	17	ug/Kg		07/05/16 17:15	07/08/16 13:45	1
Aroclor 1242	ND		50	17	ug/Kg		07/05/16 17:15	07/08/16 13:45	1
Aroclor 1248	ND		50	17	ug/Kg		07/05/16 17:15	07/08/16 13:45	1
Aroclor 1254	ND		50	17	ug/Kg		07/05/16 17:15	07/08/16 13:45	1
Aroclor 1260	ND		50	17	ug/Kg		07/05/16 17:15	07/08/16 13:45	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>MB Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
<i>DCB Decachlorobiphenyl (Surr)</i>	70		45 - 120				07/05/16 17:15	07/08/16 13:45	1

**Lab Sample ID: LCS 440-340400/2-A**

**Matrix: Solid**

**Analysis Batch: 341026**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 340400**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aroclor 1016	333	242		ug/Kg		73	65 - 115
Aroclor 1260	333	231		ug/Kg		69	65 - 115
<b>Surrogate</b>	<b>%Recovery</b>	<b>LCS Qualifier</b>	<b>Limits</b>				
<i>DCB Decachlorobiphenyl (Surr)</i>	66		45 - 120				

**Lab Sample ID: 440-151548-1 MS**

**Matrix: Solid**

**Analysis Batch: 341026**

**Client Sample ID: B5,1'**

**Prep Type: Total/NA**

**Prep Batch: 340400**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Aroclor 1016	ND		710	479		ug/Kg		67	50 - 120
Aroclor 1260	ND		710	409		ug/Kg		58	50 - 125
<b>Surrogate</b>	<b>%Recovery</b>	<b>MS Qualifier</b>	<b>Limits</b>						
<i>DCB Decachlorobiphenyl (Surr)</i>	51		45 - 120						

TestAmerica Irvine



# QC Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

**Lab Sample ID: 440-151548-1 MSD**

**Matrix: Solid**  
**Analysis Batch: 341026**

**Client Sample ID: B5,1'**

**Prep Type: Total/NA**  
**Prep Batch: 340400**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier		Result	Qualifier						
Aroclor 1016	ND		693	449		ug/Kg		65	50 - 120	6	30
Aroclor 1260	ND		693	379		ug/Kg		55	50 - 125	7	30
			<b>MSD</b>	<b>MSD</b>							
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>								
DCB Decachlorobiphenyl (Surr)	48		45 - 120								

**Lab Sample ID: MB 440-340705/1-A**

**Matrix: Solid**  
**Analysis Batch: 341034**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**  
**Prep Batch: 340705**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil	Fac	
	Result	Qualifier									
Aroclor 1016	ND		50	17	ug/Kg		07/06/16 22:01	07/08/16 09:28		1	
Aroclor 1221	ND		50	17	ug/Kg		07/06/16 22:01	07/08/16 09:28		1	
Aroclor 1232	ND		50	17	ug/Kg		07/06/16 22:01	07/08/16 09:28		1	
Aroclor 1242	ND		50	17	ug/Kg		07/06/16 22:01	07/08/16 09:28		1	
Aroclor 1248	ND		50	17	ug/Kg		07/06/16 22:01	07/08/16 09:28		1	
Aroclor 1254	ND		50	17	ug/Kg		07/06/16 22:01	07/08/16 09:28		1	
Aroclor 1260	ND		50	17	ug/Kg		07/06/16 22:01	07/08/16 09:28		1	
			<b>MB</b>	<b>MB</b>							
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>	<b>Prepared</b>	<b>Analyzed</b>	<b>Dil</b>	<b>Fac</b>				
DCB Decachlorobiphenyl (Surr)	101		45 - 120	07/06/16 22:01	07/08/16 09:28		1				

**Lab Sample ID: LCS 440-340705/2-A**

**Matrix: Solid**  
**Analysis Batch: 341034**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**  
**Prep Batch: 340705**

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.	Limits
		Added	Result					
Aroclor 1016	267	268		ug/Kg		101	65 - 115	
Aroclor 1260	267	275		ug/Kg		103	65 - 115	
			<b>LCS</b>	<b>LCS</b>				
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>					
DCB Decachlorobiphenyl (Surr)	93		45 - 120					

**Lab Sample ID: 440-151742-A-1-F MS**

**Matrix: Solid**  
**Analysis Batch: 341034**

**Client Sample ID: Matrix Spike**

**Prep Type: Total/NA**  
**Prep Batch: 340705**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier		Result	Qualifier					
Aroclor 1016	ND		566	540		ug/Kg		95	50 - 120	
Aroclor 1260	ND		566	524		ug/Kg		93	50 - 125	
			<b>MS</b>	<b>MS</b>						
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>							
DCB Decachlorobiphenyl (Surr)	82		45 - 120							

# QC Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

**Lab Sample ID: 440-151742-A-1-G MSD**

**Matrix: Solid**  
**Analysis Batch: 341034**

**Client Sample ID: Matrix Spike Duplicate**

**Prep Type: Total/NA**  
**Prep Batch: 340705**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
Aroclor 1016	ND		564	537		ug/Kg		95	50 - 120	0	30
Aroclor 1260	ND		564	522		ug/Kg		92	50 - 125	0	30
<b>Surrogate</b>	<b>%Recovery</b>	<b>MSD</b>	<b>MSD</b>	<b>Qualifier</b>	<b>Limits</b>						
DCB Decachlorobiphenyl (Surr)	82				45 - 120						

## Method: 6020 - Metals (ICP/MS)

**Lab Sample ID: MB 440-340233/1-A ^20**

**Matrix: Solid**  
**Analysis Batch: 340689**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**  
**Prep Batch: 340233**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Lead	ND		0.50	0.25	mg/Kg		07/05/16 08:40	07/06/16 17:04	20

**Lab Sample ID: LCS 440-340233/2-A ^20**

**Matrix: Solid**  
**Analysis Batch: 340689**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**  
**Prep Batch: 340233**

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.	Limits
Lead	49.8	48.6		mg/Kg		98	80 - 120	

**Lab Sample ID: 440-151507-E-4-A MSD ^200**

**Matrix: Solid**  
**Analysis Batch: 340689**

**Client Sample ID: Matrix Spike Duplicate**

**Prep Type: Total/NA**  
**Prep Batch: 340233**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
Lead	4.2	J	49.8	50.1		mg/Kg		92	80 - 120	2	20

**Lab Sample ID: 440-151507-F-4-A MS ^200**

**Matrix: Solid**  
**Analysis Batch: 340689**

**Client Sample ID: Matrix Spike**

**Prep Type: Total/NA**  
**Prep Batch: 340233**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier					
Lead	4.2	J	49.8	50.9		mg/Kg		94	80 - 120	

**Lab Sample ID: MB 440-340488/1-A ^20**

**Matrix: Solid**  
**Analysis Batch: 340878**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**  
**Prep Batch: 340488**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Silver	ND		0.50	0.10	mg/Kg		07/06/16 08:26	07/07/16 12:37	20
Arsenic	ND		0.50	0.25	mg/Kg		07/06/16 08:26	07/07/16 12:37	20
Barium	ND		0.50	0.25	mg/Kg		07/06/16 08:26	07/07/16 12:37	20
Beryllium	ND		0.30	0.15	mg/Kg		07/06/16 08:26	07/07/16 12:37	20
Cadmium	ND		0.50	0.25	mg/Kg		07/06/16 08:26	07/07/16 12:37	20
Chromium	ND		1.0	0.50	mg/Kg		07/06/16 08:26	07/07/16 12:37	20
Cobalt	ND		0.50	0.21	mg/Kg		07/06/16 08:26	07/07/16 12:37	20

TestAmerica Irvine

# QC Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Method: 6020 - Metals (ICP/MS) (Continued)

**Lab Sample ID: MB 440-340488/1-A ^20**  
**Matrix: Solid**  
**Analysis Batch: 340878**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 340488**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	ND		1.0	0.50	mg/Kg		07/06/16 08:26	07/07/16 12:37	20
Lead	ND		0.50	0.25	mg/Kg		07/06/16 08:26	07/07/16 12:37	20
Molybdenum	ND		1.0	0.50	mg/Kg		07/06/16 08:26	07/07/16 12:37	20
Nickel	ND		1.0	0.50	mg/Kg		07/06/16 08:26	07/07/16 12:37	20
Selenium	ND		1.0	0.20	mg/Kg		07/06/16 08:26	07/07/16 12:37	20
Thallium	ND		0.50	0.25	mg/Kg		07/06/16 08:26	07/07/16 12:37	20
Vanadium	ND		1.0	0.50	mg/Kg		07/06/16 08:26	07/07/16 12:37	20
Zinc	ND		10	5.0	mg/Kg		07/06/16 08:26	07/07/16 12:37	20
Antimony	ND		1.0	0.27	mg/Kg		07/06/16 08:26	07/07/16 12:37	20

**Lab Sample ID: LCS 440-340488/2-A ^20**  
**Matrix: Solid**  
**Analysis Batch: 340878**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 340488**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	24.6	24.5		mg/Kg		99	80 - 120
Arsenic	49.3	49.7		mg/Kg		101	80 - 120
Barium	49.3	49.5		mg/Kg		100	80 - 120
Beryllium	49.3	48.1		mg/Kg		98	80 - 120
Cadmium	49.3	49.6		mg/Kg		101	80 - 120
Chromium	49.3	50.0		mg/Kg		102	80 - 120
Cobalt	49.3	50.3		mg/Kg		102	80 - 120
Copper	49.3	50.8		mg/Kg		103	80 - 120
Lead	49.3	49.4		mg/Kg		100	80 - 120
Molybdenum	49.3	50.9		mg/Kg		103	80 - 120
Nickel	49.3	49.8		mg/Kg		101	80 - 120
Selenium	49.3	48.7		mg/Kg		99	80 - 120
Thallium	49.3	48.3		mg/Kg		98	80 - 120
Vanadium	49.3	49.6		mg/Kg		101	80 - 120
Zinc	49.3	49.2		mg/Kg		100	80 - 120
Antimony	49.3	50.8		mg/Kg		103	80 - 120

**Lab Sample ID: 440-151622-A-21-E MS ^20**  
**Matrix: Solid**  
**Analysis Batch: 340878**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 340488**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	0.15	J	24.8	22.7		mg/Kg		91	80 - 120
Arsenic	9.7		49.5	54.5		mg/Kg		90	80 - 120
Barium	200		49.5	255	4	mg/Kg		108	80 - 120
Beryllium	1.0		49.5	41.6		mg/Kg		82	80 - 120
Cadmium	0.58		49.5	46.8		mg/Kg		93	80 - 120
Chromium	21		49.5	67.5		mg/Kg		95	80 - 120
Cobalt	6.6		49.5	47.9		mg/Kg		83	80 - 120
Copper	19	F1	49.5	57.5	F1	mg/Kg		78	80 - 120
Lead	23		49.5	68.1		mg/Kg		92	80 - 120
Molybdenum	1.1		49.5	48.4		mg/Kg		96	80 - 120
Nickel	17	F1	49.5	55.8	F1	mg/Kg		79	80 - 120
Selenium	1.2		49.5	45.2		mg/Kg		89	80 - 120

TestAmerica Irvine

# QC Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Method: 6020 - Metals (ICP/MS) (Continued)

**Lab Sample ID: 440-151622-A-21-E MS ^20**  
**Matrix: Solid**  
**Analysis Batch: 340878**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 340488**  
**%Rec.**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Thallium	0.29	J	49.5	45.1		mg/Kg		91	80 - 120
Vanadium	36		49.5	89.0		mg/Kg		108	80 - 120
Zinc	73		49.5	119		mg/Kg		92	80 - 120
Antimony	0.51	J F1	49.5	29.4	F1	mg/Kg		58	80 - 120

**Lab Sample ID: 440-151622-A-21-F MSD ^20**  
**Matrix: Solid**  
**Analysis Batch: 340878**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 340488**  
**%Rec.**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Silver	0.15	J	25.0	23.5		mg/Kg		93	80 - 120	3	20
Arsenic	9.7		50.0	56.0		mg/Kg		93	80 - 120	3	20
Barium	200		50.0	260	4	mg/Kg		118	80 - 120	2	20
Beryllium	1.0		50.0	42.8		mg/Kg		84	80 - 120	3	20
Cadmium	0.58		50.0	48.5		mg/Kg		96	80 - 120	3	20
Chromium	21		50.0	69.4		mg/Kg		98	80 - 120	3	20
Cobalt	6.6		50.0	49.5		mg/Kg		86	80 - 120	3	20
Copper	19	F1	50.0	59.1		mg/Kg		81	80 - 120	3	20
Lead	23		50.0	69.9		mg/Kg		95	80 - 120	3	20
Molybdenum	1.1		50.0	49.9		mg/Kg		98	80 - 120	3	20
Nickel	17	F1	50.0	57.1		mg/Kg		81	80 - 120	2	20
Selenium	1.2		50.0	45.6		mg/Kg		89	80 - 120	1	20
Thallium	0.29	J	50.0	45.3		mg/Kg		90	80 - 120	0	20
Vanadium	36		50.0	91.2		mg/Kg		111	80 - 120	2	20
Zinc	73		50.0	123		mg/Kg		100	80 - 120	3	20
Antimony	0.51	J F1	50.0	30.3	F1	mg/Kg		60	80 - 120	3	20

**Lab Sample ID: MB 440-340489/1-A ^20**  
**Matrix: Solid**  
**Analysis Batch: 340972**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 340489**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.49	0.099	mg/Kg		07/06/16 08:27	07/07/16 14:43	20
Arsenic	ND		0.49	0.25	mg/Kg		07/06/16 08:27	07/07/16 14:43	20
Barium	ND		0.49	0.25	mg/Kg		07/06/16 08:27	07/07/16 14:43	20
Beryllium	ND		0.30	0.15	mg/Kg		07/06/16 08:27	07/07/16 14:43	20
Cadmium	ND		0.49	0.25	mg/Kg		07/06/16 08:27	07/07/16 14:43	20
Chromium	ND		0.99	0.49	mg/Kg		07/06/16 08:27	07/07/16 14:43	20
Cobalt	ND		0.49	0.21	mg/Kg		07/06/16 08:27	07/07/16 14:43	20
Copper	ND		0.99	0.49	mg/Kg		07/06/16 08:27	07/07/16 14:43	20
Lead	ND		0.49	0.25	mg/Kg		07/06/16 08:27	07/07/16 14:43	20
Molybdenum	ND		0.99	0.49	mg/Kg		07/06/16 08:27	07/07/16 14:43	20
Nickel	ND		0.99	0.49	mg/Kg		07/06/16 08:27	07/07/16 14:43	20
Selenium	ND		0.99	0.20	mg/Kg		07/06/16 08:27	07/07/16 14:43	20
Thallium	ND		0.49	0.25	mg/Kg		07/06/16 08:27	07/07/16 14:43	20
Vanadium	ND		0.99	0.49	mg/Kg		07/06/16 08:27	07/07/16 14:43	20
Zinc	ND		9.9	4.9	mg/Kg		07/06/16 08:27	07/07/16 14:43	20
Antimony	ND		0.99	0.27	mg/Kg		07/06/16 08:27	07/07/16 14:43	20

TestAmerica Irvine

# QC Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Method: 6020 - Metals (ICP/MS) (Continued)

**Lab Sample ID: LCS 440-340489/2-A ^20**

**Matrix: Solid**

**Analysis Batch: 340972**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 340489**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Silver	24.9	24.2		mg/Kg		97	80 - 120
Arsenic	49.8	48.6		mg/Kg		98	80 - 120
Barium	49.8	49.0		mg/Kg		99	80 - 120
Beryllium	49.8	47.3		mg/Kg		95	80 - 120
Cadmium	49.8	49.3		mg/Kg		99	80 - 120
Chromium	49.8	48.6		mg/Kg		98	80 - 120
Cobalt	49.8	48.5		mg/Kg		97	80 - 120
Copper	49.8	49.4		mg/Kg		99	80 - 120
Lead	49.8	48.5		mg/Kg		98	80 - 120
Molybdenum	49.8	50.6		mg/Kg		102	80 - 120
Nickel	49.8	48.5		mg/Kg		97	80 - 120
Selenium	49.8	47.7		mg/Kg		96	80 - 120
Thallium	49.8	48.2		mg/Kg		97	80 - 120
Vanadium	49.8	47.7		mg/Kg		96	80 - 120
Zinc	49.8	48.1		mg/Kg		97	80 - 120
Antimony	49.8	50.2		mg/Kg		101	80 - 120

**Lab Sample ID: 440-151548-34 MS**

**Matrix: Solid**

**Analysis Batch: 340972**

**Client Sample ID: B10,5'**

**Prep Type: Total/NA**

**Prep Batch: 340489**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Silver	ND		24.9	22.6		mg/Kg		91	80 - 120
Arsenic	2.9		49.8	47.1		mg/Kg		89	80 - 120
Barium	55	F1	49.8	117	F1	mg/Kg		125	80 - 120
Beryllium	0.15	J F1	49.8	39.5	F1	mg/Kg		79	80 - 120
Cadmium	ND		49.8	46.5		mg/Kg		94	80 - 120
Chromium	65	F1	49.8	92.5	F1	mg/Kg		54	80 - 120
Cobalt	4.9		49.8	48.0		mg/Kg		87	80 - 120
Copper	8.1		49.8	48.9		mg/Kg		82	80 - 120
Lead	3.0		49.8	49.1		mg/Kg		93	80 - 120
Molybdenum	ND		49.8	47.2		mg/Kg		95	80 - 120
Nickel	34	F1	49.8	73.8		mg/Kg		80	80 - 120
Selenium	0.37	J	49.8	44.0		mg/Kg		88	80 - 120
Thallium	ND		49.8	43.9		mg/Kg		88	80 - 120
Vanadium	33		49.8	79.6		mg/Kg		94	80 - 120
Zinc	22		49.8	66.0		mg/Kg		88	80 - 120
Antimony	ND	F1	49.8	33.7	F1	mg/Kg		68	80 - 120

**Lab Sample ID: 440-151548-34 MSD**

**Matrix: Solid**

**Analysis Batch: 340972**

**Client Sample ID: B10,5'**

**Prep Type: Total/NA**

**Prep Batch: 340489**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Silver	ND		25.0	23.2		mg/Kg		93	80 - 120	2	20
Arsenic	2.9		50.0	48.4		mg/Kg		91	80 - 120	3	20
Barium	55	F1	50.0	115		mg/Kg		120	80 - 120	2	20
Beryllium	0.15	J F1	50.0	41.8		mg/Kg		84	80 - 120	6	20

TestAmerica Irvine

# QC Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Method: 6020 - Metals (ICP/MS) (Continued)

**Lab Sample ID: 440-151548-34 MSD**  
**Matrix: Solid**  
**Analysis Batch: 340972**

**Client Sample ID: B10,5'**  
**Prep Type: Total/NA**  
**Prep Batch: 340489**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits		
Cadmium	ND		50.0	47.5		mg/Kg		95	80 - 120	2	20
Chromium	65	F1	50.0	83.4	F1	mg/Kg		36	80 - 120	10	20
Cobalt	4.9		50.0	49.0		mg/Kg		88	80 - 120	2	20
Copper	8.1		50.0	49.6		mg/Kg		83	80 - 120	1	20
Lead	3.0		50.0	49.8		mg/Kg		94	80 - 120	1	20
Molybdenum	ND		50.0	48.3		mg/Kg		97	80 - 120	2	20
Nickel	34	F1	50.0	72.6	F1	mg/Kg		78	80 - 120	2	20
Selenium	0.37	J	50.0	46.1		mg/Kg		92	80 - 120	5	20
Thallium	ND		50.0	46.6		mg/Kg		93	80 - 120	6	20
Vanadium	33		50.0	79.4		mg/Kg		93	80 - 120	0	20
Zinc	22		50.0	65.8		mg/Kg		87	80 - 120	0	20
Antimony	ND	F1	50.0	36.0	F1	mg/Kg		72	80 - 120	7	20

**Lab Sample ID: MB 440-340749/1-A ^20**  
**Matrix: Solid**  
**Analysis Batch: 341172**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 340749**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil	Fac
	Result	Qualifier								
Lead	ND		0.50	0.25	mg/Kg		07/07/16 08:33	07/08/16 12:49		20

**Lab Sample ID: LCS 440-340749/2-A ^20**  
**Matrix: Solid**  
**Analysis Batch: 341172**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 340749**

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.	Limits
		Result	Qualifier				Limits	
Lead	49.3	53.5		mg/Kg		109	80 - 120	

**Lab Sample ID: 440-151560-F-7-B MSD ^20**  
**Matrix: Solid**  
**Analysis Batch: 341172**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 340749**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits		
Lead	3.1		49.5	57.0		mg/Kg		109	80 - 120	10	20

**Lab Sample ID: 440-151560-G-7-A MS ^20**  
**Matrix: Solid**  
**Analysis Batch: 341172**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 340749**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier		Result	Qualifier				Limits	
Lead	3.1		49.0	51.4		mg/Kg		98	80 - 120	

## Method: 7471A - Mercury (CVAA)

**Lab Sample ID: MB 440-340821/1-A**  
**Matrix: Solid**  
**Analysis Batch: 340936**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 340821**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil	Fac
	Result	Qualifier								
Mercury	ND		0.020	0.012	mg/Kg		07/07/16 11:46	07/07/16 17:36		1

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# QC Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Method: 7471A - Mercury (CVAA) (Continued)

**Lab Sample ID: LCS 440-340821/2-A**  
**Matrix: Solid**  
**Analysis Batch: 340936**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 340821**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.800	0.862		mg/Kg		108	80 - 120

**Lab Sample ID: 440-151742-A-1-K MS**  
**Matrix: Solid**  
**Analysis Batch: 340936**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 340821**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Mercury	0.041		0.800	0.841		mg/Kg		100	70 - 130

**Lab Sample ID: 440-151742-A-1-L MSD**  
**Matrix: Solid**  
**Analysis Batch: 340936**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 340821**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	0.041		0.800	0.826		mg/Kg		98	70 - 130	2	20

**Lab Sample ID: MB 440-340832/1-A**  
**Matrix: Solid**  
**Analysis Batch: 341136**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 340832**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020	0.012	mg/Kg		07/07/16 12:30	07/07/16 18:55	1

**Lab Sample ID: LCS 440-340832/2-A**  
**Matrix: Solid**  
**Analysis Batch: 341136**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 340832**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.800	0.871		mg/Kg		109	80 - 120

**Lab Sample ID: 440-151888-A-1-C MS**  
**Matrix: Solid**  
**Analysis Batch: 341136**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 340832**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Mercury	0.096		0.800	1.03		mg/Kg		117	70 - 130

**Lab Sample ID: 440-151888-A-1-D MSD**  
**Matrix: Solid**  
**Analysis Batch: 341136**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 340832**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	0.096		0.800	0.953		mg/Kg		107	70 - 130	8	20

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# QC Association Summary

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## GC/MS VOA

### Analysis Batch: 340661

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-18	B13,10'	Total/NA	Solid	8260B	
440-151548-25	B15,15'	Total/NA	Solid	8260B	
MB 440-340661/4	Method Blank	Total/NA	Solid	8260B	
LCS 440-340661/5	Lab Control Sample	Total/NA	Solid	8260B	
440-151548-18 MS	B13,10'	Total/NA	Solid	8260B	
440-151548-18 MSD	B13,10'	Total/NA	Solid	8260B	

### Analysis Batch: 340662

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-18	B13,10'	Total/NA	Solid	8260B/CA_LUFT MS	
440-151548-25	B15,15'	Total/NA	Solid	8260B/CA_LUFT MS	
440-151548-34	B10,5'	Total/NA	Solid	8260B/CA_LUFT MS	
MB 440-340662/4	Method Blank	Total/NA	Solid	8260B/CA_LUFT MS	
LCS 440-340662/6	Lab Control Sample	Total/NA	Solid	8260B/CA_LUFT MS	
440-151548-18 MS	B13,10'	Total/NA	Solid	8260B/CA_LUFT MS	
440-151548-18 MSD	B13,10'	Total/NA	Solid	8260B/CA_LUFT MS	

### Analysis Batch: 340727

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-19	B13,15'	Total/NA	Solid	8260B	
440-151548-21	B14,10'	Total/NA	Solid	8260B	
440-151548-22	B14,15'	Total/NA	Solid	8260B	
440-151548-24	B15,10'	Total/NA	Solid	8260B	
MB 440-340727/5	Method Blank	Total/NA	Solid	8260B	
LCS 440-340727/6	Lab Control Sample	Total/NA	Solid	8260B	
440-151548-A-50 MS	440-151548-A-50 MS	Total/NA	Solid	8260B	
440-151548-A-50 MSD	440-151548-A-50 MSD	Total/NA	Solid	8260B	

### Analysis Batch: 340728

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-19	B13,15'	Total/NA	Solid	8260B/CA_LUFT MS	
440-151548-21	B14,10'	Total/NA	Solid	8260B/CA_LUFT MS	
440-151548-22	B14,15'	Total/NA	Solid	8260B/CA_LUFT MS	
440-151548-24	B15,10'	Total/NA	Solid	8260B/CA_LUFT MS	
440-151548-38	B7,1'	Total/NA	Solid	8260B/CA_LUFT MS	
440-151548-39	B7,3'	Total/NA	Solid	8260B/CA_LUFT MS	
440-151548-40	B7,5'	Total/NA	Solid	8260B/CA_LUFT MS	
440-151548-41	B8,1'	Total/NA	Solid	8260B/CA_LUFT MS	
440-151548-42	B8,3'	Total/NA	Solid	8260B/CA_LUFT MS	

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# QC Association Summary

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## GC/MS VOA (Continued)

### Analysis Batch: 340728 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-43	B11,1'	Total/NA	Solid	8260B/CA_LUFT MS	
440-151548-48	B12,3'	Total/NA	Solid	8260B/CA_LUFT MS	
440-151548-50	B12,7'	Total/NA	Solid	8260B/CA_LUFT MS	
MB 440-340728/5	Method Blank	Total/NA	Solid	8260B/CA_LUFT MS	
LCS 440-340728/7	Lab Control Sample	Total/NA	Solid	8260B/CA_LUFT MS	
440-151548-A-50 MS	B12,7'	Total/NA	Solid	8260B/CA_LUFT MS	
440-151548-A-50 MSD	B12,7'	Total/NA	Solid	8260B/CA_LUFT MS	

### Analysis Batch: 340955

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-44	B11,3'	Total/NA	Solid	8260B/CA_LUFT MS	
440-151548-45	B11,5'	Total/NA	Solid	8260B/CA_LUFT MS	
440-151548-46	B11,7'	Total/NA	Solid	8260B/CA_LUFT MS	
440-151548-49	B12,5'	Total/NA	Solid	8260B/CA_LUFT MS	
MB 440-340955/4	Method Blank	Total/NA	Solid	8260B/CA_LUFT MS	
LCS 440-340955/6	Lab Control Sample	Total/NA	Solid	8260B/CA_LUFT MS	
440-151548-44 MS	B11,3'	Total/NA	Solid	8260B/CA_LUFT MS	
440-151548-44 MSD	B11,3'	Total/NA	Solid	8260B/CA_LUFT MS	

### Analysis Batch: 341013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-47	B12,1'	Total/NA	Solid	8260B/CA_LUFT MS	
MB 440-341013/4	Method Blank	Total/NA	Solid	8260B/CA_LUFT MS	
LCS 440-341013/6	Lab Control Sample	Total/NA	Solid	8260B/CA_LUFT MS	
440-151362-A-14 MS	Matrix Spike	Total/NA	Solid	8260B/CA_LUFT MS	
440-151362-A-14 MSD	Matrix Spike Duplicate	Total/NA	Solid	8260B/CA_LUFT MS	

### Analysis Batch: 342266

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-32	B10,1'	Total/NA	Solid	8260B/CA_LUFT MS	
440-151548-33	B10,3'	Total/NA	Solid	8260B/CA_LUFT MS	
MB 440-342266/4	Method Blank	Total/NA	Solid	8260B/CA_LUFT MS	
LCS 440-342266/6	Lab Control Sample	Total/NA	Solid	8260B/CA_LUFT MS	

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# QC Association Summary

Client: Citadel Environmental Services Inc  
 Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## GC/MS VOA (Continued)

### Analysis Batch: 342266 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-152537-A-3 MS	Matrix Spike	Total/NA	Solid	8260B/CA_LUFT MS	
440-152537-A-3 MSD	Matrix Spike Duplicate	Total/NA	Solid	8260B/CA_LUFT MS	

## GC/MS Semi VOA

### Prep Batch: 340132

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-1	B5,1'	Total/NA	Solid	3546	
440-151548-2	B5,3'	Total/NA	Solid	3546	
440-151548-3	B5,5'	Total/NA	Solid	3546	
440-151548-5	B4,1'	Total/NA	Solid	3546	
440-151548-6	B4,3'	Total/NA	Solid	3546	
440-151548-9	B1,1'	Total/NA	Solid	3546	
440-151548-10	B1,3'	Total/NA	Solid	3546	
440-151548-11	B1,5'	Total/NA	Solid	3546	
440-151548-13	B2,1'	Total/NA	Solid	3546	
440-151548-14	B2,3'	Total/NA	Solid	3546	
440-151548-15	B2,5'	Total/NA	Solid	3546	
440-151548-26	B3,1'	Total/NA	Solid	3546	
440-151548-27	B3,3'	Total/NA	Solid	3546	
440-151548-29	B6,1'	Total/NA	Solid	3546	
440-151548-30	B6,3'	Total/NA	Solid	3546	
440-151548-32	B10,1'	Total/NA	Solid	3546	
MB 440-340132/1-A	Method Blank	Total/NA	Solid	3546	
LCS 440-340132/2-A	Lab Control Sample	Total/NA	Solid	3546	
440-151403-B-4-C MS	Matrix Spike	Total/NA	Solid	3546	
440-151403-B-4-D MSD	Matrix Spike Duplicate	Total/NA	Solid	3546	

### Analysis Batch: 340498

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-1	B5,1'	Total/NA	Solid	8270C SIM	340132
440-151548-2	B5,3'	Total/NA	Solid	8270C SIM	340132
440-151548-3	B5,5'	Total/NA	Solid	8270C SIM	340132
440-151548-5	B4,1'	Total/NA	Solid	8270C SIM	340132
440-151548-6	B4,3'	Total/NA	Solid	8270C SIM	340132
440-151548-9	B1,1'	Total/NA	Solid	8270C SIM	340132
440-151548-10	B1,3'	Total/NA	Solid	8270C SIM	340132
440-151548-11	B1,5'	Total/NA	Solid	8270C SIM	340132
440-151548-13	B2,1'	Total/NA	Solid	8270C SIM	340132
440-151548-14	B2,3'	Total/NA	Solid	8270C SIM	340132
440-151548-15	B2,5'	Total/NA	Solid	8270C SIM	340132
440-151548-26	B3,1'	Total/NA	Solid	8270C SIM	340132
440-151548-27	B3,3'	Total/NA	Solid	8270C SIM	340132
440-151548-29	B6,1'	Total/NA	Solid	8270C SIM	340132
MB 440-340132/1-A	Method Blank	Total/NA	Solid	8270C SIM	340132
LCS 440-340132/2-A	Lab Control Sample	Total/NA	Solid	8270C SIM	340132
440-151403-B-4-C MS	Matrix Spike	Total/NA	Solid	8270C SIM	340132
440-151403-B-4-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8270C SIM	340132

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# QC Association Summary

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## GC/MS Semi VOA (Continued)

### Prep Batch: 340700

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-35	B9,1'	Total/NA	Solid	3546	
440-151548-36	B9,3'	Total/NA	Solid	3546	
MB 440-340700/1-A	Method Blank	Total/NA	Solid	3546	
LCS 440-340700/2-A	Lab Control Sample	Total/NA	Solid	3546	
440-151622-B-21-B MS	Matrix Spike	Total/NA	Solid	3546	
440-151622-B-21-C MSD	Matrix Spike Duplicate	Total/NA	Solid	3546	

### Analysis Batch: 340820

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-340700/1-A	Method Blank	Total/NA	Solid	8270C SIM	340700
LCS 440-340700/2-A	Lab Control Sample	Total/NA	Solid	8270C SIM	340700
440-151622-B-21-B MS	Matrix Spike	Total/NA	Solid	8270C SIM	340700
440-151622-B-21-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8270C SIM	340700

### Analysis Batch: 341098

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-30	B6,3'	Total/NA	Solid	8270C SIM	340132
440-151548-32	B10,1'	Total/NA	Solid	8270C SIM	340132
440-151548-35	B9,1'	Total/NA	Solid	8270C SIM	340700
440-151548-36	B9,3'	Total/NA	Solid	8270C SIM	340700

## GC Semi VOA

### Prep Batch: 340131

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-4	B5,7'	Total/NA	Solid	3546	
440-151548-18	B13,10'	Total/NA	Solid	3546	
440-151548-19	B13,15'	Total/NA	Solid	3546	
440-151548-21	B14,10'	Total/NA	Solid	3546	
440-151548-22	B14,15'	Total/NA	Solid	3546	
440-151548-24	B15,10'	Total/NA	Solid	3546	
440-151548-25	B15,15'	Total/NA	Solid	3546	
440-151548-34	B10,5'	Total/NA	Solid	3546	
440-151548-38	B7,1'	Total/NA	Solid	3546	
440-151548-39	B7,3'	Total/NA	Solid	3546	
MB 440-340131/1-A	Method Blank	Total/NA	Solid	3546	
LCS 440-340131/2-A	Lab Control Sample	Total/NA	Solid	3546	
440-151548-4 MS	B5,7'	Total/NA	Solid	3546	
440-151548-4 MSD	B5,7'	Total/NA	Solid	3546	

### Prep Batch: 340264

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-40	B7,5'	Total/NA	Solid	3546	
440-151548-41	B8,1'	Total/NA	Solid	3546	
440-151548-42	B8,3'	Total/NA	Solid	3546	
440-151548-43	B11,1'	Total/NA	Solid	3546	
440-151548-44	B11,3'	Total/NA	Solid	3546	
MB 440-340264/1-A	Method Blank	Total/NA	Solid	3546	
LCS 440-340264/2-A	Lab Control Sample	Total/NA	Solid	3546	
440-151572-A-1-A MS	Matrix Spike	Total/NA	Solid	3546	

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# QC Association Summary

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## GC Semi VOA (Continued)

### Prep Batch: 340264 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151572-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	3546	

### Analysis Batch: 340312

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-340131/1-A	Method Blank	Total/NA	Solid	8015B	340131
MB 440-340264/1-A	Method Blank	Total/NA	Solid	8015B	340264
LCS 440-340131/2-A	Lab Control Sample	Total/NA	Solid	8015B	340131
LCS 440-340264/2-A	Lab Control Sample	Total/NA	Solid	8015B	340264
440-151572-A-1-A MS	Matrix Spike	Total/NA	Solid	8015B	340264
440-151572-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B	340264

### Analysis Batch: 340314

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-4	B5,7'	Total/NA	Solid	8015B	340131
440-151548-18	B13,10'	Total/NA	Solid	8015B	340131
440-151548-19	B13,15'	Total/NA	Solid	8015B	340131
440-151548-38	B7,1'	Total/NA	Solid	8015B	340131
440-151548-39	B7,3'	Total/NA	Solid	8015B	340131
440-151548-4 MS	B5,7'	Total/NA	Solid	8015B	340131
440-151548-4 MSD	B5,7'	Total/NA	Solid	8015B	340131

### Prep Batch: 340400

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-1	B5,1'	Total/NA	Solid	3546	
440-151548-2	B5,3'	Total/NA	Solid	3546	
440-151548-3	B5,5'	Total/NA	Solid	3546	
440-151548-5	B4,1'	Total/NA	Solid	3546	
440-151548-6	B4,3'	Total/NA	Solid	3546	
440-151548-9	B1,1'	Total/NA	Solid	3546	
440-151548-10	B1,3'	Total/NA	Solid	3546	
440-151548-11	B1,5'	Total/NA	Solid	3546	
440-151548-13	B2,1'	Total/NA	Solid	3546	
440-151548-14	B2,3'	Total/NA	Solid	3546	
440-151548-15	B2,5'	Total/NA	Solid	3546	
MB 440-340400/1-A	Method Blank	Total/NA	Solid	3546	
LCS 440-340400/2-A	Lab Control Sample	Total/NA	Solid	3546	
440-151548-1 MS	B5,1'	Total/NA	Solid	3546	
440-151548-1 MSD	B5,1'	Total/NA	Solid	3546	

### Analysis Batch: 340555

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-40	B7,5'	Total/NA	Solid	8015B	340264
440-151548-41	B8,1'	Total/NA	Solid	8015B	340264
440-151548-42	B8,3'	Total/NA	Solid	8015B	340264
440-151548-43	B11,1'	Total/NA	Solid	8015B	340264
440-151548-44	B11,3'	Total/NA	Solid	8015B	340264

### Prep Batch: 340705

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-26	B3,1'	Total/NA	Solid	3546	
440-151548-27	B3,3'	Total/NA	Solid	3546	

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# QC Association Summary

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## GC Semi VOA (Continued)

### Prep Batch: 340705 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-29	B6,1'	Total/NA	Solid	3546	
440-151548-30	B6,3'	Total/NA	Solid	3546	
440-151548-32	B10,1'	Total/NA	Solid	3546	
440-151548-35	B9,1'	Total/NA	Solid	3546	
440-151548-36	B9,3'	Total/NA	Solid	3546	
MB 440-340705/1-A	Method Blank	Total/NA	Solid	3546	
LCS 440-340705/2-A	Lab Control Sample	Total/NA	Solid	3546	
440-151742-A-1-F MS	Matrix Spike	Total/NA	Solid	3546	
440-151742-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	3546	

### Analysis Batch: 341026

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-1	B5,1'	Total/NA	Solid	8082	340400
440-151548-2	B5,3'	Total/NA	Solid	8082	340400
440-151548-3	B5,5'	Total/NA	Solid	8082	340400
440-151548-5	B4,1'	Total/NA	Solid	8082	340400
440-151548-6	B4,3'	Total/NA	Solid	8082	340400
440-151548-9	B1,1'	Total/NA	Solid	8082	340400
440-151548-10	B1,3'	Total/NA	Solid	8082	340400
440-151548-11	B1,5'	Total/NA	Solid	8082	340400
440-151548-13	B2,1'	Total/NA	Solid	8082	340400
440-151548-14	B2,3'	Total/NA	Solid	8082	340400
440-151548-15	B2,5'	Total/NA	Solid	8082	340400
MB 440-340400/1-A	Method Blank	Total/NA	Solid	8082	340400
LCS 440-340400/2-A	Lab Control Sample	Total/NA	Solid	8082	340400
440-151548-1 MS	B5,1'	Total/NA	Solid	8082	340400
440-151548-1 MSD	B5,1'	Total/NA	Solid	8082	340400

### Analysis Batch: 341034

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-26	B3,1'	Total/NA	Solid	8082	340705
440-151548-27	B3,3'	Total/NA	Solid	8082	340705
440-151548-29	B6,1'	Total/NA	Solid	8082	340705
440-151548-30	B6,3'	Total/NA	Solid	8082	340705
440-151548-32	B10,1'	Total/NA	Solid	8082	340705
440-151548-35	B9,1'	Total/NA	Solid	8082	340705
440-151548-36	B9,3'	Total/NA	Solid	8082	340705
MB 440-340705/1-A	Method Blank	Total/NA	Solid	8082	340705
LCS 440-340705/2-A	Lab Control Sample	Total/NA	Solid	8082	340705
440-151742-A-1-F MS	Matrix Spike	Total/NA	Solid	8082	340705
440-151742-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8082	340705

### Analysis Batch: 341175

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-21	B14,10'	Total/NA	Solid	8015B	340131
440-151548-22	B14,15'	Total/NA	Solid	8015B	340131
440-151548-24	B15,10'	Total/NA	Solid	8015B	340131
440-151548-25	B15,15'	Total/NA	Solid	8015B	340131
440-151548-34	B10,5'	Total/NA	Solid	8015B	340131

TestAmerica Irvine

# QC Association Summary

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## GC Semi VOA (Continued)

### Analysis Batch: 342375

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-33	B10,3'	Total/NA	Solid	8015B	342481
440-151548-45	B11,5'	Total/NA	Solid	8015B	342485
440-151548-45 MS	B11,5'	Total/NA	Solid	8015B	342485
440-151548-45 MSD	B11,5'	Total/NA	Solid	8015B	342485

### Prep Batch: 342481

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-32	B10,1'	Total/NA	Solid	3546	
440-151548-33	B10,3'	Total/NA	Solid	3546	
MB 440-342481/1-A	Method Blank	Total/NA	Solid	3546	
LCS 440-342481/2-A	Lab Control Sample	Total/NA	Solid	3546	
440-151548-32 MS	B10,1'	Total/NA	Solid	3546	
440-151548-32 MSD	B10,1'	Total/NA	Solid	3546	

### Prep Batch: 342485

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-45	B11,5'	Total/NA	Solid	3546	
440-151548-46	B11,7'	Total/NA	Solid	3546	
440-151548-47	B12,1'	Total/NA	Solid	3546	
440-151548-48	B12,3'	Total/NA	Solid	3546	
440-151548-49	B12,5'	Total/NA	Solid	3546	
440-151548-50	B12,7'	Total/NA	Solid	3546	
MB 440-342485/1-A	Method Blank	Total/NA	Solid	3546	
LCS 440-342485/2-A	Lab Control Sample	Total/NA	Solid	3546	
440-151548-45 MS	B11,5'	Total/NA	Solid	3546	
440-151548-45 MSD	B11,5'	Total/NA	Solid	3546	

### Analysis Batch: 342644

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-32	B10,1'	Total/NA	Solid	8015B	342481
440-151548-32 MS	B10,1'	Total/NA	Solid	8015B	342481
440-151548-32 MSD	B10,1'	Total/NA	Solid	8015B	342481

### Analysis Batch: 342652

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-46	B11,7'	Total/NA	Solid	8015B	342485
440-151548-48	B12,3'	Total/NA	Solid	8015B	342485
440-151548-49	B12,5'	Total/NA	Solid	8015B	342485
440-151548-50	B12,7'	Total/NA	Solid	8015B	342485
MB 440-342481/1-A	Method Blank	Total/NA	Solid	8015B	342481
MB 440-342485/1-A	Method Blank	Total/NA	Solid	8015B	342485
LCS 440-342481/2-A	Lab Control Sample	Total/NA	Solid	8015B	342481
LCS 440-342485/2-A	Lab Control Sample	Total/NA	Solid	8015B	342485

### Analysis Batch: 342829

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-47	B12,1'	Total/NA	Solid	8015B	342485

TestAmerica Irvine



# QC Association Summary

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Metals

### Prep Batch: 340233

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-1	B5,1'	Total/NA	Solid	3050B	
440-151548-2	B5,3'	Total/NA	Solid	3050B	
440-151548-3	B5,5'	Total/NA	Solid	3050B	
440-151548-5	B4,1'	Total/NA	Solid	3050B	
440-151548-6	B4,3'	Total/NA	Solid	3050B	
440-151548-9	B1,1'	Total/NA	Solid	3050B	
440-151548-10	B1,3'	Total/NA	Solid	3050B	
440-151548-11	B1,5'	Total/NA	Solid	3050B	
440-151548-13	B2,1'	Total/NA	Solid	3050B	
440-151548-14	B2,3'	Total/NA	Solid	3050B	
MB 440-340233/1-A ^20	Method Blank	Total/NA	Solid	3050B	
LCS 440-340233/2-A ^20	Lab Control Sample	Total/NA	Solid	3050B	
440-151507-E-4-A MSD ^20	Matrix Spike Duplicate	Total/NA	Solid	3050B	
440-151507-F-4-A MS ^200	Matrix Spike	Total/NA	Solid	3050B	

### Prep Batch: 340488

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-26	B3,1'	Total/NA	Solid	3050B	
440-151548-27	B3,3'	Total/NA	Solid	3050B	
440-151548-29	B6,1'	Total/NA	Solid	3050B	
440-151548-30	B6,3'	Total/NA	Solid	3050B	
440-151548-32	B10,1'	Total/NA	Solid	3050B	
440-151548-33	B10,3'	Total/NA	Solid	3050B	
MB 440-340488/1-A ^20	Method Blank	Total/NA	Solid	3050B	
LCS 440-340488/2-A ^20	Lab Control Sample	Total/NA	Solid	3050B	
440-151622-A-21-E MS ^20	Matrix Spike	Total/NA	Solid	3050B	
440-151622-A-21-F MSD ^20	Matrix Spike Duplicate	Total/NA	Solid	3050B	

### Prep Batch: 340489

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-34	B10,5'	Total/NA	Solid	3050B	
440-151548-35	B9,1'	Total/NA	Solid	3050B	
440-151548-36	B9,3'	Total/NA	Solid	3050B	
440-151548-38	B7,1'	Total/NA	Solid	3050B	
440-151548-39	B7,3'	Total/NA	Solid	3050B	
440-151548-40	B7,5'	Total/NA	Solid	3050B	
440-151548-41	B8,1'	Total/NA	Solid	3050B	
440-151548-42	B8,3'	Total/NA	Solid	3050B	
440-151548-43	B11,1'	Total/NA	Solid	3050B	
440-151548-44	B11,3'	Total/NA	Solid	3050B	
440-151548-45	B11,5'	Total/NA	Solid	3050B	
440-151548-46	B11,7'	Total/NA	Solid	3050B	
440-151548-47	B12,1'	Total/NA	Solid	3050B	
440-151548-48	B12,3'	Total/NA	Solid	3050B	
440-151548-49	B12,5'	Total/NA	Solid	3050B	
440-151548-50	B12,7'	Total/NA	Solid	3050B	
MB 440-340489/1-A ^20	Method Blank	Total/NA	Solid	3050B	
LCS 440-340489/2-A ^20	Lab Control Sample	Total/NA	Solid	3050B	
440-151548-34 MS	B10,5'	Total/NA	Solid	3050B	
440-151548-34 MSD	B10,5'	Total/NA	Solid	3050B	

TestAmerica Irvine

# QC Association Summary

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Metals (Continued)

### Analysis Batch: 340689

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-1	B5,1'	Total/NA	Solid	6020	340233
440-151548-2	B5,3'	Total/NA	Solid	6020	340233
440-151548-3	B5,5'	Total/NA	Solid	6020	340233
440-151548-5	B4,1'	Total/NA	Solid	6020	340233
440-151548-6	B4,3'	Total/NA	Solid	6020	340233
440-151548-9	B1,1'	Total/NA	Solid	6020	340233
440-151548-10	B1,3'	Total/NA	Solid	6020	340233
440-151548-11	B1,5'	Total/NA	Solid	6020	340233
440-151548-13	B2,1'	Total/NA	Solid	6020	340233
440-151548-14	B2,3'	Total/NA	Solid	6020	340233
MB 440-340233/1-A ^20	Method Blank	Total/NA	Solid	6020	340233
LCS 440-340233/2-A ^20	Lab Control Sample	Total/NA	Solid	6020	340233
440-151507-E-4-A MSD ^200	Matrix Spike Duplicate	Total/NA	Solid	6020	340233
440-151507-F-4-A MS ^200	Matrix Spike	Total/NA	Solid	6020	340233

### Prep Batch: 340749

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-15	B2,5'	Total/NA	Solid	3050B	
MB 440-340749/1-A ^20	Method Blank	Total/NA	Solid	3050B	
LCS 440-340749/2-A ^20	Lab Control Sample	Total/NA	Solid	3050B	
440-151560-F-7-B MSD ^20	Matrix Spike Duplicate	Total/NA	Solid	3050B	
440-151560-G-7-A MS ^20	Matrix Spike	Total/NA	Solid	3050B	

### Prep Batch: 340821

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-38	B7,1'	Total/NA	Solid	7471A	
440-151548-39	B7,3'	Total/NA	Solid	7471A	
440-151548-40	B7,5'	Total/NA	Solid	7471A	
440-151548-41	B8,1'	Total/NA	Solid	7471A	
440-151548-42	B8,3'	Total/NA	Solid	7471A	
440-151548-43	B11,1'	Total/NA	Solid	7471A	
440-151548-44	B11,3'	Total/NA	Solid	7471A	
440-151548-45	B11,5'	Total/NA	Solid	7471A	
440-151548-46	B11,7'	Total/NA	Solid	7471A	
440-151548-47	B12,1'	Total/NA	Solid	7471A	
440-151548-48	B12,3'	Total/NA	Solid	7471A	
440-151548-49	B12,5'	Total/NA	Solid	7471A	
440-151548-50	B12,7'	Total/NA	Solid	7471A	
MB 440-340821/1-A	Method Blank	Total/NA	Solid	7471A	
LCS 440-340821/2-A	Lab Control Sample	Total/NA	Solid	7471A	
440-151742-A-1-K MS	Matrix Spike	Total/NA	Solid	7471A	
440-151742-A-1-L MSD	Matrix Spike Duplicate	Total/NA	Solid	7471A	

### Prep Batch: 340832

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-32	B10,1'	Total/NA	Solid	7471A	
440-151548-33	B10,3'	Total/NA	Solid	7471A	
440-151548-34	B10,5'	Total/NA	Solid	7471A	
MB 440-340832/1-A	Method Blank	Total/NA	Solid	7471A	
LCS 440-340832/2-A	Lab Control Sample	Total/NA	Solid	7471A	
440-151888-A-1-C MS	Matrix Spike	Total/NA	Solid	7471A	

TestAmerica Irvine

# QC Association Summary

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Metals (Continued)

### Prep Batch: 340832 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151888-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	7471A	

### Analysis Batch: 340878

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-26	B3,1'	Total/NA	Solid	6020	340488
440-151548-27	B3,3'	Total/NA	Solid	6020	340488
440-151548-29	B6,1'	Total/NA	Solid	6020	340488
440-151548-30	B6,3'	Total/NA	Solid	6020	340488
440-151548-32	B10,1'	Total/NA	Solid	6020	340488
440-151548-33	B10,3'	Total/NA	Solid	6020	340488
MB 440-340488/1-A ^20	Method Blank	Total/NA	Solid	6020	340488
LCS 440-340488/2-A ^20	Lab Control Sample	Total/NA	Solid	6020	340488
440-151622-A-21-E MS ^20	Matrix Spike	Total/NA	Solid	6020	340488
440-151622-A-21-F MSD ^20	Matrix Spike Duplicate	Total/NA	Solid	6020	340488

### Analysis Batch: 340936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-340821/1-A	Method Blank	Total/NA	Solid	7471A	340821
LCS 440-340821/2-A	Lab Control Sample	Total/NA	Solid	7471A	340821
440-151742-A-1-K MS	Matrix Spike	Total/NA	Solid	7471A	340821
440-151742-A-1-L MSD	Matrix Spike Duplicate	Total/NA	Solid	7471A	340821

### Analysis Batch: 340972

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-34	B10,5'	Total/NA	Solid	6020	340489
440-151548-35	B9,1'	Total/NA	Solid	6020	340489
440-151548-36	B9,3'	Total/NA	Solid	6020	340489
440-151548-38	B7,1'	Total/NA	Solid	6020	340489
440-151548-39	B7,3'	Total/NA	Solid	6020	340489
440-151548-40	B7,5'	Total/NA	Solid	6020	340489
440-151548-41	B8,1'	Total/NA	Solid	6020	340489
440-151548-42	B8,3'	Total/NA	Solid	6020	340489
440-151548-43	B11,1'	Total/NA	Solid	6020	340489
440-151548-44	B11,3'	Total/NA	Solid	6020	340489
440-151548-45	B11,5'	Total/NA	Solid	6020	340489
440-151548-46	B11,7'	Total/NA	Solid	6020	340489
440-151548-47	B12,1'	Total/NA	Solid	6020	340489
440-151548-48	B12,3'	Total/NA	Solid	6020	340489
440-151548-49	B12,5'	Total/NA	Solid	6020	340489
440-151548-50	B12,7'	Total/NA	Solid	6020	340489
MB 440-340489/1-A ^20	Method Blank	Total/NA	Solid	6020	340489
LCS 440-340489/2-A ^20	Lab Control Sample	Total/NA	Solid	6020	340489
440-151548-34 MS	B10,5'	Total/NA	Solid	6020	340489
440-151548-34 MSD	B10,5'	Total/NA	Solid	6020	340489

### Analysis Batch: 341135

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-38	B7,1'	Total/NA	Solid	7471A	340821
440-151548-39	B7,3'	Total/NA	Solid	7471A	340821
440-151548-40	B7,5'	Total/NA	Solid	7471A	340821
440-151548-41	B8,1'	Total/NA	Solid	7471A	340821

TestAmerica Irvine

# QC Association Summary

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Metals (Continued)

### Analysis Batch: 341135 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-42	B8,3'	Total/NA	Solid	7471A	340821
440-151548-43	B11,1'	Total/NA	Solid	7471A	340821
440-151548-44	B11,3'	Total/NA	Solid	7471A	340821
440-151548-45	B11,5'	Total/NA	Solid	7471A	340821
440-151548-46	B11,7'	Total/NA	Solid	7471A	340821
440-151548-47	B12,1'	Total/NA	Solid	7471A	340821
440-151548-48	B12,3'	Total/NA	Solid	7471A	340821
440-151548-49	B12,5'	Total/NA	Solid	7471A	340821
440-151548-50	B12,7'	Total/NA	Solid	7471A	340821

### Analysis Batch: 341136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-32	B10,1'	Total/NA	Solid	7471A	340832
440-151548-33	B10,3'	Total/NA	Solid	7471A	340832
440-151548-34	B10,5'	Total/NA	Solid	7471A	340832
MB 440-340832/1-A	Method Blank	Total/NA	Solid	7471A	340832
LCS 440-340832/2-A	Lab Control Sample	Total/NA	Solid	7471A	340832
440-151888-A-1-C MS	Matrix Spike	Total/NA	Solid	7471A	340832
440-151888-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	7471A	340832

### Analysis Batch: 341172

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151548-15	B2,5'	Total/NA	Solid	6020	340749
MB 440-340749/1-A ^20	Method Blank	Total/NA	Solid	6020	340749
LCS 440-340749/2-A ^20	Lab Control Sample	Total/NA	Solid	6020	340749
440-151560-F-7-B MSD ^20	Matrix Spike Duplicate	Total/NA	Solid	6020	340749
440-151560-G-7-A MS ^20	Matrix Spike	Total/NA	Solid	6020	340749

# Definitions/Glossary

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
*	ISTD response or retention time outside acceptable limits
X	Surrogate is outside control limits
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.
*	ISTD response or retention time outside acceptable limits

### GC Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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)

# Certification Summary

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151548-1

## Laboratory: TestAmerica Irvine

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-17
Arizona	State Program	9	AZ0671	10-13-16
California	LA Cty Sanitation Districts	9	10256	01-31-17 *
California	State Program	9	CA ELAP 2706	06-30-18
Guam	State Program	9	Cert. No. 12.002r	01-23-17
Hawaii	State Program	9	N/A	01-29-17
Kansas	NELAP Secondary AB	7	E-10420	07-31-16 *
Nevada	State Program	9	CA015312016-2	07-31-16 *
New Mexico	State Program	6	N/A	01-29-17
Northern Mariana Islands	State Program	9	MP0002	01-29-17
Oregon	NELAP	10	4028	01-29-17
USDA	Federal		P330-09-00080	07-08-18
Washington	State Program	10	C900	09-03-16

\* Certification renewal pending - certification considered valid.

TestAmerica Irvine







# Chain of Custody Record



>>> Select a Laboratory <<<

#N/A  
#N/A  
#N/A  
#N/A

Regulatory Program:  DW  NPDES  RCRA  Other:

Project Manager: Mark Drollinger  
Tel/Fax: 408-645-9457

Site Contact: Jay Schneider  
Lab Contact:

COC No: 2 of 2 COCs

Date: 6/30/2016  
Carrier:

**Client Contact**  
Citadel Environmental Services, Inc.  
151 Kalmus Drive, F-4  
Anaheim, CA 92626  
(818) 482-4452 Phone  
(714) 547-4647 FAX  
Project Name: Red Star  
Site: 1396 5th St, Oakland  
P O # 0849.1001.0

**Analysis Turnaround Time**  
 CALENDAR DAYS  WORKING DAYS  
TAT if different from Below \_\_\_\_\_  
 2 weeks  
 1 week  
 2 days  
 1 day

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	TPH Full Scan (8015)	VOCs and Oxygenates (8260B)	Title 22 Metals (6010B)	PCBs (8082)	PAHs (8270)	Lead (6010B)	Sample Specific Notes:
B3311	6/20/16	0945		Soil	1									
B3213		0949												
B3215		0953												
B3218		0958												
B3313		1000												
B3310		1005												
B3415		1010												
B3415		1357												
B3410		1400												
B3415		1402												
B3515		1412												
B3510		1416												

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other

Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Special Instructions/QC Requirements & Comments: email lab results to: mdrollinger@citadelenvironmental.com; mpendergross@citadelenvironmental.com; jschneider@citadelenvironmental.com

Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown

Return to Client  Disposal by Lab  Archive for \_\_\_\_\_ Months

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Custody Seal No.: \_\_\_\_\_  
Relinquished by: \_\_\_\_\_  
Relinquished by: \_\_\_\_\_  
Relinquished by: \_\_\_\_\_

Company: Citadel  
Date/Time: 6/30/16 1845  
Company: JAI  
Date/Time: 7/1/16 1455  
Company: JAI  
Date/Time: 7/2/16 1820

Therm ID No.: \_\_\_\_\_  
Cooler Temp. (°C): Obs'd: \_\_\_\_\_  
Company: JAI  
Date/Time: 6/30/16 1855  
Company: JAI  
Date/Time: 7/2/16 1820

IR-74 3-3/3.0 TRK # 690600667583  
2.6/3.3





# Chain of Custody Record

>>> Select a Laboratory <<<

#N/A  
#N/A  
#N/A  
#N/A

Regulatory Program:  DW  NPDES  RCRA  Other:

Project Manager: Mark Drollinger  
Tel/Fax: 408-645-9457

Client Contact  
Citadel Environmental Services, Inc.  
151 Kaimus Drive, F-4  
Anaheim, CA 92626  
(818) 482-4452 Phone  
(714) 547-4647 FAX  
Project Name: Red Star  
Site: 1396 5th St, Oakland  
P O # 0849, 1001.0

Site Contact: Jay Schneider  
Lab Contact:

Date: 6/30/2016  
Carrier:

COC No: 3 of 3 COCs  
Sampler:  
For Lab Use Only:  
Walk-in Client:  
Lab Sampling:  
Job / SDG No.:

Analysis Turnaround Time  
 CALENDAR DAYS  WORKING DAYS  
TAT if different from Below  
 2 weeks  
 1 week  
 2 days  
 1 day

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	TPH Full Scan (8015)	VOCs and Oxygenates (8260B)	Title 22 Metals (6010B)	PCBs (8082)	PAHs (8270)	Lead (6010B)	Sample Specific Notes:
B1015	6/20/16	1419		soil	2		X	X	X	X	X	X	X	
B311		1434												
B3131		1437												
B3151		1441												
B6111		1446												
B6131		1449												
B6151														
B3171		1519					X	X	X	X	X	X	X	
B1011		1526												
B10131		1539					X	X	X	X	X	X	X	
B10151		1544					X	X	X	X	X	X	X	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other

Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Special Instructions/QC Requirements & Comments: email lab results to: mdrollinger@citadelenvironmental.com; mpendergross@citadelenvironmental.com; jschneider@citadelenvironmental.com

Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown

Received by: [Signature] Date/Time: 6/30/16 18:05  
Company: [Signature]

Received by: [Signature] Date/Time: 7/1/16 14:55  
Company: [Signature]

Received in Laboratory by: [Signature] Date/Time: 6/24/16 11:20  
Company: [Signature]

Cooler Temp. (°C): Obs'd: \_\_\_\_\_ Cor'd: \_\_\_\_\_ Therm ID No.: \_\_\_\_\_

Custody Seal No.: \_\_\_\_\_  
Company: [Signature] Date/Time: 6/30/16 18:05  
Company: [Signature] Date/Time: 7/1/16 14:55  
Company: [Signature] Date/Time: 6/24/16 11:20

IR-74 3.3/3.0 TRK # 690600663583  
2.0/2.3





# Chain of Custody Record



>>> Select a Laboratory <<<  
 #N/A  
 #N/A  
 #N/A  
 #N/A

TestAmerica Laboratories, Inc.

**Client Contact**  
 Citadel Environmental Services, Inc.  
 151 Kaimus Drive, F-4  
 Anaheim, CA 92626  
 (818) 482-4452 Phone  
 (714) 547-4647 FAX  
 Project Name: Red Star  
 Site: 1396 5th St, Oakland  
 P O # 0849, 1001.0

**Regulatory Program:**  DW  NPDES  RCRA  Other:  
**Project Manager:** Mark Drollinger  
**Tel/Fax:** 408-645-9457

**Site Contact:** Jay Schneider  
**Lab Contact:**

**Analysis Turnaround Time**  
 CALENDAR DAYS  WORKING DAYS  
 TAT if different from Below \_\_\_\_\_  
 2 weeks  
 1 week  
 2 days  
 1 day

**COC No.:** 4 of 5 COCs  
**Sampler:**  
**For Lab Use Only:**  
 Walk-in Client: \_\_\_\_\_  
 Lab Sampling: \_\_\_\_\_  
 Job / SDG No.: \_\_\_\_\_

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	TPH Full Scan (8015)	VOCs and Oxygenates (8260B)	Title 22 Metals (6010B)	PCBs (8082)	PAHs (8270)	Lead (6010B)	Sample Specific Notes:
B911	6/20/16	1544		soil	1			X	X	X	X	X	X	
B913		1545						X	X	X	X	X	X	
B915		1553						X	X	X	X	X	X	
B917		1615						X	X	X	X	X	X	
B919		1620						X	X	X	X	X	X	
B921		1622						X	X	X	X	X	X	
B923		1630						X	X	X	X	X	X	
B925		1631						X	X	X	X	X	X	
B927														
B929														
B931														
B933														
B935														
B937														

**Preservation Used:** 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other  
**Possible Hazard Identification:** Please List any EPA Hazardous Waste Codes for the sample in the Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.  
 Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown  
 Return to Client  Disposal by Lab  Archive for \_\_\_\_\_ Months

**Special Instructions/QC Requirements & Comments:** email lab results to: mdrollinger@citadelenvironmental.com; mpendergross@citadelenvironmental.com; jschneider@citadelenvironmental.com

**Custody Seal No.:** \_\_\_\_\_  
**Relinquished by:** Jay Schneider  
**Relinquished by:** JPA  
**Relinquished by:** JPA  
**Company:** Citadel  
**Company:** TA  
**Company:** TA  
**Date/Time:** 6/20/16 1845  
**Date/Time:** 7/1/16 1455  
**Date/Time:** 7/2/16 1820  
**Received by:** \_\_\_\_\_  
**Received by:** \_\_\_\_\_  
**Received in Laboratory by:** \_\_\_\_\_  
**Therm ID No.:** \_\_\_\_\_  
**Cooler Temp. (°C):** Obs'd: \_\_\_\_\_  
**Company:** TA  
**Company:** TA  
**Company:** TA

IR-74 3.3/3.0  
 2.6/2.3 TRK # 690600663583





# Chain of Custody Record



>>> Select a Laboratory <<<

#N/A  
#N/A  
#N/A  
#N/A

Regulatory Program:  DW  NPDES  RCRA  Other:

Project Manager: Mark Drollinger  
Tel/Fax: 408-645-9457

Site Contact: Jay Schneider  
Lab Contact:

Date: 6/30/2016  
Carrier:   
COC No: 3 of 3 COCs

Citadel Environmental Services, Inc.  
151 Kalmus Drive, F-4  
Anaheim, CA 92826  
(818) 482-4452 Phone  
(714) 547-4647 FAX  
Project Name: Red Star  
Site: 1396 5th St, Oakland  
P O # 0849.1001.0

Analysis Turnaround Time  
 CALENDAR DAYS  WORKING DAYS  
TAT if different from Below  
 2 weeks  
 1 week  
 2 days  
 1 day

Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	TPH Full Scan (8015)	VOCs and Oxygenates (8260B)	Title 22 Metals (6010B)	PCBs (8082)	PAHs (8270)	Lead (6010B)
B11	1644		soil	1			X	X	X	X		
B11	1645			1			X	X	X	X		
B11	1650			1			X	X	X	X		
B11	1651			1			X	X	X	X		
B11	1658			1			X	X	X	X		
B12	1659			1			X	X	X	X		
B12	1702			1			X	X	X	X		
B12	1703			1			X	X	X	X		

Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other  
Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.  
 Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown  
Special Instructions/QC Requirements & Comments: email lab results to: mdrollinger@citadelenvironmental.com; mpendergross@citadelenvironmental.com; jpschneider@citadelenvironmental.com

Return to Client  Disposal by Lab  Archive for \_\_\_\_\_ Months  
Cooler Temp. (°C): Obs'd: \_\_\_\_\_ Corrd: \_\_\_\_\_ Therm ID No.: \_\_\_\_\_  
Custody Seal No.: \_\_\_\_\_  
Relinquished by: [Signature] Date/Time: 6/30/16 1645  
Relinquished by: [Signature] Date/Time: 7/1/16 1433  
Relinquished by: [Signature] Date/Time: 7/2/16 1100  
Company: Citadel  
Company: [Signature]  
Company: [Signature]

IR-74 2.3/3.0  
2.6/2.3  
TRK# 690 60066 3583







**Chain of Custody Record**

>>> Select a Laboratory <<<

#N/A  
#N/A  
#N/A  
#N/A

TestAmerica Laboratories, Inc.

<b>Client Contact</b> Citadel Environmental Services, Inc. 151 Kaimus Drive, F-4 Anaheim, CA 92626 (818) 482-4452 Phone (714) 547-4647 FAX Project Name: Red Star Site: 1396 5th St., Oakland P O # 0849, 1001.0		<b>Regulatory Program:</b> <input type="checkbox"/> DW <input type="checkbox"/> NPDES <input type="checkbox"/> RCRA <input type="checkbox"/> Other:		<b>Project Manager:</b> Mark Drollingier Tel/Fax: 408-645-9457		<b>Site Contact:</b> Jay Schneider Date: 6/30/2016 Carrier:		<b>COC No.:</b> 2 of 6 COCs					
<b>Analysis Turnaround Time</b> <input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS TAT if different from Below <input type="checkbox"/> 2 weeks <input checked="" type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		<b>Lab Contact:</b> Perform MS / MSD ( Y / N ) Filtered Sample ( Y / N ) TPH Full Scan (8015) VOCs and Organics (8268) Title 22 Metals (60108) PCBs (8082) PAHs (8270) Lead (60108)		For Lab Use Only: Walk-in Client: Lab Sampling: Job / SDG No.:		Sample Specific Notes:		Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)					
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, O=Grab)	Matrix	# of Cont.	Filtered Sample ( Y / N )	Perform MS / MSD ( Y / N )	TPH Full Scan (8015)	VOCs and Organics (8268)	Title 22 Metals (60108)	PCBs (8082)	PAHs (8270)	Lead (60108)
B23/1	6/30/16	0945	Soil		1								
B22/13		0944											
B22/51		0953											
B22/81		0958											
B13/51		1000											
B13/101		1005											
B12/151		1010											
B14/51		1357											
B14/51		1400											
B15/51		1402											
B15/51		1412											
B15/101		1416											
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other													
Possible Hazard Identification: Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.													
Special Instructions/QC Requirements & Comments: email lab results to: mdrillingar@citadelenvironmental.com; mpendergross@citadelenvironmental.com; jschneider@citadelenvironmental.com													
Custody Seal No.:		Company:		Date/Time:		Received by:		Date/Time:		Company:		Date/Time:	
B151101		Citadel Company		6/30/16 0945		[Signature]		6/30/16 1855		[Signature]		Citadel Company	







**Chain of Custody Record**

>>> Select a Laboratory <<<

#N/A  
#N/A  
#N/A  
#N/A

TestAmerica Laboratories, Inc.

<b>Client Contact</b> Citadel Environmental Services, Inc. 151 Kalmus Drive, F-4 Anaheim, CA 92626 (919) 482-4452 Phone (714) 547-4847 FAX Project Name: Red Star Site: 1398 5th St., Oakland P O # 0849, 1001.0		<b>Regulatory Program:</b> <input type="checkbox"/> DW <input type="checkbox"/> RCRA <input type="checkbox"/> NPDES <input type="checkbox"/> Other <b>Project Manager:</b> Mark Drollinger Tel/Fax: 408-645-9457		<b>Site Contact:</b> Jay Schneider Date: 6/30/2016 Carrier:		COC No. 4 of 5 COCs Sampler: For Lab Use Only: Walk-in Client: Lab Sampling: Job / SDG No.:							
<b>Analysis Turnaround Time</b> <input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS TAT if different from Below <input type="checkbox"/> 2 weeks <input checked="" type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		<b>Lab Contact:</b> Filtered Sample (Y/N) Perform MS/MSD (Y/N) TPH Full Scan (8015) VOCs and Oxygenates (8260B) Title 22 Metals (8010B) PCBs (8082) PAHs (8270) Lead (6010B)		Sample Specific Notes: HOLD									
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	TPH Full Scan (8015)	VOCs and Oxygenates (8260B)	Title 22 Metals (8010B)	PCBs (8082)	PAHs (8270)	Lead (6010B)
2911	6/29/16	1544	301	301	1								
2913		1545											
2915		1553											
2917		1615											
2921		1620											
2923		1623											
2925		1630											
2927		1631											
2929													
2931													
2933													
2935													
2937													
2939													
2941													
2943													
2945													
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2949													
2951													
2953													
2955													
2957													
2959													
2961													
2963													
2965													
2967													
2969													
2971													
Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4=HNO3; 5=NaOH; 6= Other Possible Hazard Identification: Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample. <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Flun Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown Special Instructions/QC Requirements & Comments: email lab results to: mdrollinger@citadelenvironmental.com; mpendergre@citadelenvironmental.com; jschneider@citadelenvironmental.com													
Custody Seal No.: Company: Citadel Date/Time: 6/30/16 18:45		Received by: Date/Time:		Cooler Temp. (°C): Obs'd: Cor'd:		Company: LA Date/Time: 6/30/16 18:45		Received by: Date/Time:		Company:		Received in Laboratory by: Date/Time:	



**Chain of Custody Record**

>>> Select a Laboratory <<<

#N/A  
#N/A  
#N/A

TestAmerica Laboratories, Inc.

<b>Client Contact</b> Citadel Environmental Services, Inc. 151 Kalmus Drive, F-4 Anaheim, CA 92626 Phone (818) 482-4452 FAX (714) 547-4647 Project Name: Red Star Site: 1396 5th St, Oakland P O # 0849, 1001.0		<b>Regulatory Program:</b> <input type="checkbox"/> DW <input type="checkbox"/> NPDES <input type="checkbox"/> RCRA <input type="checkbox"/> Other: Project Manager: Mark Drollinger Toll Fax: 408-645-3457 Analysis Turnaround Time <input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS TAT if different from Below <input type="checkbox"/> 2 weeks <input checked="" type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Date: 6/30/2016 Carrier:		COC No: 2 of 3 COCs Sampler: For Lab Use Only: Walk-in Client: Lab Sampling: Job / SDG No.: Sample Specific Notes:	
<b>Site Contact:</b> Jay Schneider <b>Lab Contact:</b>		Filtered Sample (Y/N) Perform MS / MSD (Y/N) TPH Full Scan (015) VOCs and Oxygenates (020B) Title 22 Metals (010B) PCBs (0082) PAHs (0270) Lead (010B)		Other:			
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.		
B11	6/30/16	1644	Soil		1		
B11	6/30/16	1645			1		
B11	6/30/16	1650			1		
B11	6/30/16	1651			1		
B11	6/30/16	1658			1		
B11	6/30/16	1659			1		
B12	6/30/16	1705			1		
B12	6/30/16	1705			1		
B12	6/30/16	1705			1		

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

Possible Hazard Identification: Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Special Instructions/QC Requirements & Comments: email lab results to: mdrollinger@citadelenvironmental.com; mpendegrass@citadelenvironmental.com; jschneider@citadelenvironmental.com

Return to Client  Dispose by Lab  Archive for \_\_\_\_\_ Months

Therm ID No.: \_\_\_\_\_ Cooler Temp. (°C): Obs'd: \_\_\_\_\_

Company: \_\_\_\_\_

Received by: \_\_\_\_\_ Date/Time: 6/30/16 1645

Received in Laboratory by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_





## Login Sample Receipt Checklist

Client: Citadel Environmental Services Inc

Job Number: 440-151548-1

**Login Number: 151548**

**List Source: TestAmerica Irvine**

**List Number: 1**

**Creator: Chavez, Yonny 1**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> 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.	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?	False	Refer to Job Narrative for details.
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 <math><6\text{mm}</math> (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 Irvine

17461 Derian Ave

Suite 100

Irvine, CA 92614-5817

Tel: (949)261-1022

TestAmerica Job ID: 440-151547-1

Client Project/Site: Red Star

For:

Citadel Environmental Services Inc

1725 Victory Blvd

Glendale, California 91201

Attn: Mark Drollinger



Authorized for release by:

7/14/2016 1:28:41 PM

Danielle Roberts, Senior Project Manager

(949)261-1022

[danielle.roberts@testamericainc.com](mailto:danielle.roberts@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

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

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

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

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# Sample Summary

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151547-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-151547-1	GW-4	Water	06/30/16 12:00	07/02/16 11:20
440-151547-2	GW-5	Water	06/30/16 12:30	07/02/16 11:20
440-151547-3	GW-13	Water	06/30/16 16:17	07/02/16 11:20
440-151547-4	GW-14	Water	06/30/16 15:36	07/02/16 11:20
440-151547-5	GW-15	Water	06/30/16 15:25	07/02/16 11:20

- 1
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- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13



# Case Narrative

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151547-1

**Job ID: 440-151547-1**

**Laboratory: TestAmerica Irvine**

## Narrative

### Job Narrative 440-151547-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 7/2/2016 11:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.3° C and 3.0° C.

#### Receipt Exceptions

The Field Sampler was not listed on the Chain of Custody.

#### GC/MS VOA

Method(s) 8260B/CA\_LUFTMS: The following sample(s) were collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, the pH of 3 was outside the required criteria when verified by the laboratory, and corrective action was not possible: GW-5 (440-151547-2).  
The sample was analyzed within 7 days per EPA recommendation.

Method(s) 8260B/CA\_LUFTMS: The following sample(s) were collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, the pH of 7 was outside the required criteria when verified by the laboratory, and corrective action was not possible: GW-13 (440-151547-3).  
The sample was analyzed within 7 days per EPA recommendation.

Method(s) 8260B/CA\_LUFTMS: The following sample(s) were collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, the pH of 7 was outside the required criteria when verified by the laboratory, and corrective action was not possible: GW-14 (440-151547-4) and GW-15 (440-151547-5).  
The sample was analyzed within 7 days per EPA recommendation.

Method(s) 8260B: The following sample was collected in properly preserved vial for analysis of volatile organic compounds (VOCs). However, the pH of 3 was outside the required criteria when verified by the laboratory, and corrective action was not possible: GW-5 (440-151547-2).  
The sample was analyzed within 7 days per EPA recommendation.

Method(s) 8260B: The following sample was collected in properly preserved vial for analysis of volatile organic compounds (VOCs). However, the pH of 7 was outside the required criteria when verified by the laboratory, and corrective action was not possible: GW-13 (440-151547-3).  
The sample was analyzed within 7 days per EPA recommendation.

Method(s) 8260B: The following sample was collected in properly preserved vial for analysis of volatile organic compounds (VOCs). However, the pH of 4 was outside the required criteria when verified by the laboratory, and corrective action was not possible: GW-14 (440-151547-4).  
The sample was analyzed within 7 days per EPA recommendation.

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

#### GC Semi VOA

Method(s) 8015B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-340305 and analytical batch 440-341175. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.

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

# Case Narrative

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151547-1

---

## Job ID: 440-151547-1 (Continued)

---

### Laboratory: TestAmerica Irvine (Continued)

#### Organic Prep

Method(s) 3510C: Elevated reporting limits are provided for the following sample(s) due to insufficient sample provided for 3510 preparation: GW-13 (440-151547-3)

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.

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# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151547-1

**Client Sample ID: GW-4**  
**Date Collected: 06/30/16 12:00**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151547-1**  
**Matrix: Water**

## Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Volatile Fuel Hydrocarbons (C4-C12)</b>	<b>1500</b>		250	180	ug/L			07/07/16 01:36	5
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
<i>Dibromofluoromethane (Surr)</i>	111		76 - 132					07/07/16 01:36	5
<i>4-Bromofluorobenzene (Surr)</i>	93		80 - 120					07/07/16 01:36	5
<i>Toluene-d8 (Surr)</i>	104		80 - 128					07/07/16 01:36	5

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		2.5	1.3	ug/L			07/06/16 12:32	5
1,1,1-Trichloroethane	ND		2.5	1.3	ug/L			07/06/16 12:32	5
1,1,2,2-Tetrachloroethane	ND		2.5	1.3	ug/L			07/06/16 12:32	5
1,1,2-Trichloroethane	ND		2.5	1.3	ug/L			07/06/16 12:32	5
1,1-Dichloroethane	ND		2.5	1.3	ug/L			07/06/16 12:32	5
1,1-Dichloroethene	ND		2.5	1.3	ug/L			07/06/16 12:32	5
1,1-Dichloropropene	ND		2.5	1.3	ug/L			07/06/16 12:32	5
1,2,3-Trichlorobenzene	ND		5.0	2.0	ug/L			07/06/16 12:32	5
1,2,3-Trichloropropane	ND		2.5	1.3	ug/L			07/06/16 12:32	5
1,2,4-Trichlorobenzene	ND		5.0	2.0	ug/L			07/06/16 12:32	5
<b>1,2,4-Trimethylbenzene</b>	<b>38</b>		2.5	1.3	ug/L			07/06/16 12:32	5
1,2-Dibromo-3-Chloropropane	ND		5.0	2.5	ug/L			07/06/16 12:32	5
1,2-Dibromoethane (EDB)	ND		2.5	1.3	ug/L			07/06/16 12:32	5
1,2-Dichlorobenzene	ND		2.5	1.3	ug/L			07/06/16 12:32	5
1,2-Dichloroethane	ND		2.5	1.3	ug/L			07/06/16 12:32	5
1,2-Dichloropropane	ND		2.5	1.3	ug/L			07/06/16 12:32	5
<b>1,3,5-Trimethylbenzene</b>	<b>18</b>		2.5	1.3	ug/L			07/06/16 12:32	5
1,3-Dichlorobenzene	ND		2.5	1.3	ug/L			07/06/16 12:32	5
1,3-Dichloropropane	ND		2.5	1.3	ug/L			07/06/16 12:32	5
1,4-Dichlorobenzene	ND		2.5	1.3	ug/L			07/06/16 12:32	5
2,2-Dichloropropane	ND		5.0	2.0	ug/L			07/06/16 12:32	5
2-Chlorotoluene	ND		2.5	1.3	ug/L			07/06/16 12:32	5
4-Chlorotoluene	ND		2.5	1.3	ug/L			07/06/16 12:32	5
Benzene	ND		2.5	1.3	ug/L			07/06/16 12:32	5
Bromobenzene	ND		2.5	1.3	ug/L			07/06/16 12:32	5
Bromochloromethane	ND		2.5	1.3	ug/L			07/06/16 12:32	5
Bromodichloromethane	ND		2.5	1.3	ug/L			07/06/16 12:32	5
Bromoform	ND		5.0	2.0	ug/L			07/06/16 12:32	5
Bromomethane	ND		2.5	1.3	ug/L			07/06/16 12:32	5
Carbon tetrachloride	ND		2.5	1.3	ug/L			07/06/16 12:32	5
Chlorobenzene	ND		2.5	1.3	ug/L			07/06/16 12:32	5
Chloroethane	ND		5.0	2.0	ug/L			07/06/16 12:32	5
Chloroform	ND		2.5	1.3	ug/L			07/06/16 12:32	5
Chloromethane	ND		2.5	1.3	ug/L			07/06/16 12:32	5
cis-1,2-Dichloroethene	ND		2.5	1.3	ug/L			07/06/16 12:32	5
cis-1,3-Dichloropropene	ND		2.5	1.3	ug/L			07/06/16 12:32	5
Dibromochloromethane	ND		2.5	1.3	ug/L			07/06/16 12:32	5
Dibromomethane	ND		2.5	1.3	ug/L			07/06/16 12:32	5
Dichlorodifluoromethane	ND		2.5	1.3	ug/L			07/06/16 12:32	5
Ethanol	ND		750	380	ug/L			07/06/16 12:32	5

TestAmerica Irvine

# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151547-1

**Client Sample ID: GW-4**  
**Date Collected: 06/30/16 12:00**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151547-1**  
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl Ether (DIPE)	ND		2.5	1.3	ug/L			07/06/16 12:32	5
Ethyl-t-butyl ether (ETBE)	ND		2.5	1.3	ug/L			07/06/16 12:32	5
<b>Ethylbenzene</b>	<b>3.6</b>		2.5	1.3	ug/L			07/06/16 12:32	5
Hexachlorobutadiene	ND		2.5	1.3	ug/L			07/06/16 12:32	5
<b>Isopropylbenzene</b>	<b>2.4 J</b>		2.5	1.3	ug/L			07/06/16 12:32	5
<b>m,p-Xylene</b>	<b>17</b>		5.0	2.5	ug/L			07/06/16 12:32	5
Methylene Chloride	ND		10	4.4	ug/L			07/06/16 12:32	5
Methyl-t-Butyl Ether (MTBE)	ND		2.5	1.3	ug/L			07/06/16 12:32	5
Naphthalene	ND		5.0	2.0	ug/L			07/06/16 12:32	5
n-Butylbenzene	ND		5.0	2.0	ug/L			07/06/16 12:32	5
<b>N-Propylbenzene</b>	<b>7.7</b>		2.5	1.3	ug/L			07/06/16 12:32	5
<b>o-Xylene</b>	<b>8.2</b>		2.5	1.3	ug/L			07/06/16 12:32	5
p-Isopropyltoluene	ND		2.5	1.3	ug/L			07/06/16 12:32	5
sec-Butylbenzene	ND		2.5	1.3	ug/L			07/06/16 12:32	5
Styrene	ND		2.5	1.3	ug/L			07/06/16 12:32	5
Tert-amyl-methyl ether (TAME)	ND		2.5	1.3	ug/L			07/06/16 12:32	5
tert-Butylbenzene	ND		2.5	1.3	ug/L			07/06/16 12:32	5
Tetrachloroethene	ND		2.5	1.3	ug/L			07/06/16 12:32	5
<b>Toluene</b>	<b>230</b>		2.5	1.3	ug/L			07/06/16 12:32	5
trans-1,2-Dichloroethene	ND		2.5	1.3	ug/L			07/06/16 12:32	5
trans-1,3-Dichloropropene	ND		2.5	1.3	ug/L			07/06/16 12:32	5
Trichloroethene	ND		2.5	1.3	ug/L			07/06/16 12:32	5
Trichlorofluoromethane	ND		2.5	1.3	ug/L			07/06/16 12:32	5
<b>Xylenes, Total</b>	<b>25</b>		5.0	2.5	ug/L			07/06/16 12:32	5
Vinyl chloride	ND		2.5	1.3	ug/L			07/06/16 12:32	5
<b>tert-Butyl alcohol (TBA)</b>	<b>70</b>		50	25	ug/L			07/06/16 12:32	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		80 - 120		07/06/16 12:32	5
Dibromofluoromethane (Surr)	93		76 - 132		07/06/16 12:32	5
Toluene-d8 (Surr)	98		80 - 128		07/06/16 12:32	5

## Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>C13-C22</b>	<b>0.13 J</b>		0.52	0.10	mg/L		07/05/16 12:04	07/05/16 21:35	1
<b>C23-C40</b>	<b>0.10 J</b>		0.52	0.10	mg/L		07/05/16 12:04	07/05/16 21:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	58		45 - 120	07/05/16 12:04	07/05/16 21:35	1

**Client Sample ID: GW-5**  
**Date Collected: 06/30/16 12:30**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151547-2**  
**Matrix: Water**

## Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Volatile Fuel Hydrocarbons (C4-C12)</b>	<b>380</b>		50	35	ug/L			07/06/16 23:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	107		76 - 132		07/06/16 23:42	1

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# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151547-1

**Client Sample ID: GW-5**  
**Date Collected: 06/30/16 12:30**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151547-2**  
**Matrix: Water**

**Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		80 - 120		07/06/16 23:42	1
Toluene-d8 (Surr)	105		80 - 128		07/06/16 23:42	1

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/06/16 13:01	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			07/06/16 13:01	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/06/16 13:01	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			07/06/16 13:01	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			07/06/16 13:01	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			07/06/16 13:01	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			07/06/16 13:01	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			07/06/16 13:01	1
1,2,3-Trichloropropane	ND		0.50	0.25	ug/L			07/06/16 13:01	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/06/16 13:01	1
<b>1,2,4-Trimethylbenzene</b>	<b>18</b>		0.50	0.25	ug/L			07/06/16 13:01	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/06/16 13:01	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/06/16 13:01	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			07/06/16 13:01	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/06/16 13:01	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/06/16 13:01	1
<b>1,3,5-Trimethylbenzene</b>	<b>8.2</b>		0.50	0.25	ug/L			07/06/16 13:01	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/06/16 13:01	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/06/16 13:01	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			07/06/16 13:01	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/06/16 13:01	1
2-Chlorotoluene	ND		0.50	0.25	ug/L			07/06/16 13:01	1
4-Chlorotoluene	ND		0.50	0.25	ug/L			07/06/16 13:01	1
<b>Benzene</b>	<b>1.1</b>		0.50	0.25	ug/L			07/06/16 13:01	1
Bromobenzene	ND		0.50	0.25	ug/L			07/06/16 13:01	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/06/16 13:01	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/06/16 13:01	1
Bromoform	ND		1.0	0.40	ug/L			07/06/16 13:01	1
Bromomethane	ND		0.50	0.25	ug/L			07/06/16 13:01	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/06/16 13:01	1
Chlorobenzene	ND		0.50	0.25	ug/L			07/06/16 13:01	1
Chloroethane	ND		1.0	0.40	ug/L			07/06/16 13:01	1
Chloroform	ND		0.50	0.25	ug/L			07/06/16 13:01	1
Chloromethane	ND		0.50	0.25	ug/L			07/06/16 13:01	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/06/16 13:01	1
cis-1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/06/16 13:01	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/06/16 13:01	1
Dibromomethane	ND		0.50	0.25	ug/L			07/06/16 13:01	1
Dichlorodifluoromethane	ND		0.50	0.25	ug/L			07/06/16 13:01	1
Ethanol	ND		150	75	ug/L			07/06/16 13:01	1
Isopropyl Ether (DIPE)	ND		0.50	0.25	ug/L			07/06/16 13:01	1
Ethyl-t-butyl ether (ETBE)	ND		0.50	0.25	ug/L			07/06/16 13:01	1
<b>Ethylbenzene</b>	<b>0.89</b>		0.50	0.25	ug/L			07/06/16 13:01	1
Hexachlorobutadiene	ND		0.50	0.25	ug/L			07/06/16 13:01	1

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# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151547-1

**Client Sample ID: GW-5**  
**Date Collected: 06/30/16 12:30**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151547-2**  
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	0.72		0.50	0.25	ug/L			07/06/16 13:01	1
m,p-Xylene	4.7		1.0	0.50	ug/L			07/06/16 13:01	1
Methylene Chloride	ND		2.0	0.88	ug/L			07/06/16 13:01	1
Methyl-t-Butyl Ether (MTBE)	ND		0.50	0.25	ug/L			07/06/16 13:01	1
Naphthalene	ND		1.0	0.40	ug/L			07/06/16 13:01	1
n-Butylbenzene	ND		1.0	0.40	ug/L			07/06/16 13:01	1
N-Propylbenzene	2.6		0.50	0.25	ug/L			07/06/16 13:01	1
o-Xylene	2.6		0.50	0.25	ug/L			07/06/16 13:01	1
p-Isopropyltoluene	ND		0.50	0.25	ug/L			07/06/16 13:01	1
sec-Butylbenzene	ND		0.50	0.25	ug/L			07/06/16 13:01	1
Styrene	0.33	J	0.50	0.25	ug/L			07/06/16 13:01	1
Tert-amyl-methyl ether (TAME)	ND		0.50	0.25	ug/L			07/06/16 13:01	1
tert-Butylbenzene	ND		0.50	0.25	ug/L			07/06/16 13:01	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/06/16 13:01	1
Toluene	30		0.50	0.25	ug/L			07/06/16 13:01	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/06/16 13:01	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/06/16 13:01	1
Trichloroethene	ND		0.50	0.25	ug/L			07/06/16 13:01	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/06/16 13:01	1
Xylenes, Total	7.3		1.0	0.50	ug/L			07/06/16 13:01	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/06/16 13:01	1
tert-Butyl alcohol (TBA)	28		10	5.0	ug/L			07/06/16 13:01	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene (Surr)	102		80 - 120					07/06/16 13:01	1
Dibromofluoromethane (Surr)	91		76 - 132					07/06/16 13:01	1
Toluene-d8 (Surr)	100		80 - 128					07/06/16 13:01	1

## Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	0.20	J	0.52	0.10	mg/L		07/05/16 12:04	07/05/16 23:24	1
C23-C40	0.21	J	0.52	0.10	mg/L		07/05/16 12:04	07/05/16 23:24	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
n-Octacosane	40	X	45 - 120				07/05/16 12:04	07/05/16 23:24	1

**Client Sample ID: GW-13**  
**Date Collected: 06/30/16 16:17**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151547-3**  
**Matrix: Water**

## Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	41	J	50	35	ug/L			07/07/16 00:11	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Dibromofluoromethane (Surr)	106		76 - 132					07/07/16 00:11	1
4-Bromofluorobenzene (Surr)	95		80 - 120					07/07/16 00:11	1
Toluene-d8 (Surr)	103		80 - 128					07/07/16 00:11	1

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# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151547-1

**Client Sample ID: GW-13**

**Lab Sample ID: 440-151547-3**

**Date Collected: 06/30/16 16:17**

**Matrix: Water**

**Date Received: 07/02/16 11:20**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/06/16 14:00	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			07/06/16 14:00	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/06/16 14:00	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			07/06/16 14:00	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			07/06/16 14:00	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			07/06/16 14:00	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			07/06/16 14:00	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			07/06/16 14:00	1
1,2,3-Trichloropropane	ND		0.50	0.25	ug/L			07/06/16 14:00	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/06/16 14:00	1
1,2,4-Trimethylbenzene	ND		0.50	0.25	ug/L			07/06/16 14:00	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/06/16 14:00	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/06/16 14:00	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			07/06/16 14:00	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/06/16 14:00	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/06/16 14:00	1
1,3,5-Trimethylbenzene	ND		0.50	0.25	ug/L			07/06/16 14:00	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/06/16 14:00	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/06/16 14:00	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			07/06/16 14:00	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/06/16 14:00	1
2-Chlorotoluene	ND		0.50	0.25	ug/L			07/06/16 14:00	1
4-Chlorotoluene	ND		0.50	0.25	ug/L			07/06/16 14:00	1
Benzene	ND		0.50	0.25	ug/L			07/06/16 14:00	1
Bromobenzene	ND		0.50	0.25	ug/L			07/06/16 14:00	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/06/16 14:00	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/06/16 14:00	1
Bromoform	ND		1.0	0.40	ug/L			07/06/16 14:00	1
Bromomethane	ND		0.50	0.25	ug/L			07/06/16 14:00	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/06/16 14:00	1
Chlorobenzene	ND		0.50	0.25	ug/L			07/06/16 14:00	1
Chloroethane	ND		1.0	0.40	ug/L			07/06/16 14:00	1
Chloroform	ND		0.50	0.25	ug/L			07/06/16 14:00	1
Chloromethane	ND		0.50	0.25	ug/L			07/06/16 14:00	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/06/16 14:00	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/06/16 14:00	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/06/16 14:00	1
Dibromomethane	ND		0.50	0.25	ug/L			07/06/16 14:00	1
Dichlorodifluoromethane	ND		0.50	0.25	ug/L			07/06/16 14:00	1
Ethanol	ND		150	75	ug/L			07/06/16 14:00	1
Isopropyl Ether (DIPE)	ND		0.50	0.25	ug/L			07/06/16 14:00	1
Ethyl-t-butyl ether (ETBE)	ND		0.50	0.25	ug/L			07/06/16 14:00	1
Ethylbenzene	ND		0.50	0.25	ug/L			07/06/16 14:00	1
Hexachlorobutadiene	ND		0.50	0.25	ug/L			07/06/16 14:00	1
Isopropylbenzene	ND		0.50	0.25	ug/L			07/06/16 14:00	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/06/16 14:00	1
Methylene Chloride	ND		2.0	0.88	ug/L			07/06/16 14:00	1
Methyl-t-Butyl Ether (MTBE)	ND		0.50	0.25	ug/L			07/06/16 14:00	1
Naphthalene	ND		1.0	0.40	ug/L			07/06/16 14:00	1

TestAmerica Irvine

# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151547-1

**Client Sample ID: GW-13**

**Lab Sample ID: 440-151547-3**

**Date Collected: 06/30/16 16:17**

**Matrix: Water**

**Date Received: 07/02/16 11:20**

**Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	ND		1.0	0.40	ug/L			07/06/16 14:00	1
N-Propylbenzene	ND		0.50	0.25	ug/L			07/06/16 14:00	1
o-Xylene	ND		0.50	0.25	ug/L			07/06/16 14:00	1
p-Isopropyltoluene	ND		0.50	0.25	ug/L			07/06/16 14:00	1
sec-Butylbenzene	ND		0.50	0.25	ug/L			07/06/16 14:00	1
Styrene	ND		0.50	0.25	ug/L			07/06/16 14:00	1
Tert-amyl-methyl ether (TAME)	ND		0.50	0.25	ug/L			07/06/16 14:00	1
tert-Butylbenzene	ND		0.50	0.25	ug/L			07/06/16 14:00	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/06/16 14:00	1
Toluene	ND		0.50	0.25	ug/L			07/06/16 14:00	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/06/16 14:00	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/06/16 14:00	1
Trichloroethene	ND		0.50	0.25	ug/L			07/06/16 14:00	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/06/16 14:00	1
Xylenes, Total	ND		1.0	0.50	ug/L			07/06/16 14:00	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/06/16 14:00	1
<b>tert-Butyl alcohol (TBA)</b>	<b>13</b>		10	5.0	ug/L			07/06/16 14:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		80 - 120		07/06/16 14:00	1
Dibromofluoromethane (Surr)	92		76 - 132		07/06/16 14:00	1
Toluene-d8 (Surr)	98		80 - 128		07/06/16 14:00	1

**Method: 8015B - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		0.77	0.15	mg/L		07/05/16 12:04	07/05/16 19:24	1
C23-C40	ND		0.77	0.15	mg/L		07/05/16 12:04	07/05/16 19:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	15	X	45 - 120	07/05/16 12:04	07/05/16 19:24	1

**Client Sample ID: GW-14**

**Lab Sample ID: 440-151547-4**

**Date Collected: 06/30/16 15:36**

**Matrix: Water**

**Date Received: 07/02/16 11:20**

**Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	ND		50	35	ug/L			07/07/16 00:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	111		76 - 132		07/07/16 00:39	1
4-Bromofluorobenzene (Surr)	93		80 - 120		07/07/16 00:39	1
Toluene-d8 (Surr)	103		80 - 128		07/07/16 00:39	1

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/06/16 14:29	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			07/06/16 14:29	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/06/16 14:29	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			07/06/16 14:29	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			07/06/16 14:29	1

TestAmerica Irvine

# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151547-1

**Client Sample ID: GW-14**

**Lab Sample ID: 440-151547-4**

**Date Collected: 06/30/16 15:36**

**Matrix: Water**

**Date Received: 07/02/16 11:20**

**Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50	0.25	ug/L			07/06/16 14:29	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			07/06/16 14:29	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			07/06/16 14:29	1
1,2,3-Trichloropropane	ND		0.50	0.25	ug/L			07/06/16 14:29	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/06/16 14:29	1
1,2,4-Trimethylbenzene	ND		0.50	0.25	ug/L			07/06/16 14:29	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/06/16 14:29	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/06/16 14:29	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			07/06/16 14:29	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/06/16 14:29	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/06/16 14:29	1
1,3,5-Trimethylbenzene	ND		0.50	0.25	ug/L			07/06/16 14:29	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/06/16 14:29	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/06/16 14:29	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			07/06/16 14:29	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/06/16 14:29	1
2-Chlorotoluene	ND		0.50	0.25	ug/L			07/06/16 14:29	1
4-Chlorotoluene	ND		0.50	0.25	ug/L			07/06/16 14:29	1
Benzene	ND		0.50	0.25	ug/L			07/06/16 14:29	1
Bromobenzene	ND		0.50	0.25	ug/L			07/06/16 14:29	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/06/16 14:29	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/06/16 14:29	1
Bromoform	ND		1.0	0.40	ug/L			07/06/16 14:29	1
Bromomethane	ND		0.50	0.25	ug/L			07/06/16 14:29	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/06/16 14:29	1
Chlorobenzene	ND		0.50	0.25	ug/L			07/06/16 14:29	1
Chloroethane	ND		1.0	0.40	ug/L			07/06/16 14:29	1
Chloroform	ND		0.50	0.25	ug/L			07/06/16 14:29	1
Chloromethane	ND		0.50	0.25	ug/L			07/06/16 14:29	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/06/16 14:29	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/06/16 14:29	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/06/16 14:29	1
Dibromomethane	ND		0.50	0.25	ug/L			07/06/16 14:29	1
Dichlorodifluoromethane	ND		0.50	0.25	ug/L			07/06/16 14:29	1
Ethanol	ND		150	75	ug/L			07/06/16 14:29	1
Isopropyl Ether (DIPE)	ND		0.50	0.25	ug/L			07/06/16 14:29	1
Ethyl-t-butyl ether (ETBE)	ND		0.50	0.25	ug/L			07/06/16 14:29	1
Ethylbenzene	ND		0.50	0.25	ug/L			07/06/16 14:29	1
Hexachlorobutadiene	ND		0.50	0.25	ug/L			07/06/16 14:29	1
Isopropylbenzene	ND		0.50	0.25	ug/L			07/06/16 14:29	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/06/16 14:29	1
Methylene Chloride	ND		2.0	0.88	ug/L			07/06/16 14:29	1
Methyl-t-Butyl Ether (MTBE)	ND		0.50	0.25	ug/L			07/06/16 14:29	1
Naphthalene	ND		1.0	0.40	ug/L			07/06/16 14:29	1
n-Butylbenzene	ND		1.0	0.40	ug/L			07/06/16 14:29	1
N-Propylbenzene	ND		0.50	0.25	ug/L			07/06/16 14:29	1
o-Xylene	ND		0.50	0.25	ug/L			07/06/16 14:29	1
p-Isopropyltoluene	ND		0.50	0.25	ug/L			07/06/16 14:29	1
sec-Butylbenzene	ND		0.50	0.25	ug/L			07/06/16 14:29	1

TestAmerica Irvine

# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151547-1

**Client Sample ID: GW-14**

**Date Collected: 06/30/16 15:36**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151547-4**

**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		0.50	0.25	ug/L			07/06/16 14:29	1
Tert-amyl-methyl ether (TAME)	ND		0.50	0.25	ug/L			07/06/16 14:29	1
tert-Butylbenzene	ND		0.50	0.25	ug/L			07/06/16 14:29	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/06/16 14:29	1
Toluene	ND		0.50	0.25	ug/L			07/06/16 14:29	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/06/16 14:29	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/06/16 14:29	1
Trichloroethene	ND		0.50	0.25	ug/L			07/06/16 14:29	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/06/16 14:29	1
Xylenes, Total	ND		1.0	0.50	ug/L			07/06/16 14:29	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/06/16 14:29	1
tert-Butyl alcohol (TBA)	ND		10	5.0	ug/L			07/06/16 14:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		80 - 120					07/06/16 14:29	1
Dibromofluoromethane (Surr)	93		76 - 132					07/06/16 14:29	1
Toluene-d8 (Surr)	100		80 - 128					07/06/16 14:29	1

**Method: 8015B - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	0.13	J	0.54	0.11	mg/L		07/05/16 12:04	07/05/16 19:46	1
C23-C40	ND		0.54	0.11	mg/L		07/05/16 12:04	07/05/16 19:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Octacosane	24	X	45 - 120				07/05/16 12:04	07/05/16 19:46	1

**Client Sample ID: GW-15**

**Date Collected: 06/30/16 15:25**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151547-5**

**Matrix: Water**

**Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	ND		50	35	ug/L			07/07/16 01:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	112		76 - 132					07/07/16 01:08	1
4-Bromofluorobenzene (Surr)	94		80 - 120					07/07/16 01:08	1
Toluene-d8 (Surr)	105		80 - 128					07/07/16 01:08	1

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/06/16 09:05	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			07/06/16 09:05	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/06/16 09:05	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			07/06/16 09:05	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			07/06/16 09:05	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			07/06/16 09:05	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			07/06/16 09:05	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			07/06/16 09:05	1
1,2,3-Trichloropropane	ND		0.50	0.25	ug/L			07/06/16 09:05	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/06/16 09:05	1

TestAmerica Irvine

# Client Sample Results

Client: Citadel Environmental Services Inc  
 Project/Site: Red Star

TestAmerica Job ID: 440-151547-1

**Client Sample ID: GW-15**

**Lab Sample ID: 440-151547-5**

**Date Collected: 06/30/16 15:25**

**Matrix: Water**

**Date Received: 07/02/16 11:20**

**Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		0.50	0.25	ug/L			07/06/16 09:05	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/06/16 09:05	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/06/16 09:05	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			07/06/16 09:05	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/06/16 09:05	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/06/16 09:05	1
1,3,5-Trimethylbenzene	ND		0.50	0.25	ug/L			07/06/16 09:05	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/06/16 09:05	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/06/16 09:05	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			07/06/16 09:05	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/06/16 09:05	1
2-Chlorotoluene	ND		0.50	0.25	ug/L			07/06/16 09:05	1
4-Chlorotoluene	ND		0.50	0.25	ug/L			07/06/16 09:05	1
Benzene	ND		0.50	0.25	ug/L			07/06/16 09:05	1
Bromobenzene	ND		0.50	0.25	ug/L			07/06/16 09:05	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/06/16 09:05	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/06/16 09:05	1
Bromoform	ND		1.0	0.40	ug/L			07/06/16 09:05	1
Bromomethane	ND		0.50	0.25	ug/L			07/06/16 09:05	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/06/16 09:05	1
Chlorobenzene	ND		0.50	0.25	ug/L			07/06/16 09:05	1
Chloroethane	ND		1.0	0.40	ug/L			07/06/16 09:05	1
Chloroform	ND		0.50	0.25	ug/L			07/06/16 09:05	1
Chloromethane	ND		0.50	0.25	ug/L			07/06/16 09:05	1
cis-1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/06/16 09:05	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/06/16 09:05	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/06/16 09:05	1
Dibromomethane	ND		0.50	0.25	ug/L			07/06/16 09:05	1
Dichlorodifluoromethane	ND		0.50	0.25	ug/L			07/06/16 09:05	1
Ethanol	ND		150	75	ug/L			07/06/16 09:05	1
Isopropyl Ether (DIPE)	ND		0.50	0.25	ug/L			07/06/16 09:05	1
Ethyl-t-butyl ether (ETBE)	ND		0.50	0.25	ug/L			07/06/16 09:05	1
Ethylbenzene	ND		0.50	0.25	ug/L			07/06/16 09:05	1
Hexachlorobutadiene	ND		0.50	0.25	ug/L			07/06/16 09:05	1
Isopropylbenzene	ND		0.50	0.25	ug/L			07/06/16 09:05	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/06/16 09:05	1
Methylene Chloride	ND		2.0	0.88	ug/L			07/06/16 09:05	1
Methyl-t-Butyl Ether (MTBE)	ND		0.50	0.25	ug/L			07/06/16 09:05	1
Naphthalene	ND		1.0	0.40	ug/L			07/06/16 09:05	1
n-Butylbenzene	ND		1.0	0.40	ug/L			07/06/16 09:05	1
N-Propylbenzene	ND		0.50	0.25	ug/L			07/06/16 09:05	1
o-Xylene	ND		0.50	0.25	ug/L			07/06/16 09:05	1
p-Isopropyltoluene	ND		0.50	0.25	ug/L			07/06/16 09:05	1
sec-Butylbenzene	ND		0.50	0.25	ug/L			07/06/16 09:05	1
Styrene	ND		0.50	0.25	ug/L			07/06/16 09:05	1
Tert-amyl-methyl ether (TAME)	ND		0.50	0.25	ug/L			07/06/16 09:05	1
tert-Butylbenzene	ND		0.50	0.25	ug/L			07/06/16 09:05	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/06/16 09:05	1
Toluene	ND		0.50	0.25	ug/L			07/06/16 09:05	1

TestAmerica Irvine

# Client Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151547-1

**Client Sample ID: GW-15**

**Lab Sample ID: 440-151547-5**

**Date Collected: 06/30/16 15:25**

**Matrix: Water**

**Date Received: 07/02/16 11:20**

**Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/06/16 09:05	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/06/16 09:05	1
Trichloroethene	ND		0.50	0.25	ug/L			07/06/16 09:05	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/06/16 09:05	1
Xylenes, Total	ND		1.0	0.50	ug/L			07/06/16 09:05	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/06/16 09:05	1
tert-Butyl alcohol (TBA)	ND		10	5.0	ug/L			07/06/16 09:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		80 - 120		07/06/16 09:05	1
Dibromofluoromethane (Surr)	90		76 - 132		07/06/16 09:05	1
Toluene-d8 (Surr)	100		80 - 128		07/06/16 09:05	1

**Method: 8015B - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		0.55	0.11	mg/L		07/05/16 12:04	07/05/16 21:57	1
C23-C40	ND		0.55	0.11	mg/L		07/05/16 12:04	07/05/16 21:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	43	X	45 - 120	07/05/16 12:04	07/05/16 21:57	1



# Method Summary

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151547-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8260B/CA_LUFTM S	Volatile Organic Compounds by GC/MS	SW846	TAL IRV
8015B	Diesel Range Organics (DRO) (GC)	SW846	TAL IRV

**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022



# Lab Chronicle

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151547-1

**Client Sample ID: GW-4**  
**Date Collected: 06/30/16 12:00**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151547-1**  
**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	8260B		5	10 mL	10 mL	340460	07/06/16 12:32	MM1	TAL IRV
Total/NA	Analysis	8260B/CA_LUFTV S		5	10 mL	10 mL	340651	07/07/16 01:36	WK	TAL IRV
Total/NA	Prep	3510C			970 mL	1 mL	340305	07/05/16 12:04	AP	TAL IRV
Total/NA	Analysis	8015B		1	970 mL	1 mL	340314	07/05/16 21:35	AMH	TAL IRV

**Client Sample ID: GW-5**  
**Date Collected: 06/30/16 12:30**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151547-2**  
**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	8260B		1	10 mL	10 mL	340460	07/06/16 13:01	MM1	TAL IRV
Total/NA	Analysis	8260B/CA_LUFTV S		1	10 mL	10 mL	340651	07/06/16 23:42	WK	TAL IRV
Total/NA	Prep	3510C			960 mL	1 mL	340305	07/05/16 12:04	AP	TAL IRV
Total/NA	Analysis	8015B		1	960 mL	1 mL	340314	07/05/16 23:24	AMH	TAL IRV

**Client Sample ID: GW-13**  
**Date Collected: 06/30/16 16:17**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151547-3**  
**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	8260B		1	10 mL	10 mL	340460	07/06/16 14:00	MM1	TAL IRV
Total/NA	Analysis	8260B/CA_LUFTV S		1	10 mL	10 mL	340651	07/07/16 00:11	WK	TAL IRV
Total/NA	Prep	3510C			650 mL	1 mL	340305	07/05/16 12:04	AP	TAL IRV
Total/NA	Analysis	8015B		1	650 mL	1 mL	340314	07/05/16 19:24	AMH	TAL IRV

**Client Sample ID: GW-14**  
**Date Collected: 06/30/16 15:36**  
**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151547-4**  
**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	8260B		1	10 mL	10 mL	340460	07/06/16 14:29	MM1	TAL IRV
Total/NA	Analysis	8260B/CA_LUFTV S		1	10 mL	10 mL	340651	07/07/16 00:39	WK	TAL IRV
Total/NA	Prep	3510C			930 mL	1 mL	340305	07/05/16 12:04	AP	TAL IRV
Total/NA	Analysis	8015B		1	930 mL	1 mL	340314	07/05/16 19:46	AMH	TAL IRV

TestAmerica Irvine

# Lab Chronicle

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151547-1

**Client Sample ID: GW-15**

**Date Collected: 06/30/16 15:25**

**Date Received: 07/02/16 11:20**

**Lab Sample ID: 440-151547-5**

**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	8260B		1	10 mL	10 mL	340460	07/06/16 09:05	MM1	TAL IRV
Total/NA	Analysis	8260B/CA_LUFTMS		1	10 mL	10 mL	340651	07/07/16 01:08	WK	TAL IRV
Total/NA	Prep	3510C			910 mL	1 mL	340305	07/05/16 12:04	AP	TAL IRV
Total/NA	Analysis	8015B		1	910 mL	1 mL	340314	07/05/16 21:57	AMH	TAL IRV

## Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

# QC Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151547-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 440-340460/4**

**Matrix: Water**

**Analysis Batch: 340460**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/06/16 08:07	1
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			07/06/16 08:07	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			07/06/16 08:07	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			07/06/16 08:07	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			07/06/16 08:07	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			07/06/16 08:07	1
1,1-Dichloropropene	ND		0.50	0.25	ug/L			07/06/16 08:07	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			07/06/16 08:07	1
1,2,3-Trichloropropane	ND		0.50	0.25	ug/L			07/06/16 08:07	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			07/06/16 08:07	1
1,2,4-Trimethylbenzene	ND		0.50	0.25	ug/L			07/06/16 08:07	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/06/16 08:07	1
1,2-Dibromoethane (EDB)	ND		0.50	0.25	ug/L			07/06/16 08:07	1
1,2-Dichlorobenzene	ND		0.50	0.25	ug/L			07/06/16 08:07	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			07/06/16 08:07	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			07/06/16 08:07	1
1,3,5-Trimethylbenzene	ND		0.50	0.25	ug/L			07/06/16 08:07	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			07/06/16 08:07	1
1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/06/16 08:07	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			07/06/16 08:07	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			07/06/16 08:07	1
2-Chlorotoluene	ND		0.50	0.25	ug/L			07/06/16 08:07	1
4-Chlorotoluene	ND		0.50	0.25	ug/L			07/06/16 08:07	1
Benzene	ND		0.50	0.25	ug/L			07/06/16 08:07	1
Bromobenzene	ND		0.50	0.25	ug/L			07/06/16 08:07	1
Bromochloromethane	ND		0.50	0.25	ug/L			07/06/16 08:07	1
Bromodichloromethane	ND		0.50	0.25	ug/L			07/06/16 08:07	1
Bromoform	ND		1.0	0.40	ug/L			07/06/16 08:07	1
Bromomethane	ND		0.50	0.25	ug/L			07/06/16 08:07	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			07/06/16 08:07	1
Chlorobenzene	ND		0.50	0.25	ug/L			07/06/16 08:07	1
Chloroethane	ND		1.0	0.40	ug/L			07/06/16 08:07	1
Chloroform	ND		0.50	0.25	ug/L			07/06/16 08:07	1
Chloromethane	ND		0.50	0.25	ug/L			07/06/16 08:07	1
cis-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/06/16 08:07	1
cis-1,3-Dichloropropane	ND		0.50	0.25	ug/L			07/06/16 08:07	1
Dibromochloromethane	ND		0.50	0.25	ug/L			07/06/16 08:07	1
Dibromomethane	ND		0.50	0.25	ug/L			07/06/16 08:07	1
Dichlorodifluoromethane	ND		0.50	0.25	ug/L			07/06/16 08:07	1
Ethanol	ND		150	75	ug/L			07/06/16 08:07	1
Isopropyl Ether (DIPE)	ND		0.50	0.25	ug/L			07/06/16 08:07	1
Ethyl-t-butyl ether (ETBE)	ND		0.50	0.25	ug/L			07/06/16 08:07	1
Ethylbenzene	ND		0.50	0.25	ug/L			07/06/16 08:07	1
Hexachlorobutadiene	ND		0.50	0.25	ug/L			07/06/16 08:07	1
Isopropylbenzene	ND		0.50	0.25	ug/L			07/06/16 08:07	1
m,p-Xylene	ND		1.0	0.50	ug/L			07/06/16 08:07	1
Methylene Chloride	ND		2.0	0.88	ug/L			07/06/16 08:07	1
Methyl-t-Butyl Ether (MTBE)	ND		0.50	0.25	ug/L			07/06/16 08:07	1

TestAmerica Irvine

# QC Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151547-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 440-340460/4**  
**Matrix: Water**  
**Analysis Batch: 340460**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		1.0	0.40	ug/L			07/06/16 08:07	1
n-Butylbenzene	ND		1.0	0.40	ug/L			07/06/16 08:07	1
N-Propylbenzene	ND		0.50	0.25	ug/L			07/06/16 08:07	1
o-Xylene	ND		0.50	0.25	ug/L			07/06/16 08:07	1
p-Isopropyltoluene	ND		0.50	0.25	ug/L			07/06/16 08:07	1
sec-Butylbenzene	ND		0.50	0.25	ug/L			07/06/16 08:07	1
Styrene	ND		0.50	0.25	ug/L			07/06/16 08:07	1
Tert-amyl-methyl ether (TAME)	ND		0.50	0.25	ug/L			07/06/16 08:07	1
tert-Butylbenzene	ND		0.50	0.25	ug/L			07/06/16 08:07	1
Tetrachloroethene	ND		0.50	0.25	ug/L			07/06/16 08:07	1
Toluene	ND		0.50	0.25	ug/L			07/06/16 08:07	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			07/06/16 08:07	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			07/06/16 08:07	1
Trichloroethene	ND		0.50	0.25	ug/L			07/06/16 08:07	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			07/06/16 08:07	1
Xylenes, Total	ND		1.0	0.50	ug/L			07/06/16 08:07	1
Vinyl chloride	ND		0.50	0.25	ug/L			07/06/16 08:07	1
tert-Butyl alcohol (TBA)	ND		10	5.0	ug/L			07/06/16 08:07	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		80 - 120		07/06/16 08:07	1
Dibromofluoromethane (Surr)	89		76 - 132		07/06/16 08:07	1
Toluene-d8 (Surr)	105		80 - 128		07/06/16 08:07	1

**Lab Sample ID: LCS 440-340460/5**  
**Matrix: Water**  
**Analysis Batch: 340460**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	23.8		ug/L		95	60 - 141
1,1,1-Trichloroethane	25.0	23.0		ug/L		92	70 - 130
1,1,2,2-Tetrachloroethane	25.0	27.9		ug/L		112	63 - 130
1,1,2-Trichloroethane	25.0	25.4		ug/L		102	70 - 130
1,1-Dichloroethane	25.0	24.4		ug/L		98	64 - 130
1,1-Dichloroethene	25.0	22.7		ug/L		91	70 - 130
1,1-Dichloropropene	25.0	24.6		ug/L		98	70 - 130
1,2,3-Trichlorobenzene	25.0	25.2		ug/L		101	60 - 140
1,2,3-Trichloropropane	25.0	25.3		ug/L		101	63 - 130
1,2,4-Trichlorobenzene	25.0	26.1		ug/L		104	60 - 140
1,2,4-Trimethylbenzene	25.0	26.2		ug/L		105	70 - 135
1,2-Dibromo-3-Chloropropane	25.0	25.8		ug/L		103	52 - 140
1,2-Dibromoethane (EDB)	25.0	25.2		ug/L		101	70 - 130
1,2-Dichlorobenzene	25.0	25.9		ug/L		104	70 - 130
1,2-Dichloroethane	25.0	23.2		ug/L		93	57 - 138
1,2-Dichloropropane	25.0	26.0		ug/L		104	67 - 130
1,3,5-Trimethylbenzene	25.0	26.5		ug/L		106	70 - 136
1,3-Dichlorobenzene	25.0	25.8		ug/L		103	70 - 130
1,3-Dichloropropane	25.0	26.0		ug/L		104	70 - 130

TestAmerica Irvine

# QC Sample Results

Client: Citadel Environmental Services Inc  
 Project/Site: Red Star

TestAmerica Job ID: 440-151547-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 440-340460/5**  
**Matrix: Water**  
**Analysis Batch: 340460**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	25.0	25.8		ug/L		103	70 - 130
2,2-Dichloropropane	25.0	25.7		ug/L		103	68 - 141
2-Chlorotoluene	25.0	26.3		ug/L		105	70 - 130
4-Chlorotoluene	25.0	26.0		ug/L		104	70 - 130
Benzene	25.0	23.7		ug/L		95	68 - 130
Bromobenzene	25.0	25.4		ug/L		102	70 - 130
Bromochloromethane	25.0	22.7		ug/L		91	70 - 130
Bromodichloromethane	25.0	22.8		ug/L		91	70 - 132
Bromoform	25.0	22.5		ug/L		90	60 - 148
Bromomethane	25.0	20.3		ug/L		81	64 - 139
Carbon tetrachloride	25.0	22.9		ug/L		91	60 - 150
Chlorobenzene	25.0	24.1		ug/L		96	70 - 130
Chloroethane	25.0	22.6		ug/L		91	64 - 135
Chloroform	25.0	23.3		ug/L		93	70 - 130
Chloromethane	25.0	21.4		ug/L		86	47 - 140
cis-1,2-Dichloroethene	25.0	23.3		ug/L		93	70 - 133
cis-1,3-Dichloropropene	25.0	26.6		ug/L		106	70 - 133
Dibromochloromethane	25.0	22.7		ug/L		91	69 - 145
Dibromomethane	25.0	23.1		ug/L		92	70 - 130
Dichlorodifluoromethane	25.0	16.2		ug/L		65	29 - 150
Ethanol	1000	1010		ug/L		101	50 - 149
Isopropyl Ether (DIPE)	25.0	28.1		ug/L		112	58 - 139
Ethyl-t-butyl ether (ETBE)	25.0	24.9		ug/L		99	60 - 136
Ethylbenzene	25.0	25.1		ug/L		100	70 - 130
Hexachlorobutadiene	25.0	26.7		ug/L		107	10 - 150
Isopropylbenzene	25.0	25.0		ug/L		100	70 - 136
m,p-Xylene	25.0	24.9		ug/L		100	70 - 130
Methylene Chloride	25.0	23.2		ug/L		93	52 - 130
Methyl-t-Butyl Ether (MTBE)	25.0	23.1		ug/L		93	63 - 131
Naphthalene	25.0	24.8		ug/L		99	60 - 140
n-Butylbenzene	25.0	27.8		ug/L		111	65 - 150
N-Propylbenzene	25.0	27.6		ug/L		111	67 - 139
o-Xylene	25.0	24.3		ug/L		97	70 - 130
p-Isopropyltoluene	25.0	26.8		ug/L		107	70 - 132
sec-Butylbenzene	25.0	26.8		ug/L		107	70 - 138
Styrene	25.0	23.9		ug/L		96	70 - 134
Tert-amyl-methyl ether (TAME)	25.0	23.4		ug/L		94	57 - 139
tert-Butylbenzene	25.0	26.2		ug/L		105	70 - 130
Tetrachloroethene	25.0	24.6		ug/L		98	70 - 130
Toluene	25.0	25.3		ug/L		101	70 - 130
trans-1,2-Dichloroethene	25.0	24.0		ug/L		96	70 - 130
trans-1,3-Dichloropropene	25.0	25.4		ug/L		102	70 - 132
Trichloroethene	25.0	22.4		ug/L		90	70 - 130
Trichlorofluoromethane	25.0	22.7		ug/L		91	60 - 150
Vinyl chloride	25.0	21.8		ug/L		87	59 - 133
tert-Butyl alcohol (TBA)	250	262		ug/L		105	70 - 130

TestAmerica Irvine



# QC Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151547-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-340460/5  
Matrix: Water  
Analysis Batch: 340460

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		80 - 120
Dibromofluoromethane (Surr)	89		76 - 132
Toluene-d8 (Surr)	100		80 - 128

Lab Sample ID: 440-151547-5 MS  
Matrix: Water  
Analysis Batch: 340460

Client Sample ID: GW-15  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		25.0	22.4		ug/L		89	60 - 149
1,1,1-Trichloroethane	ND		25.0	24.2		ug/L		97	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	25.1		ug/L		100	63 - 130
1,1,2-Trichloroethane	ND		25.0	24.0		ug/L		96	70 - 130
1,1-Dichloroethane	ND		25.0	25.3		ug/L		101	65 - 130
1,1-Dichloroethene	ND		25.0	24.0		ug/L		96	70 - 130
1,1-Dichloropropene	ND		25.0	25.4		ug/L		101	64 - 130
1,2,3-Trichlorobenzene	ND		25.0	22.5		ug/L		90	60 - 140
1,2,3-Trichloropropane	ND		25.0	22.6		ug/L		90	60 - 130
1,2,4-Trichlorobenzene	ND		25.0	23.5		ug/L		94	60 - 140
1,2,4-Trimethylbenzene	ND		25.0	22.9		ug/L		92	70 - 130
1,2-Dibromo-3-Chloropropane	ND		25.0	22.8		ug/L		91	48 - 140
1,2-Dibromoethane (EDB)	ND		25.0	23.9		ug/L		96	70 - 131
1,2-Dichlorobenzene	ND		25.0	22.9		ug/L		92	70 - 130
1,2-Dichloroethane	ND		25.0	24.5		ug/L		98	56 - 146
1,2-Dichloropropane	ND		25.0	26.6		ug/L		106	69 - 130
1,3,5-Trimethylbenzene	ND		25.0	23.2		ug/L		93	70 - 130
1,3-Dichlorobenzene	ND		25.0	22.8		ug/L		91	70 - 130
1,3-Dichloropropane	ND		25.0	24.6		ug/L		98	70 - 130
1,4-Dichlorobenzene	ND		25.0	22.4		ug/L		90	70 - 130
2,2-Dichloropropane	ND		25.0	27.8		ug/L		111	69 - 138
2-Chlorotoluene	ND		25.0	23.0		ug/L		92	70 - 130
4-Chlorotoluene	ND		25.0	23.4		ug/L		93	70 - 130
Benzene	ND		25.0	24.8		ug/L		99	66 - 130
Bromobenzene	ND		25.0	22.0		ug/L		88	70 - 130
Bromochloromethane	ND		25.0	23.4		ug/L		94	70 - 130
Bromodichloromethane	ND		25.0	23.5		ug/L		94	70 - 138
Bromoform	ND		25.0	21.5		ug/L		86	59 - 150
Bromomethane	ND		25.0	21.8		ug/L		87	62 - 131
Carbon tetrachloride	ND		25.0	23.8		ug/L		95	60 - 150
Chlorobenzene	ND		25.0	22.7		ug/L		91	70 - 130
Chloroethane	ND		25.0	24.6		ug/L		98	68 - 130
Chloroform	ND		25.0	23.9		ug/L		96	70 - 130
Chloromethane	ND		25.0	24.8		ug/L		99	39 - 144
cis-1,2-Dichloroethene	ND		25.0	24.0		ug/L		96	70 - 130
cis-1,3-Dichloropropene	ND		25.0	25.0		ug/L		100	70 - 133
Dibromochloromethane	ND		25.0	21.5		ug/L		86	70 - 148
Dibromomethane	ND		25.0	23.9		ug/L		95	70 - 130
Dichlorodifluoromethane	ND		25.0	20.5		ug/L		82	25 - 142

TestAmerica Irvine

# QC Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151547-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 440-151547-5 MS**

**Matrix: Water**

**Analysis Batch: 340460**

**Client Sample ID: GW-15**

**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethanol	ND		1000	932		ug/L		93	54 - 150
Isopropyl Ether (DIPE)	ND		25.0	29.5		ug/L		118	64 - 138
Ethyl-t-butyl ether (ETBE)	ND		25.0	26.0		ug/L		104	70 - 130
Ethylbenzene	ND		25.0	24.0		ug/L		96	70 - 130
Hexachlorobutadiene	ND		25.0	24.3		ug/L		97	10 - 150
Isopropylbenzene	ND		25.0	24.0		ug/L		96	70 - 132
m,p-Xylene	ND		25.0	23.4		ug/L		94	70 - 133
Methylene Chloride	ND		25.0	24.0		ug/L		96	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND		25.0	24.4		ug/L		98	70 - 130
Naphthalene	ND		25.0	22.1		ug/L		88	60 - 140
n-Butylbenzene	ND		25.0	25.0		ug/L		100	61 - 149
N-Propylbenzene	ND		25.0	24.2		ug/L		97	66 - 135
o-Xylene	ND		25.0	23.0		ug/L		92	70 - 133
p-Isopropyltoluene	ND		25.0	23.9		ug/L		96	70 - 130
sec-Butylbenzene	ND		25.0	23.8		ug/L		95	67 - 134
Styrene	ND		25.0	22.8		ug/L		91	29 - 150
Tert-amyl-methyl ether (TAME)	ND		25.0	24.6		ug/L		98	68 - 133
tert-Butylbenzene	ND		25.0	23.3		ug/L		93	70 - 130
Tetrachloroethene	ND		25.0	23.2		ug/L		93	70 - 137
Toluene	ND		25.0	23.9		ug/L		96	70 - 130
trans-1,2-Dichloroethene	ND		25.0	25.0		ug/L		100	70 - 130
trans-1,3-Dichloropropene	ND		25.0	24.1		ug/L		96	70 - 138
Trichloroethene	ND		25.0	23.0		ug/L		92	70 - 130
Trichlorofluoromethane	ND		25.0	24.1		ug/L		96	60 - 150
Vinyl chloride	ND		25.0	24.5		ug/L		98	50 - 137
tert-Butyl alcohol (TBA)	ND		250	239		ug/L		96	70 - 130

Surrogate	MS %Recovery	MS Qualifier	MS Limits
4-Bromofluorobenzene (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	91		76 - 132
Toluene-d8 (Surr)	96		80 - 128

**Lab Sample ID: 440-151547-5 MSD**

**Matrix: Water**

**Analysis Batch: 340460**

**Client Sample ID: GW-15**

**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND		25.0	23.7		ug/L		95	60 - 149	6	20
1,1,1-Trichloroethane	ND		25.0	25.7		ug/L		103	70 - 130	6	20
1,1,1,2,2-Tetrachloroethane	ND		25.0	26.8		ug/L		107	63 - 130	7	30
1,1,2-Trichloroethane	ND		25.0	26.0		ug/L		104	70 - 130	8	25
1,1-Dichloroethane	ND		25.0	26.5		ug/L		106	65 - 130	5	20
1,1-Dichloroethene	ND		25.0	25.3		ug/L		101	70 - 130	5	20
1,1-Dichloropropene	ND		25.0	26.9		ug/L		107	64 - 130	6	20
1,2,3-Trichlorobenzene	ND		25.0	24.2		ug/L		97	60 - 140	7	20
1,2,3-Trichloropropane	ND		25.0	24.3		ug/L		97	60 - 130	7	30
1,2,4-Trichlorobenzene	ND		25.0	25.0		ug/L		100	60 - 140	6	20
1,2,4-Trimethylbenzene	ND		25.0	24.6		ug/L		98	70 - 130	7	25

TestAmerica Irvine

# QC Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151547-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 440-151547-5 MSD**

**Matrix: Water**

**Analysis Batch: 340460**

**Client Sample ID: GW-15**

**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dibromo-3-Chloropropane	ND		25.0	25.3		ug/L		101	48 - 140	11	30
1,2-Dibromoethane (EDB)	ND		25.0	25.4		ug/L		102	70 - 131	6	25
1,2-Dichlorobenzene	ND		25.0	24.2		ug/L		97	70 - 130	5	20
1,2-Dichloroethane	ND		25.0	25.6		ug/L		102	56 - 146	4	20
1,2-Dichloropropane	ND		25.0	28.2		ug/L		113	69 - 130	6	20
1,3,5-Trimethylbenzene	ND		25.0	24.8		ug/L		99	70 - 130	7	20
1,3-Dichlorobenzene	ND		25.0	23.9		ug/L		96	70 - 130	5	20
1,3-Dichloropropane	ND		25.0	25.5		ug/L		102	70 - 130	4	25
1,4-Dichlorobenzene	ND		25.0	23.9		ug/L		96	70 - 130	6	20
2,2-Dichloropropane	ND		25.0	29.2		ug/L		117	69 - 138	5	25
2-Chlorotoluene	ND		25.0	24.5		ug/L		98	70 - 130	6	20
4-Chlorotoluene	ND		25.0	24.4		ug/L		98	70 - 130	5	20
Benzene	ND		25.0	26.0		ug/L		104	66 - 130	5	20
Bromobenzene	ND		25.0	23.6		ug/L		94	70 - 130	7	20
Bromochloromethane	ND		25.0	24.8		ug/L		99	70 - 130	6	25
Bromodichloromethane	ND		25.0	25.1		ug/L		100	70 - 138	7	20
Bromoform	ND		25.0	23.6		ug/L		94	59 - 150	9	25
Bromomethane	ND		25.0	23.0		ug/L		92	62 - 131	6	25
Carbon tetrachloride	ND		25.0	25.8		ug/L		103	60 - 150	8	25
Chlorobenzene	ND		25.0	24.1		ug/L		96	70 - 130	6	20
Chloroethane	ND		25.0	25.7		ug/L		103	68 - 130	5	25
Chloroform	ND		25.0	25.5		ug/L		102	70 - 130	6	20
Chloromethane	ND		25.0	26.3		ug/L		105	39 - 144	6	25
cis-1,2-Dichloroethene	ND		25.0	25.1		ug/L		100	70 - 130	4	20
cis-1,3-Dichloropropene	ND		25.0	26.2		ug/L		105	70 - 133	5	20
Dibromochloromethane	ND		25.0	23.1		ug/L		92	70 - 148	7	25
Dibromomethane	ND		25.0	25.0		ug/L		100	70 - 130	4	25
Dichlorodifluoromethane	ND		25.0	22.0		ug/L		88	25 - 142	7	30
Ethanol	ND		1000	1000		ug/L		100	54 - 150	7	30
Isopropyl Ether (DIPE)	ND		25.0	30.7		ug/L		123	64 - 138	4	25
Ethyl-t-butyl ether (ETBE)	ND		25.0	27.4		ug/L		110	70 - 130	6	25
Ethylbenzene	ND		25.0	25.2		ug/L		101	70 - 130	5	20
Hexachlorobutadiene	ND		25.0	25.3		ug/L		101	10 - 150	4	20
Isopropylbenzene	ND		25.0	25.4		ug/L		102	70 - 132	6	20
m,p-Xylene	ND		25.0	25.1		ug/L		100	70 - 133	7	25
Methylene Chloride	ND		25.0	25.1		ug/L		100	52 - 130	4	20
Methyl-t-Butyl Ether (MTBE)	ND		25.0	25.7		ug/L		103	70 - 130	5	25
Naphthalene	ND		25.0	24.5		ug/L		98	60 - 140	10	30
n-Butylbenzene	ND		25.0	26.7		ug/L		107	61 - 149	6	20
N-Propylbenzene	ND		25.0	26.2		ug/L		105	66 - 135	8	20
o-Xylene	ND		25.0	24.5		ug/L		98	70 - 133	6	20
p-Isopropyltoluene	ND		25.0	25.6		ug/L		103	70 - 130	7	20
sec-Butylbenzene	ND		25.0	25.6		ug/L		103	67 - 134	7	20
Styrene	ND		25.0	23.8		ug/L		95	29 - 150	5	35
Tert-amyl-methyl ether (TAME)	ND		25.0	26.0		ug/L		104	68 - 133	5	30
tert-Butylbenzene	ND		25.0	24.9		ug/L		100	70 - 130	7	20
Tetrachloroethene	ND		25.0	25.0		ug/L		100	70 - 137	8	20
Toluene	ND		25.0	25.3		ug/L		101	70 - 130	6	20

TestAmerica Irvine

# QC Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151547-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 440-151547-5 MSD**

**Matrix: Water**

**Analysis Batch: 340460**

**Client Sample ID: GW-15**

**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
trans-1,2-Dichloroethene	ND		25.0	26.1		ug/L		105	70 - 130	5	20
trans-1,3-Dichloropropene	ND		25.0	25.5		ug/L		102	70 - 138	6	25
Trichloroethene	ND		25.0	24.2		ug/L		97	70 - 130	5	20
Trichlorofluoromethane	ND		25.0	26.1		ug/L		104	60 - 150	8	25
Vinyl chloride	ND		25.0	26.4		ug/L		105	50 - 137	7	30
tert-Butyl alcohol (TBA)	ND		250	257		ug/L		103	70 - 130	7	25
<b>Surrogate</b>	<b>%Recovery</b>	<b>MSD Qualifier</b>	<b>Limits</b>								
4-Bromofluorobenzene (Surr)	101		80 - 120								
Dibromofluoromethane (Surr)	91		76 - 132								
Toluene-d8 (Surr)	95		80 - 128								

## Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 440-340651/4**

**Matrix: Water**

**Analysis Batch: 340651**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	ND		50	35	ug/L			07/06/16 19:26	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>MB Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Dibromofluoromethane (Surr)	111		76 - 132					07/06/16 19:26	1
4-Bromofluorobenzene (Surr)	94		80 - 120					07/06/16 19:26	1
Toluene-d8 (Surr)	104		80 - 128					07/06/16 19:26	1

**Lab Sample ID: LCS 440-340651/6**

**Matrix: Water**

**Analysis Batch: 340651**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Volatile Fuel Hydrocarbons (C4-C12)	500	390		ug/L		78	55 - 130
<b>Surrogate</b>	<b>%Recovery</b>	<b>LCS Qualifier</b>	<b>Limits</b>				
Dibromofluoromethane (Surr)	105		76 - 132				
4-Bromofluorobenzene (Surr)	96		80 - 120				
Toluene-d8 (Surr)	105		80 - 128				

**Lab Sample ID: 440-151817-D-1 MS**

**Matrix: Water**

**Analysis Batch: 340651**

**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
Volatile Fuel Hydrocarbons (C4-C12)	36	J	1730	1850		ug/L		105	50 - 145

TestAmerica Irvine

# QC Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151547-1

## Method: 8260B/CA\_LUFTMS - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: 440-151817-D-1 MS**  
**Matrix: Water**  
**Analysis Batch: 340651**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	104		76 - 132
4-Bromofluorobenzene (Surr)	99		80 - 120
Toluene-d8 (Surr)	105		80 - 128

**Lab Sample ID: 440-151817-D-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 340651**

**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
Volatile Fuel Hydrocarbons (C4-C12)	36	J	1730	1770		ug/L		100	50 - 145	4	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Dibromofluoromethane (Surr)	102		76 - 132
4-Bromofluorobenzene (Surr)	99		80 - 120
Toluene-d8 (Surr)	105		80 - 128

## Method: 8015B - Diesel Range Organics (DRO) (GC)

**Lab Sample ID: MB 440-340305/1-A**  
**Matrix: Water**  
**Analysis Batch: 341175**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 340305**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		0.50	0.10	mg/L		07/05/16 12:04	07/08/16 16:52	1
C23-C40	ND		0.50	0.10	mg/L		07/05/16 12:04	07/08/16 16:52	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	65		45 - 120	07/05/16 12:04	07/08/16 16:52	1

**Lab Sample ID: LCS 440-340305/2-A**  
**Matrix: Water**  
**Analysis Batch: 341175**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 340305**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C10-C28	1.00	0.742		mg/L		74	40 - 115

Surrogate	LCS %Recovery	LCS Qualifier	Limits
n-Octacosane	80		45 - 120

**Lab Sample ID: LCSD 440-340305/3-A**  
**Matrix: Water**  
**Analysis Batch: 341175**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 340305**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C10-C28	1.00	0.943		mg/L		94	40 - 115	24	25

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# QC Sample Results

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151547-1

## Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCSD 440-340305/3-A  
Matrix: Water  
Analysis Batch: 341175

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 340305

<i>Surrogate</i>	<i>LCSD %Recovery</i>	<i>LCSD Qualifier</i>	<i>Limits</i>
<i>n-Octacosane</i>	101		45 - 120

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# QC Association Summary

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151547-1

## GC/MS VOA

### Analysis Batch: 340460

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151547-1	GW-4	Total/NA	Water	8260B	
440-151547-2	GW-5	Total/NA	Water	8260B	
440-151547-3	GW-13	Total/NA	Water	8260B	
440-151547-4	GW-14	Total/NA	Water	8260B	
440-151547-5	GW-15	Total/NA	Water	8260B	
440-151547-5 MS	GW-15	Total/NA	Water	8260B	
440-151547-5 MSD	GW-15	Total/NA	Water	8260B	
LCS 440-340460/5	Lab Control Sample	Total/NA	Water	8260B	
MB 440-340460/4	Method Blank	Total/NA	Water	8260B	

### Analysis Batch: 340651

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151547-1	GW-4	Total/NA	Water	8260B/CA_LUFT MS	
440-151547-2	GW-5	Total/NA	Water	8260B/CA_LUFT MS	
440-151547-3	GW-13	Total/NA	Water	8260B/CA_LUFT MS	
440-151547-4	GW-14	Total/NA	Water	8260B/CA_LUFT MS	
440-151547-5	GW-15	Total/NA	Water	8260B/CA_LUFT MS	
440-151817-D-1 MS	Matrix Spike	Total/NA	Water	8260B/CA_LUFT MS	
440-151817-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B/CA_LUFT MS	
LCS 440-340651/6	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
MB 440-340651/4	Method Blank	Total/NA	Water	8260B/CA_LUFT MS	

## GC Semi VOA

### Prep Batch: 340305

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151547-1	GW-4	Total/NA	Water	3510C	
440-151547-2	GW-5	Total/NA	Water	3510C	
440-151547-3	GW-13	Total/NA	Water	3510C	
440-151547-4	GW-14	Total/NA	Water	3510C	
440-151547-5	GW-15	Total/NA	Water	3510C	
LCS 440-340305/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 440-340305/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
MB 440-340305/1-A	Method Blank	Total/NA	Water	3510C	

### Analysis Batch: 340314

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-151547-1	GW-4	Total/NA	Water	8015B	340305
440-151547-2	GW-5	Total/NA	Water	8015B	340305
440-151547-3	GW-13	Total/NA	Water	8015B	340305
440-151547-4	GW-14	Total/NA	Water	8015B	340305
440-151547-5	GW-15	Total/NA	Water	8015B	340305

TestAmerica Irvine

# QC Association Summary

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151547-1

## GC Semi VOA (Continued)

### Analysis Batch: 341175

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-340305/2-A	Lab Control Sample	Total/NA	Water	8015B	340305
LCSD 440-340305/3-A	Lab Control Sample Dup	Total/NA	Water	8015B	340305
MB 440-340305/1-A	Method Blank	Total/NA	Water	8015B	340305

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- 10
- 11
- 12
- 13

# Definitions/Glossary

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151547-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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)

# Certification Summary

Client: Citadel Environmental Services Inc  
Project/Site: Red Star

TestAmerica Job ID: 440-151547-1

## Laboratory: TestAmerica Irvine

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-17
Arizona	State Program	9	AZ0671	10-13-16
California	LA Cty Sanitation Districts	9	10256	01-31-17 *
California	State Program	9	CA ELAP 2706	06-30-18
Guam	State Program	9	Cert. No. 12.002r	01-23-17
Hawaii	State Program	9	N/A	01-29-17
Kansas	NELAP Secondary AB	7	E-10420	07-31-16 *
Nevada	State Program	9	CA015312016-2	07-31-16 *
New Mexico	State Program	6	N/A	01-29-17
Northern Mariana Islands	State Program	9	MP0002	01-29-17
Oregon	NELAP	10	4028	01-29-17
USDA	Federal		P330-09-00080	07-08-18
Washington	State Program	10	C900	09-03-16

\* Certification renewal pending - certification considered valid.

TestAmerica Irvine

>>> Select a Laboratory <<<

#N/A  
#N/A  
#N/A  
#N/A

# Chain of Custody Record

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

169640

Regulatory Program:  DW  NPDES  RCRA  Other:

Client Contact: Citadel Environmental Services, Inc.  
 151 Kalmus Drive, F-4  
 Anaheim, CA 92626  
 (818) 482-4452 Phone  
 (714) 547-4647 FAX  
 Project Name: Red Star  
 Site: 1396 5th St., Oakland  
 P O # 0849.1001.0

Project Manager: Mark Drollinger  
 Tel/Fax: 408-645-9457  
 Analysis Turnaround Time  
 CALENDAR DAYS  WORKING DAYS  
 TAT if different from Below  
 2 weeks  
 1 week  
 2 days  
 1 day

Site Contact: Jay Schneider  
 Lab Contact: *Danielle Roberts*  
 Date: 6/30/2016  
 Carrier:

COC No: 1 of 1 COCs  
 Sampler:  
 For Lab Use Only:  
 Walk-in Client:  
 Lab Sampling:  
 Job / SDG No.:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)							Sample Specific Notes:
						Perform MS / MSD (Y / N)	TPH Full Scan (8015)	VOCs and Oxygenates (826B)	Title 22 Metals (6010B)	PCBs (8082)	PAHs (8270)	Lead (6010B)	
<i>GW-4</i>	6-30-16	12:00		W	3-Vol 1-AMB	X	X	X	X	X	X		
<i>GW-5</i>	6-30-16	12:30		W	3-Vol 1-AMB	X	X	X	X	X	X		
<i>GW-13</i>	6-30-16	16:17		W	3-Vol 1-AMB	X	X	X	X	X	X		<i>Partial Amber</i>
<i>GW-14</i>	6-30-16	15:36		W	3-Vol 1-AMB	X	X	X	X	X	X		
<i>GW-15</i>	6-30-16	15:25		W	3-Vol 1-AMB	X	X	X	X	X	X		



Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4= HNO3, 5= NaOH, 6= Other: 1, 3  
 Possible Hazard Identification:   
 Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.  
 Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown

Special Instructions/QC Requirements & Comments: email lab results to: [mdrollinger@citadelenvironmental.com](mailto:mdrollinger@citadelenvironmental.com); [mpendergrass@citadelenvironmental.com](mailto:mpendergrass@citadelenvironmental.com); [jschneider@citadelenvironmental.com](mailto:jschneider@citadelenvironmental.com)  
 Return to Client  Dispose by Lab  Archive for \_\_\_\_\_ Months

Custody Seal No.: \_\_\_\_\_  
 Relinquished by: *Jay Schneider* Date/Time: *6/30/16 18:45*  
 Relinquished by: *J. H. [Signature]* Date/Time: *14:55*  
 Relinquished by: *[Signature]* Date/Time: *11:16*

Company: *Citadel* Received by: *[Signature]* Date/Time: *6/30/16 18:45*  
 Company: *[Signature]* Received by: *[Signature]* Date/Time: *14:55*  
 Company: *[Signature]* Received in Laboratory by: *[Signature]* Date/Time: *7/2/16 11:20*

IR-74 33/30  
 2-6/2-3  
 TRK# 690600663583  
 Cooler Temp. (°C): Obs'd: 22.6 Cor'd: 2.3 Therm ID No.: 74  
 480/16 4471.4, 1.3°C

## Login Sample Receipt Checklist

Client: Citadel Environmental Services Inc

Job Number: 440-151547-1

**Login Number: 151547**

**List Source: TestAmerica Irvine**

**List Number: 1**

**Creator: Chavez, Yonny 1**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> 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.	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?	False	Refer to Job Narrative for details.
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 <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

