EHS Support

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# Equipment Waste Removal and Disposal Report
# Former US Oil Recovery Site
# 400 N Richey Street
# Pasadena, Harris County, Texas

**Prepared for:**
**US Oil Recovery Site PRP Group**

**July 2018**

*consider it done*

**Prepared by:**
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**ACRONYMS**

| | |
|---|---|
| AOC | Administrative Settlement Agreement and Order on Consent |
| AST | aboveground storage tank |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| CHES | Clean Harbors Environmental Services, Inc. |
| E2 | Effective Environmental, Inc. (Currently Stericycle) |
| EHS Support | EHS Support, LLC |
| PRP | Potentially Responsible Party |
| PBW | Pastor, Behling & Wheeler, LLC (now part of Golder Associates Inc.) |
| PPE | personal protective equipment |
| QASP | Quality Assurance Sampling Plan |
| RAWP | Removal Action Work Plan |
| USEPA | United States Environmental Protection Agency |
| USOR | US Oil Recovery |

# 1.0 INTRODUCTION

A group of potentially responsible parties (PRPs) entered into an Administrative Settlement Agreement and Order on Consent (AOC) for a Removal Action (U.S. EPA Region 6, Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Docket No. 06-11-16) at the 400 N. Richey property in connection with the US Oil Recovery (USOR) Site in Pasadena, Texas 77506 (referred to as the Site for the purpose of this report). Figure 1 shows the Site vicinity and Figure 2 shows the Site layout. This AOC and all amendments and addenda thereto are referred to herein as the "July 14, 2016 AOC" or "2016 AOC". Since late 2010 the property has been under the custody and control of a court-appointed Receiver. Therefore, the activities pursuant to the July 14, 2016 AOC are being performed by the USOR PRP Group in cooperation with the Receiver and under the oversight of the United States Environmental Protection Agency (USEPA). The subject of this report is Process Equipment Waste Removal and Disposal and includes sludge removal, equipment washing, containment area washing, and demolition and removal of select process equipment. The Equipment Waste Removal Action Work Plan (referred to as the RAWP for the purposes of this report) (Appendix C of this report) is the same as Appendix E of the 2016 AOC.

The USOR property (Figure 3) includes a process equipment area in the north portion of the main building and just south of the two tank farm containment areas. Additional major pieces of process equipment were also stored on the USOR property south of the main entrance road and adjacent to the north and northeast property fences. Sixty-five (65) former process equipment items were inventoried in 2015 and 13 of these items appeared to contain residual waste. The residual waste was sampled and analyzed to determine waste classification. The PRP Group removed the waste from and pressure washed six of these items (EQ-02, EQ-07 thru EQ-10, and EQ-29) from September to October 2015 to address potential near-term risks associated with possible release from these items. Removal of the residual waste apparent in the remaining seven items (EQ-01, EQ-03, and EQ-11 thru EQ-15) and all removal of all process equipment (except for select items left under roof in the process area within the containment areas) was completed between June and September 2017.

To address the potential for releases, Effective Environmental, Inc. (E2) was contracted in 2015 to perform the sampling and characterization of residual wastes contained within the pieces of process equipment. Sample analysis was performed by ALS Environmental. E2 then removed and properly disposed of the residual waste and pressure washed two of these items (EQ-02 and EQ-29) in September 2015. Clean Harbors Environmental Services, Inc. (CHES) then removed and properly disposed of the residual waste and pressure washed four of these items (EQ-07 thru EQ-10) in October 2015. In 2017 CHES also removed residual waste from the remaining seven items containing waste (EQ-01, EQ-03, and EQ-11 thru EQ-15), washed the equipment, and then demolished/disposed of the equipment. The work was conducted in four phases:

1. Remove and dispose of residual wastes.
2. Wash the pieces of process equipment.
3. Demolish/remove certain pieces of process equipment.
4. Final wash of containment areas. Dispose of wash water and used personal protective equipment (PPE) and other spent disposable materials used during the project. Contractor demobilization from the Site.

This report has been jointly prepared by EHS Support LLC (EHS Support) and Pastor, Behling & Wheeler, LLC (PBW). EHS Support, in conjunction with PBW, provided oversight of plan development and field operations from project initiation (March 2015) through completion of field work (September 2017).

## 2.0 WASTE CHARACTERIZATION AND REMOVAL PHASES

### 2.1 Gauging, Sampling, and Characterization of Sludge Wastes

Sixty-five (65) former process equipment items were inspected and inventoried in 2015. Thirteen (13) appeared to contain residual wastes, two appeared to contain lubricating oil and 50 were observed to be empty of materials requiring remediation. The residual waste was gauged and sampled for analysis in accordance with the USEPA-approved Quality Assurance Sampling Plan (QASP) Addendum 1. Action taken on these pieces of equipment is further discussed in this report.

The two pieces of equipment with apparent lubricating oil, EQ-61 (lube oil reservoir and pump) and EQ-62 (lube oil drum on stand), were left in place as they were not judged to pose a release potential to the environment. During EPA's pre-final site walk-thru in July 2017, it was decided to remove EQ-62 (see the Removal Action Settlement Agreement Final Report, Golder 2018). EQ-61 was left in place since it was a self-contained piece of process equipment sheltered within the maintenance warehouse.

The residual waste sampling was performed in March 2015 and September 2015 by E2. The QASP Addendum 1 that was developed to guide this sampling process was approved by USEPA on July 17, 2014 and is included as Appendix A to this report.

During the March 2015 sampling, workers gauged the 13 pieces of process equipment that were found to contain residual waste. One or more representative waste samples were collected from each piece of process equipment to characterize the waste material. These samples were analyzed by ALS Environmental for waste classification parameters.

Based on the laboratory data, seven pieces of process equipment were identified as containing non-hazardous sludge (Table 1A) and four pieces of process equipment were identified as containing hazardous sludge (Table 1B), as described in Section 2.3 and Section 2.4 below.

The pre-removal estimated residual waste volumes in each piece of process equipment are summarized in Tables 1A and 1B. The analytical results from samples of these sludges are summarized in Table 2. The laboratory data validation reports and analytical reports are included as Appendix B, and indicate that the data are usable for determining the concentrations in waste samples collected from process equipment contents at the USOR site.

### 2.2 Sequence of Waste Removal

Process equipment inventory, inspection, and residual waste sampling and gauging was performed during March 2015 and September 2015. Due to safety concerns, two pieces of equipment were prioritized. Residual wastes were removed from EQ-02 and EQ-29 because follow-up external visual inspections indicated potential risks associated with the integrity of the two pieces of equipment. Removal of used oil filters and associated oil residues stored in four portable hoppers (EQ-07 thru EQ-10) was also included in the prioritized waste removal plan because precipitation runoff from the adjacent warehouse roof had infiltrated one of the hoppers during a severe storm (when the hopper top had blown ajar) and displaced residual oil in the hopper to the point that it had overflowed from the top of the hopper to the adjacent pavement (See Appendix H). This prioritized waste removal process, which was authorized in advance by EPA, was performed during September and October 2015.

The RAWP for the remaining work was approved by USEPA as Appendix E of the July 14, 2016 AOC. The RAWP is included in this report as Appendix C. CHES performed the work associated with residual waste in the remaining pieces of process equipment (EQ-01, EQ-03, and EQ-11 thru EQ-15) in conjunction

with the similar tasks of AST Sludge Removal Project. Waste removal began in June 2017 and the field work was completed in September 2017.

## 2.3 Removal and Disposal of Non-Hazardous Residual Wastes

Residual wastes characterized as non-hazardous were removed from the following eleven pieces of process equipment:

- EQ-01 (heated and agitated frac tank)
- EQ-03 (horizontal cylinder tank)
- EQ-07 thru EQ-10 (used oil filters)
- EQ-11 (large blue hopper)
- EQ-12 (rectangular mix tank)
- EQ-14 (ICP tank B - liquid)
- EQ-15 (rectangular mix tank - liquid)
- EQ-29 (blue rectangular box)

Photographs of each piece of equipment is included in Appendix F

Table 1A provides the dimensions of each piece of equipment and the pre-removal estimated volume of non-hazardous waste. The non-hazardous liquid was accessed from existing openings in the tops of the equipment and pumped to a vacuum truck. The non-hazardous solids were accessed from existing openings in the tops of the vessels, mixed with water as needed to gain flowability and pumped to a vacuum box. A total of 11,660 pounds of liquid/sludge material from EQ-29 and 110,800 pounds of spent PPE, expendable field equipment, and other non-hazardous trash was removed from the Site using non-hazardous manifests for disposal. The 11,660 pounds removed from EQ-29 was sent to Seabreeze Environmental Landfill for acceptance and disposal and 110,800 pounds of material were sent to the Waste Management Coastal Plains facility in Alvin, TX for acceptance and disposal. All disposal facilities were EPA pre-approved.

A summary of the shipment volumes with manifest numbers is included in Table 3. Copies of the waste manifests are included in Appendix E (Shipment Manifests). The pre-removal estimate of 405,820 pounds of non-hazardous waste (Table 1A) was more than the 11,660 pounds of process material shipped under non-hazardous manifests (Table 3) due to the following:

- Material classified as non-hazardous was manifested, shipped and disposed of as hazardous material.
- Some non-hazardous materials were mixed with hazardous material and thus the total weight of those shipments is listed as hazardous waste in Table 3.
- Pre-shipment volumes were over-estimated due to the irregular shaped vessels and internal heating pipes, baffles, etc.

PPE used during waste removal activities included a minimum of Level D PPE protection (i.e., hardhat, safety glasses, steel toe shoes, earplugs, and long sleeve shirt/pants). Waste handling activities were performed using Level C PPE protection. Personal hydrogen sulfide monitors were worn by personnel handling the waste materials in or around the equipment area, the vacuum boxes, or the tanker truck. Additional periodic air quality monitoring of the work area was performed using a 5-gas meter (LEL, $O_2$, $H_2S$, $CO_2$, VOC). Infrequent readings of VOC exceeding worker safety based action limits were noted during this monitoring. The following includes the two reasons for the high readings and the action taken:

1. Monitoring was performed directly adjacent to process equipment access ports immediately after the ports were opened. Personnel moved away from the immediate area until additional readings were below action limits.
2. Monitoring was performed near the Triton vacuum pump exhaust port. Personnel shut down the Triton and replaced the o-ring seal liquid that had absorbed VOCs during operation with fresh liquid. The used liquid was placed into containers with hazardous liquids removed from the process equipment and sent to CHES Deer Park for incineration.

A photo log of the process equipment waste removal work is included in Appendix D.

## 2.4 Removal and Disposal of Hazardous Residual Wastes

Residual wastes characterized as hazardous were removed from the following four pieces of process equipment:

- EQ-2 (rectangular mix tank)
- EQ-13 (ICP tank A)
- EQ-14 (ICP tank B - sludge)
- EQ-15 (rectangular mix tank - sludge)

Photographs of each piece of equipment is included in Appendix F

The hazardous residual waste was removed from EQ-02 using the same methods and PPE as described in Section 2.3.

The hazardous residual waste was removed from three other pieces of process equipment (EQ-13, EQ-14 and EQ-15) using the same PPE and work place air monitoring and similar processing steps. The water added to the material in these three vessels to improve flowability was separated and shipped as hazardous liquids for disposal. The remaining material was solidified and placed into Intermodal (IM) Containers for shipment. A portable skid mounted solidification system, including a feed hopper, a single stage mixing hopper, and two mix tubs, was placed on the concrete parking lot such that material removed from the process equipment was directly loaded to the feed hopper. An IM container was placed near the skid mounted solidification system/mix tubs. A zipper top liner system made of an 8mm polyethylene liner and a polypropylene shell was installed to cover the inside of the IM container. A layer of clay, pulverized paper, or another suitable approved absorbing material was placed on the floor of the open liner to ensure all IM shipments were thoroughly solidified for transport and disposal.

The 215,098 pounds pre-removal estimated weight of liquids in EQ-01, 03, 12, 14 and 15 that was classified as non-hazardous liquids was shipped and disposed as hazardous material (See Table 3, note 4).

Table 1B includes a summary of the hazardous sludge waste, including the pre-removal estimated volume. A total of 697,875 pounds of sludge and liquid manifested as hazardous material was shipped to disposal facilities. 42,880 pounds was shipped in two loads during October 21, 2015 and October 27, 2015 to Systech Environmental in Fredonia, Kansas for cement kiln disposal. Three shipments of used oil filters

between November 1, 2015 and November 20, 2015 and twenty-six shipments between July 27, 2017 and September 18, 2017 via intermodal containers, vacuum boxes or tanker went to the CHES Deer Park facility for disposal by incineration or to the CHES facility in San Leon for pre-processing prior to being shipped under CHES manifests to the CHES Deer Park facility or the CHES Lambton Ontario facility for disposal by incineration or thermal absorption. All disposal facilities were EPA pre-approved.

The pre-removal estimated weight of materials classified as hazardous (217,576 pounds) varies from the actual volume removed from the Site (697,875 pounds total solids and liquid) due to water added to the solids to remove it from the process equipment, materials added for solidification, material characterized as non-hazardous being manifested and disposed of as hazardous, wash water to clean vessels and inherent measurement approximations.

A summary of the shipments with manifest numbers is included in Table 3. Copies of the waste manifests are included in Appendix E.

Disposal of the total waste associated with this project is summarized in Table 4.

## 2.5 Washing and Demolition

Following the removal of waste material water washes were performed to remove remaining waste materials from the surfaces of the process equipment and containment areas. Wash water was recovered and shipped by vacuum truck or bulk container to the CHES Deer Park facility for incineration. Table 3 and Table 4 each include both the equipment waste and wash water volumes.

The process equipment was demolished with 610 cubic yards of metal materials being sold for scrap to Gold Star Metals in Houston, Texas. Approximately 20 cubic yards of non-metallic materials was loaded into roll-offs with spent PPE, expendable field materials and other non-hazardous trash and disposed of as non-hazardous waste at the Waste Management Coastal Plains Landfill in Alvin, TX.

Select pieces of process equipment, such as the filter press and steam boiler, that were undercover and thus posed a diminished threat for release, were left as is in the warehouse.

A final wash of containment areas was performed with the recovered wash water shipped by vacuum truck to CHES in Deer Park facility for incineration.

A photo log of project activities is included as Appendix D. A list of each piece of process equipment, including photographs, is included as Appendix F.

## 3.0 CONCLUSIONS

The purpose of the Equipment Waste Removal Action was to inventory, characterize, remove, and properly dispose of the residual waste in former process equipment. A total of 697,875 pounds of hazardous waste and 122,460 pounds of non-hazardous waste was removed from the site for disposal. The removal action also included demolition and removal of all process equipment not under roof and within a containment area with 610 cubic yards of metal materials being sold for scrap. The Equipment Waste Removal Action work satisfied the Appendix E of the 2016 AOC through proper performance, EPA coordination, and documentation of the removal action activities described in this report.

# TABLES

**Table 1A: Equipment Non-Hazardous Waste Volumes**
**US Oil Recovery**
**Equipment Waste Removal and Disposal Report**
**Pasadena, Harris County, Texas**

| Equipment Name[1] | Description | Length (inches) | Length (feet) | Width/Diameter (inches) | Width/Diameter (feet) | Height (inches) | Height (feet) | Liquid Height (inches) | Liquid Height (feet) | Sludge Height (inches) | Sludge Height (feet) | Liquid Volume (cubic feet) | Liquid Volume (gallons) | Liquid Weight[2] (pounds) | Sludge Volume (cubic feet) | Sludge Volume (gallons) | Sludge Weight[3] (pounds) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| USOR-EQ-01(a) | Heated and Agitated Frac Tank | 230 | 19 | 92 | 7.7 | 74.5 | 6.2 | 25 | 2.1 | 32.5 | 2.7 | 306 | 2290 | 18,319 | 398 | 2977 | 29,768 |
| USOR-EQ-01(b) | Heated and Agitated Frac Tank | 230 | 19 | 92 | 7.7 | 74.5 | 6.2 | NP | NP | 29.5 | 2.5 | NP | NP | NP | 361 | 2702 | 27,021 |
| USOR-EQ-03 | Light Blue Horizontal Tank | 373 | 31 | 126 | 10.5 | NA | NA | 100 | 8.3 | NP | NP | 2720 | 20344 | 162,752 | NP | NP | NP |
| USOR-EQ-07 thru USOR-EQ-10 | Portable storage hoppers[4] | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| USOR-EQ-11 | Large Blue Hopper | 154 | 13 | 98 | 8.2 | 216 | 18 | NP | NP | 192 | 16 | NP | NP | NP | 1677 | 12543 | 125,431 |
| USOR-EQ-12 | Rectangular Mix Tank | 52 | 4.3 | 48 | 4.0 | 58 | 4.8 | 14 | 1.2 | NP | NP | 20 | 151 | 1,210 | NP | NP | NP |
| USOR-EQ-14 | ICP Tank B | 446 | 37 | 88 | 7.3 | 71 | 5.9 | 18 | 1.5 | 47 | 3.9 | 409 | 3058 | 24,465 | Hazardous | Hazardous | Hazardous |
| USOR-EQ-15 | Rectangular Mix Tank | 87 | 7.3 | 63 | 5.3 | 65 | 5.4 | 44 | 3.7 | 20 | 1.7 | 140 | 1044 | 8,351 | Hazardous | Hazardous | Hazardous |
| USOR-EQ-29 | Blue Rectangular Box | 110 | 9.2 | 93 | 7.8 | 58 | 4.8 | 24 | 2.0 | NP | NP | 142 | 1063 | 8,502 | NP | NP | NP |
| Total | | | | | | | | | | | | 3737 | 27,950 | 223,600 | 2436 | 18,222 | 182,220 |
| | | | | | | | | | | | | 138 cubic yards | | | 90 cubic yards | | |

Notes:
1. USOR-EQ-01 has more than one compartment. Compartments are designated with a letter at the end of the equipment name.
2. Assumed weight for liquids was 8 pounds per gallon.
3. Assumed weight for sludge was 10 pounds per gallon.

NA not applicable
NP not present or not present in significant amounts

Total non-hazardous material weight = 405,820 pounds
Pounds of liquid in EQ-01, 03, 12, 14 and 15 characterized as non-hazardous = 215,098

**Table 1B: Equipment Hazardous Waste Volumes**
**US Oil Recovery**
**Equipment Waste Removal and Disposal Report**
**Pasadena, Harris County, Texas**

| Equipment Name[1] | Description | Length (inches) | Length (feet) | Width/Diameter (inches) | Width/Diameter (feet) | Height (inches) | Height (feet) | Liquid Height (inches) | Liquid Height (feet) | Sludge Height (inches) | Sludge Height (feet) | Liquid Volume (cubic feet) | Liquid Volume (gallons) | Liquid Weight[2] (poundss) | Sludge Volume (cubic feet) | Sludge Volume (gallons) | Sludge Weight[3] (pounds) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| USOR-EQ-02(a) | Dissolved Air Flotation Unit | 67 | 5.6 | 90.5 | 7.5 | 60.5 | 5.0 | NP[7] | NP | 22.5 | 1.9 | NP | NP | NP | 79 | 591 | 5,906 |
| USOR-EQ-02(b) | Dissolved Air Flotation Unit | 225 | 19 | 90.5 | 7.5 | 60.5 | 5.0 | NP | NP | 33.5 | 2.8 | NP | NP | NP | 395 | 2,953 | 29,528 |
| USOR-EQ-02(c) | Dissolved Air Flotation Unit | 67 | 5.6 | 90.5 | 7.5 | 60.5 | 5.0 | NP | NP | 38.7 | 3.2 | NP | NP | NP | 136 | 1,016 | 10,158 |
| USOR-EQ-13 | ICP Tank A | 394 | 33 | 122 | 10 | 74 | 6.2 | NP | NP | 42 | 3.5 | NP | NP | NP | 1,168 | 8,739 | 87,390 |
| USOR-EQ-14 | ICP Tank B | 446 | 37 | 88 | 7.3 | 71 | 5.9 | 18 | 1.5 | 47 | 3.9 | Non-Hazardous | Non-Hazardous | Non-Hazardous | 1,068 | 7,985 | 79,850 |
| USOR-EQ-15 | Rectangular Mix Tank | 87 | 7.3 | 63 | 5.3 | 65 | 5.4 | 44 | 3.7 | 20 | 1.7 | Non-Hazardous | Non-Hazardous | Non-Hazardous | 63 | 475 | 4,745 |
| Total | | | | | | | | | | | | 0 | 0 | 0 | 2,909 | 21,758 | 217,576 |
| | | | | | | | | | | | | | | | 108 | cubic yards | |
| | | | | | | | | | | | Totals of 2017 work (EQ-13, EQ-14 and EQ-15) Only = | | | | 2,299 | 17,199 | 171,985 |
| | | | | | | | | | | | | | | | 85 | cubic yards | |

Notes:
1. USOR-EQ-02 has more than one compartment. Compartments are designated with a letter at the end of the equipment name.
2. Assumed weight for liquids was 8 pounds per gallon
3. Assumed weight for sludge was 10 pounds per gallon

NP not present or not present in significant amounts

The volumes represented in this table were pre-removal estimates made in 2015 based on vessel dimensions and guaging of content levels.

Dry metric tons [gallons*0.00417tons/perent solids]

**Table 2: Equipment Waste Analytical Results**
**US Oil Recovery**
**Equipment Waste Removal and Disposal Report**
**Pasadena, Harris County, Texas**

| Sample Identification | | TCLP Regulatory Levels | USOR-EQ-01 | USOR-EQ-01 | USOR-EQ-03 | USOR-EQ-11 | USOR-EQ-12 | USOR-EQ-13 | USOR-EQ-14 | USOR-EQ-14 | USOR-EQ-15 | USOR-EQ-15 DUP | USOR-EQ-15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Location | | | Heated & Agitated Frac Tank | Heated & Agitated Frac Tank | Lt. Blue Horizontal Cylinder | Large Blue Hopper | Rectangular Mix Tank | ICP Tank A | ICP Tank B | ICP Tank B | Rectangular Mix Tank | Rectangular Mix Tank | Rectangular Mix Tank |
| Media | | | Liquid | Sludge | Liquid | Sludge | Liquid | Sludge | Liquid | Sludge | Liquid | Liquid | Sludge |
| Date Sampled | Units | | 3/4/2015 | 3/5/2015 | 3/3/2015 | 3/3/2015 | 3/4/2015 | 3/4/2015 | 3/4/2015 | 3/5/2015 | 3/4/2015 | 3/4/2015 | 3/4/2015 |
| **TCLP METALS** | | | | | | | | | | | | | |
| Arsenic | mg/L | **5** | <0.0100 | <0.0100 | <0.0100 | <0.0100 | <0.0100 | <0.0100 | **0.0163 J** | <0.0100 | **0.0212 J** | **0.0166 J** | <0.0100 |
| Barium | mg/L | **100** | **0.0684 J** | **2.59** | **0.166 J** | **0.552** | **0.329** | **0.264** | **0.0649 J** | **0.0893 J** | **0.140 J** | <0.0450 | **0.0901 J** |
| Cadmium | mg/L | **1** | <0.00800 | <0.00800 | <0.00800 | <0.0800 | <0.00800 | <0.0080 | <0.00800 | <0.00800 | <0.00800 | <0.0400 | <0.0080 |
| Chromium | mg/L | **5** | <0.0100 | <0.0100 | **0.0404 J** | <0.0100 | <0.0100 | <0.0100 | **1.77** | **0.126** | **0.285 J** | **1.88 J** | <0.0100 |
| Lead | mg/L | **5** | <0.00700 | **0.0147 J** | **0.0120 J** | <0.00700 | <0.00700 | <0.00700 | <0.0350 | **0.0194 J** | <0.00700 | <0.0350 | <0.0070 |
| Mercury | mg/L | **0.2** | <0.0000420 | <0.0000420 | **0.000585** | **0.0000640 J** | **0.000477** | **0.0000690 J** | **0.00203** | **0.0000960 J** | <0.000168 | **0.00224** | <0.0000420 |
| Selenium | mg/L | **1** | <0.0100 | <0.0100 | <0.0100 | <0.0100 | <0.0100 | <0.0100 | **0.0223 J** | <0.0100 | **0.0113 J** | **0.0236 J** | <0.0100 |
| Silver | mg/L | **5** | <0.00800 | <0.00800 | <0.00800 | <0.00800 | <0.00800 | <0.00800 | <0.00800 | <0.00800 | <0.00800 | <0.00800 | <0.00800 |
| **TCLP VOCs** | | | | | | | | | | | | | |
| 1,1-Dichloroethene | mg/L | **0.7** | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| 1,2-Dichloroethane | mg/L | **0.5** | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| 1,4-Dichlorobenzene | mg/L | **7.5** | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 |
| 2-Butanone | mg/L | **200** | **0.074 J** | **0.091 J** | **0.14 J** | <0.020 | <0.020 | **0.058 J** | **1.8** | **0.052 J** | **1.7** | **1.9** | **0.050 J** |
| Benzene | mg/L | **0.5** | <0.012 | **0.34** | **0.15** | <0.012 | <0.012 | **0.60** | **0.049 J** | **0.73** | **0.35 J** | **0.074 J** | **1.7** |
| Carbon tetrachloride | mg/L | **0.5** | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 |
| Chlorobenzene | mg/L | **100** | <0.0080 | <0.0080 | <0.0080 | <0.0080 | <0.0080 | <0.0080 | <0.0080 | <0.0080 | <0.0080 | <0.0080 | <0.0080 |
| Chloroform | mg/L | **6** | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 |
| Tetrachloroethene | mg/L | **0.7** | <0.012 | <0.012 | **0.016 J** | <0.012 | <0.012 | **0.018 J** | <0.012 | <0.012 | <0.012 | <0.012 | **0.030 J** |
| Trichloroethene | mg/L | **0.5** | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | **0.022 J** | <0.010 | **0.018 J** | **0.026 J** | <0.010 | **0.17** |
| Vinyl chloride | mg/L | **0.2** | <0.0080 | <0.0080 | <0.0080 | <0.0080 | <0.0080 | <0.0080 | <0.0080 | <0.0080 | <0.0800 | <0.0080 | <0.0080 |
| **TCLP SVOCs** | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | mg/L | **400** | <0.0090 | <0.0090 | <0.045 | <0.014 | <0.0090 JL | <0.0090 | <0.049 | <0.0090 | <0.049 | <0.025 JL | <0.0090 |
| 2,4,6-Trichlorophenol | mg/L | **2** | <0.014 | <0.014 | <0.070 | <0.021 | <0.014 JL | <0.014 | <0.076 | <0.014 | <0.076 | <0.038 JL | <0.014 |
| 2,4-Dinitrotoluene | mg/L | **0.13** | <0.010 | <0.010 | <0.050 | <0.015 | <0.010 | <0.010 | <0.055 | <0.010 | <0.055 | <0.027 JL | <0.010 |
| Cresols, Total | mg/L | **200** | **0.18** | **0.54** | <0.10 | **0.16 J** | <0.020 JL | **0.22** | **3.8** | **0.54** | **3.9** | **2.8 JL** | **0.17** |
| Hexachlorobenzene | mg/L | **0.13** | <0.011 | <0.011 | <0.055 | <0.016 | <0.011 | <0.011 | <0.060 | <0.011 | <0.060 | <0.030 | <0.011 |
| Hexachlorobutadiene | mg/L | **0.5** | <0.011 | <0.011 | <0.055 | <0.016 | <0.011 | <0.011 | <0.060 | <0.011 | <0.060 | <0.030 | <0.011 |
| Hexachloroethane | mg/L | **3** | <0.010 | <0.010 | <0.050 | <0.015 | <0.010 | <0.010 | <0.055 | <0.010 | <0.055 | <0.027 | <0.010 |
| Nitrobenzene | mg/L | **2** | <0.0080 | <0.0080 | <0.040 | <0.012 | <0.0080 | <0.0080 | <0.044 | <0.0080 | <0.044 | <0.022 | <0.0080 |
| Pentachlorophenol | mg/L | **100** | <0.016 | <0.016 | <0.080 | <0.024 | <0.016 JL | <0.016 | <0.087 | <0.016 | <0.087 | <0.044 JL | <0.016 |
| Pyridine | mg/L | **5** | <0.020 | <0.020 | <0.10 | <0.030 | <0.020 | <0.020 | <0.11 | <0.020 | <0.11 | <0.055 | <0.020 |
| **IGNITABILITY** | °F | **<140** | >212 | -- | >212 | -- | >212 | -- | >212 | -- | >212 | >212 | -- |
| **IGNITABILITY, Solid** | mm/sec | Burn rate | -- | Negative | -- | Negative | -- | Negative | -- | Negative | -- | -- | Negative |
| **pH** | pH units | **<2, >12.5** | **5.45 J** | **6.01 J** | **9.35 J** | **8.40 J** | **8.03 J** | **7.76 J** | **7.45 J** | **7.01 J** | **7.69 J** | **7.89 J** | **8.83 J** |
| **REACTIVE CYANIDE** | mg/Kg | Reactive | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| **REACTIVE SULFIDE** | mg/Kg | Reactive | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |

Notes:
Samples collected by Effective Environmental

| | |
|---|---|
| < | analyte reported as non-detect by laboratory at associated MDL |
| ### | shaded values in yellow denote detections with exceedances of regulatory levels |
| **5** | bolded values are concentrations detected above MDL |
| J | reported concentration is estimated |
| L | bias potentially low |
| MDL | method detection limit |
| SVOC | semi-volatile organic compound |
| TCLP | toxicity characteristic leaching procedure |
| VOC | volatile organic compound |

EHS Support consider it done

**Table 3: Equipment Waste Off-Site Disposal Shipment Summary and Manifest Log**
**US Oil Recovery**
**Equipment Waste Removal and Disposal Report**
**Pasadena, Harris County, Texas**

| | | | Shipment[3] (Pounds) | | | | |
|---|---|---|---|---|---|---|---|
| **Manifest No.** | **Destination[1]** | **Source[2]** | **Date** | **Hazardous Solids** | **Hazardous Liquids** | **Non-Haz Pounds** | **Disposal Type** |
| 002830608 GBF | Seabreeze | EQ-29[8] | 9/15/15 | | | 11,660 | Landfill |
| 002831807 GBF | Systech Envir. | EQ-2 | 10/21/15 | | 20,700 | | Cement Kiln |
| 002831859 GBF | Systech Envir. | EQ-2 | 10/27/15 | | 22,180 | | Cement Kiln |
| 005597238 FLE | DE | EQ-7 thru EQ-10 oil filters | 11/1/15 | 24,000 | | Note 4 | Incineration |
| 005597237 FLE | DE | EQ-7 thru EQ-10 oil filters | 11/2/15 | 24,000 | | Note 4 | Incineration |
| 007786535 FLE | DE | EQ-7 thru EQ-10 | 11/20/15 | 7,800 | | Note 4 | Incineration |
| 010255045FLE | DU | EQ-11, EQ-13 | 7/27/2017 | 28,180 | | | Incineration |
| 010255053FLE | DU | EQ-13 | 7/27/2017 | 20,680 | | | Incineration |
| 010255126FLE | DU | EQ-11 | 9/13/2017 | 23,495 | | Note 4 | Incineration |
| 010255127FLE | DU | EQ-13 | 9/13/2017 | 13,480 | | | Incineration |
| 010255128FLE | DU | EQ-14 | 9/13/2017 | 26,940 | | Note 4 | Incineration |
| 010255129FLE | DU | EQ-13, EQ-14 | 9/13/2017 | 28,100 | | | Incineration |
| 010255130FLE | DU | EQ-13, EQ-15 | 9/14/2017 | 21,220 | | Note 4 | Incineration |
| 010255131FLE | DU | EQ-11 | 9/14/2017 | 15,380 | | Note 4 | Incineration |
| 010255132FLE | DU | EQ-13, EQ-14 | 9/14/2017 | 17,340 | | Note 4 | Incineration |
| 010255133FLE | DU | EQ-1, Contain. | 9/14/2017 | 19,180 | | Note 4 | Incineration |
| 010255135FLE | DU | EQ-13 | 9/15/2017 | 22,420 | | | Incineration |
| 010255137FLE | DU | EQ-1 | 9/15/2017 | 23,540 | | Note 4 | Incineration |
| 010255138FLE | DU | EQ-3, Contain. | 9/18/2017 | 14,700 | | Note 4 | Incineration |
| 010255139FLE | DU | EQ-1 | 9/15/2017 | 32,420 | | Note 4 | Incineration |
| 010255141FLE | DU | EQ-13, EQ-12, Contain. | 9/13/2017 | 21,800 | | Note 4 | Incineration |
| 010255149FLE | DE | Haz Liquids | 9/18/2017 | | 26,740 | | Incineration |
| 010255150FLE | DE | Haz Liquids | 9/14/2017 | | 36,180 | | Incineration |
| 010255151FLE | DE | Haz Liquids | 9/14/2017 | | 41,700 | | Incineration |
| 010255156FLE | DE | Haz Liquids | 9/20/2017 | | | | Rejected Load[5] |
| 009527357FLE | DE | Haz Liquids | 9/21/2017 | | 480 | | Incineration |
| 010255157FLE | DE | Haz Liquids | 9/18/2017 | | | | Rejected Load[6] |
| 009527356FLE | DE | Haz Liquids | 9/19/2017 | | 29,840 | | Incineration |
| 010255181FLE | DE | Haz Liquids | 9/19/2017 | | 51,360 | | Incineration |
| 010255183FLE | DE | Haz Liquids | 9/22/2017 | | 30,680 | | Incineration |
| 010255184FLE | DU | EQ-3, Contain. | 9/18/2017 | | 26,600 | Note 4 | Incineration |
| 010255098FLE | WM Coastal Plains | Trash/PPE | 9/10/2017 | | | 3,580 | Landfill[7] |
| 010255103FLE | WM Coastal Plains | Trash/PPE | 9/12/2017 | | | 6,920 | Landfill[7] |
| 010255102FLE | WM Coastal Plains | Trash/PPE | 9/12/2017 | | | 6,680 | Landfill[7] |
| 010255147FLE | WM Coastal Plains | Trash/PPE | 9/13/2017 | | | 50,180 | Landfill[7] |
| 010255143FLE | WM Coastal Plains | Trash/PPE | 9/14/2017 | | | 13,780 | Landfill[7] |
| 010255144FLE | WM Coastal Plains | Trash/PPE | 9/14/2017 | | | 7,980 | Landfill[7] |
| 010255145FLE | WM Coastal Plains | Trash/PPE | 9/15/2017 | | | 16,820 | Landfill[7] |
| 010255146FLE | WM Coastal Plains | Trash/PPE | 9/16/2017 | | | 4,860 | Landfill[7] |
| 010255185FLE | DU | EQ-1 | 9/18/2017 | 26,740 | | Note 4 | Incineration |
| | | | **Total Pounds:** | **411,415** | **286,460** | **122,460** | |

Total material manifested as hazardous = 697,875

EHS Support consider it done

**Table 3: Equipment Waste Off-Site Disposal Shipment Summary and Manifest Log**
**US Oil Recovery**
**Equipment Waste Removal and Disposal Report**
**Pasadena, Harris County, Texas**

**Notes:**

1 - Destination Codes are described below

| | |
|---|---|
| DE = Clean Harbors Deer Park Facility in in LaPorte, TX | Disposal by incineration |
| DU = Clean Harbors Facility in San Leon, TX | Disposal by Thermal Absorption or Incineration (TA or Incin.) |
| Seabreeze = SeaBreeze Env. Landfill in | Disposal by landfill |
| Systech Envir. = Systech Environmental in Fredonia, Kansas | Disposal by cement kiln |
| Waste Mn = Waste Management Coastal Plains facility in Alvin, TX | Disposal by landfill |

2 - Source information came from manifests and Clean Harbors shipment logs.
3 - Net Pounds were obtained from weight tickets performed at the receiving disposal sites.
4 - Material characterized Non-hazardous from EQ-01, EQ-3, EQ-7 thru EQ-12, EQ-14, EQ-15 was shipped as Hazardous material to CHES for incineration or thermal absorption.
5 - Shipment with manifest 010255156FLE was rejected and returned. It was resampled and shipped under manifest 009527357FLE.
6 - Shipment with manifest 010255157FLE was rejected and returned. It was resampled and shipped under manifest 009527356FLE.
7 - The non-metalic materials removed from the site referenced in Section 2.4 were placed in various roll-off boxes with other project materials.
8 - Table 1A lists the contents of EQ-29 as liquid. The shipping manifests described the material as "non-regulated material (sludge)".

Total Waste in 2015 = 110,340 lbs (42,880 lbs. hazardous material to Cement Kiln, 55,800 lbs. used oil filters to incineration and 11,660 lbs. to landfill)
Total Waste in 2017 = 709,995 lbs (355,615 lbs. hazardous solid material, 243,580 lbs. hazardous liquid material and 110,800 lbs. non-hazardous material)

Total pounds of material shipped as Non-Hazardous = 122,460
(11,660 pounds liquid/sludge material and 110,800 pounds of spent PPE, expendable field equipment, and other non-hazardous trash)

Total materials shipped as Hazardous Solids (pounds) = 411,415
Total materials shipped as Hazardous Liquids (pounds) = 286,460
697,875 Total Pounds of Material Manifested and Shipped as Hazardous Material
- Total pounds of material shipped as hazardous and sent to incineration that contain materials charecterized as non-hazardous = 357,575

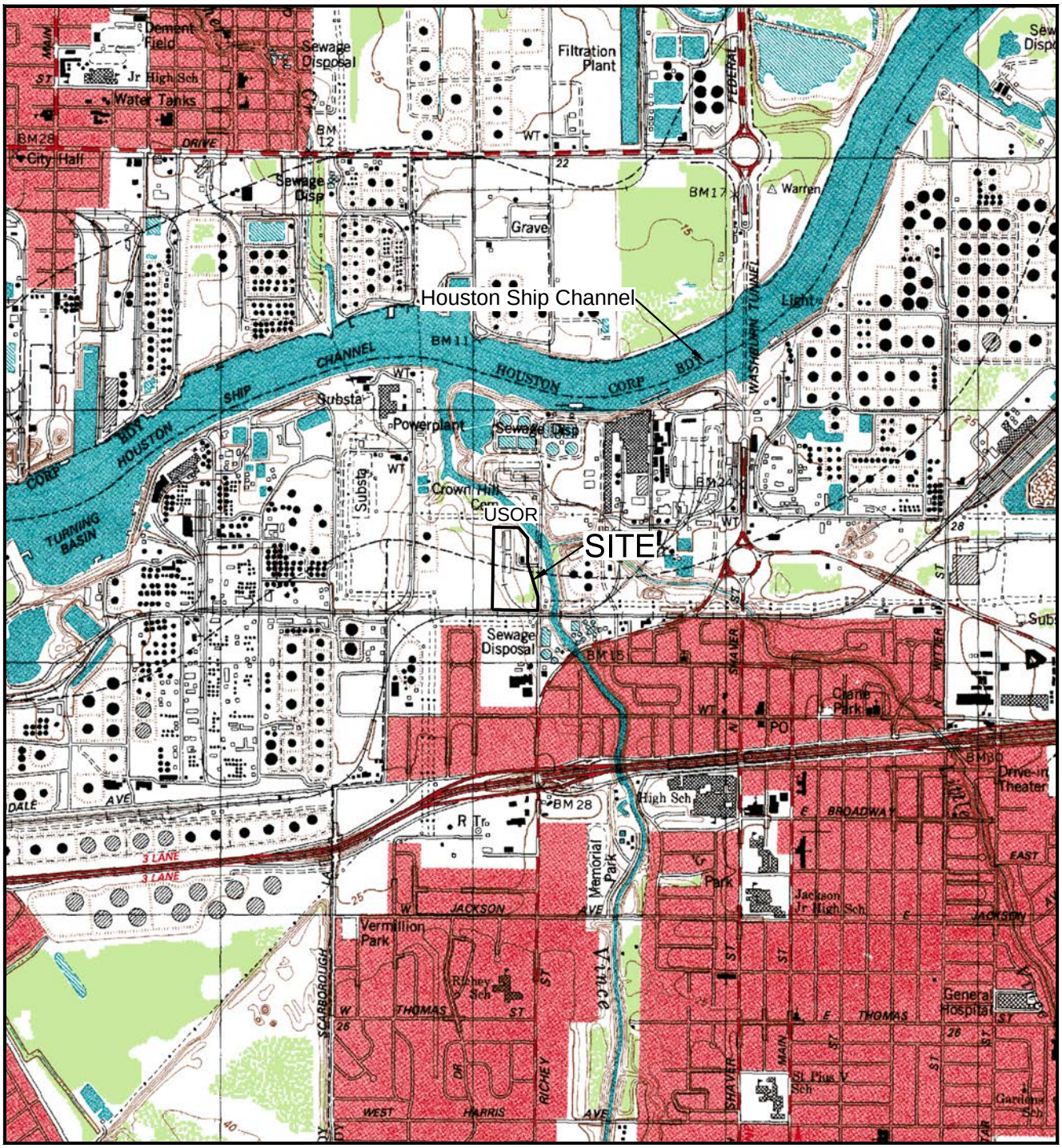
EHS Support consider it done

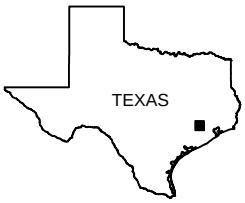
# Table 4

**Disposal of the total waste associated with the Process Equipment Waste Removal and Disposal Project**

| Waste Type | Quantity (pounds) | Disposal Site | Disposal Method |
|---|---|---|---|
| Non-hazardous Solids | 11,660 | Seabreeze Environmental Landfill, Angleton, Texas | Landfill |
| Non-hazardous Solids | 110,800 | Waste Management Coastal Plains facility in Alvin, TX | Landfill |
| Hazardous Solids | 411,415 | Clean Harbors Deer Park Facility, LaPorte, TX | Incineration |
| Hazardous Liquids | 42,880 | Systech Environmental, Fredonia, Kansas | Cement Kiln |
| Non-haz and Hazardous Liquids | 243,580 | Clean Harbors Deer Park Facility, LaPorte, TX | Incineration |

# FIGURES




QUADRANGLE LOCATIONS

N

Scale in Feet

0 1000 2000

SOURCE:
Base map from www.tnris.gov, Pasadena, TX 7.5 min. USGS quadrangle dated 1982.

**US OIL RECOVERY SUPERFUND SITE**

PASADENA, HARRIS COUNTY, TEXAS

Figure 1

**USOR SITE VICINITY MAP**

| | | |
|---|---|---|
| PROJECT: 1737 | BY: AJD | REVISIONS |
| DATE: DEC., 2017 | CHECKED: EFP | |

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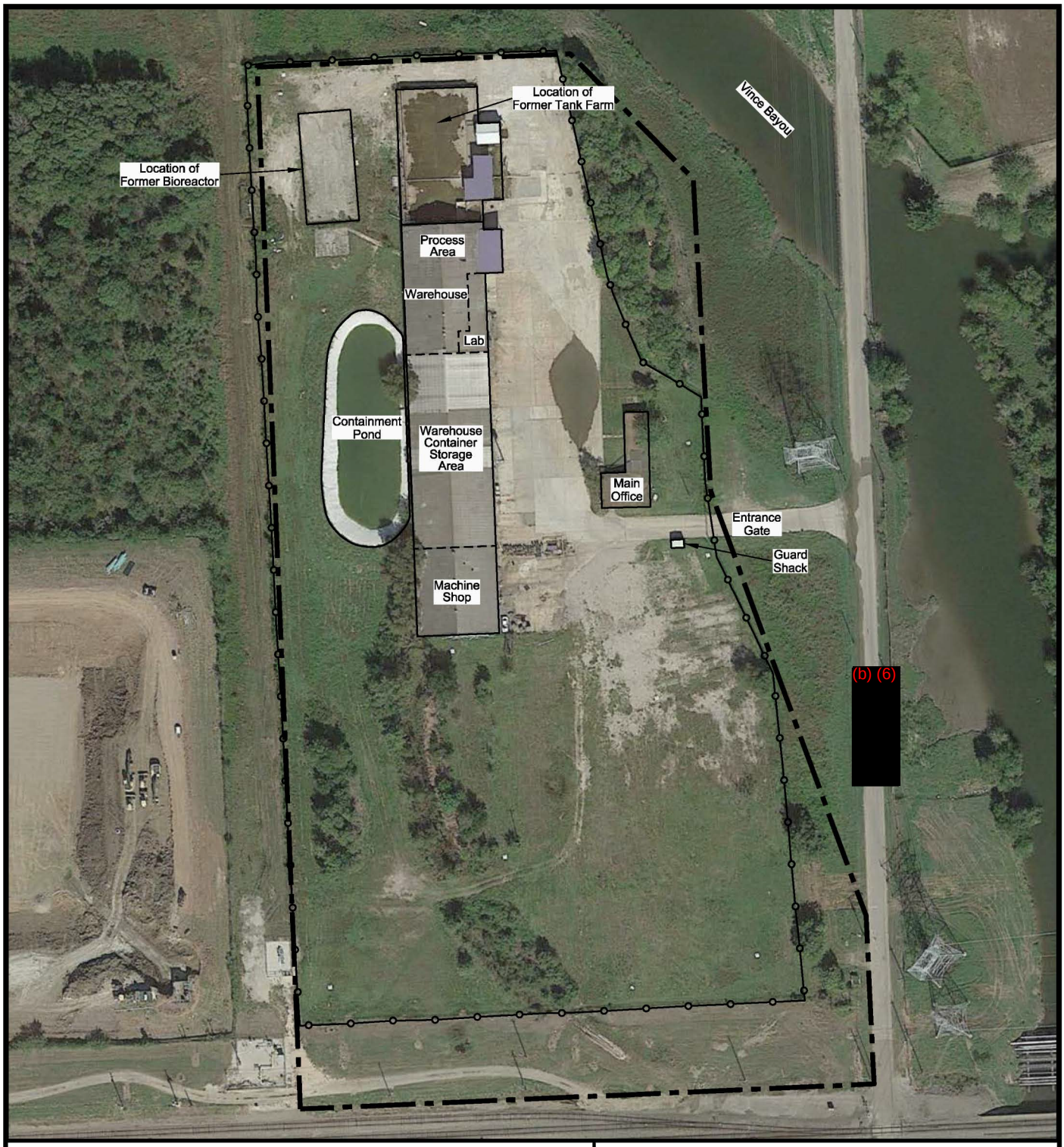
CONSULTING ENGINEERS AND SCIENTISTS




## EXPLANATION

Approx. Property Boundary

Approx. Security Fence

N

Approx. Scale in Feet

0 75 150

Source:
Imagery taken from Google Earth, photography dated 10/28/17.

# US OIL RECOVERY SUPERFUND SITE

PASADENA, TEXAS

Figure 2

## USOR SITE LAYOUT

| | | |
|---|---|---|
| PROJECT: 1737 | BY: AJD | REVISIONS |
| DATE: MAR., 2018 | CHECKED: EFP | |

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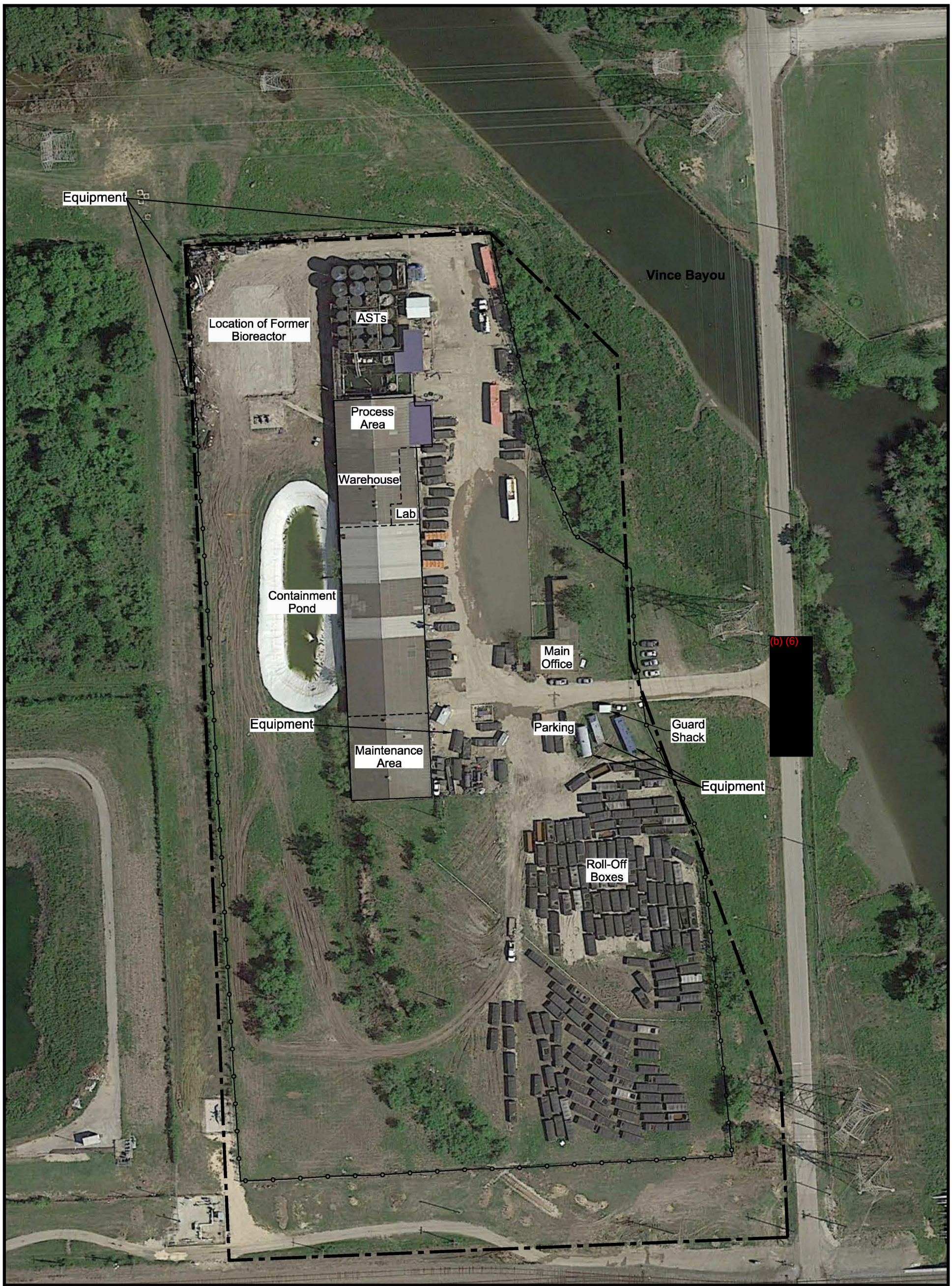


**EXPLANATION**

Approx. Property Boundary

Approx. Security Fence

N

Approx. Scale in Feet

0 50 100

Source:
Imagery taken from Google Earth, photography dated April 8, 2014.

**US OIL RECOVERY SUPERFUND SITE**

PASADENA, HARRIS COUNTY, TEXAS

Figure 3

**SITE MAP**

| PROJECT: 1737 | BY: AJD | REVISIONS |
|---|---|---|
| DATE: MAR., 2018 | CHECKED: EFP | |

**PASTOR, BEHLING & WHEELER, LLC**

CONSULTING ENGINEERS AND SCIENTISTS

## APPENDIX A: QUALITY ASSURANCE SAMPLING PLAN – ADDENDUM 1

# Quality Assurance Sampling Plan – Addendum 1
# Above Ground Storage Tanks Waste Removal

## Former U.S. Oil Recovery Site
## 400 N. Richey Street
## Pasadena, Texas

Prepared for:

**US Oil Recovery Site PRP Group**

Prepared by:

**Effective Environmental/EHS Support LLC**

Date:

**July 2014**

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List of Tables

Table 1 – Analytical Methods (liquids)

Table 2 – Analytical Methods (sludges)

List of Acronyms and Abbreviations

| | |
|---|---|
| AST | Above Ground Storage Tank |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| COC | Chain-of-Custody |
| EPA | U.S Environmental Protection Agency |
| MCC | MCC Recycling Facility |
| QA/QC | Quality Assurance/Quality Control |
| QAPP | Quality Assurance Project Plan |
| QASP | Quality Assurance Sampling Plan |
| QC | Quality Control |
| USOR | U.S. Oil Recovery facility |
| VOC | Volatile Organic Compounds |

# 1. Introduction

This document is Addendum 1 to the May 2012 Quality Assurance Project Plan for the U.S. Oil Recovery ("USOR") facility located at 400 North Richey Street in Pasadena, Texas 77506 (referred to as the “Site”). This Quality Assurance Sampling Plan (QASP) has been prepared for Above Ground Storage Tank (AST) sampling activities and describes the field and laboratory procedures that will be implemented for sampling of sludges and liquids from ASTs on the Site. Specifically, this QASP will be used as the framework around which the sampling, testing, and analytical activities will be conducted during the investigation and classification of waste materials contained in ASTs on the Site. This plan was prepared in accordance with general United States Environmental Protection Agency (EPA) guidance and the methods and procedures described herein were developed in general accordance with conventionally accepted sampling and analytical objectives.

# 2. Objective and Scope

This QASP describes the methods and procedures that will be utilized during the field sampling activities and laboratory analysis of samples from ASTs on the Site. The objective of the QASP is to document the fundamental techniques that will be used consistent with the guidelines of the CERCLA process. Where not explicitly described herein, field sampling will be completed in accordance with applicable EPA guidance and conventional sampling and analytical approaches. Additional detail and refinement of Quality Assurance/Quality Control (QA/QC) procedures are provided in the Quality Assurance Project Plan (QAPP) dated May, 2012.
To the extent that additional sampling and analytical testing is performed beyond the scope of this QASP, those activities will be incorporated by reference to the scope of this QASP.

# 3. Above Ground Storage Tank Liquid and Sludge Level Measurement

The term “AST” will be used in this procedure to refer to the variety of above ground storage tanks and process vessels that may contain materials on the site.

The quantities of liquid and sludge in each AST will be estimated as part of the preparation for their removal and disposal. This will be done by measuring the level of liquid and sludge in each AST and using the level measurements along with the measured physical dimensions of the AST to estimate volumes.

The top of the liquid in each AST will be measured by lowering a weighted measuring tape from an opening in the top of each AST until it contacts the liquid. The distance from the top of the liquid to the top of the tank will be recorded to the nearest 0.01 feet. An interface probe will also be used to measure the distance from the top of the tank to the top of the liquid. The interface probe will then be lowered further into the contents of the tank to determine if levels of oils, water, organic liquids and sludge can be determined by this method. The measurement of the distances determined by the interface probe will be recorded to the nearest 0.01 feet.

The top of the sludge in each AST will be measured by lowering a weighted measuring tape, or using a ridged probe pole, from an opening in the top of each AST until it is tactilely determined that the probe has contacted the sludge (i.e., when a significant change in the perceived resistance to further lowering of the tape or pole is observed). The distance from the sludge contact to the top of the tank will be recorded to the nearest 0.01 feet.

# 4. Field Procedures and Methods

This section includes a description of the procedures and methods for collecting samples from ASTs.

## 4.1 Sampling Procedures – Liquids and Sludges contained in ASTs

### 4.1.1 Liquids

ASTs will be accessed via existing catwalks and/or manlifts (as necessary). Samples will be collected via the approximately 6" opening at the top of each AST (where available and accessible). Alternative access means, via other ports, valves or access point may be used if needed.

Representative samples from the full liquid layer of waste within each AST will be taken using a clean sludge judge and placed in a new 5 gallon plastic bucket (one bucket per AST). If there is more than one phase of liquid in the AST, each phase that can reasonably be separated for disposal will be individually sampled and analyzed. The material in each bucket will be homogenized before a representative sample is removed and placed in sample containers provided by the lab for analysis.

In conjunction with sample collection, the following additional information will be collected as practical:

- Tank diameter
- Tank height
- Liquid level (each measurable phase)
- Sludge level
- Manway size and location
- Sample collection depth (range of distance from tank access point)

In addition, any observations regarding the presence of oil material or layers within the samples will be noted by sampling personnel. Upon collection and mixing in clean buckets, the samples will be transferred directly into laboratory-supplied sample containers and submitted to ALS of Houston, Texas (NELAP-certified laboratory) under standard chain-of-custody procedures.

### 4.1.2 Sludge

ASTs will be accessed via existing catwalks and/or manlifts (as necessary). Samples will be collected via the approximately 6" opening at the top of each AST (where available and accessible). Alternative access means, via other ports, valves or access point may be used if needed.

Representative samples from the full sludge layer of waste within each AST will be taken using a clean sludge judge or other device approved by EPA and placed in a new 5 gallon plastic bucket (one bucket per AST). The material in each bucket will be homogenized before a representative sample is removed and placed in sample containers provided by the lab for analysis.

Sample collection depth (range of distance from tank access point) and field observations about the physical properties of the sludge will be recorded.

### 4.2 Analytical Requirements

Samples will be analyzed per standard SW846 or EPA methods. Table 1 (liquids) and Table 2 (sludges) contain the potential list of analytical methods, containers, preservation requirements and maximum hold times that may be used for AST samples. The specific analytes for each AST sample will be selected from these lists as needed for waste classification and potential disposal facility requirements. All analytical procedures will be conducted in accordance with the Site QAPP. Additional analytical requirements beyond the scope of this addendum may be conducted on an as needed basis and will be presented to USEPA for approval before implementation.

During sample collection, sample containers will be filled so as to allow for laboratory analyses for TCLP–volatiles, TCLP-semi-volatiles, TCLP-metals and RCI (Reactivity, Corrosivity (pH), and Ignitability).

### 4.3 Decontamination

If the sampling equipment is reused, then decontamination will be performed on the sampling equipment prior to sampling in cases where the device has been previously used, and after sampling. The equipment decontamination procedures for non-disposable sampling equipment will consist of the following:

- Scrub with a stiff bristle brush using non-phosphate soap and potable water;
- Rinse with potable water and
- Rinse with distilled water.

# 5. Sample Management Procedures

## 5.1 Analytical Samples

Sample management is an important aspect for collecting and tracking analytical samples for characterization of Site waste and media. Samples will be placed immediately into clean unused laboratory-supplied containers and labeled. The label will have a unique sample identification, the time and date sampled, the parameters to be analyzed, the preservatives (if any), and the sampler's initials.

The sample identification numbers for each sampling effort will appear on sample labels, sample tracking matrix forms, chain-of-custody (COC) forms and all other applicable documentation used during sampling activities. The sample identification will change when the media changes or the location changes but will not change because different analyses are requested for the same media at the same sample location. For example, a sludge sample collected at the same location, date and time for TCLP metals and TCLP volatiles would have the same sample identification and multiple containers.

Samples will be transferred into containers with appropriate preservatives for the type of analysis needed (Tables 1 and 2 provide a list of all potential analyses including the planned analyses described in Section 4.2 and additional analyses that may be selected based on field observations). Samples will be placed immediately in a cooler with sufficient ice to maintain the samples at 4 degrees C.

A COC form will be completed for each sample shipment. The time and date the cooler is relinquished to the courier for the local analytical laboratory will be indicated on the COC form.

## 5.2 Field Quality Control Procedures

Field Quality Control (QC) procedures that will be utilized are described below with further details contained in the Site QAPP. QC samples will be collected in the field along with the primary samples. The purpose of the QC samples is to assess the sampling variability, if any, introduced to the samples as the result of sampling, handling, shipping, or analysis. Since samples collected during AST sampling activities will be collected for characterization and disposal purposes, it is anticipated that QC samples will typically only include only trip blanks, temperature blanks and duplicates.

### 5.2.1 Trip Blanks and Temperature Blanks

A trip blank is used to determine whether contamination originates from sample containers or other factors during sample transport. A trip blank originates at the laboratory as a 40-mL vial typically used for VOC analysis. The vial is filled at the laboratory with reagent-grade, organic-free water. The trip blanks are then transported to the site with the empty containers that will be used for sample collection. The trip blanks are stored at the site until the proposed field samples have been collected. One trip blank will be performed for each cooler used to transport samples to the lab. The trip blank is not opened until it is returned to the laboratory. Trip blanks will be analyzed for VOCs via EPA SW-846 Method 8260.

A temperature blank will be included with each sample cooler containing samples. The blank will consist of a laboratory prepared and supplied unpreserved container filled with potable water and labeled as "Temperature Blank." Because environmental parameters are not analyzed from this blank, full bottle labels are not required for these containers. The laboratory records the temperature of this blank immediately upon receipt of the samples.

### 5.2.2 Duplicates

Duplicate samples will be submitted for analysis for all parameters specified for those samples. Unless otherwise indicated by analytical results or other factors, approximately 10% of all samples will be duplicates. These duplicates will be assigned separate sample identification numbers from actual field samples such that the laboratory will not be able to identify that the sample is a duplicate.

Duplicate samples are collected in addition to, and at the same time, as a primary sample. Field replication provides information on the precision and homogeneity of sampling, handling, shipping, storage, preparation, and analysis techniques because duplicate samples ideally are equally representative of the sample matrix at that point in time and are similarly influenced by sampling and handling conditions.

# Tables

**Table 1 – Analytical Methods**
**USOR Site – AST Sampling Analysis**

**Liquid Samples**

| Analytical Parameters | Matrix | Analytical Method | Containers (Number, size and type | Preservation Requirements | Maximum Holding Time |
|---|---|---|---|---|---|
| Volatiles | Liquid | 8260 | 3 X 40ml VOA | HCL/ 4°C | 14 days for analysis |
| Semi-Volatiles | Liquid | 8270 | 2 X Liter Amber Glass | 4°C | 7 days to extraction;<br>40 days to analyze |
| Total Metals (except Hg) | Liquid | 6020 | 1 x 250 ml plastic | HNO3/4°C | 6 months |
| Total Metals (mercury) | Liquid | 7470 | Combine with metals | HNO3/4°C | 28 days |
| TCLP Volatiles | Liquid | 1311/8260 | 3 X 40ml VOA | 4°C | 7 days to filter,<br>7 days to analysis |
| TCLP Semi-Volatiles | Liquid | 1311/8270 | 2 x 32 oz WMG | 4°C | 7 days to filter, 7 days to extraction; 40 days to analyze |
| TCLP Metals (except Hg) | Liquid | 1311/6020 | Combine with TCLP SVOC's | 4°C | 180 days to filter/ 180 days to analyze |
| TCLP Metals (mercury) | Liquid | 1311/7470 | Combine with TCLP SVOC's | 4°C | 28 days filter/ 28 days analyze |
| Reactivity, Corrosivity (pH), Ignitability | Liquid | SW-846 | 1 X Liter plastic | 4°C | 7 days |
| Total Petroleum Hydrocarbons | Liquid | TX1005 | 3 X 40ml VOA | HCL/ 4°C | 14 days extract/ 14 days analyze |
| Total Halogens | Liquid | 9020 | Combine with RCI | 4°C | 28 days |

**Table 2 – Analytical Methods**
**USOR Site – AST Sampling Analysis**
**Solid Samples**

| Analytical Parameters | Matrix | Analytical Method | Containers (Number, size and type | Preservation Requirements | Maximum Holding Time |
|---|---|---|---|---|---|
| Volatiles | Solid/Sludge | 8260 | 1 X 8 oz Glass | 4°C | 14 days for analysis |
| Semi-Volatiles | Solid/Sludge | 8270 | 1 X 32 oz. Glass | 4°C | 14 days to extraction; 40 days to analyze |
| Total Metals (except Hg) | Solid/Sludge | 6020 | Combine with SVOCs | 4°C | 6 months |
| Total Metals (mercury) | Solid/Sludge | 7470 | Combine with SVOCs | 4°C | 28 days |
| TCLP Volatiles | Solid/Sludge | 1311/8260 | Combine with VOCs | 4°C | 14 days to tumble, 14 days to analysis |
| TCLP Semi-Volatiles | Solid/Sludge | 1311/8270 | Combine with SVOCs | 4°C | 14 days to tumble, 14 days to extraction; 40 days to analyze |
| TCLP Metals (except Hg) | Solid/Sludge | 1311/6020 | Combine with SVOCs | 4°C | 6 months tumble/ 6 months to analyze |
| TCLP Metals (mercury) | Solid/Sludge | 1311/7470 | Combine with SVOCs | 4°C | 28 days tumble/ 28 days analyze |
| Reactivity, Corrosivity (pH), Ignitability | Solid/Sludge | SW-846 | Combine with SVOCs | 4°C | 7 days |
| Total Petroleum Hydrocarbons | Solid/Sludge | TX1005 | Combine with SVOCs | 4°C | 14 days to extract/ 14 days to analyze |
| Total Halogens | Solid/Sludge | 9020 | Combine with SVOCs | 4°C | 28 days |

# APPENDIX B: LABORATORY REPORTS OF ANALYSIS AND DATA VALIDATION REPORT – EQUIPMENT

# Level II Data Validation Report

| | | | |
|---|---|---|---|
| **To:** | Eric Pastor, P.E. | **Date:** | August 11, 2015 |
| **From:** | Brenda Basile, Ph.D. | **File:** | Attachment 2 RAWP Equipment Waste DUS.doc |
| **RE:** | Review of Equipment Waste Characterization Samples Collected March 2015 | **CC:** | Roberta Russell<br>Bob Conger, EHS Support |

PBW reviewed three laboratory reports from ALS Environmental providing the analytical results for waste samples collected by Effective Environmental from March 3, 2015 to March 6, 2015 at the U. S. Oil Recovery (USOR) Superfund site. The reports were reviewed for conformance to the requirements of *SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods* (SW-846), *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (June 2008), *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review* (January 2010), and the USOR Quality Assurance Project Plan (QAPP) for Site Monitoring and Stabilization (May 2012). The purpose of these sample events were to provide waste characterization data for the disposal of the equipment contents.

Waste samples were analyzed using the following methods:

- SM 4500H+ B – pH Value Electrometric Method
- SW-846 - 7.3.3.2 Reactive Cyanide
- SW-846 - 7.3.4.2 Reactive Sulfide
- SW-846 1010 - Test Methods for Flash Point by Pensky-Martens Closed-Cup Tester
- SW-846 1030 – Ignitability of Solids (Burn Rate)
- SW 846 6020A – Inductively Coupled Plasma – Mass Spectrometry
- SW 846 7470A – Mercury in Liquid Waste (Manual Cold Vapor Technique)
- SW-846 8260C - Volatile Organic Compounds by Gas Chromatography-Mass Spectrometry (GC/MS)
- SW-846 8270 – Semivolatile Organic Compounds by Gas Chromatography-Mass Spectrometry (GC/MS)
- SW-846 9045B – Soil and Waste pH

Quality control (QC) data were reviewed as described in the QAPP and the results of the review are discussed in this memorandum. ALS Environmental (Houston, Texas) is accredited under Texas certificate T104704231-14-14 for the matrices, methods, and analytes reported in this laboratory report. ALS Environmental (Holland, Michigan) is accredited under Texas certificate T104704494-15-6 for cyanide and sulfide.

## Introduction

The waste and associated QC samples were leached using the toxicity characteristic leaching procedure (TCLP) (SW-846 1311) and analyzed for TCLP volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and metals using the methods listed above. In addition, samples were analyzed for reactivity (cyanide and sulfide), corrosivity, and ignitability (RCI) using the methods listed above. Table 1 lists

the sample identifications cross-referenced to laboratory identifications and the analyses performed for each sample. Other than USOR EQ 1 Heated&Agitated Frac Tank (solid) and USOR EQ 2 Dissolved Air Flotation Tank (solid), samples were analyzed for parameters as listed on the chain-of-custody (C-O-C). USOR EQ 1 Heated&Agitated Frac Tank (solid) and USOR EQ 2 Dissolved Air Flotation Tank (solid), collected on March 4, were cancelled by Effective. The equipment was resampled on March 5. The sample receipt checklist for laboratory report HS15030223 indicates a discrepancy between the bottle labels for USOR-EQ-03 Light Blue Horizontal Cylinder. The correct field identification was USOR-EQ-14-ICP Tank B (solid). The laboratory issued a revised report. No data were qualified due to this field sampling error.

Data qualified due to exceedances of QC criteria are listed in Table 2.

**QC Results**

PRESERVATION AND HOLDING TIMES

Samples were received at the laboratory at temperatures less than 6°C.

Samples for pH determination are to be “analyzed immediately”. Samples were analyzed in the laboratory; all pH data is qualified as estimated (J) due to holding time exceedances. The remaining analyses were performed within method and QAPP holding times.

BLANKS

Analytes detected in field or laboratory quality control blanks are listed in Table 3. Data are qualified if sample concentrations are less than five times the blank concentration. Data are qualified as shown on Table 2.

SURROGATE RECOVERIES AND INTERNAL STANDARD AREAS

The laboratory flags data using statistically derived control limits as a reference. Surrogate recoveries outside the QAPP acceptance criteria are listed in Table 4. No VOC surrogate recoveries were outside acceptance criteria. SVOC sample data are not qualified if recoveries exceed the QAPP limits and the analyte is not detected. SVOC sample data are qualified as estimated with a low bias (JL) if two or more acid or base-neutral surrogates were below the acceptance criteria. Field sample data are qualified as shown in Tables 2 and 4.

LABORATORY CONTROL SAMPLES

The laboratory flags data using statistically derived control limits as a reference. Laboratory control samples (LCS) and laboratory control sample duplicate (LCSD) (if analyzed) recoveries (%R) outside the QAPP acceptance criteria are listed in Table 4. LCS/LCSD precision (as relative percent difference [RPD]) was within QAPP criteria. Field sample data are qualified as shown in Tables 2 and 4.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Batch or non-project sample data were not evaluated. The laboratory flags data using statistically derived control limits as a reference. Matrix spike/matrix spike duplicate (MS/MSD) recoveries (%R) outside the QAPP criteria are listed in Table 4. Sample data are not qualified if recoveries exceed the QAPP limits and the analyte is not detected. Field sample data are qualified as shown in Tables 2 and 4.

The RPD for the reactive cyanide MS/MSD for field sample USOR-EQ-03 L/Blue Horizontal Cylinder was incorrectly calculated. The correct RPD is within QAPP criteria. No data were qualified.

FIELD PRECISION

Field duplicate precision is summarized in Table 5. Waste field duplicate precision is evaluated using 50 relative percent difference or ± the method quantitation limit as the criteria. Field duplicate precision outside acceptance criteria are listed in Table 5. Data are qualified as shown on Table 2 and Table 5.

**SUMMARY**

Analytical data are usable for determining concentrations in waste samples collected from equipment at the USOR Site.

**Table 1 Cross-Reference Field Sample Identifications and Laboratory Identifications**

| Field Identification | Laboratory Identification | VOCs | SVOCs | Metals | RCI | Comment |
|---|---|---|---|---|---|---|
| USOR-EQ-03 L/Blue Horizontal Cylinder | HS15030132-01 | X | X | X | X | Sludge; Reactive cyanide MS/MSD |
| USOR-EQ-11 Large Blue Hopper | HS15030132-02 | X | X | X | X | Solid; SVOC MS; Ignitability duplicate |
| Equipment Blank #1 | HS15030132-03 | X | X | X | X | Equipment Blank |
| Trip Blank | HS15030132-04 | X | | | | Trip Blank |
| USOR-EQ-1 Heated&Agitated Frac Tank | HS15030179-01 | X | X | X | X | Liquid; Ignitability duplicate |
| USOR-EQ-14-ICP Tank B | HS15030179-02 | X | X | X | X | Liquid |
| USOR-EQ-15 Rectangular Mix Tank | HS15030179-03 | X | X | X | X | Liquid; Reactive Cyanide MS/MSD |
| Field Dup #1 | HS15030179-04 | X | X | X | X | Field duplicate of USOR-EQ-15 Rectangular Mix Tank |
| Equipment Blank #2 | HS15030179-05 | X | X | X | X | Equipment Blank |
| USOR-EQ-13-ICP Tank A | HS15030179-06 | X | X | X | X | Solid; pH duplicate |
| USOR-EQ-15 Rectangular Mix Tank | HS15030179-07 | X | X | X | X | Solid |
| USOR-EQ-12 Rectangular Mix Tank | HS15030179-08 | X | X | X | X | Liquid |
| Trip Blank | HS15030179-10 | X | | | | Trip Blank |
| Trip Blank 2 | HS15030179-11 | X | | | | Trip Blank |
| Trip Blank 3 | HS15030179-12 | X | | | | Trip Blank |
| USOR EQ 1 Heated&Agitated Frac Tank | HS15030179-13 | | | | | Cancelled |
| USOR-EQ-14-ICP Tank B | HS15030223-01 | X | X | X | X | Solid; note incorrect field identification on C-O-C; laboratory corrected field identification |
| USOR-EQ-01 Heated & Agitated Frac Tank | HS15030223-02 | X | X | X | X | Solid; Reactive cyanide MS/MSD |
| Trip Blank | HS15030223-04 | X | | | | Trip Blank |

VOCs –Volatile Organic Compounds
SVOCs – Semivolatile Organic Compounds
RCI – Reactivity, Corrosivity, Ignitability
MS/MSD – matrix spike/matrix spike duplicate

**Table 2 Qualified Data**

| Field Identification | Analyte | Qualification | Reason for Qualification |
|---|---|---|---|
| All | pH | J | Holding time exceeded |
| USOR-EQ-1 Heated&Agitated Frac Tank | Barium | U | Analyte detected in quality control blank |
| Equipment Blank #1 | SVOCs | JL | Surrogate recovery below acceptance criteria |
| Field Dup #1 | Acid SVOCs | JL | Surrogate recovery below acceptance criteria |
| USOR-EQ-15 Rectangular Mix Tank | Benzene | J | Field duplicate precision |
| Field Dup #1 | Benzene | J | Field duplicate precision |
| USOR-EQ-15 Rectangular Mix Tank | Chromium | J | Field duplicate precision |
| Field Dup #1 | Chromium | J | Field duplicate precision |
| Equipment Blank #2 | Acid SVOCs | JL | Surrogate recovery below acceptance criteria |
| USOR-EQ-12 Rectangular Mix Tank | Acid SVOCs | JL | Surrogate recovery below acceptance criteria |
| USOR-EQ-14-ICP Tank B (liquid) | Barium | U | Analyte detected in quality control blank |
| USOR-EQ-15 Rectangular Mix Tank (Liquid) | Barium | U | Analyte detected in quality control blank |
| USOR-EQ-15 Rectangular Mix Tank (Solid) | Barium | U | Analyte detected in quality control blank |
| USOR-EQ-03 Light Blue Horizontal Cylinder (Solid) | Barium | U | Analyte detected in quality control blank |
| JL – Data are estimated due to exceedances of one or more quality control criteria; bias likely low<br>U – Analyte not detected at associated reported result | | | |

**Table 3 Blank Detections**

| Identification | Analyte | Concentration | Qualified Concentration |
|---|---|---|---|
| Equipment Blank #1 | Barium | 0.00944 mg/L | 0.0472 mg/L |
| MBLKT1-91155 | Barium | 0.02855 mg/L | 0.143 mg/L |
| MBLKT1-91289 | Barium | 0.03256 mg/L | 0.162 mg/L |
| Equipment Blank #2 | 2-Methylphenol | 0.00015 mg/L | 0.00075 mg/L |
| Equipment Blank #2 | 3&4-Methylphenol | 0.00027 mg/L | 0.00081 mg/L |
| Equipment Blank #2 | Barium | 0.00901 mg/L | 0.045 mg/L |
| Equipment Blank #2 | Selenium | 0.00108 mg/L | 0.0054 mg/L |

**Table 4 Precision and Recovery Exceedances**

| Sample | Analyte | Spike Recovery | Spike Duplicate Recovery[a] | Precision | Qualification |
|---|---|---|---|---|---|
| Equipment Blank #1 | 2,4,6-Tribromophenol | 53.2 | NA | NA | JL SVOCs |
| Equipment Blank #1 | 2-Fluorobiphenyl | 50.8 | NA | NA | JL SVOCs |
| Equipment Blank #1 | 2-Fluorophenol | 54.7 | NA | NA | JL SVOCs |
| Equipment Blank #1 | Nitrobenzene-d5 | 54.6 | NA | NA | JL SVOCs |
| Equipment Blank #1 | Phenol-d6 | 57.8 | NA | NA | JL SVOCs |
| LCS/LCSD-91136 | Hexachlorobenzene | 63.2 | 58.4 | 7.87 | None; average > 60 |
| USOR-EQ-14-ICP Tank B (liquid) | 2-Fluorophenol | 35.7 | NA | NA | None; only one low |
| Field Dup #1 | 2,4,6-Tribromophenol | 58.9 | NA | NA | JL Acid SVOCs |
| Field Dup #1 | 2-Fluorophenol | 41.2 | NA | NA | JL Acid SVOCs |
| Field Dup #1 | Phenol–d6 | 42.1 | NA | NA | JL Acid SVOCs |
| USOR-EQ-12 Rectangular Mix Tank | 2,4,6-Tribromophenol | 55.7 | NA | NA | JL Acid SVOCs |
| USOR-EQ-12 Rectangular Mix Tank | 2-Fluorophenol | 46.4 | NA | NA | JL Acid SVOCs |
| USOR-EQ-12 Rectangular Mix Tank | Nitrobenzene-d5 | 52.5 | NA | NA | None; only one base-neutral low |
| USOR-EQ-12 Rectangular Mix Tank | Phenol-d6 | 52.7 | NA | NA | JL Acid SVOCs |
| USOR-EQ-29 Large Rectangular Box | 2-Fluorophenol | 43.9 | NA | NA | None; only one low |
| Equipment Blank #2 | 2,4,6-Tribromophenol | 55.7 | NA | NA | JL Acid SVOCs |
| Equipment Blank #2 | 2-Fluorobiphenyl | 56.2 | NA | NA | None; only one base-neutral low |
| Equipment Blank #2 | 2-Fluorophenol | 55.3 | NA | NA | JL Acid SVOCs |
| USOR-EQ-13-ICP Tank A | 2-Fluorophenol | 53.5 | NA | NA | None; only one low |
| Base/neutrals: 2,4-dinitrotoluene, hexachlorobenzene, hexachlorobutadiene, hexachloroethane, nitrobenzene, pyridine<br>Acids: 2,4,5-Trichlorophenol, 2,4,6-trichlorophenol, cresols (total), pentachlorophenol | | | | | |

**Table 5 Field Precision**

| Field Identification | Analyte | Sample Result | Duplicate Result | RPD | Qualification |
|---|---|---|---|---|---|
| USOR-EQ-15 Rectangular Mix Tank / Field Dup #1 | 2-Butanone | 1.7 | 1.9 | 11 | A |
| | Benzene | 0.35 | 0.074 | 130 | J |
| | Trichloroethene | 0.026 | < 0.010 | NA | A |
| | Cresols, Total | 3.9 | 2.8 | 33 | A |
| | Arsenic | 0.0212 | 0.0166 | 24 | A |
| | Barium | 0.140 | < 0.0450 | NA | A |
| | Chromium | 0.2850 | 1.88 | 147 | J |
| | Selenium | 0.0113 | 0.0236 | 70 | A (MQL) |
| RPD = ((SR - DR)*200)/ (SR + DR)<br>A – Acceptable<br>J – Estimated<br>MQL – Method quantiation limit (reporting limit)<br>NA – Not applicable | | | | | |

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March 12, 2015

Hiren Shah
Effective Environmental Inc.
9950 Chemical Road
Pasadena, TX 77507

Work Order: **HS15030132**

Laboratory Results for: **USOR Equ Assessment and Sampling 8181**

Dear Hiren,

ALS Environmental received 4 sample(s) on Mar 04, 2015 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

**Generated By: Jumoke.Lawal**

Dane J. Wacasey

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**Work Order:** HS15030132

## SAMPLE SUMMARY

| Lab Samp ID | Client Sample ID | Matrix | TagNo | Collection Date | Date Received | Hold |
|---|---|---|---|---|---|---|
| HS15030132-01 | USOR-EQ-03 L/Blue Horizontal Cylnder | Sludge | | 03-Mar-2015 16:02 | 04-Mar-2015 13:45 | ☐ |
| HS15030132-02 | USOR-EQ-11-Large Blue Hopper | Solid | | 03-Mar-2015 16:16 | 04-Mar-2015 13:45 | ☐ |
| HS15030132-03 | Equipment Blank # 1 | Liquid | | 03-Mar-2015 16:30 | 04-Mar-2015 13:45 | ☐ |
| HS15030132-04 | TRIP BLANK | Water | | 03-Mar-2015 00:00 | 04-Mar-2015 13:45 | ☐ |

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**Work Order:** HS15030132

**CASE NARRATIVE**

## Work Order Comments

- Sample received outside method holding time for pH. pH is an immediate test. Sample results are flagged with an "H" qualifier.

  The temperature at the time of pH is reported. Please note that all pH results are already normalized to a temperature of 25 °C.

- The analyses for Reactive Cyanide and Reactive Sulfide were subcontracted to ALS Environmental in Holland, MI.

## GCMS Semivolatiles by Method SW1311/8270

### Batch ID: 91156

Sample ID: **HS15030132-01**
Sample ID: **HS15030132-02**
- The GCMS semi-volatile extract of this sample was run at a dilution because the undiluted extract cause an instrument shutdown due to a high level of sample matrix interference.

## GCMS Semivolatiles by Method SW8270

### Batch ID: 91136

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

## GCMS Volatiles by Method SW1311/8260B

### Batch ID: R250809

Sample ID: **VSTD050**
- 2-Butanone exceeded %D limits for CCV. Samples are ND for this compound.

Sample ID: **HS15030194-13MS**
- MS and MSD are for an unrelated sample

### Batch ID: R250903

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

## GCMS Volatiles by Method SW8260

### Batch ID: R250657

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

### Batch ID: R250803

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

## Metals by Method SW1311/6020

### Batch ID: 91155

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

## Metals by Method SW7470

### Batch ID: 91117,91298

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

## Metals by Method SW6020

### Batch ID: 91106

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**Work Order:** HS15030132

**CASE NARRATIVE**

## Metals by Method SW6020

### Batch ID: 91106

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

## WetChemistry by Method SW1010

### Batch ID: R250865

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

## WetChemistry by Method SW9045B

### Batch ID: R250705

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

## WetChemistry by Method SM4500H+ B

### Batch ID: R250666

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

## WetChemistry by Method SW1030

### Batch ID: R250633

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

| | | |
|---|---|---|
| Client: | Effective Environmental Inc. | **ANALYTICAL REPORT** |
| Project: | USOR Equ Assessment and Sampling 8181 | WorkOrder:HS15030132 |
| Sample ID: | USOR-EQ-03 L/Blue Horizontal Cylnder | Lab ID:HS15030132-01 |
| Collection Date: | 03-Mar-2015 16:02 | Matrix:Sludge |

| ANALYSES | RESULT | QUAL | MDL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|
| **TCLP VOLATILES** | | **Method:SW1311/8260B** | | Leache:SW1311 / 05-Mar-2015 | Prep:SW1311 / 05-Mar-2015 | | Analyst: PC |
| 1,1-Dichloroethene | U | | 0.010 | 0.10 | mg/L | 20 | 10-Mar-2015 17:58 |
| 1,2-Dichloroethane | U | | 0.010 | 0.10 | mg/L | 20 | 10-Mar-2015 17:58 |
| 1,4-Dichlorobenzene | U | | 0.012 | 0.10 | mg/L | 20 | 10-Mar-2015 17:58 |
| **2-Butanone** | **0.14** | J | **0.020** | **0.20** | **mg/L** | 20 | 10-Mar-2015 17:58 |
| **Benzene** | **0.15** | | **0.012** | **0.10** | **mg/L** | 20 | 10-Mar-2015 17:58 |
| Carbon tetrachloride | U | | 0.012 | 0.10 | mg/L | 20 | 10-Mar-2015 17:58 |
| Chlorobenzene | U | | 0.0080 | 0.10 | mg/L | 20 | 10-Mar-2015 17:58 |
| Chloroform | U | | 0.012 | 0.10 | mg/L | 20 | 10-Mar-2015 17:58 |
| **Tetrachloroethene** | **0.016** | J | **0.012** | **0.10** | **mg/L** | 20 | 10-Mar-2015 17:58 |
| Trichloroethene | U | | 0.010 | 0.10 | mg/L | 20 | 10-Mar-2015 17:58 |
| Vinyl chloride | U | | 0.0080 | 0.040 | mg/L | 20 | 10-Mar-2015 17:58 |
| *Surr: 1,2-Dichloroethane-d4* | *93.2* | | | *70-125* | *%REC* | *20* | *10-Mar-2015 17:58* |
| *Surr: 4-Bromofluorobenzene* | *101* | | | *72-125* | *%REC* | *20* | *10-Mar-2015 17:58* |
| *Surr: Dibromofluoromethane* | *99.4* | | | *71-125* | *%REC* | *20* | *10-Mar-2015 17:58* |
| *Surr: Toluene-d8* | *96.7* | | | *75-125* | *%REC* | *20* | *10-Mar-2015 17:58* |
| **TCLP SEMIVOLATILES** | | **Method:SW1311/8270** | | Leache:SW1311 / 05-Mar-2015 | Prep:SW3510 / 06-Mar-2015 | | Analyst: GEY |
| 2,4,5-Trichlorophenol | U | | 0.045 | 0.25 | mg/L | 10 | 09-Mar-2015 14:45 |
| 2,4,6-Trichlorophenol | U | | 0.070 | 0.25 | mg/L | 10 | 09-Mar-2015 14:45 |
| 2,4-Dinitrotoluene | U | | 0.050 | 0.25 | mg/L | 10 | 09-Mar-2015 14:45 |
| Cresols, Total | U | | 0.10 | 0.75 | mg/L | 10 | 09-Mar-2015 14:45 |
| Hexachlorobenzene | U | | 0.055 | 0.25 | mg/L | 10 | 09-Mar-2015 14:45 |
| Hexachlorobutadiene | U | | 0.055 | 0.25 | mg/L | 10 | 09-Mar-2015 14:45 |
| Hexachloroethane | U | | 0.050 | 0.25 | mg/L | 10 | 09-Mar-2015 14:45 |
| Nitrobenzene | U | | 0.040 | 0.25 | mg/L | 10 | 09-Mar-2015 14:45 |
| Pentachlorophenol | U | | 0.080 | 0.25 | mg/L | 10 | 09-Mar-2015 14:45 |
| Pyridine | U | | 0.10 | 0.25 | mg/L | 10 | 09-Mar-2015 14:45 |
| *Surr: 2,4,6-Tribromophenol* | *70.6* | *J* | | *39-153* | *%REC* | *10* | *09-Mar-2015 14:45* |
| *Surr: 2-Fluorobiphenyl* | *85.3* | *J* | | *40-147* | *%REC* | *10* | *09-Mar-2015 14:45* |
| *Surr: 2-Fluorophenol* | *83.8* | *J* | | *21-110* | *%REC* | *10* | *09-Mar-2015 14:45* |
| *Surr: 4-Terphenyl-d14* | *87.7* | *J* | | *39-141* | *%REC* | *10* | *09-Mar-2015 14:45* |
| *Surr: Nitrobenzene-d5* | *75.1* | *J* | | *37-140* | *%REC* | *10* | *09-Mar-2015 14:45* |
| *Surr: Phenol-d6* | *83.6* | *J* | | *11-110* | *%REC* | *10* | *09-Mar-2015 14:45* |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

| | | |
|---|---|---|
| Client: | Effective Environmental Inc. | **ANALYTICAL REPORT** |
| Project: | USOR Equ Assessment and Sampling 8181 | WorkOrder:HS15030132 |
| Sample ID: | USOR-EQ-03 L/Blue Horizontal Cylnder | Lab ID:HS15030132-01 |
| Collection Date: | 03-Mar-2015 16:02 | Matrix:Sludge |

| ANALYSES | RESULT | QUAL | MDL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|
| **TCLP METALS BY SW6020A** | | **Method:SW1311/6020** | | Leache:SW1311 / 05-Mar-2015 | Prep:SW3010A / 06-Mar-2015 | | Analyst: JDE |
| Arsenic | U | | 0.0100 | 0.0500 | mg/L | 1 | 10-Mar-2015 16:01 |
| **Barium** | **0.166** | J | **0.00900** | **0.200** | **mg/L** | 1 | 10-Mar-2015 16:01 |
| Cadmium | U | | 0.00800 | 0.0500 | mg/L | 1 | 10-Mar-2015 16:01 |
| **Chromium** | **0.0404** | J | **0.0100** | **0.0500** | **mg/L** | 1 | 10-Mar-2015 16:01 |
| **Lead** | **0.0120** | J | **0.00700** | **0.0500** | **mg/L** | 1 | 10-Mar-2015 16:01 |
| Selenium | U | | 0.0100 | 0.0500 | mg/L | 1 | 10-Mar-2015 16:01 |
| Silver | U | | 0.00800 | 0.0500 | mg/L | 1 | 10-Mar-2015 16:01 |
| **IGNITABILITY** | | **Method:SW1010** | | | | | Analyst: KAH |
| Ignitability | > 212 | | 50.0 | 50.0 | °F | 1 | 10-Mar-2015 16:00 |
| **TCLP MERCURY BY SW7470A** | | **Method:SW7470** | | Leache:SW7470 / 11-Mar-2015 | Prep:SW7470 / 11-Mar-2015 | | Analyst: OFO |
| **Mercury** | **0.000585** | | **0.0000420** | **0.000200** | **mg/L** | 1 | 11-Mar-2015 13:36 |
| **PH BY SM4500H+ B** | | **Method:SM4500H+ B** | | | | | Analyst: JHD |
| **pH** | **9.35** | H | **0.100** | **0.100** | **pH Units** | 1 | 05-Mar-2015 16:15 |
| **Temp Deg C @pH** | **22.1** | H | **0** | **0** | **°C** | 1 | 05-Mar-2015 16:15 |
| **REACTIVE CYANIDE** | | **Method:SW7.3.3.2** | | | | | Analyst: SUB |
| Reactive Cyanide | U | | 100 | 100 | mg/Kg | 1 | 09-Mar-2015 12:00 |
| **REACTIVE SULFIDE** | | **Method:SW7.3.4.2** | | | | | Analyst: SUB |
| Reactive Sulfide | U | | 100 | 100 | mg/Kg | 1 | 09-Mar-2015 12:00 |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**ANALYTICAL REPORT**

Client: Effective Environmental Inc.
Project: USOR Equ Assessment and Sampling 8181
Sample ID: USOR-EQ-11-Large Blue Hopper
Collection Date: 03-Mar-2015 16:16

WorkOrder:HS15030132
Lab ID:HS15030132-02
Matrix:Solid

| ANALYSES | RESULT | QUAL | MDL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|
| **TCLP VOLATILES** | | **Method:SW1311/8260B** | | Leache:SW1311 / 05-Mar-2015 | Prep:SW1311 / 05-Mar-2015 | | Analyst: PC |
| 1,1-Dichloroethene | U | | 0.010 | 0.10 | mg/L | 20 | 09-Mar-2015 22:09 |
| 1,2-Dichloroethane | U | | 0.010 | 0.10 | mg/L | 20 | 09-Mar-2015 22:09 |
| 1,4-Dichlorobenzene | U | | 0.012 | 0.10 | mg/L | 20 | 09-Mar-2015 22:09 |
| 2-Butanone | U | | 0.020 | 0.20 | mg/L | 20 | 09-Mar-2015 22:09 |
| Benzene | U | | 0.012 | 0.10 | mg/L | 20 | 09-Mar-2015 22:09 |
| Carbon tetrachloride | U | | 0.012 | 0.10 | mg/L | 20 | 09-Mar-2015 22:09 |
| Chlorobenzene | U | | 0.0080 | 0.10 | mg/L | 20 | 09-Mar-2015 22:09 |
| Chloroform | U | | 0.012 | 0.10 | mg/L | 20 | 09-Mar-2015 22:09 |
| Tetrachloroethene | U | | 0.012 | 0.10 | mg/L | 20 | 09-Mar-2015 22:09 |
| Trichloroethene | U | | 0.010 | 0.10 | mg/L | 20 | 09-Mar-2015 22:09 |
| Vinyl chloride | U | | 0.0080 | 0.040 | mg/L | 20 | 09-Mar-2015 22:09 |
| *Surr: 1,2-Dichloroethane-d4* | *104* | | | *70-125* | *%REC* | *20* | *09-Mar-2015 22:09* |
| *Surr: 4-Bromofluorobenzene* | *96.9* | | | *72-125* | *%REC* | *20* | *09-Mar-2015 22:09* |
| *Surr: Dibromofluoromethane* | *102* | | | *71-125* | *%REC* | *20* | *09-Mar-2015 22:09* |
| *Surr: Toluene-d8* | *107* | | | *75-125* | *%REC* | *20* | *09-Mar-2015 22:09* |
| **TCLP SEMIVOLATILES** | | **Method:SW1311/8270** | | Leache:SW1311 / 05-Mar-2015 | Prep:SW3510 / 06-Mar-2015 | | Analyst: GEY |
| 2,4,5-Trichlorophenol | U | | 0.014 | 0.075 | mg/L | 10 | 06-Mar-2015 18:00 |
| 2,4,6-Trichlorophenol | U | | 0.021 | 0.075 | mg/L | 10 | 06-Mar-2015 18:00 |
| 2,4-Dinitrotoluene | U | | 0.015 | 0.075 | mg/L | 10 | 06-Mar-2015 18:00 |
| **Cresols, Total** | **0.16** | J | **0.030** | **0.22** | **mg/L** | 10 | 06-Mar-2015 18:00 |
| Hexachlorobenzene | U | | 0.016 | 0.075 | mg/L | 10 | 06-Mar-2015 18:00 |
| Hexachlorobutadiene | U | | 0.016 | 0.075 | mg/L | 10 | 06-Mar-2015 18:00 |
| Hexachloroethane | U | | 0.015 | 0.075 | mg/L | 10 | 06-Mar-2015 18:00 |
| Nitrobenzene | U | | 0.012 | 0.075 | mg/L | 10 | 06-Mar-2015 18:00 |
| Pentachlorophenol | U | | 0.024 | 0.075 | mg/L | 10 | 06-Mar-2015 18:00 |
| Pyridine | U | | 0.030 | 0.075 | mg/L | 10 | 06-Mar-2015 18:00 |
| *Surr: 2,4,6-Tribromophenol* | *66.3* | *J* | | *39-153* | *%REC* | *10* | *06-Mar-2015 18:00* |
| *Surr: 2-Fluorobiphenyl* | *63.3* | *J* | | *40-147* | *%REC* | *10* | *06-Mar-2015 18:00* |
| *Surr: 2-Fluorophenol* | *83.4* | | | *21-110* | *%REC* | *10* | *06-Mar-2015 18:00* |
| *Surr: 4-Terphenyl-d14* | *81.9* | | | *39-141* | *%REC* | *10* | *06-Mar-2015 18:00* |
| *Surr: Nitrobenzene-d5* | *87.7* | | | *37-140* | *%REC* | *10* | *06-Mar-2015 18:00* |
| *Surr: Phenol-d6* | *98.7* | | | *11-110* | *%REC* | *10* | *06-Mar-2015 18:00* |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

| | | |
|---|---|---|
| Client: | Effective Environmental Inc. | **ANALYTICAL REPORT** |
| Project: | USOR Equ Assessment and Sampling 8181 | WorkOrder:HS15030132 |
| Sample ID: | USOR-EQ-11-Large Blue Hopper | Lab ID:HS15030132-02 |
| Collection Date: | 03-Mar-2015 16:16 | Matrix:Solid |

| ANALYSES | RESULT | QUAL | MDL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|
| **TCLP METALS BY SW6020A** | | **Method:SW1311/6020** | | Leache:SW1311/6020 / 09-Mar-2015 | Prep:SW3010A / 06-Mar-2015 | | Analyst: JCJ |
| Arsenic | U | | 0.0100 | 0.0500 | mg/L | 1 | 09-Mar-2015 16:44 |
| **Barium** | **0.552** | | **0.00900** | **0.200** | **mg/L** | 1 | 09-Mar-2015 16:44 |
| Cadmium | U | | 0.00800 | 0.0500 | mg/L | 1 | 09-Mar-2015 16:44 |
| Chromium | U | | 0.0100 | 0.0500 | mg/L | 1 | 09-Mar-2015 16:44 |
| Lead | U | | 0.00700 | 0.0500 | mg/L | 1 | 09-Mar-2015 16:44 |
| Selenium | U | | 0.0100 | 0.0500 | mg/L | 1 | 09-Mar-2015 16:44 |
| Silver | U | | 0.00800 | 0.0500 | mg/L | 1 | 09-Mar-2015 16:44 |
| **BURN RATE BY METHOD SW1030** | | **Method:SW1030** | | | | | Analyst: KAH |
| Ignitability, Solid | Negative | | 0 | 0 | Burn Rate, mm/sec | 1 | 05-Mar-2015 15:00 |
| **TCLP MERCURY BY SW7470A** | | **Method:SW7470** | | Leache:SW3010A / 06-Mar-2015 | Prep:SW7470 / 11-Mar-2015 | | Analyst: OFO |
| **Mercury** | **0.0000640** | J | **0.0000420** | **0.000200** | **mg/L** | 1 | 11-Mar-2015 13:38 |
| **PH SOIL BY SW9045D** | | **Method:SW9045B** | | | | | Analyst: JHD |
| **pH** | **8.40** | H | **0.100** | **0.100** | **pH Units** | 1 | 06-Mar-2015 15:43 |
| **REACTIVE CYANIDE** | | **Method:SW7.3.3.2** | | | | | Analyst: SUB |
| Reactive Cyanide | U | | 100 | 100 | mg/Kg | 1 | 09-Mar-2015 12:00 |
| **REACTIVE SULFIDE** | | **Method:SW7.3.4.2** | | | | | Analyst: SUB |
| Reactive Sulfide | U | | 100 | 100 | mg/Kg | 1 | 08-Mar-2015 16:00 |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

| | | |
|---|---|---|
| Client: | Effective Environmental Inc. | **ANALYTICAL REPORT** |
| Project: | USOR Equ Assessment and Sampling 8181 | WorkOrder:HS15030132 |
| Sample ID: | Equipment Blank # 1 | Lab ID:HS15030132-03 |
| Collection Date: | 03-Mar-2015 16:30 | Matrix:Liquid |

| ANALYSES | RESULT | QUAL | MDL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|
| **LOW LEVEL VOLATILES BY SW8260C** | | **Method:SW8260** | | | | | Analyst: PC |
| 1,1-Dichloroethene | | U | 0.00020 | 0.0010 | mg/L | 1 | 09-Mar-2015 18:49 |
| 1,2-Dichloroethane | | U | 0.00020 | 0.0010 | mg/L | 1 | 09-Mar-2015 18:49 |
| 1,4-Dichlorobenzene | | U | 0.00040 | 0.0010 | mg/L | 1 | 09-Mar-2015 18:49 |
| 2-Butanone | | U | 0.00050 | 0.0020 | mg/L | 1 | 09-Mar-2015 18:49 |
| Benzene | | U | 0.00020 | 0.0010 | mg/L | 1 | 09-Mar-2015 18:49 |
| Carbon tetrachloride | | U | 0.00050 | 0.0010 | mg/L | 1 | 09-Mar-2015 18:49 |
| Chlorobenzene | | U | 0.00030 | 0.0010 | mg/L | 1 | 09-Mar-2015 18:49 |
| Chloroform | | U | 0.00020 | 0.0010 | mg/L | 1 | 09-Mar-2015 18:49 |
| Tetrachloroethene | | U | 0.00030 | 0.0010 | mg/L | 1 | 09-Mar-2015 18:49 |
| Trichloroethene | | U | 0.00020 | 0.0010 | mg/L | 1 | 09-Mar-2015 18:49 |
| Vinyl chloride | | U | 0.00020 | 0.0010 | mg/L | 1 | 09-Mar-2015 18:49 |
| *Surr: 1,2-Dichloroethane-d4* | *105* | | | *71-125* | *%REC* | *1* | *09-Mar-2015 18:49* |
| *Surr: 4-Bromofluorobenzene* | *96.4* | | | *70-125* | *%REC* | *1* | *09-Mar-2015 18:49* |
| *Surr: Dibromofluoromethane* | *98.6* | | | *74-125* | *%REC* | *1* | *09-Mar-2015 18:49* |
| *Surr: Toluene-d8* | *106* | | | *75-125* | *%REC* | *1* | *09-Mar-2015 18:49* |
| **LOW-LEVEL SEMIVOLATILES** | | **Method:SW8270** | | | Prep:SW3510 / 05-Mar-2015 | | Analyst: LG |
| 2,4,5-Trichlorophenol | | U | 0.000038 | 0.00020 | mg/L | 1 | 05-Mar-2015 21:39 |
| 2,4,6-Trichlorophenol | | U | 0.000032 | 0.00020 | mg/L | 1 | 05-Mar-2015 21:39 |
| 2,4-Dinitrotoluene | | U | 0.000039 | 0.00020 | mg/L | 1 | 05-Mar-2015 21:39 |
| 2-Methylphenol | | U | 0.000041 | 0.00020 | mg/L | 1 | 05-Mar-2015 21:39 |
| 3&4-Methylphenol | | U | 0.000030 | 0.00020 | mg/L | 1 | 05-Mar-2015 21:39 |
| Hexachlorobenzene | | U | 0.000039 | 0.00020 | mg/L | 1 | 05-Mar-2015 21:39 |
| Hexachlorobutadiene | | U | 0.000032 | 0.00020 | mg/L | 1 | 05-Mar-2015 21:39 |
| Hexachloroethane | | U | 0.000044 | 0.00020 | mg/L | 1 | 05-Mar-2015 21:39 |
| Nitrobenzene | | U | 0.000033 | 0.00020 | mg/L | 1 | 05-Mar-2015 21:39 |
| Pentachlorophenol | | U | 0.000053 | 0.00020 | mg/L | 1 | 05-Mar-2015 21:39 |
| Pyridine | | U | 0.000040 | 0.0010 | mg/L | 1 | 05-Mar-2015 21:39 |
| *Surr: 2,4,6-Tribromophenol* | *53.2* | | | *34-129* | *%REC* | *1* | *05-Mar-2015 21:39* |
| *Surr: 2-Fluorobiphenyl* | *50.8* | | | *40-125* | *%REC* | *1* | *05-Mar-2015 21:39* |
| *Surr: 2-Fluorophenol* | *54.7* | | | *20-120* | *%REC* | *1* | *05-Mar-2015 21:39* |
| *Surr: 4-Terphenyl-d14* | *79.8* | | | *40-135* | *%REC* | *1* | *05-Mar-2015 21:39* |
| *Surr: Nitrobenzene-d5* | *54.6* | | | *41-120* | *%REC* | *1* | *05-Mar-2015 21:39* |
| *Surr: Phenol-d6* | *57.8* | | | *20-120* | *%REC* | *1* | *05-Mar-2015 21:39* |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

| | | |
|---|---|---|
| Client: | Effective Environmental Inc. | **ANALYTICAL REPORT** |
| Project: | USOR Equ Assessment and Sampling 8181 | WorkOrder:HS15030132 |
| Sample ID: | Equipment Blank # 1 | Lab ID:HS15030132-03 |
| Collection Date: | 03-Mar-2015 16:30 | Matrix:Liquid |

| ANALYSES | RESULT | QUAL | MDL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|
| **ICP-MS METALS BY SW6020A** | | **Method:SW6020** | | | Prep:SW3010A / 05-Mar-2015 | | Analyst: JDE |
| Arsenic | U | | 0.00100 | 0.00500 | mg/L | 1 | 06-Mar-2015 19:04 |
| **Barium** | **0.00944** | | **0.000900** | **0.00500** | **mg/L** | 1 | 06-Mar-2015 19:04 |
| Cadmium | U | | 0.000800 | 0.00200 | mg/L | 1 | 06-Mar-2015 19:04 |
| Chromium | U | | 0.00100 | 0.00500 | mg/L | 1 | 06-Mar-2015 19:04 |
| Lead | U | | 0.000700 | 0.00500 | mg/L | 1 | 06-Mar-2015 19:04 |
| Selenium | U | | 0.00100 | 0.00500 | mg/L | 1 | 06-Mar-2015 19:04 |
| Silver | U | | 0.000800 | 0.00500 | mg/L | 1 | 06-Mar-2015 19:04 |
| **IGNITABILITY** | | **Method:SW1010** | | | | | Analyst: KAH |
| Ignitability | > 212 | | 50.0 | 50.0 | °F | 1 | 10-Mar-2015 16:00 |
| **MERCURY BY SW7470A** | | **Method:SW7470** | | | Prep:SW7470 / 05-Mar-2015 | | Analyst: OFO |
| Mercury | U | | 0.0000400 | 0.000200 | mg/L | 1 | 05-Mar-2015 13:09 |
| **PH BY SM4500H+ B** | | **Method:SM4500H+ B** | | | | | Analyst: JHD |
| **pH** | **6.27** | H | **0.100** | **0.100** | **pH Units** | 1 | 05-Mar-2015 16:15 |
| **Temp Deg C @pH** | **23.3** | H | **0** | **0** | **°C** | 1 | 05-Mar-2015 16:15 |
| **REACTIVE CYANIDE** | | **Method:SW7.3.3.2** | | | | | Analyst: SUB |
| Reactive Cyanide | U | | 100 | 100 | mg/Kg | 1 | 09-Mar-2015 12:00 |
| **REACTIVE SULFIDE** | | **Method:SW7.3.4.2** | | | | | Analyst: SUB |
| Reactive Sulfide | U | | 100 | 100 | mg/Kg | 1 | 09-Mar-2015 12:00 |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**ANALYTICAL REPORT**

Client: Effective Environmental Inc.
Project: USOR Equ Assessment and Sampling 8181
Sample ID: TRIP BLANK
Collection Date: 03-Mar-2015 00:00

WorkOrder:HS15030132
Lab ID:HS15030132-04
Matrix:Water

| ANALYSES | RESULT | QUAL | MDL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|
| **LOW LEVEL VOLATILES BY SW8260C** | | **Method:SW8260** | | | | | Analyst: AKP |
| 1,1-Dichloroethene | U | | 0.00020 | 0.0010 | mg/L | 1 | 06-Mar-2015 01:58 |
| 1,2-Dichloroethane | U | | 0.00020 | 0.0010 | mg/L | 1 | 06-Mar-2015 01:58 |
| 1,4-Dichlorobenzene | U | | 0.00040 | 0.0010 | mg/L | 1 | 06-Mar-2015 01:58 |
| 2-Butanone | U | | 0.00050 | 0.0020 | mg/L | 1 | 06-Mar-2015 01:58 |
| Benzene | U | | 0.00020 | 0.0010 | mg/L | 1 | 06-Mar-2015 01:58 |
| Carbon tetrachloride | U | | 0.00050 | 0.0010 | mg/L | 1 | 06-Mar-2015 01:58 |
| Chlorobenzene | U | | 0.00030 | 0.0010 | mg/L | 1 | 06-Mar-2015 01:58 |
| Chloroform | U | | 0.00020 | 0.0010 | mg/L | 1 | 06-Mar-2015 01:58 |
| Tetrachloroethene | U | | 0.00030 | 0.0010 | mg/L | 1 | 06-Mar-2015 01:58 |
| Trichloroethene | U | | 0.00020 | 0.0010 | mg/L | 1 | 06-Mar-2015 01:58 |
| Vinyl chloride | U | | 0.00020 | 0.0010 | mg/L | 1 | 06-Mar-2015 01:58 |
| *Surr: 1,2-Dichloroethane-d4* | *101* | | | *71-125* | *%REC* | *1* | *06-Mar-2015 01:58* |
| *Surr: 4-Bromofluorobenzene* | *96.4* | | | *70-125* | *%REC* | *1* | *06-Mar-2015 01:58* |
| *Surr: Dibromofluoromethane* | *101* | | | *74-125* | *%REC* | *1* | *06-Mar-2015 01:58* |
| *Surr: Toluene-d8* | *105* | | | *75-125* | *%REC* | *1* | *06-Mar-2015 01:58* |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

## DATES REPORT

| Sample ID | Client Samp ID | Collection Date | TCLP Date | Prep Date | Analysis Date | DF |
|---|---|---|---|---|---|---|
| **Batch ID** 91106 | **Test Name :** ICP-MS METALS BY SW6020A | | | **Matrix:** Liquid | | |
| HS15030132-03 | Equipment Blank # 1 | 03 Mar 2015 16:30 | | 05 Mar 2015 09:57 | 06 Mar 2015 19:04 | 1 |
| **Batch ID** 91117 | **Test Name :** MERCURY BY SW7470A | | | **Matrix:** Liquid | | |
| HS15030132-03 | Equipment Blank # 1 | 03 Mar 2015 16:30 | | 05 Mar 2015 10:11 | 05 Mar 2015 13:09 | 1 |
| **Batch ID** 91136 | **Test Name :** LOW-LEVEL SEMIVOLATILES | | | **Matrix:** Liquid | | |
| HS15030132-03 | Equipment Blank # 1 | 03 Mar 2015 16:30 | | 05 Mar 2015 13:41 | 05 Mar 2015 21:39 | 1 |
| **Batch ID** 91155 | **Test Name :** TCLP METALS BY SW6020A | | | **Matrix:** Solid | | |
| HS15030132-02 | USOR-EQ-11-Large Blue Hopper | 03 Mar 2015 16:16 | 05 Mar 2015 15:30 | 06 Mar 2015 11:15 | 09 Mar 2015 16:44 | 1 |
| **Batch ID** 91155 | **Test Name :** TCLP METALS BY SW6020A | | | **Matrix:** Sludge | | |
| HS15030132-01 | USOR-EQ-03 L/Blue Horizontal Cylnder | 03 Mar 2015 16:02 | 05 Mar 2015 15:30 | 06 Mar 2015 11:15 | 10 Mar 2015 16:01 | 1 |
| **Batch ID** 91156 | **Test Name :** TCLP SEMIVOLATILES | | | **Matrix:** Solid | | |
| HS15030132-02 | USOR-EQ-11-Large Blue Hopper | 03 Mar 2015 16:16 | 05 Mar 2015 15:30 | 06 Mar 2015 12:10 | 06 Mar 2015 18:00 | 10 |
| **Batch ID** 91156 | **Test Name :** TCLP SEMIVOLATILES | | | **Matrix:** Sludge | | |
| HS15030132-01 | USOR-EQ-03 L/Blue Horizontal Cylnder | 03 Mar 2015 16:02 | 05 Mar 2015 15:30 | 06 Mar 2015 12:10 | 09 Mar 2015 14:45 | 10 |
| **Batch ID** 91298 | **Test Name :** TCLP MERCURY BY SW7470A | | | **Matrix:** Solid | | |
| HS15030132-02 | USOR-EQ-11-Large Blue Hopper | 03 Mar 2015 16:16 | | 11 Mar 2015 10:04 | 11 Mar 2015 13:38 | 1 |
| **Batch ID** 91298 | **Test Name :** TCLP MERCURY BY SW7470A | | | **Matrix:** Sludge | | |
| HS15030132-01 | USOR-EQ-03 L/Blue Horizontal Cylnder | 03 Mar 2015 16:02 | | 11 Mar 2015 10:04 | 11 Mar 2015 13:36 | 1 |
| **Batch ID** R250633 | **Test Name :** BURN RATE BY METHOD SW1030 | | | **Matrix:** Solid | | |
| HS15030132-02 | USOR-EQ-11-Large Blue Hopper | 03 Mar 2015 16:16 | | | 05 Mar 2015 15:00 | 1 |
| **Batch ID** R250657 | **Test Name :** LOW LEVEL VOLATILES BY SW8260C | | | **Matrix:** Water | | |
| HS15030132-04 | TRIP BLANK | 03 Mar 2015 00:00 | | | 06 Mar 2015 01:58 | 1 |
| **Batch ID** R250666 | **Test Name :** PH BY SM4500H+ B | | | **Matrix:** Liquid | | |
| HS15030132-03 | Equipment Blank # 1 | 03 Mar 2015 16:30 | | | 05 Mar 2015 16:15 | 1 |
| **Batch ID** R250666 | **Test Name :** PH BY SM4500H+ B | | | **Matrix:** Sludge | | |
| HS15030132-01 | USOR-EQ-03 L/Blue Horizontal Cylnder | 03 Mar 2015 16:02 | | | 05 Mar 2015 16:15 | 1 |
| **Batch ID** R250705 | **Test Name :** PH SOIL BY SW9045D | | | **Matrix:** Solid | | |
| HS15030132-02 | USOR-EQ-11-Large Blue Hopper | 03 Mar 2015 16:16 | | | 06 Mar 2015 15:43 | 1 |
| **Batch ID** R250765 | **Test Name :** REACTIVE SULFIDE | | | **Matrix:** Liquid | | |
| HS15030132-03 | Equipment Blank # 1 | 03 Mar 2015 16:30 | | | 09 Mar 2015 12:00 | 1 |
| HS15030132-03 | Equipment Blank # 1 | 03 Mar 2015 16:30 | | | 09 Mar 2015 12:00 | 1 |
| HS15030132-03 | Equipment Blank # 1 | 03 Mar 2015 16:30 | | | 09 Mar 2015 12:00 | 1 |
| HS15030132-03 | Equipment Blank # 1 | 03 Mar 2015 16:30 | | | 09 Mar 2015 12:00 | 1 |

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

## DATES REPORT

| Sample ID | Client Samp ID | Collection Date | TCLP Date | Prep Date | Analysis Date | DF |
|---|---|---|---|---|---|---|
| **Batch ID** R250765 | **Test Name :** REACTIVE SULFIDE | | | **Matrix:** Solid | | |
| HS15030132-02 | USOR-EQ-11-Large Blue Hopper | 03 Mar 2015 16:16 | | | 09 Mar 2015 12:00 | 1 |
| HS15030132-02 | USOR-EQ-11-Large Blue Hopper | 03 Mar 2015 16:16 | | | 09 Mar 2015 12:00 | 1 |
| HS15030132-02 | USOR-EQ-11-Large Blue Hopper | 03 Mar 2015 16:16 | | | 08 Mar 2015 16:00 | 1 |
| HS15030132-02 | USOR-EQ-11-Large Blue Hopper | 03 Mar 2015 16:16 | | | 08 Mar 2015 16:00 | 1 |
| **Batch ID** R250765 | **Test Name :** REACTIVE CYANIDE | | | **Matrix:** Sludge | | |
| HS15030132-01 | USOR-EQ-03 L/Blue Horizontal Cylnder | 03 Mar 2015 16:02 | | | 09 Mar 2015 12:00 | 1 |
| HS15030132-01 | USOR-EQ-03 L/Blue Horizontal Cylnder | 03 Mar 2015 16:02 | | | 09 Mar 2015 12:00 | 1 |
| HS15030132-01 | USOR-EQ-03 L/Blue Horizontal Cylnder | 03 Mar 2015 16:02 | | | 09 Mar 2015 12:00 | 1 |
| HS15030132-01 | USOR-EQ-03 L/Blue Horizontal Cylnder | 03 Mar 2015 16:02 | | | 09 Mar 2015 12:00 | 1 |
| **Batch ID** R250803 | **Test Name :** LOW LEVEL VOLATILES BY SW8260C | | | **Matrix:** Liquid | | |
| HS15030132-03 | Equipment Blank # 1 | 03 Mar 2015 16:30 | | | 09 Mar 2015 18:49 | 1 |
| **Batch ID** R250809 | **Test Name :** TCLP VOLATILES | | | **Matrix:** Solid | | |
| HS15030132-02 | USOR-EQ-11-Large Blue Hopper | 03 Mar 2015 16:16 | 05 Mar 2015 15:30 | 05 Mar 2015 15:30 | 09 Mar 2015 22:09 | 20 |
| **Batch ID** R250865 | **Test Name :** IGNITABILITY | | | **Matrix:** Liquid | | |
| HS15030132-03 | Equipment Blank # 1 | 03 Mar 2015 16:30 | | | 10 Mar 2015 16:00 | 1 |
| **Batch ID** R250865 | **Test Name :** IGNITABILITY | | | **Matrix:** Sludge | | |
| HS15030132-01 | USOR-EQ-03 L/Blue Horizontal Cylnder | 03 Mar 2015 16:02 | | | 10 Mar 2015 16:00 | 1 |
| **Batch ID** R250903 | **Test Name :** TCLP VOLATILES | | | **Matrix:** Sludge | | |
| HS15030132-01 | USOR-EQ-03 L/Blue Horizontal Cylnder | 03 Mar 2015 16:02 | 05 Mar 2015 15:30 | 05 Mar 2015 15:30 | 10 Mar 2015 17:58 | 20 |

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

## QC BATCH REPORT

**Batch ID: 91106** **Instrument: ICPMS04** **Method: SW6020**

**MBLK** Sample ID: **MBLK-91106** Units: **mg/L** Analysis Date: **06-Mar-2015 18:07**
Client ID: Run ID: **ICPMS04_250669** SeqNo: **3206871** PrepDate: **05-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | U | 0.00500 | | | | | | | | |
| Barium | U | 0.00500 | | | | | | | | |
| Cadmium | U | 0.00200 | | | | | | | | |
| Chromium | U | 0.00500 | | | | | | | | |
| Lead | U | 0.00500 | | | | | | | | |
| Selenium | U | 0.00500 | | | | | | | | |
| Silver | U | 0.00500 | | | | | | | | |

**LCS** Sample ID: **MLCS-91106** Units: **mg/L** Analysis Date: **06-Mar-2015 18:12**
Client ID: Run ID: **ICPMS04_250669** SeqNo: **3206872** PrepDate: **05-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.04753 | 0.00500 | 0.05 | 0 | 95.1 | 80 - 120 | | | | |
| Barium | 0.05004 | 0.00500 | 0.05 | 0 | 100 | 80 - 120 | | | | |
| Cadmium | 0.05039 | 0.00200 | 0.05 | 0 | 101 | 80 - 120 | | | | |
| Chromium | 0.04775 | 0.00500 | 0.05 | 0 | 95.5 | 80 - 120 | | | | |
| Lead | 0.04961 | 0.00500 | 0.05 | 0 | 99.2 | 80 - 120 | | | | |
| Selenium | 0.04827 | 0.00500 | 0.05 | 0 | 96.5 | 80 - 120 | | | | |
| Silver | 0.04916 | 0.00500 | 0.05 | 0 | 98.3 | 80 - 120 | | | | |

**MS** Sample ID: **HS15030110-01MS** Units: **mg/L** Analysis Date: **06-Mar-2015 18:43**
Client ID: Run ID: **ICPMS04_250669** SeqNo: **3206879** PrepDate: **05-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.0485 | 0.00500 | 0.05 | 0.001844 | 93.3 | 80 - 120 | | | | |
| Barium | 0.1236 | 0.00500 | 0.05 | 0.06925 | 109 | 80 - 120 | | | | |
| Cadmium | 0.04972 | 0.00200 | 0.05 | 0 | 99.4 | 80 - 120 | | | | |
| Chromium | 0.04559 | 0.00500 | 0.05 | 0 | 91.2 | 80 - 120 | | | | |
| Lead | 0.05073 | 0.00500 | 0.05 | 0 | 101 | 80 - 120 | | | | |
| Selenium | 0.04925 | 0.00500 | 0.05 | 0.000986 | 96.5 | 80 - 120 | | | | |
| Silver | 0.04707 | 0.00500 | 0.05 | 0 | 94.1 | 80 - 120 | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

## QC BATCH REPORT

**Batch ID: 91106** **Instrument: ICPMS04** **Method: SW6020**

**MSD** Sample ID: **HS15030110-01MSD** Units: **mg/L** Analysis Date: **06-Mar-2015 18:48**
Client ID: Run ID: **ICPMS04_250669** SeqNo: **3206880** PrepDate: **05-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.05114 | 0.00500 | 0.05 | 0.001844 | 98.6 | 80 - 120 | 0.0485 | 5.31 | 20 | |
| Barium | 0.1221 | 0.00500 | 0.05 | 0.06925 | 106 | 80 - 120 | 0.1236 | 1.25 | 20 | |
| Cadmium | 0.05008 | 0.00200 | 0.05 | 0 | 100 | 80 - 120 | 0.04972 | 0.725 | 20 | |
| Chromium | 0.04781 | 0.00500 | 0.05 | 0 | 95.6 | 80 - 120 | 0.04559 | 4.75 | 20 | |
| Lead | 0.05144 | 0.00500 | 0.05 | 0 | 103 | 80 - 120 | 0.05073 | 1.39 | 20 | |
| Selenium | 0.05184 | 0.00500 | 0.05 | 0.000986 | 102 | 80 - 120 | 0.04925 | 5.13 | 20 | |
| Silver | 0.04813 | 0.00500 | 0.05 | 0 | 96.3 | 80 - 120 | 0.04707 | 2.23 | 20 | |

**DUP** Sample ID: **HS15030110-01DUP** Units: **mg/L** Analysis Date: **06-Mar-2015 18:34**
Client ID: Run ID: **ICPMS04_250669** SeqNo: **3206877** PrepDate: **05-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.001927 | 0.00500 | | | | | 0.001844 | 0 | 20 | J |
| Barium | 0.07103 | 0.00500 | | | | | 0.06925 | 2.54 | 20 | |
| Cadmium | U | 0.00200 | | | | | 0.000015 | 0 | 20 | |
| Chromium | U | 0.00500 | | | | | 0.000799 | 0 | 20 | |
| Lead | U | 0.00500 | | | | | 0.00037 | 0 | 20 | |
| Selenium | 0.001053 | 0.00500 | | | | | 0.000986 | 0 | 20 | J |
| Silver | U | 0.00500 | | | | | -0.000001 | 0 | 20 | |

**PDS** Sample ID: **HS15030110-01BS** Units: **mg/L** Analysis Date: **06-Mar-2015 19:00**
Client ID: Run ID: **ICPMS04_250669** SeqNo: **3206883** PrepDate: **05-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.09674 | 0.00500 | 0.1 | 0.001844 | 94.9 | 75 - 125 | | | | |
| Barium | 0.1632 | 0.00500 | 0.1 | 0.06925 | 94.0 | 75 - 125 | | | | |
| Cadmium | 0.09575 | 0.00200 | 0.1 | 0 | 95.8 | 75 - 125 | | | | |
| Chromium | 0.09097 | 0.00500 | 0.1 | 0 | 91.0 | 75 - 125 | | | | |
| Lead | 0.09599 | 0.00500 | 0.1 | 0 | 96.0 | 75 - 125 | | | | |
| Selenium | 0.09633 | 0.00500 | 0.1 | 0.000986 | 95.3 | 75 - 125 | | | | |
| Silver | 0.09142 | 0.00500 | 0.1 | 0 | 91.4 | 75 - 125 | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

## QC BATCH REPORT

**Batch ID: 91106** **Instrument: ICPMS04** **Method: SW6020**

**SD** Sample ID: **HS15030110-01 DIL SX** Units: **mg/L** Analysis Date: **06-Mar-2015 18:39**
Client ID: Run ID: **ICPMS04_250669** SeqNo: **3206878** PrepDate: **05-Mar-2015** DF: **5**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | U | 0.0250 | | | | | 0.001844 | 0 | 10 | |
| Barium | 0.0707 | 0.0250 | | | | | 0.06925 | 2.09 | 10 | |
| Cadmium | U | 0.0100 | | | | | 0.000015 | 0 | 10 | |
| Chromium | U | 0.0250 | | | | | 0.000799 | 0 | 10 | |
| Lead | U | 0.0250 | | | | | 0.00037 | 0 | 10 | |
| Selenium | U | 0.0250 | | | | | 0.000986 | 0 | 10 | |
| Silver | U | 0.0250 | | | | | -0.000001 | 0 | 10 | |

**The following samples were anayzed in this batch:** HS15030132-03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

## QC BATCH REPORT

**Batch ID: 91117** **Instrument: HG03** **Method: SW7470**

**MBLK** Sample ID: **GBLKW1-030515** Units: **mg/L** Analysis Date: **05-Mar-2015 12:52**
Client ID: Run ID: **HG03_250620** SeqNo: **3204922** PrepDate: **05-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | U | 0.000200 | | | | | | | | |

**LCS** Sample ID: **GLCSW1-030515** Units: **mg/L** Analysis Date: **05-Mar-2015 12:53**
Client ID: Run ID: **HG03_250620** SeqNo: **3204923** PrepDate: **05-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.00497 | 0.000200 | 0.005 | 0 | 99.4 | 80 - 124 | | | | |

**MS** Sample ID: **HS15030110-01MS** Units: **mg/L** Analysis Date: **05-Mar-2015 13:00**
Client ID: Run ID: **HG03_250620** SeqNo: **3204926** PrepDate: **05-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.00491 | 0.000200 | 0.005 | -0.00002 | 98.6 | 80 - 124 | | | | |

**MSD** Sample ID: **HS15030110-01MSD** Units: **mg/L** Analysis Date: **05-Mar-2015 13:02**
Client ID: Run ID: **HG03_250620** SeqNo: **3204927** PrepDate: **05-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.00506 | 0.000200 | 0.005 | -0.00002 | 102 | 80 - 124 | 0.00491 | 3.01 | 20 | |

**DUP** Sample ID: **HS15030110-01DUP** Units: **mg/L** Analysis Date: **05-Mar-2015 12:58**
Client ID: Run ID: **HG03_250620** SeqNo: **3204925** PrepDate: **05-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | U | 0.000200 | | | | | -0.00002 | 0 | 20 | |

**The following samples were anayzed in this batch:** HS15030132-03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

## QC BATCH REPORT

**Batch ID: 91155** **Instrument: ICPMS04** **Method: SW1311/6020**

**MBLK** Sample ID: **MBLKT1-91155** Units: **mg/L** Analysis Date: **09-Mar-2015 15:53**
Client ID: Run ID: **ICPMS04_250755** SeqNo: **3208567** PrepDate: **06-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | U | 0.0500 | | | | | | | | |
| Barium | 0.02855 | 0.200 | | | | | | | | J |
| Cadmium | U | 0.0500 | | | | | | | | |
| Chromium | U | 0.0500 | | | | | | | | |
| Lead | U | 0.0500 | | | | | | | | |
| Selenium | U | 0.0500 | | | | | | | | |
| Silver | U | 0.0500 | | | | | | | | |

**MBLK** Sample ID: **MBLK-91155** Units: **mg/L** Analysis Date: **09-Mar-2015 15:57**
Client ID: Run ID: **ICPMS04_250755** SeqNo: **3208568** PrepDate: **06-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | U | 0.00500 | | | | | | | | |
| Barium | U | 0.0200 | | | | | | | | |
| Cadmium | U | 0.00500 | | | | | | | | |
| Chromium | U | 0.00500 | | | | | | | | |
| Lead | U | 0.00500 | | | | | | | | |
| Selenium | U | 0.00500 | | | | | | | | |
| Silver | U | 0.00500 | | | | | | | | |

**LCS** Sample ID: **MLCS-91155** Units: **mg/L** Analysis Date: **09-Mar-2015 16:01**
Client ID: Run ID: **ICPMS04_250755** SeqNo: **3208569** PrepDate: **06-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.04927 | 0.00500 | 0.05 | 0 | 98.5 | 80 - 120 | | | | |
| Barium | 0.04996 | 0.0200 | 0.05 | 0 | 99.9 | 80 - 120 | | | | |
| Cadmium | 0.05064 | 0.00500 | 0.05 | 0 | 101 | 80 - 120 | | | | |
| Chromium | 0.04777 | 0.00500 | 0.05 | 0 | 95.5 | 80 - 120 | | | | |
| Lead | 0.04843 | 0.00500 | 0.05 | 0 | 96.9 | 80 - 120 | | | | |
| Selenium | 0.04949 | 0.00500 | 0.05 | 0 | 99.0 | 80 - 120 | | | | |
| Silver | 0.04912 | 0.00500 | 0.05 | 0 | 98.2 | 80 - 120 | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

## QC BATCH REPORT

**Batch ID: 91155** **Instrument: ICPMS04** **Method: SW1311/6020**

**MS** Sample ID: **HS15030125-01MS** Units: **mg/L** Analysis Date: **09-Mar-2015 16:19**
Client ID: Run ID: **ICPMS04_250755** SeqNo: **3208573** PrepDate: **06-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.4925 | 0.0500 | 0.5 | 0.00696 | 97.1 | 80 - 120 | | | | |
| Barium | 0.5575 | 0.200 | 0.5 | 0.07033 | 97.4 | 80 - 120 | | | | |
| Cadmium | 0.4913 | 0.0500 | 0.5 | 0.0005 | 98.2 | 80 - 120 | | | | |
| Chromium | 0.4693 | 0.0500 | 0.5 | 0.00645 | 92.6 | 80 - 120 | | | | |
| Lead | 0.4768 | 0.0500 | 0.5 | 0.00004 | 95.3 | 80 - 120 | | | | |
| Selenium | 0.4915 | 0.0500 | 0.5 | 0.00608 | 97.1 | 80 - 120 | | | | |
| Silver | 0.4663 | 0.0500 | 0.5 | 0.00014 | 93.2 | 80 - 120 | | | | |

**MSD** Sample ID: **HS15030125-01MSD** Units: **mg/L** Analysis Date: **09-Mar-2015 16:23**
Client ID: Run ID: **ICPMS04_250755** SeqNo: **3208574** PrepDate: **06-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.5094 | 0.0500 | 0.5 | 0.00696 | 100 | 80 - 120 | 0.4925 | 3.38 | 20 | |
| Barium | 0.5965 | 0.200 | 0.5 | 0.07033 | 105 | 80 - 120 | 0.5575 | 6.75 | 20 | |
| Cadmium | 0.5263 | 0.0500 | 0.5 | 0.0005 | 105 | 80 - 120 | 0.4913 | 6.88 | 20 | |
| Chromium | 0.488 | 0.0500 | 0.5 | 0.00645 | 96.3 | 80 - 120 | 0.4693 | 3.89 | 20 | |
| Lead | 0.5069 | 0.0500 | 0.5 | 0.00004 | 101 | 80 - 120 | 0.4768 | 6.12 | 20 | |
| Selenium | 0.5083 | 0.0500 | 0.5 | 0.00608 | 100 | 80 - 120 | 0.4915 | 3.37 | 20 | |
| Silver | 0.4891 | 0.0500 | 0.5 | 0.00014 | 97.8 | 80 - 120 | 0.4663 | 4.79 | 20 | |

**DUP** Sample ID: **HS15030125-01DUP** Units: **mg/L** Analysis Date: **09-Mar-2015 16:10**
Client ID: Run ID: **ICPMS04_250755** SeqNo: **3208571** PrepDate: **06-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | U | 0.0500 | | | | | 0.00696 | 0 | 25 | |
| Barium | 0.06688 | 0.200 | | | | | 0.07033 | 0 | 25 | J |
| Cadmium | U | 0.0500 | | | | | 0.0005 | 0 | 25 | |
| Chromium | U | 0.0500 | | | | | 0.00645 | 0 | 25 | |
| Lead | U | 0.0500 | | | | | 0.00004 | 0 | 25 | |
| Selenium | U | 0.0500 | | | | | 0.00608 | 0 | 25 | |
| Silver | U | 0.0500 | | | | | 0.00014 | 0 | 25 | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

## QC BATCH REPORT

**Batch ID: 91155** **Instrument: ICPMS04** **Method: SW1311/6020**

**PDS** Sample ID: **HS15030125-01BS** Units: **mg/L** Analysis Date: **09-Mar-2015 16:27**
Client ID: Run ID: **ICPMS04_250755** SeqNo: **3208575** PrepDate: **06-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.9167 | 0.0500 | 1 | 0.00696 | 91.0 | 75 - 125 | | | | |
| Barium | 1.102 | 0.200 | 1 | 0.07033 | 103 | 75 - 125 | | | | |
| Cadmium | 1.015 | 0.0500 | 1 | 0.0005 | 101 | 75 - 125 | | | | |
| Chromium | 0.8726 | 0.0500 | 1 | 0.00645 | 86.6 | 75 - 125 | | | | |
| Lead | 0.9748 | 0.0500 | 1 | 0.00004 | 97.5 | 75 - 125 | | | | |
| Selenium | 0.901 | 0.0500 | 1 | 0.00608 | 89.5 | 75 - 125 | | | | |
| Silver | 0.9454 | 0.0500 | 1 | 0.00014 | 94.5 | 75 - 125 | | | | |

**SD** Sample ID: **HS15030125-01 DIL SX** Units: **mg/L** Analysis Date: **09-Mar-2015 16:14**
Client ID: Run ID: **ICPMS04_250755** SeqNo: **3208572** PrepDate: **06-Mar-2015** DF: **5**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | U | 0.250 | | | | | 0.00696 | 0 | 10 | |
| Barium | 0.06194 | 1.00 | | | | | 0.07033 | 0 | 10 | J |
| Cadmium | U | 0.250 | | | | | 0.0005 | 0 | 10 | |
| Chromium | U | 0.250 | | | | | 0.00645 | 0 | 10 | |
| Lead | U | 0.250 | | | | | 0.00004 | 0 | 10 | |
| Selenium | U | 0.250 | | | | | 0.00608 | 0 | 10 | |
| Silver | U | 0.250 | | | | | 0.00014 | 0 | 10 | |

**The following samples were anayzed in this batch:** HS15030132-01 HS15030132-02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

## QC BATCH REPORT

**Batch ID: 91298** **Instrument: HG03** **Method: SW7470**

**MBLK** Sample ID: **GBLKW1-031115** Units: **mg/L** Analysis Date: **11-Mar-2015 13:19**
Client ID: Run ID: **HG03_250932** SeqNo: **3210687** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | U | 0.000200 | | | | | | | | |

**MBLK** Sample ID: **GBLKT1-031015** Units: **mg/L** Analysis Date: **11-Mar-2015 13:33**
Client ID: Run ID: **HG03_250932** SeqNo: **3210695** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | U | 0.000200 | | | | | | | | |

**LCS** Sample ID: **GLCSW1-031115** Units: **mg/L** Analysis Date: **11-Mar-2015 13:21**
Client ID: Run ID: **HG03_250932** SeqNo: **3210688** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.00517 | 0.000200 | 0.005 | 0 | 103 | 80 - 120 | | | | |

**MS** Sample ID: **HS15030213-01MS** Units: **mg/L** Analysis Date: **11-Mar-2015 13:26**
Client ID: Run ID: **HG03_250932** SeqNo: **3210691** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.00504 | 0.000200 | 0.005 | 0.000013 | 101 | 75 - 125 | | | | |

**MSD** Sample ID: **HS15030213-01MSD** Units: **mg/L** Analysis Date: **11-Mar-2015 13:28**
Client ID: Run ID: **HG03_250932** SeqNo: **3210692** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.00532 | 0.000200 | 0.005 | 0.000013 | 106 | 75 - 125 | 0.00504 | 5.41 | 20 | |

**DUP** Sample ID: **HS15030213-01DUP** Units: **mg/L** Analysis Date: **11-Mar-2015 13:24**
Client ID: Run ID: **HG03_250932** SeqNo: **3210690** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | U | 0.000200 | | | | | 0.000013 | 0 | 20 | |

**The following samples were anayzed in this batch:** HS15030132-01 HS15030132-02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

**QC BATCH REPORT**

**Batch ID: 91136** **Instrument: SV-6** **Method: SW8270**

**MBLK** Sample ID: **MBLK-91136** Units: **ug/L** Analysis Date: **05-Mar-2015 14:54**
Client ID: Run ID: **SV-6_250768** SeqNo: **3207772** PrepDate: **05-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 2,4,5-Trichlorophenol | U | 0.20 | | | | | | | | |
| 2,4,6-Trichlorophenol | U | 0.20 | | | | | | | | |
| 2,4-Dinitrotoluene | U | 0.20 | | | | | | | | |
| 2-Methylphenol | U | 0.20 | | | | | | | | |
| 3&4-Methylphenol | U | 0.20 | | | | | | | | |
| Hexachlorobenzene | U | 0.20 | | | | | | | | |
| Hexachlorobutadiene | U | 0.20 | | | | | | | | |
| Hexachloroethane | U | 0.20 | | | | | | | | |
| Nitrobenzene | U | 0.20 | | | | | | | | |
| Pentachlorophenol | U | 0.20 | | | | | | | | |
| Pyridine | U | 1.0 | | | | | | | | |
| *Surr: 2,4,6-Tribromophenol* | *2.761* | *0.20* | *5* | *0* | *55.2* | *34 - 129* | | | | |
| *Surr: 2-Fluorobiphenyl* | *3.448* | *0.20* | *5* | *0* | *69.0* | *40 - 125* | | | | |
| *Surr: 2-Fluorophenol* | *3.733* | *0.20* | *5* | *0* | *74.7* | *20 - 120* | | | | |
| *Surr: 4-Terphenyl-d14* | *4.218* | *0.20* | *5* | *0* | *84.4* | *40 - 135* | | | | |
| *Surr: Nitrobenzene-d5* | *3.922* | *0.20* | *5* | *0* | *78.4* | *41 - 120* | | | | |
| *Surr: Phenol-d6* | *3.753* | *0.20* | *5* | *0* | *75.1* | *20 - 120* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

## QC BATCH REPORT

**Batch ID: 91136** **Instrument: SV-6** **Method: SW8270**

**LCS** Sample ID: **LCS-91136** Units: **ug/L** Analysis Date: **05-Mar-2015 15:13**
Client ID: Run ID: **SV-6_250768** SeqNo: **3207773** PrepDate: **05-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 2,4,5-Trichlorophenol | 3.743 | 0.20 | 5 | 0 | 74.9 | 46 - 120 | | | | |
| 2,4,6-Trichlorophenol | 3.722 | 0.20 | 5 | 0 | 74.4 | 42 - 120 | | | | |
| 2,4-Dinitrotoluene | 4.127 | 0.20 | 5 | 0 | 82.5 | 50 - 122 | | | | |
| 2-Methylphenol | 3.789 | 0.20 | 5 | 0 | 75.8 | 45 - 120 | | | | |
| 3&4-Methylphenol | 3.774 | 0.20 | 5 | 0 | 75.5 | 35 - 120 | | | | |
| Hexachlorobenzene | 3.158 | 0.20 | 5 | 0 | 63.2 | 48 - 120 | | | | |
| Hexachlorobutadiene | 3.271 | 0.20 | 5 | 0 | 65.4 | 40 - 120 | | | | |
| Hexachloroethane | 3.882 | 0.20 | 5 | 0 | 77.6 | 40 - 120 | | | | |
| Nitrobenzene | 4.156 | 0.20 | 5 | 0 | 83.1 | 44 - 120 | | | | |
| Pentachlorophenol | 3.493 | 0.20 | 5 | 0 | 69.9 | 19 - 121 | | | | |
| Pyridine | 3.731 | 1.0 | 5 | 0 | 74.6 | 15 - 120 | | | | |
| *Surr: 2,4,6-Tribromophenol* | *3.415* | *0.20* | *5* | *0* | *68.3* | *34 - 129* | | | | |
| *Surr: 2-Fluorobiphenyl* | *3.844* | *0.20* | *5* | *0* | *76.9* | *40 - 125* | | | | |
| *Surr: 2-Fluorophenol* | *4.249* | *0.20* | *5* | *0* | *85.0* | *20 - 120* | | | | |
| *Surr: 4-Terphenyl-d14* | *4.66* | *0.20* | *5* | *0* | *93.2* | *40 - 135* | | | | |
| *Surr: Nitrobenzene-d5* | *4.335* | *0.20* | *5* | *0* | *86.7* | *41 - 120* | | | | |
| *Surr: Phenol-d6* | *4.267* | *0.20* | *5* | *0* | *85.3* | *20 - 120* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

## QC BATCH REPORT

**Batch ID: 91136** **Instrument: SV-6** **Method: SW8270**

**LCSD** Sample ID: **LCSD-91136** Units: **ug/L** Analysis Date: **05-Mar-2015 15:33**
Client ID: Run ID: **SV-6_250768** SeqNo: **3207774** PrepDate: **05-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 2,4,5-Trichlorophenol | 3.691 | 0.20 | 5 | 0 | 73.8 | 46 - 120 | 3.743 | 1.41 | 20 | |
| 2,4,6-Trichlorophenol | 3.266 | 0.20 | 5 | 0 | 65.3 | 42 - 120 | 3.722 | 13.1 | 20 | |
| 2,4-Dinitrotoluene | 3.642 | 0.20 | 5 | 0 | 72.8 | 50 - 122 | 4.127 | 12.5 | 20 | |
| 2-Methylphenol | 3.588 | 0.20 | 5 | 0 | 71.8 | 45 - 120 | 3.789 | 5.45 | 20 | |
| 3&4-Methylphenol | 3.571 | 0.20 | 5 | 0 | 71.4 | 35 - 120 | 3.774 | 5.53 | 20 | |
| Hexachlorobenzene | 2.919 | 0.20 | 5 | 0 | 58.4 | 48 - 120 | 3.158 | 7.87 | 20 | |
| Hexachlorobutadiene | 3.188 | 0.20 | 5 | 0 | 63.8 | 40 - 120 | 3.271 | 2.59 | 20 | |
| Hexachloroethane | 3.76 | 0.20 | 5 | 0 | 75.2 | 40 - 120 | 3.882 | 3.2 | 20 | |
| Nitrobenzene | 4.082 | 0.20 | 5 | 0 | 81.6 | 44 - 120 | 4.156 | 1.8 | 20 | |
| Pentachlorophenol | 3.047 | 0.20 | 5 | 0 | 60.9 | 19 - 121 | 3.493 | 13.6 | 20 | |
| Pyridine | 3.389 | 1.0 | 5 | 0 | 67.8 | 15 - 120 | 3.731 | 9.6 | 20 | |
| *Surr: 2,4,6-Tribromophenol* | *2.919* | *0.20* | *5* | *0* | *58.4* | *34 - 129* | *3.415* | *15.7* | | |
| *Surr: 2-Fluorobiphenyl* | *3.531* | *0.20* | *5* | *0* | *70.6* | *40 - 125* | *3.844* | *8.48* | | |
| *Surr: 2-Fluorophenol* | *3.939* | *0.20* | *5* | *0* | *78.8* | *20 - 120* | *4.249* | *7.57* | | |
| *Surr: 4-Terphenyl-d14* | *4.289* | *0.20* | *5* | *0* | *85.8* | *40 - 135* | *4.66* | *8.28* | | |
| *Surr: Nitrobenzene-d5* | *4.102* | *0.20* | *5* | *0* | *82.0* | *41 - 120* | *4.335* | *5.53* | | |
| *Surr: Phenol-d6* | *3.992* | *0.20* | *5* | *0* | *79.8* | *20 - 120* | *4.267* | *6.65* | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

**QC BATCH REPORT**

**Batch ID: 91136** **Instrument: SV-6** **Method: SW8270**

**MS** Sample ID: **HS15030113-05MS** Units: **ug/L** Analysis Date: **05-Mar-2015 16:12**
Client ID: Run ID: **SV-6_250768** SeqNo: **3207816** PrepDate: **05-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 2,4,5-Trichlorophenol | 3.49 | 0.20 | 5 | 0 | 69.8 | 46 - 120 | | | | |
| 2,4,6-Trichlorophenol | 3.312 | 0.20 | 5 | 0 | 66.2 | 42 - 120 | | | | |
| 2,4-Dinitrotoluene | 3.823 | 0.20 | 5 | 0 | 76.5 | 50 - 122 | | | | |
| 2-Methylphenol | 3.501 | 0.20 | 5 | 0 | 70.0 | 45 - 120 | | | | |
| 3&4-Methylphenol | 3.918 | 0.20 | 5 | 0 | 78.4 | 35 - 120 | | | | |
| Hexachlorobenzene | 2.921 | 0.20 | 5 | 0 | 58.4 | 48 - 120 | | | | |
| Hexachlorobutadiene | 2.92 | 0.20 | 5 | 0 | 58.4 | 40 - 120 | | | | |
| Hexachloroethane | 3.572 | 0.20 | 5 | 0 | 71.4 | 40 - 120 | | | | |
| Nitrobenzene | 3.881 | 0.20 | 5 | 0 | 77.6 | 44 - 120 | | | | |
| Pentachlorophenol | 3.364 | 0.20 | 5 | 0 | 67.3 | 19 - 121 | | | | |
| Pyridine | 3.469 | 1.0 | 5 | 0 | 69.4 | 15 - 120 | | | | |
| *Surr: 2,4,6-Tribromophenol* | *3.021* | *0.20* | *5* | *0* | *60.4* | *34 - 129* | | | | |
| *Surr: 2-Fluorobiphenyl* | *3.437* | *0.20* | *5* | *0* | *68.7* | *40 - 125* | | | | |
| *Surr: 2-Fluorophenol* | *3.679* | *0.20* | *5* | *0* | *73.6* | *20 - 120* | | | | |
| *Surr: 4-Terphenyl-d14* | *4.757* | *0.20* | *5* | *0* | *95.1* | *40 - 135* | | | | |
| *Surr: Nitrobenzene-d5* | *3.939* | *0.20* | *5* | *0* | *78.8* | *41 - 120* | | | | |
| *Surr: Phenol-d6* | *3.802* | *0.20* | *5* | *0* | *76.0* | *20 - 120* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

## QC BATCH REPORT

**Batch ID: 91136** **Instrument: SV-6** **Method: SW8270**

**MSD** Sample ID: **HS15030113-05MSD** Units: **ug/L** Analysis Date: **05-Mar-2015 16:31**
Client ID: Run ID: **SV-6_250768** SeqNo: **3207817** PrepDate: **05-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 2,4,5-Trichlorophenol | 3.8 | 0.20 | 5 | 0 | 76.0 | 46 - 120 | 3.49 | 8.51 | 20 | |
| 2,4,6-Trichlorophenol | 3.442 | 0.20 | 5 | 0 | 68.8 | 42 - 120 | 3.312 | 3.84 | 20 | |
| 2,4-Dinitrotoluene | 4.009 | 0.20 | 5 | 0 | 80.2 | 50 - 122 | 3.823 | 4.76 | 20 | |
| 2-Methylphenol | 3.65 | 0.20 | 5 | 0 | 73.0 | 45 - 120 | 3.501 | 4.16 | 20 | |
| 3&4-Methylphenol | 4.117 | 0.20 | 5 | 0 | 82.3 | 35 - 120 | 3.918 | 4.96 | 20 | |
| Hexachlorobenzene | 3.021 | 0.20 | 5 | 0 | 60.4 | 48 - 120 | 2.921 | 3.36 | 20 | |
| Hexachlorobutadiene | 3.04 | 0.20 | 5 | 0 | 60.8 | 40 - 120 | 2.92 | 4.05 | 20 | |
| Hexachloroethane | 3.688 | 0.20 | 5 | 0 | 73.8 | 40 - 120 | 3.572 | 3.22 | 20 | |
| Nitrobenzene | 4.018 | 0.20 | 5 | 0 | 80.4 | 44 - 120 | 3.881 | 3.46 | 20 | |
| Pentachlorophenol | 3.3 | 0.20 | 5 | 0 | 66.0 | 19 - 121 | 3.364 | 1.93 | 20 | |
| Pyridine | 3.599 | 1.0 | 5 | 0 | 72.0 | 15 - 120 | 3.469 | 3.68 | 20 | |
| *Surr: 2,4,6-Tribromophenol* | *3.229* | *0.20* | *5* | *0* | *64.6* | *34 - 129* | *3.021* | *6.64* | | |
| *Surr: 2-Fluorobiphenyl* | *3.504* | *0.20* | *5* | *0* | *70.1* | *40 - 125* | *3.437* | *1.93* | | |
| *Surr: 2-Fluorophenol* | *3.809* | *0.20* | *5* | *0* | *76.2* | *20 - 120* | *3.679* | *3.47* | | |
| *Surr: 4-Terphenyl-d14* | *4.573* | *0.20* | *5* | *0* | *91.5* | *40 - 135* | *4.757* | *3.95* | | |
| *Surr: Nitrobenzene-d5* | *3.994* | *0.20* | *5* | *0* | *79.9* | *41 - 120* | *3.939* | *1.39* | | |
| *Surr: Phenol-d6* | *3.88* | *0.20* | *5* | *0* | *77.6* | *20 - 120* | *3.802* | *2.03* | | |

**The following samples were anayzed in this batch:** HS15030132-03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

**QC BATCH REPORT**

**Batch ID: 91156** **Instrument: SV-3** **Method: SW1311/8270**

**MBLK** Sample ID: **MBLK-91156** Units: **ug/L** Analysis Date: **06-Mar-2015 13:19**
Client ID: Run ID: **SV-3_250697** SeqNo: **3206265** PrepDate: **06-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 2,4,5-Trichlorophenol | U | 5.0 | | | | | | | | |
| 2,4,6-Trichlorophenol | U | 5.0 | | | | | | | | |
| 2,4-Dinitrotoluene | U | 5.0 | | | | | | | | |
| Cresols, Total | U | 15 | | | | | | | | |
| Hexachlorobenzene | U | 5.0 | | | | | | | | |
| Hexachlorobutadiene | U | 5.0 | | | | | | | | |
| Hexachloroethane | U | 5.0 | | | | | | | | |
| Nitrobenzene | U | 5.0 | | | | | | | | |
| Pentachlorophenol | U | 5.0 | | | | | | | | |
| Pyridine | U | 5.0 | | | | | | | | |
| *Surr: 2,4,6-Tribromophenol* | *76.21* | *5.0* | *100* | *0* | *76.2* | *39 - 153* | | | | |
| *Surr: 2-Fluorobiphenyl* | *76.87* | *5.0* | *100* | *0* | *76.9* | *40 - 147* | | | | |
| *Surr: 2-Fluorophenol* | *70.39* | *5.0* | *100* | *0* | *70.4* | *21 - 110* | | | | |
| *Surr: 4-Terphenyl-d14* | *70.02* | *5.0* | *100* | *0* | *70.0* | *39 - 141* | | | | |
| *Surr: Nitrobenzene-d5* | *74.49* | *5.0* | *100* | *0* | *74.5* | *37 - 140* | | | | |
| *Surr: Phenol-d6* | *74.32* | *5.0* | *100* | *0* | *74.3* | *11 - 110* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

## QC BATCH REPORT

**Batch ID: 91156** **Instrument: SV-3** **Method: SW1311/8270**

**LCS** Sample ID: **LCS-91156** Units: **ug/L** Analysis Date: **06-Mar-2015 13:42**
Client ID: Run ID: **SV-3_250697** SeqNo: **3206266** PrepDate: **06-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 2,4,5-Trichlorophenol | 75.52 | 5.0 | 100 | 0 | 75.5 | 55 - 120 | | | | |
| 2,4,6-Trichlorophenol | 80.77 | 5.0 | 100 | 0 | 80.8 | 55 - 120 | | | | |
| 2,4-Dinitrotoluene | 40.22 | 5.0 | 50 | 0 | 80.4 | 55 - 125 | | | | |
| Cresols, Total | 214.6 | 15 | 250 | 0 | 85.8 | 40 - 120 | | | | |
| Hexachlorobenzene | 44.07 | 5.0 | 50 | 0 | 88.1 | 55 - 120 | | | | |
| Hexachlorobutadiene | 40.68 | 5.0 | 50 | 0 | 81.4 | 55 - 120 | | | | |
| Hexachloroethane | 38.85 | 5.0 | 50 | 0 | 77.7 | 55 - 120 | | | | |
| Nitrobenzene | 41.83 | 5.0 | 50 | 0 | 83.7 | 55 - 120 | | | | |
| Pentachlorophenol | 71.76 | 5.0 | 100 | 0 | 71.8 | 50 - 135 | | | | |
| Pyridine | 32.72 | 5.0 | 50 | 0 | 65.4 | 30 - 120 | | | | |
| *Surr: 2,4,6-Tribromophenol* | *88.31* | *5.0* | *100* | *0* | *88.3* | *39 - 153* | | | | |
| *Surr: 2-Fluorobiphenyl* | *80.42* | *5.0* | *100* | *0* | *80.4* | *40 - 147* | | | | |
| *Surr: 2-Fluorophenol* | *93.11* | *5.0* | *100* | *0* | *93.1* | *20 - 110* | | | | |
| *Surr: 4-Terphenyl-d14* | *79.22* | *5.0* | *100* | *0* | *79.2* | *39 - 141* | | | | |
| *Surr: Nitrobenzene-d5* | *84.02* | *5.0* | *100* | *0* | *84.0* | *37 - 140* | | | | |
| *Surr: Phenol-d6* | *92.06* | *5.0* | *100* | *0* | *92.1* | *11 - 110* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

## QC BATCH REPORT

**Batch ID: 91156** **Instrument: SV-3** **Method: SW1311/8270**

**LCSD** Sample ID: **LCSD-91156** Units: **ug/L** Analysis Date: **06-Mar-2015 14:05**
Client ID: Run ID: **SV-3_250697** SeqNo: **3206267** PrepDate: **06-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 2,4,5-Trichlorophenol | 79.77 | 5.0 | 100 | 0 | 79.8 | 55 - 120 | 75.52 | 5.48 | 25 | |
| 2,4,6-Trichlorophenol | 82.13 | 5.0 | 100 | 0 | 82.1 | 55 - 120 | 80.77 | 1.68 | 25 | |
| 2,4-Dinitrotoluene | 42.89 | 5.0 | 50 | 0 | 85.8 | 55 - 125 | 40.22 | 6.42 | 25 | |
| Cresols, Total | 212 | 15 | 250 | 0 | 84.8 | 40 - 120 | 214.6 | 1.23 | 25 | |
| Hexachlorobenzene | 42.94 | 5.0 | 50 | 0 | 85.9 | 55 - 120 | 44.07 | 2.6 | 25 | |
| Hexachlorobutadiene | 40.96 | 5.0 | 50 | 0 | 81.9 | 55 - 120 | 40.68 | 0.682 | 25 | |
| Hexachloroethane | 39.12 | 5.0 | 50 | 0 | 78.2 | 55 - 120 | 38.85 | 0.68 | 25 | |
| Nitrobenzene | 41.65 | 5.0 | 50 | 0 | 83.3 | 55 - 120 | 41.83 | 0.424 | 25 | |
| Pentachlorophenol | 79.44 | 5.0 | 100 | 0 | 79.4 | 50 - 135 | 71.76 | 10.2 | 25 | |
| Pyridine | 35.94 | 5.0 | 50 | 0 | 71.9 | 30 - 120 | 32.72 | 9.36 | 25 | |
| *Surr: 2,4,6-Tribromophenol* | *96.07* | *5.0* | *100* | *0* | *96.1* | *39 - 153* | *88.31* | *8.42* | *25* | |
| *Surr: 2-Fluorobiphenyl* | *78.79* | *5.0* | *100* | *0* | *78.8* | *40 - 147* | *80.42* | *2.04* | *25* | |
| *Surr: 2-Fluorophenol* | *90.41* | *5.0* | *100* | *0* | *90.4* | *21 - 110* | *93.11* | *2.94* | *25* | |
| *Surr: 4-Terphenyl-d14* | *78.57* | *5.0* | *100* | *0* | *78.6* | *39 - 141* | *79.22* | *0.826* | *25* | |
| *Surr: Nitrobenzene-d5* | *83.78* | *5.0* | *100* | *0* | *83.8* | *37 - 140* | *84.02* | *0.281* | *25* | |
| *Surr: Phenol-d6* | *89.04* | *5.0* | *100* | *0* | *89.0* | *11 - 110* | *92.06* | *3.34* | *25* | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

## QC BATCH REPORT

**Batch ID: 91156** **Instrument: SV-3** **Method: SW1311/8270**

**MS** Sample ID: **HS15030132-02MS** Units: **ug/L** Analysis Date: **09-Mar-2015 15:08**
Client ID: **USOR-EQ-11-Large Blue Hopper** Run ID: **SV-3_250697** SeqNo: **3208129** PrepDate: **06-Mar-2015** DF: **10**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 2,4,5-Trichlorophenol | 87.81 | 75 | 100 | 0 | 87.8 | 55 - 120 | | | | |
| 2,4,6-Trichlorophenol | 67.53 | 75 | 100 | 0 | 67.5 | 55 - 120 | | | | J |
| 2,4-Dinitrotoluene | 42.54 | 75 | 50 | 0 | 85.1 | 55 - 125 | | | | J |
| Cresols, Total | 355.2 | 220 | 250 | 161.3 | 77.6 | 40 - 120 | | | | |
| Hexachlorobenzene | 37.43 | 75 | 50 | 0 | 74.9 | 55 - 120 | | | | J |
| Hexachlorobutadiene | 36.34 | 75 | 50 | 0 | 72.7 | 55 - 120 | | | | J |
| Hexachloroethane | 32.93 | 75 | 50 | 0 | 65.9 | 55 - 120 | | | | J |
| Nitrobenzene | 38.49 | 75 | 50 | 0 | 77.0 | 55 - 120 | | | | J |
| Pentachlorophenol | 106.6 | 75 | 100 | 0 | 107 | 50 - 135 | | | | |
| Pyridine | 32.53 | 75 | 50 | 0 | 65.1 | 30 - 120 | | | | J |
| *Surr: 2,4,6-Tribromophenol* | *71.51* | *75* | *100* | *0* | *71.5* | *39 - 153* | | | | J |
| *Surr: 2-Fluorobiphenyl* | *71.56* | *75* | *100* | *0* | *71.6* | *40 - 147* | | | | J |
| *Surr: 2-Fluorophenol* | *67.34* | *75* | *100* | *0* | *67.3* | *21 - 110* | | | | J |
| *Surr: 4-Terphenyl-d14* | *73.15* | *75* | *100* | *0* | *73.1* | *39 - 141* | | | | J |
| *Surr: Nitrobenzene-d5* | *75.13* | *75* | *100* | *0* | *75.1* | *37 - 140* | | | | |
| *Surr: Phenol-d6* | *79.76* | *75* | *100* | *0* | *79.8* | *11 - 110* | | | | |

**The following samples were anayzed in this batch:** HS15030132-01 HS15030132-02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

## QC BATCH REPORT

**Batch ID: R250657** **Instrument: VOA4** **Method: SW8260**

**MBLK** Sample ID: **VBLKW-150305** Units: **ug/L** Analysis Date: **06-Mar-2015 00:43**
Client ID: Run ID: **VOA4_250657** SeqNo: **3205447** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | U | 1.0 | | | | | | | | |
| 1,2-Dichloroethane | U | 1.0 | | | | | | | | |
| 1,4-Dichlorobenzene | U | 1.0 | | | | | | | | |
| 2-Butanone | U | 2.0 | | | | | | | | |
| Benzene | U | 1.0 | | | | | | | | |
| Carbon tetrachloride | U | 1.0 | | | | | | | | |
| Chlorobenzene | U | 1.0 | | | | | | | | |
| Chloroform | U | 1.0 | | | | | | | | |
| Tetrachloroethene | U | 1.0 | | | | | | | | |
| Trichloroethene | U | 1.0 | | | | | | | | |
| Vinyl chloride | U | 1.0 | | | | | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *52.33* | *1.0* | *50* | *0* | *105* | *71 - 125* | | | | |
| *Surr: 4-Bromofluorobenzene* | *50.71* | *1.0* | *50* | *0* | *101* | *70 - 125* | | | | |
| *Surr: Dibromofluoromethane* | *51.1* | *1.0* | *50* | *0* | *102* | *74 - 125* | | | | |
| *Surr: Toluene-d8* | *55.83* | *1.0* | *50* | *0* | *112* | *75 - 125* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

## QC BATCH REPORT

**Batch ID: R250657** **Instrument: VOA4** **Method: SW8260**

**LCS** Sample ID: **VLCSW-150305** Units: **ug/L** Analysis Date: **05-Mar-2015 23:53**
Client ID: Run ID: **VOA4_250657** SeqNo: **3205446** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 53.33 | 1.0 | 50 | 0 | 107 | 75 - 130 | | | | |
| 1,2-Dichloroethane | 54.28 | 1.0 | 50 | 0 | 109 | 76 - 120 | | | | |
| 1,4-Dichlorobenzene | 52.2 | 1.0 | 50 | 0 | 104 | 80 - 120 | | | | |
| 2-Butanone | 107.9 | 2.0 | 100 | 0 | 108 | 60 - 140 | | | | |
| Benzene | 53.89 | 1.0 | 50 | 0 | 108 | 80 - 120 | | | | |
| Carbon tetrachloride | 48.58 | 1.0 | 50 | 0 | 97.2 | 75 - 125 | | | | |
| Chlorobenzene | 52.55 | 1.0 | 50 | 0 | 105 | 80 - 120 | | | | |
| Chloroform | 53.53 | 1.0 | 50 | 0 | 107 | 70 - 130 | | | | |
| Tetrachloroethene | 51.63 | 1.0 | 50 | 0 | 103 | 75 - 130 | | | | |
| Trichloroethene | 54.65 | 1.0 | 50 | 0 | 109 | 71 - 125 | | | | |
| Vinyl chloride | 56.93 | 1.0 | 50 | 0 | 114 | 70 - 135 | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *49.29* | *1.0* | *50* | *0* | *98.6* | *71 - 125* | | | | |
| *Surr: 4-Bromofluorobenzene* | *51.29* | *1.0* | *50* | *0* | *103* | *70 - 125* | | | | |
| *Surr: Dibromofluoromethane* | *52.36* | *1.0* | *50* | *0* | *105* | *74 - 125* | | | | |
| *Surr: Toluene-d8* | *53.21* | *1.0* | *50* | *0* | *106* | *75 - 125* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

## QC BATCH REPORT

**Batch ID: R250657** **Instrument: VOA4** **Method: SW8260**

**MS** Sample ID: **HS15030110-01MS** Units: **ug/L** Analysis Date: **06-Mar-2015 02:48**
Client ID: Run ID: **VOA4_250657** SeqNo: **3205452** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 55.12 | 1.0 | 50 | 0 | 110 | 75 - 130 | | | | |
| 1,2-Dichloroethane | 52.27 | 1.0 | 50 | 0 | 105 | 76 - 120 | | | | |
| 1,4-Dichlorobenzene | 49.45 | 1.0 | 50 | 0 | 98.9 | 80 - 120 | | | | |
| 2-Butanone | 100.8 | 2.0 | 100 | 0 | 101 | 60 - 140 | | | | |
| Benzene | 54.26 | 1.0 | 50 | 0 | 109 | 80 - 120 | | | | |
| Carbon tetrachloride | 50.7 | 1.0 | 50 | 0 | 101 | 79 - 120 | | | | |
| Chlorobenzene | 50.18 | 1.0 | 50 | 0 | 100 | 80 - 120 | | | | |
| Chloroform | 52.45 | 1.0 | 50 | 0 | 105 | 70 - 130 | | | | |
| Tetrachloroethene | 52.95 | 1.0 | 50 | 0 | 106 | 75 - 130 | | | | |
| Trichloroethene | 54.78 | 1.0 | 50 | 0 | 110 | 71 - 125 | | | | |
| Vinyl chloride | 56.58 | 1.0 | 50 | 0 | 113 | 70 - 135 | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *49.61* | *1.0* | *50* | *0* | *99.2* | *71 - 125* | | | | |
| *Surr: 4-Bromofluorobenzene* | *51.55* | *1.0* | *50* | *0* | *103* | *70 - 125* | | | | |
| *Surr: Dibromofluoromethane* | *51.72* | *1.0* | *50* | *0* | *103* | *74 - 125* | | | | |
| *Surr: Toluene-d8* | *53.09* | *1.0* | *50* | *0* | *106* | *75 - 125* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

## QC BATCH REPORT

**Batch ID: R250657** **Instrument: VOA4** **Method: SW8260**

**MSD** Sample ID: **HS15030110-01MSD** Units: **ug/L** Analysis Date: **06-Mar-2015 03:13**
Client ID: Run ID: **VOA4_250657** SeqNo: **3205453** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 53.43 | 1.0 | 50 | 0 | 107 | 75 - 130 | 55.12 | 3.13 | 20 | |
| 1,2-Dichloroethane | 51.16 | 1.0 | 50 | 0 | 102 | 76 - 120 | 52.27 | 2.15 | 20 | |
| 1,4-Dichlorobenzene | 48.79 | 1.0 | 50 | 0 | 97.6 | 80 - 120 | 49.45 | 1.34 | 20 | |
| 2-Butanone | 113.7 | 2.0 | 100 | 0 | 114 | 60 - 140 | 100.8 | 12 | 20 | |
| Benzene | 52.79 | 1.0 | 50 | 0 | 106 | 80 - 120 | 54.26 | 2.76 | 20 | |
| Carbon tetrachloride | 48.24 | 1.0 | 50 | 0 | 96.5 | 75 - 125 | 50.7 | 4.98 | 20 | |
| Chlorobenzene | 48.72 | 1.0 | 50 | 0 | 97.4 | 80 - 120 | 50.18 | 2.96 | 20 | |
| Chloroform | 50.07 | 1.0 | 50 | 0 | 100 | 70 - 130 | 52.45 | 4.64 | 20 | |
| Tetrachloroethene | 50.94 | 1.0 | 50 | 0 | 102 | 75 - 130 | 52.95 | 3.87 | 20 | |
| Trichloroethene | 51.32 | 1.0 | 50 | 0 | 103 | 71 - 125 | 54.78 | 6.51 | 20 | |
| Vinyl chloride | 54.13 | 1.0 | 50 | 0 | 108 | 70 - 135 | 56.58 | 4.41 | 20 | |
| *Surr: 1,2-Dichloroethane-d4* | *49.42* | *1.0* | *50* | *0* | *98.8* | *71 - 125* | *49.61* | *0.368* | *20* | |
| *Surr: 4-Bromofluorobenzene* | *50.78* | *1.0* | *50* | *0* | *102* | *70 - 125* | *51.55* | *1.51* | *20* | |
| *Surr: Dibromofluoromethane* | *50.26* | *1.0* | *50* | *0* | *101* | *74 - 125* | *51.72* | *2.86* | *20* | |
| *Surr: Toluene-d8* | *51.38* | *1.0* | *50* | *0* | *103* | *75 - 125* | *53.09* | *3.29* | *20* | |

**The following samples were anayzed in this batch:** HS15030132-04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

## QC BATCH REPORT

**Batch ID: R250803** **Instrument: VOA4** **Method: SW8260**

**MBLK** Sample ID: **VBLKW-150309** Units: **ug/L** Analysis Date: **09-Mar-2015 09:39**
Client ID: Run ID: **VOA4_250803** SeqNo: **3208711** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | U | 1.0 | | | | | | | | |
| 1,2-Dichloroethane | U | 1.0 | | | | | | | | |
| 1,4-Dichlorobenzene | U | 1.0 | | | | | | | | |
| 2-Butanone | U | 2.0 | | | | | | | | |
| Benzene | U | 1.0 | | | | | | | | |
| Carbon tetrachloride | U | 1.0 | | | | | | | | |
| Chlorobenzene | U | 1.0 | | | | | | | | |
| Chloroform | U | 1.0 | | | | | | | | |
| Tetrachloroethene | U | 1.0 | | | | | | | | |
| Trichloroethene | U | 1.0 | | | | | | | | |
| Vinyl chloride | U | 1.0 | | | | | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *50.14* | *1.0* | *50* | *0* | *100* | *71 - 125* | | | | |
| *Surr: 4-Bromofluorobenzene* | *48.15* | *1.0* | *50* | *0* | *96.3* | *70 - 125* | | | | |
| *Surr: Dibromofluoromethane* | *49.27* | *1.0* | *50* | *0* | *98.5* | *74 - 125* | | | | |
| *Surr: Toluene-d8* | *53.16* | *1.0* | *50* | *0* | *106* | *75 - 125* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

## QC BATCH REPORT

**Batch ID: R250803** **Instrument: VOA4** **Method: SW8260**

**LCS** Sample ID: **VLCSW-150309** Units: **ug/L** Analysis Date: **09-Mar-2015 08:49**
Client ID: Run ID: **VOA4_250803** SeqNo: **3208710** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 53.45 | 1.0 | 50 | 0 | 107 | 75 - 130 | | | | |
| 1,2-Dichloroethane | 55.78 | 1.0 | 50 | 0 | 112 | 76 - 120 | | | | |
| 1,4-Dichlorobenzene | 50.77 | 1.0 | 50 | 0 | 102 | 80 - 120 | | | | |
| 2-Butanone | 119.6 | 2.0 | 100 | 0 | 120 | 60 - 140 | | | | |
| Benzene | 54.11 | 1.0 | 50 | 0 | 108 | 80 - 120 | | | | |
| Carbon tetrachloride | 46.67 | 1.0 | 50 | 0 | 93.3 | 75 - 125 | | | | |
| Chlorobenzene | 51.76 | 1.0 | 50 | 0 | 104 | 80 - 120 | | | | |
| Chloroform | 55.11 | 1.0 | 50 | 0 | 110 | 70 - 130 | | | | |
| Tetrachloroethene | 49.81 | 1.0 | 50 | 0 | 99.6 | 75 - 130 | | | | |
| Trichloroethene | 53.13 | 1.0 | 50 | 0 | 106 | 71 - 125 | | | | |
| Vinyl chloride | 55.99 | 1.0 | 50 | 0 | 112 | 70 - 135 | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *51.82* | *1.0* | *50* | *0* | *104* | *71 - 125* | | | | |
| *Surr: 4-Bromofluorobenzene* | *50.66* | *1.0* | *50* | *0* | *101* | *70 - 125* | | | | |
| *Surr: Dibromofluoromethane* | *52.69* | *1.0* | *50* | *0* | *105* | *74 - 125* | | | | |
| *Surr: Toluene-d8* | *52.04* | *1.0* | *50* | *0* | *104* | *75 - 125* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

## QC BATCH REPORT

**Batch ID: R250803** **Instrument: VOA4** **Method: SW8260**

**MS** Sample ID: **HS15030221-01MS** Units: **ug/L** Analysis Date: **09-Mar-2015 12:10**
Client ID: Run ID: **VOA4_250803** SeqNo: **3208717** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 52.27 | 1.0 | 50 | 0 | 105 | 75 - 130 | | | | |
| 1,2-Dichloroethane | 51.69 | 1.0 | 50 | 0 | 103 | 76 - 120 | | | | |
| 1,4-Dichlorobenzene | 46.57 | 1.0 | 50 | 0 | 93.1 | 80 - 120 | | | | |
| 2-Butanone | 106.6 | 2.0 | 100 | 0 | 107 | 60 - 140 | | | | |
| Benzene | 50.53 | 1.0 | 50 | 0 | 101 | 80 - 120 | | | | |
| Carbon tetrachloride | 48.81 | 1.0 | 50 | 0 | 97.6 | 79 - 120 | | | | |
| Chlorobenzene | 48.37 | 1.0 | 50 | 0 | 96.7 | 80 - 120 | | | | |
| Chloroform | 50.19 | 1.0 | 50 | 0 | 100 | 70 - 130 | | | | |
| Tetrachloroethene | 50.04 | 1.0 | 50 | 0 | 100 | 75 - 130 | | | | |
| Trichloroethene | 51.52 | 1.0 | 50 | 0 | 103 | 71 - 125 | | | | |
| Vinyl chloride | 52.48 | 1.0 | 50 | 0 | 105 | 70 - 135 | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *51.81* | *1.0* | *50* | *0* | *104* | *71 - 125* | | | | |
| *Surr: 4-Bromofluorobenzene* | *51.57* | *1.0* | *50* | *0* | *103* | *70 - 125* | | | | |
| *Surr: Dibromofluoromethane* | *52.92* | *1.0* | *50* | *0* | *106* | *74 - 125* | | | | |
| *Surr: Toluene-d8* | *52.58* | *1.0* | *50* | *0* | *105* | *75 - 125* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

## QC BATCH REPORT

**Batch ID: R250803** **Instrument: VOA4** **Method: SW8260**

**MSD** Sample ID: **HS15030221-01MSD** Units: **ug/L** Analysis Date: **09-Mar-2015 12:35**
Client ID: Run ID: **VOA4_250803** SeqNo: **3208718** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 53.81 | 1.0 | 50 | 0 | 108 | 75 - 130 | 52.27 | 2.9 | 20 | |
| 1,2-Dichloroethane | 53.11 | 1.0 | 50 | 0 | 106 | 76 - 120 | 51.69 | 2.72 | 20 | |
| 1,4-Dichlorobenzene | 47.67 | 1.0 | 50 | 0 | 95.3 | 80 - 120 | 46.57 | 2.32 | 20 | |
| 2-Butanone | 107.1 | 2.0 | 100 | 0 | 107 | 60 - 140 | 106.6 | 0.466 | 20 | |
| Benzene | 52.42 | 1.0 | 50 | 0 | 105 | 80 - 120 | 50.53 | 3.67 | 20 | |
| Carbon tetrachloride | 49.13 | 1.0 | 50 | 0 | 98.3 | 75 - 125 | 48.81 | 0.647 | 20 | |
| Chlorobenzene | 50.41 | 1.0 | 50 | 0 | 101 | 80 - 120 | 48.37 | 4.13 | 20 | |
| Chloroform | 51.47 | 1.0 | 50 | 0 | 103 | 70 - 130 | 50.19 | 2.53 | 20 | |
| Tetrachloroethene | 50.55 | 1.0 | 50 | 0 | 101 | 75 - 130 | 50.04 | 1.02 | 20 | |
| Trichloroethene | 52.33 | 1.0 | 50 | 0 | 105 | 71 - 125 | 51.52 | 1.56 | 20 | |
| Vinyl chloride | 54.66 | 1.0 | 50 | 0 | 109 | 70 - 135 | 52.48 | 4.08 | 20 | |
| *Surr: 1,2-Dichloroethane-d4* | *51.43* | *1.0* | *50* | *0* | *103* | *71 - 125* | *51.81* | *0.75* | *20* | |
| *Surr: 4-Bromofluorobenzene* | *50.51* | *1.0* | *50* | *0* | *101* | *70 - 125* | *51.57* | *2.09* | *20* | |
| *Surr: Dibromofluoromethane* | *51.2* | *1.0* | *50* | *0* | *102* | *74 - 125* | *52.92* | *3.3* | *20* | |
| *Surr: Toluene-d8* | *52.74* | *1.0* | *50* | *0* | *105* | *75 - 125* | *52.58* | *0.308* | *20* | |

**The following samples were anayzed in this batch:** HS15030132-03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

**QC BATCH REPORT**

**Batch ID: R250809** **Instrument: VOA4** **Method: SW1311/8260B**

**MBLK** Sample ID: **VBLKW-150309** Units: **ug/L** Analysis Date: **09-Mar-2015 20:53**
Client ID: Run ID: **VOA4_250809** SeqNo: **3208804** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | U | 5.0 | | | | | | | | |
| 1,2-Dichloroethane | U | 5.0 | | | | | | | | |
| 1,4-Dichlorobenzene | U | 5.0 | | | | | | | | |
| 2-Butanone | U | 10 | | | | | | | | |
| Benzene | U | 5.0 | | | | | | | | |
| Carbon tetrachloride | U | 5.0 | | | | | | | | |
| Chlorobenzene | U | 5.0 | | | | | | | | |
| Chloroform | U | 5.0 | | | | | | | | |
| Tetrachloroethene | U | 5.0 | | | | | | | | |
| Trichloroethene | U | 5.0 | | | | | | | | |
| Vinyl chloride | U | 2.0 | | | | | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *50.65* | *5.0* | *50* | *0* | *101* | *70 - 125* | | | | |
| *Surr: 4-Bromofluorobenzene* | *47.16* | *5.0* | *50* | *0* | *94.3* | *72.4 - 125* | | | | |
| *Surr: Dibromofluoromethane* | *50.7* | *5.0* | *50* | *0* | *101* | *71.2 - 125* | | | | |
| *Surr: Toluene-d8* | *52.38* | *5.0* | *50* | *0* | *105* | *75 - 125* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

## QC BATCH REPORT

**Batch ID: R250809** **Instrument: VOA4** **Method: SW1311/8260B**

**MBLK** Sample ID: **MBLKV1-150305** Units: **ug/L** Analysis Date: **09-Mar-2015 21:45**
Client ID: Run ID: **VOA4_250809** SeqNo: **3208805** PrepDate: DF: **20**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | U | 100 | | | | | | | | |
| 1,2-Dichloroethane | U | 100 | | | | | | | | |
| 1,4-Dichlorobenzene | U | 100 | | | | | | | | |
| 2-Butanone | U | 200 | | | | | | | | |
| Benzene | U | 100 | | | | | | | | |
| Carbon tetrachloride | U | 100 | | | | | | | | |
| Chlorobenzene | U | 100 | | | | | | | | |
| Chloroform | U | 100 | | | | | | | | |
| Tetrachloroethene | U | 100 | | | | | | | | |
| Trichloroethene | U | 100 | | | | | | | | |
| Vinyl chloride | U | 40 | | | | | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *1005* | *100* | *1000* | *0* | *101* | *70 - 125* | | | | |
| *Surr: 4-Bromofluorobenzene* | *983.2* | *100* | *1000* | *0* | *98.3* | *72.4 - 125* | | | | |
| *Surr: Dibromofluoromethane* | *1008* | *100* | *1000* | *0* | *101* | *71.2 - 125* | | | | |
| *Surr: Toluene-d8* | *1095* | *100* | *1000* | *0* | *109* | *75 - 125* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

## QC BATCH REPORT

**Batch ID: R250809** **Instrument: VOA4** **Method: SW1311/8260B**

**LCS** Sample ID: **VLCSW-150309** Units: **ug/L** Analysis Date: **09-Mar-2015 20:03**
Client ID: Run ID: **VOA4_250809** SeqNo: **3208803** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 51.51 | 5.0 | 50 | 0 | 103 | 73 - 124 | | | | |
| 1,2-Dichloroethane | 55.12 | 5.0 | 50 | 0 | 110 | 76 - 120 | | | | |
| 1,4-Dichlorobenzene | 50.44 | 5.0 | 50 | 0 | 101 | 70 - 130 | | | | |
| 2-Butanone | 112.2 | 10 | 100 | 0 | 112 | 70 - 130 | | | | |
| Benzene | 53.23 | 5.0 | 50 | 0 | 106 | 70 - 128 | | | | |
| Carbon tetrachloride | 46.23 | 5.0 | 50 | 0 | 92.5 | 70 - 130 | | | | |
| Chlorobenzene | 52.56 | 5.0 | 50 | 0 | 105 | 72 - 127 | | | | |
| Chloroform | 53.76 | 5.0 | 50 | 0 | 108 | 70 - 130 | | | | |
| Tetrachloroethene | 49.93 | 5.0 | 50 | 0 | 99.9 | 70 - 130 | | | | |
| Trichloroethene | 51.83 | 5.0 | 50 | 0 | 104 | 72 - 129 | | | | |
| Vinyl chloride | 55.63 | 2.0 | 50 | 0 | 111 | 70 - 130 | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *50.68* | *5.0* | *50* | *0* | *101* | *70 - 125* | | | | |
| *Surr: 4-Bromofluorobenzene* | *50.5* | *5.0* | *50* | *0* | *101* | *72 - 125* | | | | |
| *Surr: Dibromofluoromethane* | *51.85* | *5.0* | *50* | *0* | *104* | *71 - 125* | | | | |
| *Surr: Toluene-d8* | *51.58* | *5.0* | *50* | *0* | *103* | *75 - 125* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

## QC BATCH REPORT

**Batch ID: R250809** **Instrument: VOA4** **Method: SW1311/8260B**

**MS** Sample ID: **HS15030194-13MS** Units: **ug/L** Analysis Date: **09-Mar-2015 23:24**
Client ID: Run ID: **VOA4_250809** SeqNo: **3208809** PrepDate: DF: **5**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 249.3 | 25 | 250 | 0 | 99.7 | 73 - 124 | | | | |
| 1,2-Dichloroethane | 256.5 | 25 | 250 | 0 | 103 | 76 - 120 | | | | |
| 1,4-Dichlorobenzene | 222.2 | 25 | 250 | 0 | 88.9 | 70 - 130 | | | | |
| 2-Butanone | 557.6 | 50 | 500 | 0 | 112 | 70 - 130 | | | | |
| Benzene | 255.3 | 25 | 250 | 0 | 102 | 70 - 128 | | | | |
| Carbon tetrachloride | 226.2 | 25 | 250 | 0 | 90.5 | 70 - 130 | | | | |
| Chlorobenzene | 234 | 25 | 250 | 0 | 93.6 | 72 - 127 | | | | |
| Chloroform | 248.6 | 25 | 250 | 0 | 99.4 | 70 - 130 | | | | |
| Tetrachloroethene | 231.3 | 25 | 250 | 0 | 92.5 | 70 - 130 | | | | |
| Trichloroethene | 242.5 | 25 | 250 | 0 | 97.0 | 72 - 129 | | | | |
| Vinyl chloride | 245.8 | 10 | 250 | 0 | 98.3 | 70 - 130 | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *258.6* | *25* | *250* | *0* | *103* | *70 - 125* | | | | |
| *Surr: 4-Bromofluorobenzene* | *253.7* | *25* | *250* | *0* | *101* | *72 - 125* | | | | |
| *Surr: Dibromofluoromethane* | *261.4* | *25* | *250* | *0* | *105* | *71 - 125* | | | | |
| *Surr: Toluene-d8* | *267.8* | *25* | *250* | *0* | *107* | *75 - 125* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

## QC BATCH REPORT

**Batch ID: R250809** **Instrument: VOA4** **Method: SW1311/8260B**

**MSD** Sample ID: **HS15030194-13MSD** Units: **ug/L** Analysis Date: **09-Mar-2015 23:49**
Client ID: Run ID: **VOA4_250809** SeqNo: **3208810** PrepDate: DF: **5**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 279.3 | 25 | 250 | 0 | 112 | 73 - 124 | 249.3 | 11.3 | 20 | |
| 1,2-Dichloroethane | 293.7 | 25 | 250 | 0 | 117 | 76 - 120 | 256.5 | 13.5 | 20 | |
| 1,4-Dichlorobenzene | 256.7 | 25 | 250 | 0 | 103 | 70 - 130 | 222.2 | 14.4 | 20 | |
| 2-Butanone | 665.8 | 50 | 500 | 0 | 133 | 70 - 130 | 557.6 | 17.7 | 20 | S |
| Benzene | 286.7 | 25 | 250 | 0 | 115 | 70 - 128 | 255.3 | 11.6 | 20 | |
| Carbon tetrachloride | 253.7 | 25 | 250 | 0 | 101 | 70 - 130 | 226.2 | 11.5 | 20 | |
| Chlorobenzene | 271.4 | 25 | 250 | 0 | 109 | 72 - 127 | 234 | 14.8 | 20 | |
| Chloroform | 284.8 | 25 | 250 | 0 | 114 | 70 - 130 | 248.6 | 13.6 | 20 | |
| Tetrachloroethene | 268 | 25 | 250 | 0 | 107 | 70 - 130 | 231.3 | 14.7 | 20 | |
| Trichloroethene | 274.1 | 25 | 250 | 0 | 110 | 72 - 129 | 242.5 | 12.2 | 20 | |
| Vinyl chloride | 282.4 | 10 | 250 | 0 | 113 | 70 - 130 | 245.8 | 13.9 | 20 | |
| *Surr: 1,2-Dichloroethane-d4* | *287.1* | *25* | *250* | *0* | *115* | *70 - 125* | *258.6* | *10.5* | *20* | |
| *Surr: 4-Bromofluorobenzene* | *293.6* | *25* | *250* | *0* | *117* | *72 - 125* | *253.7* | *14.6* | *20* | |
| *Surr: Dibromofluoromethane* | *286* | *25* | *250* | *0* | *114* | *71 - 125* | *261.4* | *8.97* | *20* | |
| *Surr: Toluene-d8* | *295.8* | *25* | *250* | *0* | *118* | *75 - 125* | *267.8* | *9.94* | *20* | |

**The following samples were anayzed in this batch:** HS15030132-02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

## QC BATCH REPORT

**Batch ID: R250903** **Instrument: VOA6** **Method: SW1311/8260B**

**MBLK** Sample ID: **VBLKW-150310** Units: **ug/L** Analysis Date: **10-Mar-2015 13:57**
Client ID: Run ID: **VOA6_250903** SeqNo: **3210236** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | U | 5.0 | | | | | | | | |
| 1,2-Dichloroethane | U | 5.0 | | | | | | | | |
| 1,4-Dichlorobenzene | U | 5.0 | | | | | | | | |
| 2-Butanone | U | 10 | | | | | | | | |
| Benzene | U | 5.0 | | | | | | | | |
| Carbon tetrachloride | U | 5.0 | | | | | | | | |
| Chlorobenzene | U | 5.0 | | | | | | | | |
| Chloroform | U | 5.0 | | | | | | | | |
| Tetrachloroethene | U | 5.0 | | | | | | | | |
| Trichloroethene | U | 5.0 | | | | | | | | |
| Vinyl chloride | U | 2.0 | | | | | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *46.78* | *5.0* | *50* | *0* | *93.6* | *70 - 125* | | | | |
| *Surr: 4-Bromofluorobenzene* | *46.59* | *5.0* | *50* | *0* | *93.2* | *72.4 - 125* | | | | |
| *Surr: Dibromofluoromethane* | *48.8* | *5.0* | *50* | *0* | *97.6* | *71.2 - 125* | | | | |
| *Surr: Toluene-d8* | *48.84* | *5.0* | *50* | *0* | *97.7* | *75 - 125* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

## QC BATCH REPORT

**Batch ID: R250903** **Instrument: VOA6** **Method: SW1311/8260B**

**MBLK** Sample ID: **MBLKV1-150309** Units: **ug/L** Analysis Date: **10-Mar-2015 18:46**
Client ID: Run ID: **VOA6_250903** SeqNo: **3210242** PrepDate: DF: **20**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | U | 100 | | | | | | | | |
| 1,2-Dichloroethane | U | 100 | | | | | | | | |
| 1,4-Dichlorobenzene | U | 100 | | | | | | | | |
| 2-Butanone | U | 200 | | | | | | | | |
| Benzene | U | 100 | | | | | | | | |
| Carbon tetrachloride | U | 100 | | | | | | | | |
| Chlorobenzene | U | 100 | | | | | | | | |
| Chloroform | U | 100 | | | | | | | | |
| Tetrachloroethene | U | 100 | | | | | | | | |
| Trichloroethene | U | 100 | | | | | | | | |
| Vinyl chloride | U | 40 | | | | | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *937.1* | *100* | *1000* | *0* | *93.7* | *70 - 125* | | | | |
| *Surr: 4-Bromofluorobenzene* | *980* | *100* | *1000* | *0* | *98.0* | *72.4 - 125* | | | | |
| *Surr: Dibromofluoromethane* | *1001* | *100* | *1000* | *0* | *100* | *71.2 - 125* | | | | |
| *Surr: Toluene-d8* | *950.1* | *100* | *1000* | *0* | *95.0* | *75 - 125* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

## QC BATCH REPORT

**Batch ID: R250903** **Instrument: VOA6** **Method: SW1311/8260B**

**LCS** Sample ID: **VLCSW-150310** Units: **ug/L** Analysis Date: **10-Mar-2015 12:45**
Client ID: Run ID: **VOA6_250903** SeqNo: **3210235** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 48.5 | 5.0 | 50 | 0 | 97.0 | 73 - 124 | | | | |
| 1,2-Dichloroethane | 44.13 | 5.0 | 50 | 0 | 88.3 | 76 - 120 | | | | |
| 1,4-Dichlorobenzene | 48.43 | 5.0 | 50 | 0 | 96.9 | 70 - 130 | | | | |
| 2-Butanone | 80.98 | 10 | 100 | 0 | 81.0 | 70 - 130 | | | | |
| Benzene | 46.92 | 5.0 | 50 | 0 | 93.8 | 70 - 128 | | | | |
| Carbon tetrachloride | 47.9 | 5.0 | 50 | 0 | 95.8 | 70 - 130 | | | | |
| Chlorobenzene | 47.45 | 5.0 | 50 | 0 | 94.9 | 72 - 127 | | | | |
| Chloroform | 46.29 | 5.0 | 50 | 0 | 92.6 | 70 - 130 | | | | |
| Tetrachloroethene | 47.46 | 5.0 | 50 | 0 | 94.9 | 70 - 130 | | | | |
| Trichloroethene | 49.13 | 5.0 | 50 | 0 | 98.3 | 72 - 129 | | | | |
| Vinyl chloride | 44.35 | 2.0 | 50 | 0 | 88.7 | 70 - 130 | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *46.63* | *5.0* | *50* | *0* | *93.3* | *70 - 125* | | | | |
| *Surr: 4-Bromofluorobenzene* | *50.79* | *5.0* | *50* | *0* | *102* | *72 - 125* | | | | |
| *Surr: Dibromofluoromethane* | *48.46* | *5.0* | *50* | *0* | *96.9* | *71 - 125* | | | | |
| *Surr: Toluene-d8* | *49.57* | *5.0* | *50* | *0* | *99.1* | *75 - 125* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

## QC BATCH REPORT

**Batch ID: R250903** **Instrument: VOA6** **Method: SW1311/8260B**

**MS** Sample ID: **HS15030295-01MS** Units: **ug/L** Analysis Date: **10-Mar-2015 15:09**
Client ID: Run ID: **VOA6_250903** SeqNo: **3210238** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 47.12 | 5.0 | 50 | 0 | 94.2 | 73 - 124 | | | | |
| 1,2-Dichloroethane | 43.22 | 5.0 | 50 | 0 | 86.4 | 76 - 120 | | | | |
| 1,4-Dichlorobenzene | 45.09 | 5.0 | 50 | 0 | 90.2 | 70 - 130 | | | | |
| 2-Butanone | 75.39 | 10 | 100 | 0 | 75.4 | 70 - 130 | | | | |
| Benzene | 46.43 | 5.0 | 50 | 0 | 92.9 | 70 - 128 | | | | |
| Carbon tetrachloride | 47.71 | 5.0 | 50 | 0 | 95.4 | 70 - 130 | | | | |
| Chlorobenzene | 47.3 | 5.0 | 50 | 0 | 94.6 | 72 - 127 | | | | |
| Chloroform | 45.56 | 5.0 | 50 | 0 | 91.1 | 70 - 130 | | | | |
| Tetrachloroethene | 48.42 | 5.0 | 50 | 0 | 96.8 | 70 - 130 | | | | |
| Trichloroethene | 48.86 | 5.0 | 50 | 0 | 97.7 | 72 - 129 | | | | |
| Vinyl chloride | 46.84 | 2.0 | 50 | 0 | 93.7 | 70 - 130 | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *46.54* | *5.0* | *50* | *0* | *93.1* | *70 - 125* | | | | |
| *Surr: 4-Bromofluorobenzene* | *50.58* | *5.0* | *50* | *0* | *101* | *72 - 125* | | | | |
| *Surr: Dibromofluoromethane* | *48.63* | *5.0* | *50* | *0* | *97.3* | *71 - 125* | | | | |
| *Surr: Toluene-d8* | *49.89* | *5.0* | *50* | *0* | *99.8* | *75 - 125* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

## QC BATCH REPORT

**Batch ID: R250903** **Instrument: VOA6** **Method: SW1311/8260B**

**MSD** Sample ID: **HS15030295-01MSD** Units: **ug/L** Analysis Date: **10-Mar-2015 15:33**
Client ID: Run ID: **VOA6_250903** SeqNo: **3210239** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 43.61 | 5.0 | 50 | 0 | 87.2 | 73 - 124 | 47.12 | 7.74 | 20 | |
| 1,2-Dichloroethane | 42.81 | 5.0 | 50 | 0 | 85.6 | 76 - 120 | 43.22 | 0.952 | 20 | |
| 1,4-Dichlorobenzene | 45.85 | 5.0 | 50 | 0 | 91.7 | 70 - 130 | 45.09 | 1.68 | 20 | |
| 2-Butanone | 79.84 | 10 | 100 | 0 | 79.8 | 70 - 130 | 75.39 | 5.74 | 20 | |
| Benzene | 45.05 | 5.0 | 50 | 0 | 90.1 | 70 - 128 | 46.43 | 3.02 | 20 | |
| Carbon tetrachloride | 44.49 | 5.0 | 50 | 0 | 89.0 | 70 - 130 | 47.71 | 6.99 | 20 | |
| Chlorobenzene | 47.35 | 5.0 | 50 | 0 | 94.7 | 72 - 127 | 47.3 | 0.0984 | 20 | |
| Chloroform | 45.26 | 5.0 | 50 | 0 | 90.5 | 70 - 130 | 45.56 | 0.651 | 20 | |
| Tetrachloroethene | 46.77 | 5.0 | 50 | 0 | 93.5 | 70 - 130 | 48.42 | 3.46 | 20 | |
| Trichloroethene | 47.63 | 5.0 | 50 | 0 | 95.3 | 72 - 129 | 48.86 | 2.55 | 20 | |
| Vinyl chloride | 42.32 | 2.0 | 50 | 0 | 84.6 | 70 - 130 | 46.84 | 10.1 | 20 | |
| *Surr: 1,2-Dichloroethane-d4* | *46.3* | *5.0* | *50* | *0* | *92.6* | *70 - 125* | *46.54* | *0.526* | *20* | |
| *Surr: 4-Bromofluorobenzene* | *51.32* | *5.0* | *50* | *0* | *103* | *72 - 125* | *50.58* | *1.44* | *20* | |
| *Surr: Dibromofluoromethane* | *48.91* | *5.0* | *50* | *0* | *97.8* | *71 - 125* | *48.63* | *0.575* | *20* | |
| *Surr: Toluene-d8* | *50.12* | *5.0* | *50* | *0* | *100* | *75 - 125* | *49.89* | *0.448* | *20* | |

**The following samples were anayzed in this batch:** HS15030132-01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

## QC BATCH REPORT

**Batch ID:** **R250633** **Instrument:** **WetChem_HS** **Method:** **SW1030**

**DUP** Sample ID: **HS15030132-02DUP** Units: **Burn Rate, mm/sec** Analysis Date: **05-Mar-2015 15:00**

Client ID: **USOR-EQ-11-Large Blue Hopper** Run ID: **WetChem_HS_250633** SeqNo: **3205136** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Ignitability, Solid | Negative | 0 | | | | | 0 | 0 | 25 | |

**The following samples were anayzed in this batch:** HS15030132-02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

## QC BATCH REPORT

**Batch ID: R250666** **Instrument: WetChem_HS** **Method: SM4500H+ B**

**LCS** Sample ID: **LCS-250666** Units: **pH Units** Analysis Date: **05-Mar-2015 16:15**
Client ID: Run ID: **WetChem_HS_250666** SeqNo: **3205581** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| pH | 5.97 | 0.100 | 6 | 0 | 99.5 | 97 - 103 | | | | |

**DUP** Sample ID: **HS15030152-01DUP** Units: **pH Units** Analysis Date: **05-Mar-2015 16:15**
Client ID: Run ID: **WetChem_HS_250666** SeqNo: **3205582** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| pH | 7.3 | 0.100 | | | | | 7.25 | 0.687 | 10 | |
| Temp Deg C @pH | 23.3 | 0 | | | | | 23.3 | 0 | 10 | |

**The following samples were anayzed in this batch:** HS15030132-01 HS15030132-03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

## QC BATCH REPORT

**Batch ID: R250705** **Instrument: WetChem_HS** **Method: SW9045B**

**LCS** Sample ID: **LCS-250705** Units: **pH Units** Analysis Date: **06-Mar-2015 15:43**
Client ID: Run ID: **WetChem_HS_250705** SeqNo: **3206325** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| pH | 5.97 | 0.100 | 6 | 0 | 99.5 | 97 - 103 | | | | |

**DUP** Sample ID: **HS15030179-06DUP** Units: **pH Units** Analysis Date: **06-Mar-2015 15:43**
Client ID: Run ID: **WetChem_HS_250705** SeqNo: **3206326** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| pH | 7.77 | 0.100 | | | | | 7.76 | 0.129 | 10 | |

**The following samples were anayzed in this batch:** HS15030132-02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030132

## QC BATCH REPORT

**Batch ID: R250865** **Instrument: WetChem_HS** **Method: SW1010**

**LCS** Sample ID: **LCS-250865** Units: **°F** Analysis Date: **10-Mar-2015 16:00**
Client ID: Run ID: **WetChem_HS_250865** SeqNo: **3209624** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Ignitability | 82 | 50.0 | 81 | 0 | 101 | 95 - 105 | | | | |

**DUP** Sample ID: **HS15030179-01DUP** Units: **°F** Analysis Date: **10-Mar-2015 16:00**
Client ID: Run ID: **WetChem_HS_250865** SeqNo: **3209625** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Ignitability | > 212 | 50.0 | | | | | 0 | 0 | 25 | |

**The following samples were anayzed in this batch:** HS15030132-01 HS15030132-03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** **HS15030132**

## QUALIFIERS, ACRONYMS, UNITS

| Qualifier | Description |
|---|---|
| * | Value exceeds Regulatory Limit |
| a | Not accredited |
| B | Analyte detected in the associated Method Blank above the Reporting Limit |
| E | Value above quantitation range |
| H | Analyzed outside of Holding Time |
| J | Analyte detected below quantitation limit |
| M | Manually integrated, see raw data for justification |
| n | Not offered for accreditation |
| ND | Not Detected at the Reporting Limit |
| O | Sample amount is > 4 times amount spiked |
| P | Dual Column results percent difference > 40% |
| R | RPD above laboratory control limit |
| S | Spike Recovery outside laboratory control limits |
| U | Analyzed but not detected above the MDL/SDL |

| Acronym | Description |
|---|---|
| DCS | Detectability Check Study |
| DUP | Method Duplicate |
| LCS | Laboratory Control Sample |
| LCSD | Laboratory Control Sample Duplicate |
| MBLK | Method Blank |
| MDL | Method Detection Limit |
| MQL | Method Quantitation Limit |
| MS | Matrix Spike |
| MSD | Matrix Spike Duplicate |
| PDS | Post Digestion Spike |
| PQL | Practical Quantitaion Limit |
| SD | Serial Dilution |
| SDL | Sample Detection Limit |
| TRRP | Texas Risk Reduction Program |

| Unit Reported | Description |
|---|---|
| °F | Farenheit degrees |
| Date | |
| mg/Kg | Milligrams per Kilogram |
| mg/L | Milligrams per Liter |
| no unit | |
| pH Units | |

## CERTIFICATIONS,ACCREDITATIONS & LICENSES

| Agency | Number | Expire Date |
|---|---|---|
| Arkansas | AR - 2014 | 27-Mar-2015 |
| California | 2919 | 31-Jul-2016 |
| Dept of Defense | L2231 Rev 3-20-2014 | 22-Dec-2015 |
| Illinois | 003403 | 09-May-2015 |
| Kansas | E-10352 2014-2015 | 31-Jul-2015 |
| Kentucky | KY 2014-2015 | 30-Apr-2015 |
| Louisiana | 03087 2014/2015 | 30-Jun-2015 |
| North Carolina | 624 - 2015 | 31-Dec-2015 |
| North Dakota | R-193 2025 | 30-Apr-2015 |
| Oklahoma | 2014-128 | 31-Aug-2015 |
| Texas | T104704231-14-14 | 30-Apr-2015 |

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**Work Order:** HS15030132

## SAMPLE TRACKING

| Lab Samp ID | Client Sample ID | Action | Date | Person | New Location |
|---|---|---|---|---|---|
| HS15030132-01 | USOR-EQ-03 L/Blue Horizontal Cylnder | Login | 3/4/2015 5:08:08 PM | RPG | 13D |
| HS15030132-01 | USOR-EQ-03 L/Blue Horizontal Cylnder | Login | 3/4/2015 5:08:08 PM | RPG | 13D |
| HS15030132-01 | USOR-EQ-03 L/Blue Horizontal Cylnder | Login | 3/4/2015 5:08:08 PM | RPG | 13D |
| HS15030132-01 | USOR-EQ-03 L/Blue Horizontal Cylnder | Login | 3/4/2015 5:08:08 PM | RPG | Sub |
| HS15030132-01 | USOR-EQ-03 L/Blue Horizontal Cylnder | Login | 3/4/2015 5:08:08 PM | RPG | VW-3 |
| HS15030132-02 | USOR-EQ-11-Large Blue Hopper | Login | 3/4/2015 5:08:08 PM | RPG | 13D |
| HS15030132-02 | USOR-EQ-11-Large Blue Hopper | Login | 3/4/2015 5:08:08 PM | RPG | 13D |
| HS15030132-02 | USOR-EQ-11-Large Blue Hopper | Login | 3/4/2015 5:08:08 PM | RPG | Sub |
| HS15030132-03 | Equipment Blank # 1 | Login | 3/4/2015 5:08:08 PM | RPG | 13D |
| HS15030132-03 | Equipment Blank # 1 | Login | 3/4/2015 5:08:08 PM | RPG | 13D |
| HS15030132-03 | Equipment Blank # 1 | Login | 3/4/2015 5:08:08 PM | RPG | 13D |
| HS15030132-03 | Equipment Blank # 1 | Login | 3/4/2015 5:08:08 PM | RPG | Sub |
| HS15030132-03 | Equipment Blank # 1 | Login | 3/4/2015 5:08:08 PM | RPG | VW-3 |
| HS15030132-04 | TRIP BLANK | Login | 3/4/2015 5:20:36 PM | RPG | VW-3 |

**ALS Group USA, Corp** Date: 12-Mar-15

## Sample Receipt Checklist

| | | | |
|---|---|---|---|
| Client Name: | Effective Env-HOU | Date/Time Received: | **04-Mar-2015 13:45** |
| Work Order: | HS15030132 | Received by: | **PS** |

| | | | | | |
|---|---|---|---|---|---|
| Checklist completed by: | *Raegen Giga* eSignature | 4-Mar-2015 Date | Reviewed by: | *Dane J. Wacasey* eSignature | 6-Mar-2015 Date |

Matrices: **water/solid** Carrier name: **ALS.HS**

| | Yes | No | Not Present |
|---|---|---|---|
| Shipping container/cooler in good condition? | ☑ | ☐ | ☐ |
| Custody seals intact on shipping container/cooler? | ☐ | ☐ | ☑ |
| Custody seals intact on sample bottles? | ☐ | ☐ | ☑ |
| Chain of custody present? | ☑ | ☐ | |
| Chain of custody signed when relinquished and received? | ☑ | ☐ | |
| Chain of custody agrees with sample labels? | ☑ | ☐ | |
| Samples in proper container/bottle? | ☐ | ☑ | |
| Sample containers intact? | ☑ | ☐ | |
| Sufficient sample volume for indicated test? | ☑ | ☐ | |
| All samples received within holding time? | ☑ | ☐ | |
| Container/Temp Blank temperature in compliance? | ☑ | ☐ | |

| | | |
|---|---|---|
| Temperature(s)/Thermometer(s): | 0.8c/0.8c c/u | IR 3 |
| Cooler(s)/Kit(s): | 4041 | |
| Date/Time sample(s) sent to storage: | 03/04/2015 17:30 | |

| | Yes | No | No VOA vials submitted |
|---|---|---|---|
| Water - VOA vials have zero headspace? | ☑ | ☐ | ☐ |

| | Yes | No | N/A |
|---|---|---|---|
| Water - pH acceptable upon receipt? | ☑ | ☐ | ☐ |
| pH adjusted? | ☐ | ☐ | ☑ |

pH adjusted by:

Login Notes: EQ Blk selected total not TCLP test codes per DW.Sx 1 TCLP - vials & Metals bottles preserved, no test codes assigned , bulk bottles used for all TCLP.

Client Contacted: Date Contacted: Person Contacted:

Contacted By: 0 Regarding:

Comments:

Corrective Action:

ALS Laboratory Group
10450 Stancliff Rd. #210
Houston, Texas 77099
(Tel) 281.530.5656
(Fax) 281.530.5887

# Chain of Custody Form

Page 1 of 1

HS15030132

Effective Environmental Inc.

USOR Equ Assessment and Sampling 8181

ALS Project Manager:

| Customer Information | | Project Information | | Parameter/Method Request for Analysis | |
|---|---|---|---|---|---|
| Purchase Order | FS-10054 | Project Name | USOR-Equ. Assessment & Sampling | A | TCLP - VOCs |
| Work Order | | Project Number | 8181 | B | TCLP - SVOCs |
| Company Name | Effective Environmental | Bill To Company | Effective Environmental | C | TCLP RCRA 8 Metals |
| Send Report To | Hiren Shah | Invoice Attn. | Hiren Shah | D | RCI |
| Address | 9950 Chemical Road | Address | 2515 S. Beltline Road | E | VOCs for trip blank |
| | | | | F | |
| City/State/Zip | Pasadena, TX 77507 | City/State/Zip | Mesquite, TX 75181 | G | |
| Phone | 281-842-0804 | Phone | 972-329-1200 | H | |
| Fax | 281-474-2580 | Fax | 972-329-1206 | I | |
| e-Mail Address | hshah@eff-env.com | e-Mail Address | hshah@eff-env.com | J | |

| No. | Sample Description | Date | Time | Matrix | Pres. | # Bottles | A | B | C | D | E | F | G | H | I | J | Hold |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | USOR-EQ-03 Light Blue Horizontal Cylinder | 03/03/15 | 4:02 p.m. | Liquid | | 8 | X | X | X | X | | | | | | | |
| 2 | USOR-EQ-11 - Large Blue Hopper | 03/03/15 | 4:16 p.m. | Solids | | 4 | X | X | X | X | | | | | | | |
| 3 | Equipment Blank #1 | 03/03/15 | 4:30 p.m. | Liquid | | 8 | X | X | X | X | | | | | | | |
| 4 | Trip Blank | | | | | | | | | | X | | | | | | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | |

Sampler(s): Please Print & Sign
Joe Carillo

Shipment Method:

Required Turnaround Time: ☐ STD 10 Wk Days ☑ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour ☐ Other _____

Results Due Date:

| Relinquished by: | Date: | Time: | Received by: |
|---|---|---|---|
| Joe Carillo | 3/3/15 | 5:44 P.M. | Hiren Shah |
| Hiren Shah | 3/4/15 | 11:15 a.m. | Patrick Adame |
| Patrick Adame | 3-4-15 | 1315 | Patrick Adame |

Notes:

Cooler Temp.

QC Package: (Check Box Below)

☐ Level II: Standard QC ☐ TRRP-Checklist
☐ Level III: Std QC + Raw Data ☐ TRRP Level IV
☐ Level IV: SW846 CLP-Like
☐ Other: _____

Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.

12541

Copyright 2008 by ALS Laboratory Group

09-Mar-2015

Dane J. Wacasey
ALS Environmental
10450 Stancliff Rd
Suite 210
Houston, TX 77099

Re: **HS15030132** Work Order: **1503253**

Dear Dane,

ALS Environmental received 3 samples on 05-Mar-2015 10:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 10.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Chad Whelton

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Certificate No: MN 532786

# ALS Group USA, Corp

Date: 09-Mar-15

**Client:** ALS Environmental
**Project:** HS15030132
**Work Order:** **1503253**

## Work Order Sample Summary

| Lab Samp ID | Client Sample ID | Matrix | Tag Number | Collection Date | Date Received | Hold |
|---|---|---|---|---|---|---|
| 1503253-01 | HS15030132-01 | Liquid | USOR-EQ-03 L/Blue Horizontal Cylinder | 3/3/2015 16:02 | 3/5/2015 10:30 | ☐ |
| 1503253-02 | HS15030132-02 | Solid | USOR-EQ-11 Large Blue Hopper | 3/3/2015 16:16 | 3/5/2015 10:30 | ☐ |
| 1503253-03 | HS15030132-03 | Liquid | Equipment Blank #1 | 3/3/2015 16:30 | 3/5/2015 10:30 | ☐ |

# ALS Group USA, Corp

Date: 09-Mar-15

**Client:** ALS Environmental
**Project:** HS15030132
**WorkOrder:** **1503253**

## QUALIFIERS, ACRONYMS, UNITS

| Qualifier | Description |
|---|---|
| * | Value exceeds Regulatory Limit |
| a | Not accredited |
| B | Analyte detected in the associated Method Blank above the Reporting Limit |
| E | Value above quantitation range |
| H | Analyzed outside of Holding Time |
| J | Analyte is present at an estimated concentration between the MDL and Report Limit |
| n | Not offered for accreditation |
| ND | Not Detected at the Reporting Limit |
| O | Sample amount is > 4 times amount spiked |
| P | Dual Column results percent difference > 40% |
| R | RPD above laboratory control limit |
| S | Spike Recovery outside laboratory control limits |
| U | Analyzed but not detected above the MDL |
| X | Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level. |

| Acronym | Description |
|---|---|
| DUP | Method Duplicate |
| LCS | Laboratory Control Sample |
| LCSD | Laboratory Control Sample Duplicate |
| LOD | Limit of Detection (see MDL) |
| LOQ | Limit of Quantitation (see PQL) |
| MBLK | Method Blank |
| MDL | Method Detection Limit |
| MS | Matrix Spike |
| MSD | Matrix Spike Duplicate |
| PQL | Practical Quantitation Limit |
| RPD | Relative Percent Difference |
| TDL | Target Detection Limit |
| TNTC | Too Numerous To Count |
| A | APHA Standard Methods |
| D | ASTM |
| E | EPA |
| SW | SW-846 Update III |

| Units Reported | Description |
|---|---|
| mg/Kg | Milligrams per Kilogram |

# ALS Group USA, Corp

**Date:** *09-Mar-15*

**Client:** ALS Environmental
**Project:** HS15030132
**Sample ID:** HS15030132-01
**Collection Date:** 3/3/2015 04:02 PM

**Work Order:** 1503253
**Lab ID:** 1503253-01
**Matrix:** LIQUID

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| **CYANIDE, REACTIVE** | | | **SW7.3.3.2** | | | Analyst: **TVD** |
| Cyanide, Reactive | ND | | 100 | mg/Kg | 1 | 3/9/2015 12:00 PM |
| **SULFIDE, REACTIVE** | | | **SW7.3.4.2** | | | Analyst: **TVD** |
| Sulfide, Reactive | ND | | 100 | mg/Kg | 1 | 3/8/2015 04:00 PM |

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

**Date:** *09-Mar-15*

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental | | |
| **Project:** | HS15030132 | **Work Order:** | 1503253 |
| **Sample ID:** | HS15030132-02 | **Lab ID:** | 1503253-02 |
| **Collection Date:** | 3/3/2015 04:16 PM | **Matrix:** | SOLID |

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| **CYANIDE, REACTIVE** | | | **SW7.3.3.2** | | | Analyst: **TVD** |
| Cyanide, Reactive | ND | | 100 | mg/Kg | 1 | 3/9/2015 12:00 PM |
| **SULFIDE, REACTIVE** | | | **SW7.3.4.2** | | | Analyst: **TVD** |
| Sulfide, Reactive | ND | | 100 | mg/Kg | 1 | 3/8/2015 04:00 PM |

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

**Date:** *09-Mar-15*

**Client:** ALS Environmental
**Project:** HS15030132
**Sample ID:** HS15030132-03
**Collection Date:** 3/3/2015 04:30 PM

**Work Order:** 1503253
**Lab ID:** 1503253-03
**Matrix:** LIQUID

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| **CYANIDE, REACTIVE** | | | **SW7.3.3.2** | | | Analyst: **TVD** |
| Cyanide, Reactive | ND | | 100 | mg/Kg | 1 | 3/9/2015 12:00 PM |
| **SULFIDE, REACTIVE** | | | **SW7.3.4.2** | | | Analyst: **TVD** |
| Sulfide, Reactive | ND | | 100 | mg/Kg | 1 | 3/8/2015 04:00 PM |

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 09-Mar-15

**Client:** ALS Environmental
**Work Order:** 1503253
**Project:** HS15030132

# QC BATCH REPORT

Batch ID: **R158764** Instrument ID **WETCHEM** Method: **SW7.3.4.2**

**MBLK** Sample ID: **MB-R158764-R158764** Units: **mg/Kg** Analysis Date: **3/8/2015 04:00 PM**

Client ID: Run ID: **WETCHEM_150308C** SeqNo: **3169544** Prep Date: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Sulfide, Reactive | ND | 100 | | | | | | | | |

**LCS** Sample ID: **LCS-R158764-R158764** Units: **mg/Kg** Analysis Date: **3/8/2015 04:00 PM**

Client ID: Run ID: **WETCHEM_150308C** SeqNo: **3169545** Prep Date: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Sulfide, Reactive | 1512 | 100 | 2149 | 0 | 70.4 | 60-120 | | 0 | | |

**The following samples were analyzed in this batch:** 1503253-01A 1503253-02A 1503253-03A

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** ALS Environmental
**Work Order:** 1503253
**Project:** HS15030132

# QC BATCH REPORT

Batch ID: **R158765** Instrument ID **WETCHEM** Method: **SW7.3.3.2**

**MBLK** Sample ID: **MB-R158765-R158765** Units: **mg/Kg** Analysis Date: **3/9/2015 12:00 PM**
Client ID: Run ID: **WETCHEM_150309D** SeqNo: **3169553** Prep Date: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Cyanide, Reactive | ND | 100 | | | | | | | | |

**LCS** Sample ID: **LCS-R158765-R158765** Units: **mg/Kg** Analysis Date: **3/9/2015 12:00 PM**
Client ID: Run ID: **WETCHEM_150309D** SeqNo: **3169554** Prep Date: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Cyanide, Reactive | 124.8 | 100 | 125 | 0 | 99.8 | 75-125 | | 0 | | |

**MS** Sample ID: **1503253-01A MS** Units: **mg/Kg** Analysis Date: **3/9/2015 12:00 PM**
Client ID: **HS15030132-01** Run ID: **WETCHEM_150309D** SeqNo: **3169562** Prep Date: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Cyanide, Reactive | 233.9 | 100 | 250 | 0 | 93.6 | 50-150 | | 0 | | |

**MSD** Sample ID: **1503253-01A MSD** Units: **mg/Kg** Analysis Date: **3/9/2015 12:00 PM**
Client ID: **HS15030132-01** Run ID: **WETCHEM_150309D** SeqNo: **3169563** Prep Date: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Cyanide, Reactive | 219.3 | 100 | 250 | 0 | 87.7 | 50-150 | 219.3 | 0 | 35 | |

**The following samples were analyzed in this batch:** 1503253-01A 1503253-02A 1503253-03A

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

# CHAIN OF CUSTODY RECORD

(ALS) Environmental



| | |
|---|---|
| Date | 4 Mar 2015 |
| COC ID | 2374 |
| Due date | 11 MAR 15 |

Subcontractor

ALS Laboratory Group
3352 128th Ave.
Holland, MI 494249263

Phone
6163996070
Fax
6163996185

| Customer Information | | Project Information | |
|---|---|---|---|
| PO | | Project Name | HS15030132 |

| | | | |
|---|---|---|---|
| Company Name | ALS Houston | Company Name | ALS Houston |
| | | Inv Attn | Accounts Payable |
| Address | 10450 Stancliff Rd, Ste 210 | Address | 10450 Stancliff Rd, Ste 210 |
| | Houston, TX 77099 | | Houston, TX 77099 |
| Phone | 281-530-5656 | Phone | 281-530-5656 |
| Email1 | Dane.Wacasey@alsglobal.com | Email2 | jumoke.lawal@alsglobal.com |

| | Lab ID | Client Samp ID | Collection Date | Matrix | Analysis Requested |
|---|---|---|---|---|---|
| -1 | HS15030132-01 | USOR-EQ-03 L/Blue Horizontal Cylinder | 03-Mar-15 04:02 pm | Liquid | RCN_W, RS_W |
| -2 | HS15030132-02 | USOR-EQ-11-Large Blue Hopper | 03-Mar-15 04:16 pm | Solid | RCN_S, RS_S |
| -3 | HS15030132-03 | Equipment Blank # 1 | 03-Mar-15 04:30 pm | Liquid | RCN_W, RS_W |

**Comments** Please analyze for the above, send reports to e-mail 1 & 2 above

| Relinquished by: | Date/Time: | Received by: | Date/Time: | Cooler IDs: | Report/QC Level |
|---|---|---|---|---|---|
| R Giga | 03/04/15 18:00 | | 3/5/15 1030 | | |
| | | | | | |

24°c

ALS Group USA, Corp

## Sample Receipt Checklist

Client Name: **ALS - HOUSTON** Date/Time Received: **05-Mar-15 10:30**

Work Order: **1503253** Received by: **KRW**

Checklist completed by Keith Wierenga (eSignature) 05-Mar-15 (Date) Reviewed by: Chad Whelton (eSignature) 05-Mar-15 (Date)

Matrices: Liquid & Solid
Carrier name: FedEx

| | | | |
|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ |
| Custody seals intact on shipping container/cooler? | Yes ☑ | No ☐ | Not Present ☐ |
| Custody seals intact on sample bottles? | Yes ☐ | No ☐ | Not Present ☑ |
| Chain of custody present? | Yes ☑ | No ☐ | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | |
| Sample containers intact? | Yes ☑ | No ☐ | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | |
| All samples received within holding time? | Yes ☑ | No ☐ | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | |
| Sample(s) received on ice? | Yes ☑ | No ☐ | |
| Temperature(s)/Thermometer(s): | 2.4 C | SR2 | |
| Cooler(s)/Kit(s): | | | |
| Date/Time sample(s) sent to storage: | 3/5/2015 12:00:43 PM | | |
| Water - VOA vials have zero headspace? | Yes ☐ | No ☐ | No VOA vials submitted ☑ |
| Water - pH acceptable upon receipt? | Yes ☑ | No ☐ | N/A ☐ |
| pH adjusted? | Yes ☐ | No ☑ | N/A ☐ |
| pH adjusted by: | - | | |

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

SRC Page 1 of 1

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

March 16, 2015

Hiren Shah
Effective Environmental Inc.
9950 Chemical Road
Pasadena, TX 77507

Work Order: **HS15030179**

Laboratory Results for: **USOR Equ Assessment and Sampling 8181**

Dear Hiren,

ALS Environmental received 14 sample(s) on Mar 05, 2015 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

**Generated By: Dayna.Fisher**

Dane J. Wacasey

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**Work Order:** HS15030179

## SAMPLE SUMMARY

| Lab Samp ID | Client Sample ID | Matrix | TagNo | Collection Date | Date Received | Hold |
|---|---|---|---|---|---|---|
| HS15030179-01 | USOR-EQ-1-Heated&Agitated Frac Tank | Liquid | | 04-Mar-2015 07:30 | 05-Mar-2015 15:05 | ☐ |
| HS15030179-02 | USOR-EQ-14-ICP Tank B | Liquid | | 04-Mar-2015 10:00 | 05-Mar-2015 15:05 | ☐ |
| HS15030179-03 | USOR-EQ-15 Rectangular Mix Tank | Liquid | | 04-Mar-2015 10:30 | 05-Mar-2015 15:05 | ☐ |
| HS15030179-04 | Field Dup #1 | Liquid | | 04-Mar-2015 10:45 | 05-Mar-2015 15:05 | ☐ |
| HS15030179-05 | Equipment Blank # 2 | Water | | 03-Mar-2015 12:00 | 05-Mar-2015 15:05 | ☐ |
| HS15030179-06 | USOR-EQ-13-ICP Tank A | Solid | | 04-Mar-2015 13:00 | 05-Mar-2015 15:05 | ☐ |
| HS15030179-07 | USOR-EQ-15-Rectangular Mix Tank | Solid | | 04-Mar-2015 13:30 | 05-Mar-2015 15:05 | ☐ |
| HS15030179-08 | USOR-EQ-12 Rectangular Mix Tank | Liquid | | 04-Mar-2015 14:00 | 05-Mar-2015 15:05 | ☐ |
| HS15030179-09 | USOR-EQ-29 Large Rectangular Box | Liquid | | 04-Mar-2015 14:30 | 05-Mar-2015 15:05 | ☐ |
| HS15030179-10 | Trip Blank | Water | | 04-Mar-2015 00:00 | 05-Mar-2015 15:05 | ☐ |
| HS15030179-11 | Trip Blank 2 | Water | | 04-Mar-2015 00:00 | 05-Mar-2015 15:05 | ☐ |
| HS15030179-12 | Trip Blank 3 | Water | | 04-Mar-2015 00:00 | 05-Mar-2015 15:05 | ☐ |
| HS15030179-13 | USOR EQ 1 Heated&Agitated Frac Tank | Solid | | 04-Mar-2015 07:40 | 05-Mar-2015 15:05 | ☐ |
| HS15030179-14 | USOR EQ 2 Dissolved Air Flotation Tank | Solid | | 04-Mar-2015 09:00 | 05-Mar-2015 15:05 | ☐ |

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**Work Order:** HS15030179

**CASE NARRATIVE**

## Work Order Comments

- The analyses for Reactive Cyanide and Reactive Sulfide were subcontracted to ALS Environmental in Holland, MI.

Sample received outside method holding time for pH. pH is an immediate test. Sample results are flagged with an "H" qualifier.

The temperature at the time of pH is reported. Please note that all pH results are already normalized to a temperature of 25 °C.

## GCMS Semivolatiles by Method SW1311/8270

### Batch ID: 91311

Sample ID: **HS15030179-02**
Sample ID: **HS15030179-03**
Sample ID: **HS15030179-04**
- The GCMS semi-volatile extract of this sample was run at a dilution because the undiluted extract cause an instrument shutdown due to a high level of sample matrix interference.

Sample ID: **LCSD-91311**
- No MS was extracted due to limited sample.

### Batch ID: 91303

Sample ID: **HS15030179-01**
Sample ID: **HS15030179-06**
Sample ID: **HS15030179-07**
Sample ID: **HS15030179-08**
Sample ID: **HS15030179-09**
- The GCMS semi-volatile extract of this sample was run at a dilution because the undiluted extract cause an instrument shutdown due to a high level of sample matrix interference.

Sample ID: **LCSD-91303**
- LCSD RPD was above the control limits. The individual recoveries were in control.

## GCMS Semivolatiles by Method SW8270

### Batch ID: 91136

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

## GCMS Volatiles by Method SW1311/8260B

### Batch ID: R250903,R250959

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

## GCMS Volatiles by Method SW8260

### Batch ID: R250808

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Sample ID: **VSTD050**
- 2-Butanone exceeded %D limits for CCV, LCS is OK. Samples are ND for these compounds.

### Batch ID: R250710

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

## Metals by Method SW1311/6020

### Batch ID: 91289

Sample ID: **HS15030179-02**

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**Work Order:** HS15030179

**CASE NARRATIVE**

## Metals by Method SW1311/6020

### Batch ID: 91289

• Sample ran at a 5x due to internal standard 209 (Pb) failures at a 1x and 2x. High Sodium concentration.

Sample ID: **HS15030179-04**

• Sample ran at a 5x due to internal standard 209 (Pb) and 115 (Ba & Cd) failures at a 1x and 2x. High Sodium concentration.

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

## Metals by Method SW7470

### Batch ID: 91188,91298

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

## Metals by Method SW6020

### Batch ID: 91152

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

## WetChemistry by Method SW1010

### Batch ID: R250865

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

## WetChemistry by Method SW1030

### Batch ID: R250862

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

## WetChemistry by Method SW9045B

### Batch ID: R250705,R250852

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

## WetChemistry by Method SM4500H+ B

### Batch ID: R250703

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

| | | |
|---|---|---|
| Client: | Effective Environmental Inc. | **ANALYTICAL REPORT** |
| Project: | USOR Equ Assessment and Sampling 8181 | WorkOrder:HS15030179 |
| Sample ID: | USOR-EQ-1-Heated&Agitated Frac Tank | Lab ID:HS15030179-01 |
| Collection Date: | 04-Mar-2015 07:30 | Matrix:Liquid |

| ANALYSES | RESULT | QUAL | MDL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|
| **TCLP VOLATILES** | | **Method:SW1311/8260B** | | Leache:SW1311 / 10-Mar-2015 | Prep:SW1311 / 10-Mar-2015 | | Analyst: PC |
| 1,1-Dichloroethene | U | | 0.010 | 0.10 | mg/L | 20 | 11-Mar-2015 16:40 |
| 1,2-Dichloroethane | U | | 0.010 | 0.10 | mg/L | 20 | 11-Mar-2015 16:40 |
| 1,4-Dichlorobenzene | U | | 0.012 | 0.10 | mg/L | 20 | 11-Mar-2015 16:40 |
| **2-Butanone** | **0.074** | J | **0.020** | **0.20** | **mg/L** | 20 | 11-Mar-2015 16:40 |
| Benzene | U | | 0.012 | 0.10 | mg/L | 20 | 11-Mar-2015 16:40 |
| Carbon tetrachloride | U | | 0.012 | 0.10 | mg/L | 20 | 11-Mar-2015 16:40 |
| Chlorobenzene | U | | 0.0080 | 0.10 | mg/L | 20 | 11-Mar-2015 16:40 |
| Chloroform | U | | 0.012 | 0.10 | mg/L | 20 | 11-Mar-2015 16:40 |
| Tetrachloroethene | U | | 0.012 | 0.10 | mg/L | 20 | 11-Mar-2015 16:40 |
| Trichloroethene | U | | 0.010 | 0.10 | mg/L | 20 | 11-Mar-2015 16:40 |
| Vinyl chloride | U | | 0.0080 | 0.040 | mg/L | 20 | 11-Mar-2015 16:40 |
| *Surr: 1,2-Dichloroethane-d4* | *95.4* | | | *70-125* | *%REC* | *20* | *11-Mar-2015 16:40* |
| *Surr: 4-Bromofluorobenzene* | *101* | | | *72-125* | *%REC* | *20* | *11-Mar-2015 16:40* |
| *Surr: Dibromofluoromethane* | *99.0* | | | *71-125* | *%REC* | *20* | *11-Mar-2015 16:40* |
| *Surr: Toluene-d8* | *97.5* | | | *75-125* | *%REC* | *20* | *11-Mar-2015 16:40* |
| **TCLP SEMIVOLATILES** | | **Method:SW1311/8270** | | Leache:SW1311 / 10-Mar-2015 | Prep:SW3510 / 11-Mar-2015 | | Analyst: ACN |
| 2,4,5-Trichlorophenol | U | | 0.0090 | 0.050 | mg/L | 10 | 11-Mar-2015 16:11 |
| 2,4,6-Trichlorophenol | U | | 0.014 | 0.050 | mg/L | 10 | 11-Mar-2015 16:11 |
| 2,4-Dinitrotoluene | U | | 0.010 | 0.050 | mg/L | 10 | 11-Mar-2015 16:11 |
| **Cresols, Total** | **0.18** | | **0.020** | **0.15** | **mg/L** | 10 | 11-Mar-2015 16:11 |
| Hexachlorobenzene | U | | 0.011 | 0.050 | mg/L | 10 | 11-Mar-2015 16:11 |
| Hexachlorobutadiene | U | | 0.011 | 0.050 | mg/L | 10 | 11-Mar-2015 16:11 |
| Hexachloroethane | U | | 0.010 | 0.050 | mg/L | 10 | 11-Mar-2015 16:11 |
| Nitrobenzene | U | | 0.0080 | 0.050 | mg/L | 10 | 11-Mar-2015 16:11 |
| Pentachlorophenol | U | | 0.016 | 0.050 | mg/L | 10 | 11-Mar-2015 16:11 |
| Pyridine | U | | 0.020 | 0.050 | mg/L | 10 | 11-Mar-2015 16:11 |
| *Surr: 2,4,6-Tribromophenol* | *71.2* | | | *39-153* | *%REC* | *10* | *11-Mar-2015 16:11* |
| *Surr: 2-Fluorobiphenyl* | *88.2* | | | *40-147* | *%REC* | *10* | *11-Mar-2015 16:11* |
| *Surr: 2-Fluorophenol* | *63.2* | | | *21-110* | *%REC* | *10* | *11-Mar-2015 16:11* |
| *Surr: 4-Terphenyl-d14* | *81.5* | | | *39-141* | *%REC* | *10* | *11-Mar-2015 16:11* |
| *Surr: Nitrobenzene-d5* | *80.6* | | | *37-140* | *%REC* | *10* | *11-Mar-2015 16:11* |
| *Surr: Phenol-d6* | *69.4* | | | *11-110* | *%REC* | *10* | *11-Mar-2015 16:11* |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**ANALYTICAL REPORT**

Client: Effective Environmental Inc.
Project: USOR Equ Assessment and Sampling 8181
Sample ID: USOR-EQ-1-Heated&Agitated Frac Tank
Collection Date: 04-Mar-2015 07:30

WorkOrder:HS15030179
Lab ID:HS15030179-01
Matrix:Liquid

| ANALYSES | RESULT | QUAL | MDL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|
| **TCLP METALS BY SW6020A** | | **Method:SW1311/6020** | | Leache:SW3010A / 11-Mar-2015 | Prep:SW3010A / 11-Mar-2015 | | Analyst: JDE |
| Arsenic | U | | 0.0100 | 0.0500 | mg/L | 1 | 11-Mar-2015 23:31 |
| **Barium** | **0.0684** | J | **0.00900** | **0.200** | **mg/L** | 1 | 11-Mar-2015 23:31 |
| Cadmium | U | | 0.00800 | 0.0500 | mg/L | 1 | 11-Mar-2015 23:31 |
| Chromium | U | | 0.0100 | 0.0500 | mg/L | 1 | 11-Mar-2015 23:31 |
| Lead | U | | 0.00700 | 0.0500 | mg/L | 1 | 11-Mar-2015 23:31 |
| Selenium | U | | 0.0100 | 0.0500 | mg/L | 1 | 11-Mar-2015 23:31 |
| Silver | U | | 0.00800 | 0.0500 | mg/L | 1 | 11-Mar-2015 23:31 |
| **IGNITABILITY** | | **Method:SW1010** | | | | | Analyst: KAH |
| Ignitability | > 212 | | 50.0 | 50.0 | °F | 1 | 10-Mar-2015 16:00 |
| **TCLP MERCURY BY SW7470A** | | **Method:SW7470** | | Leache:SW3010A / 11-Mar-2015 | Prep:SW7470 / 11-Mar-2015 | | Analyst: OFO |
| Mercury | U | | 0.0000420 | 0.000200 | mg/L | 1 | 11-Mar-2015 15:49 |
| **PH SOIL BY SW9045D** | | **Method:SW9045B** | | | | | Analyst: JHD |
| **pH** | **5.45** | H | **0.100** | **0.100** | **pH Units** | 1 | 10-Mar-2015 14:28 |
| **REACTIVE CYANIDE** | | **Method:SW7.3.3.2** | | | | | Analyst: SUB |
| Reactive Cyanide | U | | 100 | 100 | mg/Kg | 1 | 09-Mar-2015 21:45 |
| **REACTIVE SULFIDE** | | **Method:SW7.3.4.2** | | | | | Analyst: SUB |
| Reactive Sulfide | U | | 100 | 100 | mg/Kg | 1 | 09-Mar-2015 21:00 |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

| | | |
|---|---|---|
| Client: | Effective Environmental Inc. | **ANALYTICAL REPORT** |
| Project: | USOR Equ Assessment and Sampling 8181 | WorkOrder:HS15030179 |
| Sample ID: | USOR-EQ-14-ICP Tank B | Lab ID:HS15030179-02 |
| Collection Date: | 04-Mar-2015 10:00 | Matrix:Liquid |

| ANALYSES | RESULT | QUAL | MDL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|
| **TCLP VOLATILES** | | **Method:SW1311/8260B** | | Leache:SW1311 / 10-Mar-2015 | Prep:SW1311 / 10-Mar-2015 | | Analyst: PC |
| 1,1-Dichloroethene | U | | 0.010 | 0.10 | mg/L | 20 | 11-Mar-2015 15:45 |
| 1,2-Dichloroethane | U | | 0.010 | 0.10 | mg/L | 20 | 11-Mar-2015 15:45 |
| 1,4-Dichlorobenzene | U | | 0.012 | 0.10 | mg/L | 20 | 11-Mar-2015 15:45 |
| **2-Butanone** | **1.8** | | **0.020** | **0.20** | **mg/L** | 20 | 11-Mar-2015 15:45 |
| **Benzene** | **0.049** | J | **0.012** | **0.10** | **mg/L** | 20 | 11-Mar-2015 15:45 |
| Carbon tetrachloride | U | | 0.012 | 0.10 | mg/L | 20 | 11-Mar-2015 15:45 |
| Chlorobenzene | U | | 0.0080 | 0.10 | mg/L | 20 | 11-Mar-2015 15:45 |
| Chloroform | U | | 0.012 | 0.10 | mg/L | 20 | 11-Mar-2015 15:45 |
| Tetrachloroethene | U | | 0.012 | 0.10 | mg/L | 20 | 11-Mar-2015 15:45 |
| Trichloroethene | U | | 0.010 | 0.10 | mg/L | 20 | 11-Mar-2015 15:45 |
| Vinyl chloride | U | | 0.0080 | 0.040 | mg/L | 20 | 11-Mar-2015 15:45 |
| *Surr: 1,2-Dichloroethane-d4* | *95.6* | | | *70-125* | *%REC* | *20* | *11-Mar-2015 15:45* |
| *Surr: 4-Bromofluorobenzene* | *98.3* | | | *72-125* | *%REC* | *20* | *11-Mar-2015 15:45* |
| *Surr: Dibromofluoromethane* | *98.4* | | | *71-125* | *%REC* | *20* | *11-Mar-2015 15:45* |
| *Surr: Toluene-d8* | *94.4* | | | *75-125* | *%REC* | *20* | *11-Mar-2015 15:45* |
| **TCLP SEMIVOLATILES** | | **Method:SW1311/8270** | | Leache:SW1311 / 10-Mar-2015 | Prep:SW3510 / 11-Mar-2015 | | Analyst: GEY |
| 2,4,5-Trichlorophenol | U | | 0.049 | 0.27 | mg/L | 10 | 12-Mar-2015 14:57 |
| 2,4,6-Trichlorophenol | U | | 0.076 | 0.27 | mg/L | 10 | 12-Mar-2015 14:57 |
| 2,4-Dinitrotoluene | U | | 0.055 | 0.27 | mg/L | 10 | 12-Mar-2015 14:57 |
| **Cresols, Total** | **3.8** | | **0.11** | **0.82** | **mg/L** | 10 | 12-Mar-2015 14:57 |
| Hexachlorobenzene | U | | 0.060 | 0.27 | mg/L | 10 | 12-Mar-2015 14:57 |
| Hexachlorobutadiene | U | | 0.060 | 0.27 | mg/L | 10 | 12-Mar-2015 14:57 |
| Hexachloroethane | U | | 0.055 | 0.27 | mg/L | 10 | 12-Mar-2015 14:57 |
| Nitrobenzene | U | | 0.044 | 0.27 | mg/L | 10 | 12-Mar-2015 14:57 |
| Pentachlorophenol | U | | 0.087 | 0.27 | mg/L | 10 | 12-Mar-2015 14:57 |
| Pyridine | U | | 0.11 | 0.27 | mg/L | 10 | 12-Mar-2015 14:57 |
| *Surr: 2,4,6-Tribromophenol* | *83.4* | *J* | | *39-153* | *%REC* | *10* | *12-Mar-2015 14:57* |
| *Surr: 2-Fluorobiphenyl* | *101* | *J* | | *40-147* | *%REC* | *10* | *12-Mar-2015 14:57* |
| *Surr: 2-Fluorophenol* | *35.7* | *J* | | *21-110* | *%REC* | *10* | *12-Mar-2015 14:57* |
| *Surr: 4-Terphenyl-d14* | *88.8* | *J* | | *39-141* | *%REC* | *10* | *12-Mar-2015 14:57* |
| *Surr: Nitrobenzene-d5* | *93.2* | *J* | | *37-140* | *%REC* | *10* | *12-Mar-2015 14:57* |
| *Surr: Phenol-d6* | *87.1* | *J* | | *11-110* | *%REC* | *10* | *12-Mar-2015 14:57* |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

| | | |
|---|---|---|
| Client: | Effective Environmental Inc. | **ANALYTICAL REPORT** |
| Project: | USOR Equ Assessment and Sampling 8181 | WorkOrder:HS15030179 |
| Sample ID: | USOR-EQ-14-ICP Tank B | Lab ID:HS15030179-02 |
| Collection Date: | 04-Mar-2015 10:00 | Matrix:Liquid |

| ANALYSES | RESULT | QUAL | MDL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|
| **TCLP METALS BY SW6020A** | | **Method:SW1311/6020** | | Leache:SW3010A / 11-Mar-2015 | Prep:SW3010A / 11-Mar-2015 | | Analyst: JDE |
| **Arsenic** | **0.0163** | J | **0.0100** | **0.0500** | **mg/L** | 1 | 11-Mar-2015 23:36 |
| **Barium** | **0.0649** | J | **0.00900** | **0.200** | **mg/L** | 1 | 11-Mar-2015 23:36 |
| Cadmium | U | | 0.00800 | 0.0500 | mg/L | 1 | 11-Mar-2015 23:36 |
| **Chromium** | **1.77** | | **0.0100** | **0.0500** | **mg/L** | 1 | 11-Mar-2015 23:36 |
| Lead | U | | 0.0350 | 0.250 | mg/L | 5 | 12-Mar-2015 13:49 |
| **Selenium** | **0.0223** | J | **0.0100** | **0.0500** | **mg/L** | 1 | 11-Mar-2015 23:36 |
| Silver | U | | 0.00800 | 0.0500 | mg/L | 1 | 11-Mar-2015 23:36 |
| **IGNITABILITY** | | **Method:SW1010** | | | | | Analyst: KAH |
| Ignitability | > 212 | | 50.0 | 50.0 | °F | 1 | 10-Mar-2015 16:00 |
| **TCLP MERCURY BY SW7470A** | | **Method:SW7470** | | Leache:SW1311/6020 / 12-Mar-2015 | Prep:SW7470 / 11-Mar-2015 | | Analyst: OFO |
| **Mercury** | **0.00203** | | **0.000168** | **0.000800** | **mg/L** | 1 | 11-Mar-2015 15:51 |
| **PH BY SM4500H+ B** | | **Method:SM4500H+ B** | | | | | Analyst: JHD |
| **pH** | **7.45** | H | **0.100** | **0.100** | **pH Units** | 1 | 06-Mar-2015 15:33 |
| **Temp Deg C @pH** | **22.4** | H | **0** | **0** | **°C** | 1 | 06-Mar-2015 15:33 |
| **REACTIVE CYANIDE** | | **Method:SW7.3.3.2** | | | | | Analyst: SUB |
| Reactive Cyanide | U | | 100 | 100 | mg/Kg | 1 | 09-Mar-2015 21:45 |
| **REACTIVE SULFIDE** | | **Method:SW7.3.4.2** | | | | | Analyst: SUB |
| Reactive Sulfide | U | | 100 | 100 | mg/Kg | 1 | 09-Mar-2015 21:00 |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

| | | |
|---|---|---|
| Client: | Effective Environmental Inc. | **ANALYTICAL REPORT** |
| Project: | USOR Equ Assessment and Sampling 8181 | WorkOrder:HS15030179 |
| Sample ID: | USOR-EQ-15 Rectangular Mix Tank | Lab ID:HS15030179-03 |
| Collection Date: | 04-Mar-2015 10:30 | Matrix:Liquid |

| ANALYSES | RESULT | QUAL | MDL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|
| **TCLP VOLATILES** | | **Method:SW1311/8260B** | | Leache:SW1311 / 10-Mar-2015 | Prep:SW1311 / 10-Mar-2015 | | Analyst: PC |
| 1,1-Dichloroethene | U | | 0.010 | 0.10 | mg/L | 20 | 11-Mar-2015 16:16 |
| 1,2-Dichloroethane | U | | 0.010 | 0.10 | mg/L | 20 | 11-Mar-2015 16:16 |
| 1,4-Dichlorobenzene | U | | 0.012 | 0.10 | mg/L | 20 | 11-Mar-2015 16:16 |
| **2-Butanone** | **1.7** | | **0.020** | **0.20** | **mg/L** | 20 | 11-Mar-2015 16:16 |
| **Benzene** | **0.35** | | **0.012** | **0.10** | **mg/L** | 20 | 11-Mar-2015 16:16 |
| Carbon tetrachloride | U | | 0.012 | 0.10 | mg/L | 20 | 11-Mar-2015 16:16 |
| Chlorobenzene | U | | 0.0080 | 0.10 | mg/L | 20 | 11-Mar-2015 16:16 |
| Chloroform | U | | 0.012 | 0.10 | mg/L | 20 | 11-Mar-2015 16:16 |
| Tetrachloroethene | U | | 0.012 | 0.10 | mg/L | 20 | 11-Mar-2015 16:16 |
| **Trichloroethene** | **0.026** | J | **0.010** | **0.10** | **mg/L** | 20 | 11-Mar-2015 16:16 |
| Vinyl chloride | U | | 0.0080 | 0.040 | mg/L | 20 | 11-Mar-2015 16:16 |
| *Surr: 1,2-Dichloroethane-d4* | *91.4* | | | *70-125* | *%REC* | *20* | *11-Mar-2015 16:16* |
| *Surr: 4-Bromofluorobenzene* | *99.9* | | | *72-125* | *%REC* | *20* | *11-Mar-2015 16:16* |
| *Surr: Dibromofluoromethane* | *96.6* | | | *71-125* | *%REC* | *20* | *11-Mar-2015 16:16* |
| *Surr: Toluene-d8* | *97.3* | | | *75-125* | *%REC* | *20* | *11-Mar-2015 16:16* |
| **TCLP SEMIVOLATILES** | | **Method:SW1311/8270** | | Leache:SW1311 / 10-Mar-2015 | Prep:SW3510 / 11-Mar-2015 | | Analyst: GEY |
| 2,4,5-Trichlorophenol | U | | 0.049 | 0.27 | mg/L | 10 | 12-Mar-2015 14:12 |
| 2,4,6-Trichlorophenol | U | | 0.076 | 0.27 | mg/L | 10 | 12-Mar-2015 14:12 |
| 2,4-Dinitrotoluene | U | | 0.055 | 0.27 | mg/L | 10 | 12-Mar-2015 14:12 |
| **Cresols, Total** | **3.9** | | **0.11** | **0.82** | **mg/L** | 10 | 12-Mar-2015 14:12 |
| Hexachlorobenzene | U | | 0.060 | 0.27 | mg/L | 10 | 12-Mar-2015 14:12 |
| Hexachlorobutadiene | U | | 0.060 | 0.27 | mg/L | 10 | 12-Mar-2015 14:12 |
| Hexachloroethane | U | | 0.055 | 0.27 | mg/L | 10 | 12-Mar-2015 14:12 |
| Nitrobenzene | U | | 0.044 | 0.27 | mg/L | 10 | 12-Mar-2015 14:12 |
| Pentachlorophenol | U | | 0.087 | 0.27 | mg/L | 10 | 12-Mar-2015 14:12 |
| Pyridine | U | | 0.11 | 0.27 | mg/L | 10 | 12-Mar-2015 14:12 |
| *Surr: 2,4,6-Tribromophenol* | *87.9* | *J* | | *39-153* | *%REC* | *10* | *12-Mar-2015 14:12* |
| *Surr: 2-Fluorobiphenyl* | *87.7* | *J* | | *40-147* | *%REC* | *10* | *12-Mar-2015 14:12* |
| *Surr: 2-Fluorophenol* | *105* | *J* | | *21-110* | *%REC* | *10* | *12-Mar-2015 14:12* |
| *Surr: 4-Terphenyl-d14* | *124* | *J* | | *39-141* | *%REC* | *10* | *12-Mar-2015 14:12* |
| *Surr: Nitrobenzene-d5* | *112* | *J* | | *37-140* | *%REC* | *10* | *12-Mar-2015 14:12* |
| *Surr: Phenol-d6* | *80.4* | *J* | | *11-110* | *%REC* | *10* | *12-Mar-2015 14:12* |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

| | | |
|---|---|---|
| Client: | Effective Environmental Inc. | **ANALYTICAL REPORT** |
| Project: | USOR Equ Assessment and Sampling 8181 | WorkOrder:HS15030179 |
| Sample ID: | USOR-EQ-15 Rectangular Mix Tank | Lab ID:HS15030179-03 |
| Collection Date: | 04-Mar-2015 10:30 | Matrix:Liquid |

| ANALYSES | RESULT | QUAL | MDL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|
| **TCLP METALS BY SW6020A** | | **Method:SW1311/6020** | | Leache:SW3010A / 11-Mar-2015 | Prep:SW3010A / 11-Mar-2015 | | Analyst: JDE |
| **Arsenic** | **0.0212** | J | **0.0100** | **0.0500** | **mg/L** | 1 | 11-Mar-2015 23:46 |
| **Barium** | **0.140** | J | **0.00900** | **0.200** | **mg/L** | 1 | 11-Mar-2015 23:46 |
| Cadmium | U | | 0.00800 | 0.0500 | mg/L | 1 | 11-Mar-2015 23:46 |
| **Chromium** | **0.285** | | **0.0100** | **0.0500** | **mg/L** | 1 | 11-Mar-2015 23:46 |
| Lead | U | | 0.00700 | 0.0500 | mg/L | 1 | 11-Mar-2015 23:46 |
| **Selenium** | **0.0113** | J | **0.0100** | **0.0500** | **mg/L** | 1 | 11-Mar-2015 23:46 |
| Silver | U | | 0.00800 | 0.0500 | mg/L | 1 | 11-Mar-2015 23:46 |
| **IGNITABILITY** | | **Method:SW1010** | | | | | Analyst: KAH |
| Ignitability | > 212 | | 50.0 | 50.0 | °F | 1 | 10-Mar-2015 16:00 |
| **TCLP MERCURY BY SW7470A** | | **Method:SW7470** | | Leache:SW7470 / 11-Mar-2015 | Prep:SW7470 / 11-Mar-2015 | | Analyst: OFO |
| Mercury | U | | 0.000168 | 0.000800 | mg/L | 1 | 11-Mar-2015 15:53 |
| **PH BY SM4500H+ B** | | **Method:SM4500H+ B** | | | | | Analyst: JHD |
| **pH** | **7.69** | H | **0.100** | **0.100** | **pH Units** | 1 | 06-Mar-2015 15:33 |
| **Temp Deg C @pH** | **22.3** | H | **0** | **0** | **°C** | 1 | 06-Mar-2015 15:33 |
| **REACTIVE CYANIDE** | | **Method:SW7.3.3.2** | | | | | Analyst: SUB |
| Reactive Cyanide | U | | 100 | 100 | mg/Kg | 1 | 09-Mar-2015 21:45 |
| **REACTIVE SULFIDE** | | **Method:SW7.3.4.2** | | | | | Analyst: SUB |
| Reactive Sulfide | U | | 100 | 100 | mg/Kg | 1 | 09-Mar-2015 21:00 |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Effective Environmental Inc.
Project: USOR Equ Assessment and Sampling 8181
Sample ID: Field Dup #1
Collection Date: 04-Mar-2015 10:45

**ANALYTICAL REPORT**
WorkOrder:HS15030179
Lab ID:HS15030179-04
Matrix:Liquid

| ANALYSES | RESULT | QUAL | MDL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|
| **TCLP VOLATILES** | | **Method:SW1311/8260B** | | Leache:SW1311 / 10-Mar-2015 | Prep:SW1311 / 10-Mar-2015 | | Analyst: PC |
| 1,1-Dichloroethene | U | | 0.010 | 0.10 | mg/L | 20 | 11-Mar-2015 17:04 |
| 1,2-Dichloroethane | U | | 0.010 | 0.10 | mg/L | 20 | 11-Mar-2015 17:04 |
| 1,4-Dichlorobenzene | U | | 0.012 | 0.10 | mg/L | 20 | 11-Mar-2015 17:04 |
| **2-Butanone** | **1.9** | | **0.020** | **0.20** | **mg/L** | 20 | 11-Mar-2015 17:04 |
| **Benzene** | **0.074** | J | **0.012** | **0.10** | **mg/L** | 20 | 11-Mar-2015 17:04 |
| Carbon tetrachloride | U | | 0.012 | 0.10 | mg/L | 20 | 11-Mar-2015 17:04 |
| Chlorobenzene | U | | 0.0080 | 0.10 | mg/L | 20 | 11-Mar-2015 17:04 |
| Chloroform | U | | 0.012 | 0.10 | mg/L | 20 | 11-Mar-2015 17:04 |
| Tetrachloroethene | U | | 0.012 | 0.10 | mg/L | 20 | 11-Mar-2015 17:04 |
| Trichloroethene | U | | 0.010 | 0.10 | mg/L | 20 | 11-Mar-2015 17:04 |
| Vinyl chloride | U | | 0.0080 | 0.040 | mg/L | 20 | 11-Mar-2015 17:04 |
| *Surr: 1,2-Dichloroethane-d4* | *95.5* | | | *70-125* | *%REC* | *20* | *11-Mar-2015 17:04* |
| *Surr: 4-Bromofluorobenzene* | *101* | | | *72-125* | *%REC* | *20* | *11-Mar-2015 17:04* |
| *Surr: Dibromofluoromethane* | *98.5* | | | *71-125* | *%REC* | *20* | *11-Mar-2015 17:04* |
| *Surr: Toluene-d8* | *94.8* | | | *75-125* | *%REC* | *20* | *11-Mar-2015 17:04* |
| **TCLP SEMIVOLATILES** | | **Method:SW1311/8270** | | Leache:SW1311 / 10-Mar-2015 | Prep:SW3510 / 11-Mar-2015 | | Analyst: GEY |
| 2,4,5-Trichlorophenol | U | | 0.025 | 0.14 | mg/L | 10 | 11-Mar-2015 20:48 |
| 2,4,6-Trichlorophenol | U | | 0.038 | 0.14 | mg/L | 10 | 11-Mar-2015 20:48 |
| 2,4-Dinitrotoluene | U | | 0.027 | 0.14 | mg/L | 10 | 11-Mar-2015 20:48 |
| **Cresols, Total** | **2.8** | | **0.055** | **0.41** | **mg/L** | 10 | 11-Mar-2015 20:48 |
| Hexachlorobenzene | U | | 0.030 | 0.14 | mg/L | 10 | 11-Mar-2015 20:48 |
| Hexachlorobutadiene | U | | 0.030 | 0.14 | mg/L | 10 | 11-Mar-2015 20:48 |
| Hexachloroethane | U | | 0.027 | 0.14 | mg/L | 10 | 11-Mar-2015 20:48 |
| Nitrobenzene | U | | 0.022 | 0.14 | mg/L | 10 | 11-Mar-2015 20:48 |
| Pentachlorophenol | U | | 0.044 | 0.14 | mg/L | 10 | 11-Mar-2015 20:48 |
| Pyridine | U | | 0.055 | 0.14 | mg/L | 10 | 11-Mar-2015 20:48 |
| *Surr: 2,4,6-Tribromophenol* | *58.9* | *J* | | *39-153* | *%REC* | *10* | *11-Mar-2015 20:48* |
| *Surr: 2-Fluorobiphenyl* | *76.3* | | | *40-147* | *%REC* | *10* | *11-Mar-2015 20:48* |
| *Surr: 2-Fluorophenol* | *41.2* | *J* | | *21-110* | *%REC* | *10* | *11-Mar-2015 20:48* |
| *Surr: 4-Terphenyl-d14* | *67.1* | *J* | | *39-141* | *%REC* | *10* | *11-Mar-2015 20:48* |
| *Surr: Nitrobenzene-d5* | *75.0* | *J* | | *37-140* | *%REC* | *10* | *11-Mar-2015 20:48* |
| *Surr: Phenol-d6* | *42.1* | *J* | | *11-110* | *%REC* | *10* | *11-Mar-2015 20:48* |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**ANALYTICAL REPORT**

Client: Effective Environmental Inc.
Project: USOR Equ Assessment and Sampling 8181
Sample ID: Field Dup #1
Collection Date: 04-Mar-2015 10:45

WorkOrder:HS15030179
Lab ID:HS15030179-04
Matrix:Liquid

| ANALYSES | RESULT | QUAL | MDL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|
| **TCLP METALS BY SW6020A** | | **Method:SW1311/6020** | | Leache:SW1311 / 10-Mar-2015 | Prep:SW3010A / 11-Mar-2015 | | Analyst: JDE |
| **Arsenic** | **0.0166** | J | **0.0100** | **0.0500** | **mg/L** | 1 | 11-Mar-2015 23:41 |
| Barium | U | | 0.0450 | 1.00 | mg/L | 5 | 12-Mar-2015 13:54 |
| Cadmium | U | | 0.0400 | 0.250 | mg/L | 5 | 12-Mar-2015 13:54 |
| **Chromium** | **1.88** | | **0.0100** | **0.0500** | **mg/L** | 1 | 11-Mar-2015 23:41 |
| Lead | U | | 0.0350 | 0.250 | mg/L | 5 | 12-Mar-2015 13:54 |
| **Selenium** | **0.0236** | J | **0.0100** | **0.0500** | **mg/L** | 1 | 11-Mar-2015 23:41 |
| Silver | U | | 0.00800 | 0.0500 | mg/L | 1 | 11-Mar-2015 23:41 |
| **IGNITABILITY** | | **Method:SW1010** | | | | | Analyst: KAH |
| Ignitability | > 212 | | 50.0 | 50.0 | °F | 1 | 10-Mar-2015 16:00 |
| **TCLP MERCURY BY SW7470A** | | **Method:SW7470** | | Leache:SW7470 / 11-Mar-2015 | Prep:SW7470 / 11-Mar-2015 | | Analyst: OFO |
| **Mercury** | **0.00224** | | **0.000168** | **0.000800** | **mg/L** | 1 | 11-Mar-2015 15:54 |
| **PH BY SM4500H+ B** | | **Method:SM4500H+ B** | | | | | Analyst: JHD |
| **pH** | **7.89** | H | **0.100** | **0.100** | **pH Units** | 1 | 06-Mar-2015 15:33 |
| **Temp Deg C @pH** | **22.8** | H | **0** | **0** | **°C** | 1 | 06-Mar-2015 15:33 |
| **REACTIVE CYANIDE** | | **Method:SW7.3.3.2** | | | | | Analyst: SUB |
| Reactive Cyanide | U | | 100 | 100 | mg/Kg | 1 | 09-Mar-2015 21:45 |
| **REACTIVE SULFIDE** | | **Method:SW7.3.4.2** | | | | | Analyst: SUB |
| Reactive Sulfide | U | | 100 | 100 | mg/Kg | 1 | 09-Mar-2015 21:00 |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

| | | |
|---|---|---|
| Client: | Effective Environmental Inc. | **ANALYTICAL REPORT** |
| Project: | USOR Equ Assessment and Sampling 8181 | WorkOrder:HS15030179 |
| Sample ID: | Equipment Blank # 2 | Lab ID:HS15030179-05 |
| Collection Date: | 03-Mar-2015 12:00 | Matrix:Water |

| ANALYSES | RESULT | QUAL | MDL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|
| **LOW LEVEL VOLATILES BY SW8260C** | | **Method:SW8260** | | | | | Analyst: PC |
| 1,1-Dichloroethene | U | | 0.00020 | 0.0010 | mg/L | 1 | 10-Mar-2015 05:41 |
| 1,2-Dichloroethane | U | | 0.00020 | 0.0010 | mg/L | 1 | 10-Mar-2015 05:41 |
| 1,4-Dichlorobenzene | U | | 0.00040 | 0.0010 | mg/L | 1 | 10-Mar-2015 05:41 |
| 2-Butanone | U | | 0.00050 | 0.0020 | mg/L | 1 | 10-Mar-2015 05:41 |
| Benzene | U | | 0.00020 | 0.0010 | mg/L | 1 | 10-Mar-2015 05:41 |
| Carbon tetrachloride | U | | 0.00050 | 0.0010 | mg/L | 1 | 10-Mar-2015 05:41 |
| Chlorobenzene | U | | 0.00030 | 0.0010 | mg/L | 1 | 10-Mar-2015 05:41 |
| Chloroform | U | | 0.00020 | 0.0010 | mg/L | 1 | 10-Mar-2015 05:41 |
| Tetrachloroethene | U | | 0.00030 | 0.0010 | mg/L | 1 | 10-Mar-2015 05:41 |
| Trichloroethene | U | | 0.00020 | 0.0010 | mg/L | 1 | 10-Mar-2015 05:41 |
| Vinyl chloride | U | | 0.00020 | 0.0010 | mg/L | 1 | 10-Mar-2015 05:41 |
| *Surr: 1,2-Dichloroethane-d4* | *104* | | | *71-125* | *%REC* | *1* | *10-Mar-2015 05:41* |
| *Surr: 4-Bromofluorobenzene* | *98.6* | | | *70-125* | *%REC* | *1* | *10-Mar-2015 05:41* |
| *Surr: Dibromofluoromethane* | *101* | | | *74-125* | *%REC* | *1* | *10-Mar-2015 05:41* |
| *Surr: Toluene-d8* | *108* | | | *75-125* | *%REC* | *1* | *10-Mar-2015 05:41* |
| **LOW-LEVEL SEMIVOLATILES** | | **Method:SW8270** | | | Prep:SW3510 / 05-Mar-2015 | | Analyst: LG |
| 2,4,5-Trichlorophenol | U | | 0.000038 | 0.00020 | mg/L | 1 | 09-Mar-2015 22:00 |
| 2,4,6-Trichlorophenol | U | | 0.000032 | 0.00020 | mg/L | 1 | 09-Mar-2015 22:00 |
| 2,4-Dinitrotoluene | U | | 0.000039 | 0.00020 | mg/L | 1 | 09-Mar-2015 22:00 |
| **2-Methylphenol** | **0.00015** | J | **0.000041** | **0.00020** | **mg/L** | 1 | 09-Mar-2015 22:00 |
| **3&4-Methylphenol** | **0.00027** | | **0.000030** | **0.00020** | **mg/L** | 1 | 09-Mar-2015 22:00 |
| Hexachlorobenzene | U | | 0.000039 | 0.00020 | mg/L | 1 | 09-Mar-2015 22:00 |
| Hexachlorobutadiene | U | | 0.000032 | 0.00020 | mg/L | 1 | 09-Mar-2015 22:00 |
| Hexachloroethane | U | | 0.000044 | 0.00020 | mg/L | 1 | 09-Mar-2015 22:00 |
| Nitrobenzene | U | | 0.000033 | 0.00020 | mg/L | 1 | 09-Mar-2015 22:00 |
| Pentachlorophenol | U | | 0.000053 | 0.00020 | mg/L | 1 | 09-Mar-2015 22:00 |
| Pyridine | U | | 0.000040 | 0.0010 | mg/L | 1 | 09-Mar-2015 22:00 |
| *Surr: 2,4,6-Tribromophenol* | *55.7* | | | *34-129* | *%REC* | *1* | *09-Mar-2015 22:00* |
| *Surr: 2-Fluorobiphenyl* | *56.2* | | | *40-125* | *%REC* | *1* | *09-Mar-2015 22:00* |
| *Surr: 2-Fluorophenol* | *55.3* | | | *20-120* | *%REC* | *1* | *09-Mar-2015 22:00* |
| *Surr: 4-Terphenyl-d14* | *73.0* | | | *40-135* | *%REC* | *1* | *09-Mar-2015 22:00* |
| *Surr: Nitrobenzene-d5* | *60.0* | | | *41-120* | *%REC* | *1* | *09-Mar-2015 22:00* |
| *Surr: Phenol-d6* | *60.1* | | | *20-120* | *%REC* | *1* | *09-Mar-2015 22:00* |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**ANALYTICAL REPORT**

Client: Effective Environmental Inc.
Project: USOR Equ Assessment and Sampling 8181
Sample ID: Equipment Blank # 2
Collection Date: 03-Mar-2015 12:00

WorkOrder:HS15030179
Lab ID:HS15030179-05
Matrix:Water

| ANALYSES | RESULT | QUAL | MDL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|
| **ICP-MS METALS BY SW6020A** | | **Method:SW6020** | | | Prep:SW3010A / 06-Mar-2015 | | Analyst: RPM |
| Arsenic | U | | 0.00100 | 0.00500 | mg/L | 1 | 09-Mar-2015 17:14 |
| **Barium** | **0.00901** | | **0.000900** | **0.00500** | **mg/L** | 1 | 09-Mar-2015 17:14 |
| Cadmium | U | | 0.000800 | 0.00200 | mg/L | 1 | 09-Mar-2015 17:14 |
| Chromium | U | | 0.00100 | 0.00500 | mg/L | 1 | 09-Mar-2015 17:14 |
| Lead | U | | 0.000700 | 0.00500 | mg/L | 1 | 09-Mar-2015 17:14 |
| **Selenium** | **0.00108** | J | **0.00100** | **0.00500** | **mg/L** | 1 | 09-Mar-2015 17:14 |
| Silver | U | | 0.000800 | 0.00500 | mg/L | 1 | 09-Mar-2015 17:14 |
| **IGNITABILITY** | | **Method:SW1010** | | | | | Analyst: KAH |
| Ignitability | > 212 | | 50.0 | 50.0 | °F | 1 | 10-Mar-2015 16:00 |
| **MERCURY BY SW7470A** | | **Method:SW7470** | | | Prep:SW7470 / 09-Mar-2015 | | Analyst: OFO |
| Mercury | U | | 0.0000400 | 0.000200 | mg/L | 1 | 09-Mar-2015 14:43 |
| **PH BY SM4500H+ B** | | **Method:SM4500H+ B** | | | | | Analyst: JHD |
| **pH** | **7.34** | H | **0.100** | **0.100** | **pH Units** | 1 | 06-Mar-2015 15:33 |
| **Temp Deg C @pH** | **22.3** | H | **0** | **0** | **°C** | 1 | 06-Mar-2015 15:33 |
| **REACTIVE CYANIDE** | | **Method:SW7.3.3.2** | | | | | Analyst: SUB |
| Reactive Cyanide | U | | 100 | 100 | mg/Kg | 1 | 09-Mar-2015 21:45 |
| **REACTIVE SULFIDE** | | **Method:SW7.3.4.2** | | | | | Analyst: SUB |
| Reactive Sulfide | U | | 100 | 100 | mg/Kg | 1 | 09-Mar-2015 21:00 |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

| | | |
|---|---|---|
| Client: | Effective Environmental Inc. | **ANALYTICAL REPORT** |
| Project: | USOR Equ Assessment and Sampling 8181 | WorkOrder:HS15030179 |
| Sample ID: | USOR-EQ-13-ICP Tank A | Lab ID:HS15030179-06 |
| Collection Date: | 04-Mar-2015 13:00 | Matrix:Solid |

| ANALYSES | RESULT | QUAL | MDL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|
| **TCLP VOLATILES** | | **Method:SW1311/8260B** | | Leache:SW1311 / 09-Mar-2015 | Prep:SW1311 / 09-Mar-2015 | | Analyst: PC |
| 1,1-Dichloroethene | U | | 0.010 | 0.10 | mg/L | 20 | 10-Mar-2015 19:34 |
| 1,2-Dichloroethane | U | | 0.010 | 0.10 | mg/L | 20 | 10-Mar-2015 19:34 |
| 1,4-Dichlorobenzene | U | | 0.012 | 0.10 | mg/L | 20 | 10-Mar-2015 19:34 |
| **2-Butanone** | **0.058** | J | **0.020** | **0.20** | **mg/L** | 20 | 10-Mar-2015 19:34 |
| **Benzene** | **0.60** | | **0.012** | **0.10** | **mg/L** | 20 | 10-Mar-2015 19:34 |
| Carbon tetrachloride | U | | 0.012 | 0.10 | mg/L | 20 | 10-Mar-2015 19:34 |
| Chlorobenzene | U | | 0.0080 | 0.10 | mg/L | 20 | 10-Mar-2015 19:34 |
| Chloroform | U | | 0.012 | 0.10 | mg/L | 20 | 10-Mar-2015 19:34 |
| **Tetrachloroethene** | **0.018** | J | **0.012** | **0.10** | **mg/L** | 20 | 10-Mar-2015 19:34 |
| **Trichloroethene** | **0.022** | J | **0.010** | **0.10** | **mg/L** | 20 | 10-Mar-2015 19:34 |
| Vinyl chloride | U | | 0.0080 | 0.040 | mg/L | 20 | 10-Mar-2015 19:34 |
| *Surr: 1,2-Dichloroethane-d4* | *93.8* | | | *70-125* | *%REC* | *20* | *10-Mar-2015 19:34* |
| *Surr: 4-Bromofluorobenzene* | *100* | | | *72-125* | *%REC* | *20* | *10-Mar-2015 19:34* |
| *Surr: Dibromofluoromethane* | *96.4* | | | *71-125* | *%REC* | *20* | *10-Mar-2015 19:34* |
| *Surr: Toluene-d8* | *97.2* | | | *75-125* | *%REC* | *20* | *10-Mar-2015 19:34* |
| **TCLP SEMIVOLATILES** | | **Method:SW1311/8270** | | Leache:SW1311 / 09-Mar-2015 | Prep:SW3510 / 11-Mar-2015 | | Analyst: ACN |
| 2,4,5-Trichlorophenol | U | | 0.0090 | 0.050 | mg/L | 10 | 11-Mar-2015 15:47 |
| 2,4,6-Trichlorophenol | U | | 0.014 | 0.050 | mg/L | 10 | 11-Mar-2015 15:47 |
| 2,4-Dinitrotoluene | U | | 0.010 | 0.050 | mg/L | 10 | 11-Mar-2015 15:47 |
| **Cresols, Total** | **0.22** | | **0.020** | **0.15** | **mg/L** | 10 | 11-Mar-2015 15:47 |
| Hexachlorobenzene | U | | 0.011 | 0.050 | mg/L | 10 | 11-Mar-2015 15:47 |
| Hexachlorobutadiene | U | | 0.011 | 0.050 | mg/L | 10 | 11-Mar-2015 15:47 |
| Hexachloroethane | U | | 0.010 | 0.050 | mg/L | 10 | 11-Mar-2015 15:47 |
| Nitrobenzene | U | | 0.0080 | 0.050 | mg/L | 10 | 11-Mar-2015 15:47 |
| Pentachlorophenol | U | | 0.016 | 0.050 | mg/L | 10 | 11-Mar-2015 15:47 |
| Pyridine | U | | 0.020 | 0.050 | mg/L | 10 | 11-Mar-2015 15:47 |
| *Surr: 2,4,6-Tribromophenol* | *63.6* | | | *39-153* | *%REC* | *10* | *11-Mar-2015 15:47* |
| *Surr: 2-Fluorobiphenyl* | *73.8* | | | *40-147* | *%REC* | *10* | *11-Mar-2015 15:47* |
| *Surr: 2-Fluorophenol* | *53.5* | | | *21-110* | *%REC* | *10* | *11-Mar-2015 15:47* |
| *Surr: 4-Terphenyl-d14* | *76.5* | | | *39-141* | *%REC* | *10* | *11-Mar-2015 15:47* |
| *Surr: Nitrobenzene-d5* | *63.8* | | | *37-140* | *%REC* | *10* | *11-Mar-2015 15:47* |
| *Surr: Phenol-d6* | *65.2* | | | *11-110* | *%REC* | *10* | *11-Mar-2015 15:47* |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**ANALYTICAL REPORT**

Client: Effective Environmental Inc.
Project: USOR Equ Assessment and Sampling 8181
Sample ID: USOR-EQ-13-ICP Tank A
Collection Date: 04-Mar-2015 13:00

WorkOrder:HS15030179
Lab ID:HS15030179-06
Matrix:Solid

| ANALYSES | RESULT | QUAL | MDL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|
| **TCLP METALS BY SW6020A** | | **Method:SW1311/6020** | | Leache:SW3010A / 11-Mar-2015 | Prep:SW3010A / 11-Mar-2015 | | Analyst: JDE |
| Arsenic | U | | 0.0100 | 0.0500 | mg/L | 1 | 11-Mar-2015 23:50 |
| **Barium** | **0.264** | | **0.00900** | **0.200** | **mg/L** | 1 | 11-Mar-2015 23:50 |
| Cadmium | U | | 0.00800 | 0.0500 | mg/L | 1 | 11-Mar-2015 23:50 |
| Chromium | U | | 0.0100 | 0.0500 | mg/L | 1 | 11-Mar-2015 23:50 |
| Lead | U | | 0.00700 | 0.0500 | mg/L | 1 | 11-Mar-2015 23:50 |
| Selenium | U | | 0.0100 | 0.0500 | mg/L | 1 | 11-Mar-2015 23:50 |
| Silver | U | | 0.00800 | 0.0500 | mg/L | 1 | 11-Mar-2015 23:50 |
| **BURN RATE BY METHOD SW1030** | | **Method:SW1030** | | | | | Analyst: KAH |
| Ignitability, Solid | Negative | | 0 | 0 | Burn Rate, mm/sec | 1 | 10-Mar-2015 16:15 |
| **TCLP MERCURY BY SW7470A** | | **Method:SW7470** | | Leache:SW7470 / 11-Mar-2015 | Prep:SW7470 / 11-Mar-2015 | | Analyst: OFO |
| **Mercury** | **0.0000690** | J | **0.0000420** | **0.000200** | **mg/L** | 1 | 11-Mar-2015 15:56 |
| **PH SOIL BY SW9045D** | | **Method:SW9045B** | | | | | Analyst: JHD |
| **pH** | **7.76** | H | **0.100** | **0.100** | **pH Units** | 1 | 06-Mar-2015 15:43 |
| **REACTIVE CYANIDE** | | **Method:SW7.3.3.2** | | | | | Analyst: SUB |
| Reactive Cyanide | U | | 100 | 100 | mg/Kg | 1 | 09-Mar-2015 21:45 |
| **REACTIVE SULFIDE** | | **Method:SW7.3.4.2** | | | | | Analyst: SUB |
| Reactive Sulfide | U | | 100 | 100 | mg/Kg | 1 | 09-Mar-2015 21:00 |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Effective Environmental Inc.
Project: USOR Equ Assessment and Sampling 8181
Sample ID: USOR-EQ-15-Rectangular Mix Tank
Collection Date: 04-Mar-2015 13:30

**ANALYTICAL REPORT**
WorkOrder:HS15030179
Lab ID:HS15030179-07
Matrix:Solid

| ANALYSES | RESULT | QUAL | MDL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|
| **TCLP VOLATILES** | | **Method:SW1311/8260B** | | Leache:SW1311 / 09-Mar-2015 | Prep:SW1311 / 09-Mar-2015 | | Analyst: PC |
| 1,1-Dichloroethene | U | | 0.010 | 0.10 | mg/L | 20 | 10-Mar-2015 19:58 |
| 1,2-Dichloroethane | U | | 0.010 | 0.10 | mg/L | 20 | 10-Mar-2015 19:58 |
| 1,4-Dichlorobenzene | U | | 0.012 | 0.10 | mg/L | 20 | 10-Mar-2015 19:58 |
| **2-Butanone** | **0.050** | J | **0.020** | **0.20** | **mg/L** | 20 | 10-Mar-2015 19:58 |
| **Benzene** | **1.7** | | **0.012** | **0.10** | **mg/L** | 20 | 10-Mar-2015 19:58 |
| Carbon tetrachloride | U | | 0.012 | 0.10 | mg/L | 20 | 10-Mar-2015 19:58 |
| Chlorobenzene | U | | 0.0080 | 0.10 | mg/L | 20 | 10-Mar-2015 19:58 |
| Chloroform | U | | 0.012 | 0.10 | mg/L | 20 | 10-Mar-2015 19:58 |
| **Tetrachloroethene** | **0.030** | J | **0.012** | **0.10** | **mg/L** | 20 | 10-Mar-2015 19:58 |
| **Trichloroethene** | **0.17** | | **0.010** | **0.10** | **mg/L** | 20 | 10-Mar-2015 19:58 |
| Vinyl chloride | U | | 0.0080 | 0.040 | mg/L | 20 | 10-Mar-2015 19:58 |
| *Surr: 1,2-Dichloroethane-d4* | *91.2* | | | *70-125* | *%REC* | *20* | *10-Mar-2015 19:58* |
| *Surr: 4-Bromofluorobenzene* | *99.3* | | | *72-125* | *%REC* | *20* | *10-Mar-2015 19:58* |
| *Surr: Dibromofluoromethane* | *99.5* | | | *71-125* | *%REC* | *20* | *10-Mar-2015 19:58* |
| *Surr: Toluene-d8* | *97.2* | | | *75-125* | *%REC* | *20* | *10-Mar-2015 19:58* |
| **TCLP SEMIVOLATILES** | | **Method:SW1311/8270** | | Leache:SW1311 / 09-Mar-2015 | Prep:SW3510 / 11-Mar-2015 | | Analyst: ACN |
| 2,4,5-Trichlorophenol | U | | 0.0090 | 0.050 | mg/L | 10 | 11-Mar-2015 16:34 |
| 2,4,6-Trichlorophenol | U | | 0.014 | 0.050 | mg/L | 10 | 11-Mar-2015 16:34 |
| 2,4-Dinitrotoluene | U | | 0.010 | 0.050 | mg/L | 10 | 11-Mar-2015 16:34 |
| **Cresols, Total** | **0.17** | | **0.020** | **0.15** | **mg/L** | 10 | 11-Mar-2015 16:34 |
| Hexachlorobenzene | U | | 0.011 | 0.050 | mg/L | 10 | 11-Mar-2015 16:34 |
| Hexachlorobutadiene | U | | 0.011 | 0.050 | mg/L | 10 | 11-Mar-2015 16:34 |
| Hexachloroethane | U | | 0.010 | 0.050 | mg/L | 10 | 11-Mar-2015 16:34 |
| Nitrobenzene | U | | 0.0080 | 0.050 | mg/L | 10 | 11-Mar-2015 16:34 |
| Pentachlorophenol | U | | 0.016 | 0.050 | mg/L | 10 | 11-Mar-2015 16:34 |
| Pyridine | U | | 0.020 | 0.050 | mg/L | 10 | 11-Mar-2015 16:34 |
| *Surr: 2,4,6-Tribromophenol* | *62.1* | | | *39-153* | *%REC* | *10* | *11-Mar-2015 16:34* |
| *Surr: 2-Fluorobiphenyl* | *78.1* | | | *40-147* | *%REC* | *10* | *11-Mar-2015 16:34* |
| *Surr: 2-Fluorophenol* | *67.6* | | | *21-110* | *%REC* | *10* | *11-Mar-2015 16:34* |
| *Surr: 4-Terphenyl-d14* | *74.4* | | | *39-141* | *%REC* | *10* | *11-Mar-2015 16:34* |
| *Surr: Nitrobenzene-d5* | *72.0* | | | *37-140* | *%REC* | *10* | *11-Mar-2015 16:34* |
| *Surr: Phenol-d6* | *67.0* | | | *11-110* | *%REC* | *10* | *11-Mar-2015 16:34* |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

| | | |
|---|---|---|
| Client: | Effective Environmental Inc. | **ANALYTICAL REPORT** |
| Project: | USOR Equ Assessment and Sampling 8181 | WorkOrder:HS15030179 |
| Sample ID: | USOR-EQ-15-Rectangular Mix Tank | Lab ID:HS15030179-07 |
| Collection Date: | 04-Mar-2015 13:30 | Matrix:Solid |

| ANALYSES | RESULT | QUAL | MDL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|
| **TCLP METALS BY SW6020A** | | **Method:SW1311/6020** | | Leache:SW3010A / 11-Mar-2015 | Prep:SW3010A / 11-Mar-2015 | | Analyst: JDE |
| Arsenic | U | | 0.0100 | 0.0500 | mg/L | 1 | 11-Mar-2015 23:55 |
| **Barium** | **0.0901** | J | **0.00900** | **0.200** | **mg/L** | 1 | 11-Mar-2015 23:55 |
| Cadmium | U | | 0.00800 | 0.0500 | mg/L | 1 | 11-Mar-2015 23:55 |
| Chromium | U | | 0.0100 | 0.0500 | mg/L | 1 | 11-Mar-2015 23:55 |
| Lead | U | | 0.00700 | 0.0500 | mg/L | 1 | 11-Mar-2015 23:55 |
| Selenium | U | | 0.0100 | 0.0500 | mg/L | 1 | 11-Mar-2015 23:55 |
| Silver | U | | 0.00800 | 0.0500 | mg/L | 1 | 11-Mar-2015 23:55 |
| **BURN RATE BY METHOD SW1030** | | **Method:SW1030** | | | | | Analyst: KAH |
| Ignitability, Solid | Negative | | 0 | 0 | Burn Rate, mm/sec | 1 | 10-Mar-2015 16:15 |
| **TCLP MERCURY BY SW7470A** | | **Method:SW7470** | | Leache:SW7470 / 11-Mar-2015 | Prep:SW7470 / 11-Mar-2015 | | Analyst: OFO |
| Mercury | U | | 0.0000420 | 0.000200 | mg/L | 1 | 11-Mar-2015 15:58 |
| **PH SOIL BY SW9045D** | | **Method:SW9045B** | | | | | Analyst: JHD |
| **pH** | **8.83** | H | **0.100** | **0.100** | **pH Units** | 1 | 06-Mar-2015 15:43 |
| **REACTIVE CYANIDE** | | **Method:SW7.3.3.2** | | | | | Analyst: SUB |
| Reactive Cyanide | U | | 100 | 100 | mg/Kg | 1 | 09-Mar-2015 21:45 |
| **REACTIVE SULFIDE** | | **Method:SW7.3.4.2** | | | | | Analyst: SUB |
| Reactive Sulfide | U | | 100 | 100 | mg/Kg | 1 | 09-Mar-2015 21:00 |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

| | | |
|---|---|---|
| Client: | Effective Environmental Inc. | **ANALYTICAL REPORT** |
| Project: | USOR Equ Assessment and Sampling 8181 | WorkOrder:HS15030179 |
| Sample ID: | USOR-EQ-12 Rectangular Mix Tank | Lab ID:HS15030179-08 |
| Collection Date: | 04-Mar-2015 14:00 | Matrix:Liquid |

| ANALYSES | RESULT | QUAL | MDL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|
| **TCLP VOLATILES** | | **Method:SW1311/8260B** | | Leache:SW1311 / 10-Mar-2015 | Prep:SW1311 / 10-Mar-2015 | | Analyst: PC |
| 1,1-Dichloroethene | | U | 0.010 | 0.10 | mg/L | 20 | 11-Mar-2015 18:40 |
| 1,2-Dichloroethane | | U | 0.010 | 0.10 | mg/L | 20 | 11-Mar-2015 18:40 |
| 1,4-Dichlorobenzene | | U | 0.012 | 0.10 | mg/L | 20 | 11-Mar-2015 18:40 |
| 2-Butanone | | U | 0.020 | 0.20 | mg/L | 20 | 11-Mar-2015 18:40 |
| Benzene | | U | 0.012 | 0.10 | mg/L | 20 | 11-Mar-2015 18:40 |
| Carbon tetrachloride | | U | 0.012 | 0.10 | mg/L | 20 | 11-Mar-2015 18:40 |
| Chlorobenzene | | U | 0.0080 | 0.10 | mg/L | 20 | 11-Mar-2015 18:40 |
| Chloroform | | U | 0.012 | 0.10 | mg/L | 20 | 11-Mar-2015 18:40 |
| Tetrachloroethene | | U | 0.012 | 0.10 | mg/L | 20 | 11-Mar-2015 18:40 |
| Trichloroethene | | U | 0.010 | 0.10 | mg/L | 20 | 11-Mar-2015 18:40 |
| Vinyl chloride | | U | 0.0080 | 0.040 | mg/L | 20 | 11-Mar-2015 18:40 |
| *Surr: 1,2-Dichloroethane-d4* | *90.6* | | | *70-125* | *%REC* | *20* | *11-Mar-2015 18:40* |
| *Surr: 4-Bromofluorobenzene* | *97.0* | | | *72-125* | *%REC* | *20* | *11-Mar-2015 18:40* |
| *Surr: Dibromofluoromethane* | *96.4* | | | *71-125* | *%REC* | *20* | *11-Mar-2015 18:40* |
| *Surr: Toluene-d8* | *95.9* | | | *75-125* | *%REC* | *20* | *11-Mar-2015 18:40* |
| **TCLP SEMIVOLATILES** | | **Method:SW1311/8270** | | Leache:SW1311 / 10-Mar-2015 | Prep:SW3510 / 11-Mar-2015 | | Analyst: ACN |
| 2,4,5-Trichlorophenol | | U | 0.0090 | 0.050 | mg/L | 10 | 11-Mar-2015 16:57 |
| 2,4,6-Trichlorophenol | | U | 0.014 | 0.050 | mg/L | 10 | 11-Mar-2015 16:57 |
| 2,4-Dinitrotoluene | | U | 0.010 | 0.050 | mg/L | 10 | 11-Mar-2015 16:57 |
| Cresols, Total | | U | 0.020 | 0.15 | mg/L | 10 | 11-Mar-2015 16:57 |
| Hexachlorobenzene | | U | 0.011 | 0.050 | mg/L | 10 | 11-Mar-2015 16:57 |
| Hexachlorobutadiene | | U | 0.011 | 0.050 | mg/L | 10 | 11-Mar-2015 16:57 |
| Hexachloroethane | | U | 0.010 | 0.050 | mg/L | 10 | 11-Mar-2015 16:57 |
| Nitrobenzene | | U | 0.0080 | 0.050 | mg/L | 10 | 11-Mar-2015 16:57 |
| Pentachlorophenol | | U | 0.016 | 0.050 | mg/L | 10 | 11-Mar-2015 16:57 |
| Pyridine | | U | 0.020 | 0.050 | mg/L | 10 | 11-Mar-2015 16:57 |
| *Surr: 2,4,6-Tribromophenol* | *55.7* | | | *39-153* | *%REC* | *10* | *11-Mar-2015 16:57* |
| *Surr: 2-Fluorobiphenyl* | *63.8* | | | *40-147* | *%REC* | *10* | *11-Mar-2015 16:57* |
| *Surr: 2-Fluorophenol* | *46.4* | *J* | | *21-110* | *%REC* | *10* | *11-Mar-2015 16:57* |
| *Surr: 4-Terphenyl-d14* | *74.7* | | | *39-141* | *%REC* | *10* | *11-Mar-2015 16:57* |
| *Surr: Nitrobenzene-d5* | *52.5* | | | *37-140* | *%REC* | *10* | *11-Mar-2015 16:57* |
| *Surr: Phenol-d6* | *52.7* | | | *11-110* | *%REC* | *10* | *11-Mar-2015 16:57* |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

| | | |
|---|---|---|
| Client: | Effective Environmental Inc. | **ANALYTICAL REPORT** |
| Project: | USOR Equ Assessment and Sampling 8181 | WorkOrder:HS15030179 |
| Sample ID: | USOR-EQ-12 Rectangular Mix Tank | Lab ID:HS15030179-08 |
| Collection Date: | 04-Mar-2015 14:00 | Matrix:Liquid |

| ANALYSES | RESULT | QUAL | MDL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|
| **TCLP METALS BY SW6020A** | | **Method:SW1311/6020** | | Leache:SW3010A / 11-Mar-2015 | Prep:SW3010A / 11-Mar-2015 | | Analyst: JDE |
| Arsenic | U | | 0.0100 | 0.0500 | mg/L | 1 | 12-Mar-2015 00:00 |
| **Barium** | **0.329** | | **0.00900** | **0.200** | **mg/L** | 1 | 12-Mar-2015 00:00 |
| Cadmium | U | | 0.00800 | 0.0500 | mg/L | 1 | 12-Mar-2015 00:00 |
| Chromium | U | | 0.0100 | 0.0500 | mg/L | 1 | 12-Mar-2015 00:00 |
| Lead | U | | 0.00700 | 0.0500 | mg/L | 1 | 12-Mar-2015 00:00 |
| Selenium | U | | 0.0100 | 0.0500 | mg/L | 1 | 12-Mar-2015 00:00 |
| Silver | U | | 0.00800 | 0.0500 | mg/L | 1 | 12-Mar-2015 00:00 |
| **IGNITABILITY** | | **Method:SW1010** | | | | | Analyst: KAH |
| Ignitability | > 212 | | 50.0 | 50.0 | °F | 1 | 10-Mar-2015 16:00 |
| **TCLP MERCURY BY SW7470A** | | **Method:SW7470** | | Leache:SW1311 / 10-Mar-2015 | Prep:SW7470 / 11-Mar-2015 | | Analyst: OFO |
| **Mercury** | **0.000477** | | **0.0000420** | **0.000200** | **mg/L** | 1 | 11-Mar-2015 15:59 |
| **PH BY SM4500H+ B** | | **Method:SM4500H+ B** | | | | | Analyst: JHD |
| **pH** | **8.03** | H | **0.100** | **0.100** | **pH Units** | 1 | 06-Mar-2015 15:33 |
| **Temp Deg C @pH** | **23.0** | H | **0** | **0** | **°C** | 1 | 06-Mar-2015 15:33 |
| **REACTIVE CYANIDE** | | **Method:SW7.3.3.2** | | | | | Analyst: SUB |
| Reactive Cyanide | U | | 100 | 100 | mg/Kg | 1 | 09-Mar-2015 21:45 |
| **REACTIVE SULFIDE** | | **Method:SW7.3.4.2** | | | | | Analyst: SUB |
| Reactive Sulfide | U | | 100 | 100 | mg/Kg | 1 | 09-Mar-2015 21:00 |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

| | | |
|---|---|---|
| Client: | Effective Environmental Inc. | **ANALYTICAL REPORT** |
| Project: | USOR Equ Assessment and Sampling 8181 | WorkOrder:HS15030179 |
| Sample ID: | USOR-EQ-29 Large Rectangular Box | Lab ID:HS15030179-09 |
| Collection Date: | 04-Mar-2015 14:30 | Matrix:Liquid |

| ANALYSES | RESULT | QUAL | MDL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|
| **TCLP VOLATILES** | | **Method:SW1311/8260B** | | Leache:SW1311 / 10-Mar-2015 | Prep:SW1311 / 10-Mar-2015 | | Analyst: PC |
| 1,1-Dichloroethene | U | | 0.010 | 0.10 | mg/L | 20 | 11-Mar-2015 19:04 |
| 1,2-Dichloroethane | U | | 0.010 | 0.10 | mg/L | 20 | 11-Mar-2015 19:04 |
| 1,4-Dichlorobenzene | U | | 0.012 | 0.10 | mg/L | 20 | 11-Mar-2015 19:04 |
| **2-Butanone** | **0.035** | J | **0.020** | **0.20** | **mg/L** | 20 | 11-Mar-2015 19:04 |
| Benzene | U | | 0.012 | 0.10 | mg/L | 20 | 11-Mar-2015 19:04 |
| Carbon tetrachloride | U | | 0.012 | 0.10 | mg/L | 20 | 11-Mar-2015 19:04 |
| Chlorobenzene | U | | 0.0080 | 0.10 | mg/L | 20 | 11-Mar-2015 19:04 |
| Chloroform | U | | 0.012 | 0.10 | mg/L | 20 | 11-Mar-2015 19:04 |
| Tetrachloroethene | U | | 0.012 | 0.10 | mg/L | 20 | 11-Mar-2015 19:04 |
| Trichloroethene | U | | 0.010 | 0.10 | mg/L | 20 | 11-Mar-2015 19:04 |
| Vinyl chloride | U | | 0.0080 | 0.040 | mg/L | 20 | 11-Mar-2015 19:04 |
| *Surr: 1,2-Dichloroethane-d4* | *92.2* | | | *70-125* | *%REC* | *20* | *11-Mar-2015 19:04* |
| *Surr: 4-Bromofluorobenzene* | *96.4* | | | *72-125* | *%REC* | *20* | *11-Mar-2015 19:04* |
| *Surr: Dibromofluoromethane* | *98.9* | | | *71-125* | *%REC* | *20* | *11-Mar-2015 19:04* |
| *Surr: Toluene-d8* | *95.4* | | | *75-125* | *%REC* | *20* | *11-Mar-2015 19:04* |
| **TCLP SEMIVOLATILES** | | **Method:SW1311/8270** | | Leache:SW1311 / 10-Mar-2015 | Prep:SW3510 / 11-Mar-2015 | | Analyst: ACN |
| 2,4,5-Trichlorophenol | U | | 0.036 | 0.20 | mg/L | 10 | 11-Mar-2015 18:30 |
| 2,4,6-Trichlorophenol | U | | 0.056 | 0.20 | mg/L | 10 | 11-Mar-2015 18:30 |
| 2,4-Dinitrotoluene | U | | 0.040 | 0.20 | mg/L | 10 | 11-Mar-2015 18:30 |
| Cresols, Total | U | | 0.080 | 0.60 | mg/L | 10 | 11-Mar-2015 18:30 |
| Hexachlorobenzene | U | | 0.044 | 0.20 | mg/L | 10 | 11-Mar-2015 18:30 |
| Hexachlorobutadiene | U | | 0.044 | 0.20 | mg/L | 10 | 11-Mar-2015 18:30 |
| Hexachloroethane | U | | 0.040 | 0.20 | mg/L | 10 | 11-Mar-2015 18:30 |
| Nitrobenzene | U | | 0.032 | 0.20 | mg/L | 10 | 11-Mar-2015 18:30 |
| Pentachlorophenol | U | | 0.064 | 0.20 | mg/L | 10 | 11-Mar-2015 18:30 |
| Pyridine | U | | 0.080 | 0.20 | mg/L | 10 | 11-Mar-2015 18:30 |
| *Surr: 2,4,6-Tribromophenol* | *70.3* | *J* | | *39-153* | *%REC* | *10* | *11-Mar-2015 18:30* |
| *Surr: 2-Fluorobiphenyl* | *92.1* | *J* | | *40-147* | *%REC* | *10* | *11-Mar-2015 18:30* |
| *Surr: 2-Fluorophenol* | *43.9* | *J* | | *21-110* | *%REC* | *10* | *11-Mar-2015 18:30* |
| *Surr: 4-Terphenyl-d14* | *82.6* | *J* | | *39-141* | *%REC* | *10* | *11-Mar-2015 18:30* |
| *Surr: Nitrobenzene-d5* | *72.4* | *J* | | *37-140* | *%REC* | *10* | *11-Mar-2015 18:30* |
| *Surr: Phenol-d6* | *76.5* | *J* | | *11-110* | *%REC* | *10* | *11-Mar-2015 18:30* |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

| | | |
|---|---|---|
| Client: | Effective Environmental Inc. | **ANALYTICAL REPORT** |
| Project: | USOR Equ Assessment and Sampling 8181 | WorkOrder:HS15030179 |
| Sample ID: | USOR-EQ-29 Large Rectangular Box | Lab ID:HS15030179-09 |
| Collection Date: | 04-Mar-2015 14:30 | Matrix:Liquid |

| ANALYSES | RESULT | QUAL | MDL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|
| **TCLP METALS BY SW6020A** | | **Method:SW1311/6020** | | Leache:SW3010A / 11-Mar-2015 | Prep:SW3010A / 11-Mar-2015 | | Analyst: JDE |
| **Arsenic** | **0.0136** | J | **0.0100** | **0.0500** | **mg/L** | 1 | 12-Mar-2015 00:05 |
| **Barium** | **0.741** | | **0.00900** | **0.200** | **mg/L** | 1 | 12-Mar-2015 00:05 |
| Cadmium | U | | 0.00800 | 0.0500 | mg/L | 1 | 12-Mar-2015 00:05 |
| **Chromium** | **0.0940** | | **0.0100** | **0.0500** | **mg/L** | 1 | 12-Mar-2015 00:05 |
| **Lead** | **0.0778** | | **0.00700** | **0.0500** | **mg/L** | 1 | 12-Mar-2015 00:05 |
| Selenium | U | | 0.0100 | 0.0500 | mg/L | 1 | 12-Mar-2015 00:05 |
| Silver | U | | 0.00800 | 0.0500 | mg/L | 1 | 12-Mar-2015 00:05 |
| **IGNITABILITY** | | **Method:SW1010** | | | | | Analyst: KAH |
| Ignitability | > 212 | | 50.0 | 50.0 | °F | 1 | 10-Mar-2015 16:00 |
| **TCLP MERCURY BY SW7470A** | | **Method:SW7470** | | Leache:SW7470 / 11-Mar-2015 | Prep:SW7470 / 11-Mar-2015 | | Analyst: OFO |
| **Mercury** | **0.00114** | | **0.000168** | **0.000800** | **mg/L** | 1 | 11-Mar-2015 16:01 |
| **PH BY SM4500H+ B** | | **Method:SM4500H+ B** | | | | | Analyst: JHD |
| **pH** | **7.52** | H | **0.100** | **0.100** | **pH Units** | 1 | 06-Mar-2015 15:33 |
| **Temp Deg C @pH** | **23.0** | H | **0** | **0** | **°C** | 1 | 06-Mar-2015 15:33 |
| **REACTIVE CYANIDE** | | **Method:SW7.3.3.2** | | | | | Analyst: SUB |
| Reactive Cyanide | U | | 100 | 100 | mg/Kg | 1 | 09-Mar-2015 21:45 |
| **REACTIVE SULFIDE** | | **Method:SW7.3.4.2** | | | | | Analyst: SUB |
| Reactive Sulfide | U | | 100 | 100 | mg/Kg | 1 | 09-Mar-2015 21:00 |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

| | | |
|---|---|---|
| Client: | Effective Environmental Inc. | **ANALYTICAL REPORT** |
| Project: | USOR Equ Assessment and Sampling 8181 | WorkOrder:HS15030179 |
| Sample ID: | Trip Blank | Lab ID:HS15030179-10 |
| Collection Date: | 04-Mar-2015 00:00 | Matrix:Water |

| ANALYSES | RESULT | QUAL | MDL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|
| **LOW LEVEL VOLATILES BY SW8260C** | | **Method:SW8260** | | | | | Analyst: PC |
| 1,1-Dichloroethene | U | | 0.00020 | 0.0010 | mg/L | 1 | 10-Mar-2015 06:06 |
| 1,2-Dichloroethane | U | | 0.00020 | 0.0010 | mg/L | 1 | 10-Mar-2015 06:06 |
| 1,4-Dichlorobenzene | U | | 0.00040 | 0.0010 | mg/L | 1 | 10-Mar-2015 06:06 |
| 2-Butanone | U | | 0.00050 | 0.0020 | mg/L | 1 | 10-Mar-2015 06:06 |
| Benzene | U | | 0.00020 | 0.0010 | mg/L | 1 | 10-Mar-2015 06:06 |
| Carbon tetrachloride | U | | 0.00050 | 0.0010 | mg/L | 1 | 10-Mar-2015 06:06 |
| Chlorobenzene | U | | 0.00030 | 0.0010 | mg/L | 1 | 10-Mar-2015 06:06 |
| Chloroform | U | | 0.00020 | 0.0010 | mg/L | 1 | 10-Mar-2015 06:06 |
| Tetrachloroethene | U | | 0.00030 | 0.0010 | mg/L | 1 | 10-Mar-2015 06:06 |
| Trichloroethene | U | | 0.00020 | 0.0010 | mg/L | 1 | 10-Mar-2015 06:06 |
| Vinyl chloride | U | | 0.00020 | 0.0010 | mg/L | 1 | 10-Mar-2015 06:06 |
| *Surr: 1,2-Dichloroethane-d4* | *106* | | | *71-125* | *%REC* | *1* | *10-Mar-2015 06:06* |
| *Surr: 4-Bromofluorobenzene* | *95.5* | | | *70-125* | *%REC* | *1* | *10-Mar-2015 06:06* |
| *Surr: Dibromofluoromethane* | *105* | | | *74-125* | *%REC* | *1* | *10-Mar-2015 06:06* |
| *Surr: Toluene-d8* | *105* | | | *75-125* | *%REC* | *1* | *10-Mar-2015 06:06* |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**ANALYTICAL REPORT**

Client: Effective Environmental Inc.
Project: USOR Equ Assessment and Sampling 8181
Sample ID: Trip Blank 2
Collection Date: 04-Mar-2015 00:00

WorkOrder:HS15030179
Lab ID:HS15030179-11
Matrix:Water

| ANALYSES | RESULT | QUAL | MDL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|
| **LOW LEVEL VOLATILES BY SW8260C** | | **Method:SW8260** | | | | | Analyst: PC |
| 1,1-Dichloroethene | U | | 0.00020 | 0.0010 | mg/L | 1 | 06-Mar-2015 21:37 |
| 1,2-Dichloroethane | U | | 0.00020 | 0.0010 | mg/L | 1 | 06-Mar-2015 21:37 |
| 1,4-Dichlorobenzene | U | | 0.00040 | 0.0010 | mg/L | 1 | 06-Mar-2015 21:37 |
| 2-Butanone | U | | 0.00050 | 0.0020 | mg/L | 1 | 06-Mar-2015 21:37 |
| Benzene | U | | 0.00020 | 0.0010 | mg/L | 1 | 06-Mar-2015 21:37 |
| Carbon tetrachloride | U | | 0.00050 | 0.0010 | mg/L | 1 | 06-Mar-2015 21:37 |
| Chlorobenzene | U | | 0.00030 | 0.0010 | mg/L | 1 | 06-Mar-2015 21:37 |
| Chloroform | U | | 0.00020 | 0.0010 | mg/L | 1 | 06-Mar-2015 21:37 |
| Tetrachloroethene | U | | 0.00030 | 0.0010 | mg/L | 1 | 06-Mar-2015 21:37 |
| Trichloroethene | U | | 0.00020 | 0.0010 | mg/L | 1 | 06-Mar-2015 21:37 |
| Vinyl chloride | U | | 0.00020 | 0.0010 | mg/L | 1 | 06-Mar-2015 21:37 |
| *Surr: 1,2-Dichloroethane-d4* | *102* | | | *71-125* | *%REC* | *1* | *06-Mar-2015 21:37* |
| *Surr: 4-Bromofluorobenzene* | *93.1* | | | *70-125* | *%REC* | *1* | *06-Mar-2015 21:37* |
| *Surr: Dibromofluoromethane* | *101* | | | *74-125* | *%REC* | *1* | *06-Mar-2015 21:37* |
| *Surr: Toluene-d8* | *106* | | | *75-125* | *%REC* | *1* | *06-Mar-2015 21:37* |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

| | | |
|---|---|---|
| Client: | Effective Environmental Inc. | **ANALYTICAL REPORT** |
| Project: | USOR Equ Assessment and Sampling 8181 | WorkOrder:HS15030179 |
| Sample ID: | Trip Blank 3 | Lab ID:HS15030179-12 |
| Collection Date: | 04-Mar-2015 00:00 | Matrix:Water |

| ANALYSES | RESULT | QUAL | MDL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|
| **LOW LEVEL VOLATILES BY SW8260C** | | **Method:SW8260** | | | | | Analyst: PC |
| 1,1-Dichloroethene | U | | 0.00020 | 0.0010 | mg/L | 1 | 06-Mar-2015 22:02 |
| 1,2-Dichloroethane | U | | 0.00020 | 0.0010 | mg/L | 1 | 06-Mar-2015 22:02 |
| 1,4-Dichlorobenzene | U | | 0.00040 | 0.0010 | mg/L | 1 | 06-Mar-2015 22:02 |
| 2-Butanone | U | | 0.00050 | 0.0020 | mg/L | 1 | 06-Mar-2015 22:02 |
| Benzene | U | | 0.00020 | 0.0010 | mg/L | 1 | 06-Mar-2015 22:02 |
| Carbon tetrachloride | U | | 0.00050 | 0.0010 | mg/L | 1 | 06-Mar-2015 22:02 |
| Chlorobenzene | U | | 0.00030 | 0.0010 | mg/L | 1 | 06-Mar-2015 22:02 |
| Chloroform | U | | 0.00020 | 0.0010 | mg/L | 1 | 06-Mar-2015 22:02 |
| Tetrachloroethene | U | | 0.00030 | 0.0010 | mg/L | 1 | 06-Mar-2015 22:02 |
| Trichloroethene | U | | 0.00020 | 0.0010 | mg/L | 1 | 06-Mar-2015 22:02 |
| Vinyl chloride | U | | 0.00020 | 0.0010 | mg/L | 1 | 06-Mar-2015 22:02 |
| *Surr: 1,2-Dichloroethane-d4* | *100* | | | *71-125* | *%REC* | *1* | *06-Mar-2015 22:02* |
| *Surr: 4-Bromofluorobenzene* | *92.8* | | | *70-125* | *%REC* | *1* | *06-Mar-2015 22:02* |
| *Surr: Dibromofluoromethane* | *94.1* | | | *74-125* | *%REC* | *1* | *06-Mar-2015 22:02* |
| *Surr: Toluene-d8* | *104* | | | *75-125* | *%REC* | *1* | *06-Mar-2015 22:02* |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## DATES REPORT

| Sample ID | Client Samp ID | Collection Date | TCLP Date | Prep Date | Analysis Date | DF |
|---|---|---|---|---|---|---|
| **Batch ID** 91136 | **Test Name :** LOW-LEVEL SEMIVOLATILES | | | **Matrix:** Water | | |
| HS15030179-05 | Equipment Blank # 2 | 03 Mar 2015 12:00 | | 05 Mar 2015 13:41 | 09 Mar 2015 22:00 | 1 |
| **Batch ID** 91152 | **Test Name :** ICP-MS METALS BY SW6020A | | | **Matrix:** Water | | |
| HS15030179-05 | Equipment Blank # 2 | 03 Mar 2015 12:00 | | 06 Mar 2015 11:00 | 09 Mar 2015 17:14 | 1 |
| **Batch ID** 91188 | **Test Name :** MERCURY BY SW7470A | | | **Matrix:** Water | | |
| HS15030179-05 | Equipment Blank # 2 | 03 Mar 2015 12:00 | | 09 Mar 2015 10:05 | 09 Mar 2015 14:43 | 1 |
| **Batch ID** 91289 | **Test Name :** TCLP METALS BY SW6020A | | | **Matrix:** Solid | | |
| HS15030179-06 | USOR-EQ-13-ICP Tank A | 04 Mar 2015 13:00 | 09 Mar 2015 15:11 | 11 Mar 2015 11:40 | 11 Mar 2015 23:50 | 1 |
| HS15030179-07 | USOR-EQ-15-Rectangular Mix Tank | 04 Mar 2015 13:30 | 09 Mar 2015 15:11 | 11 Mar 2015 11:40 | 11 Mar 2015 23:55 | 1 |
| **Batch ID** 91289 | **Test Name :** TCLP METALS BY SW6020A | | | **Matrix:** Liquid | | |
| HS15030179-01 | USOR-EQ-1-Heated&Agitated Frac Tank | 04 Mar 2015 07:30 | 10 Mar 2015 17:00 | 11 Mar 2015 11:40 | 11 Mar 2015 23:31 | 1 |
| HS15030179-02 | USOR-EQ-14-ICP Tank B | 04 Mar 2015 10:00 | 10 Mar 2015 17:00 | 11 Mar 2015 11:40 | 12 Mar 2015 13:49 | 5 |
| HS15030179-02 | USOR-EQ-14-ICP Tank B | 04 Mar 2015 10:00 | 10 Mar 2015 17:00 | 11 Mar 2015 11:40 | 11 Mar 2015 23:36 | 1 |
| HS15030179-03 | USOR-EQ-15 Rectangular Mix Tank | 04 Mar 2015 10:30 | 10 Mar 2015 17:00 | 11 Mar 2015 11:40 | 11 Mar 2015 23:46 | 1 |
| HS15030179-04 | Field Dup #1 | 04 Mar 2015 10:45 | 10 Mar 2015 17:00 | 11 Mar 2015 11:40 | 12 Mar 2015 13:54 | 5 |
| HS15030179-04 | Field Dup #1 | 04 Mar 2015 10:45 | 10 Mar 2015 17:00 | 11 Mar 2015 11:40 | 11 Mar 2015 23:41 | 1 |
| HS15030179-08 | USOR-EQ-12 Rectangular Mix Tank | 04 Mar 2015 14:00 | 10 Mar 2015 17:00 | 11 Mar 2015 11:40 | 12 Mar 2015 00:00 | 1 |
| HS15030179-09 | USOR-EQ-29 Large Rectangular Box | 04 Mar 2015 14:30 | 10 Mar 2015 17:00 | 11 Mar 2015 11:40 | 12 Mar 2015 00:05 | 1 |
| **Batch ID** 91298 | **Test Name :** TCLP MERCURY BY SW7470A | | | **Matrix:** Solid | | |
| HS15030179-06 | USOR-EQ-13-ICP Tank A | 04 Mar 2015 13:00 | 11 Mar 2015 10:04 | 11 Mar 2015 10:04 | 11 Mar 2015 15:56 | 1 |
| HS15030179-07 | USOR-EQ-15-Rectangular Mix Tank | 04 Mar 2015 13:30 | 11 Mar 2015 10:04 | 11 Mar 2015 10:04 | 11 Mar 2015 15:58 | 1 |
| **Batch ID** 91298 | **Test Name :** TCLP MERCURY BY SW7470A | | | **Matrix:** Liquid | | |
| HS15030179-01 | USOR-EQ-1-Heated&Agitated Frac Tank | 04 Mar 2015 07:30 | 11 Mar 2015 10:04 | 11 Mar 2015 10:04 | 11 Mar 2015 15:49 | 1 |
| HS15030179-02 | USOR-EQ-14-ICP Tank B | 04 Mar 2015 10:00 | 11 Mar 2015 10:04 | 11 Mar 2015 10:04 | 11 Mar 2015 15:51 | 1 |
| HS15030179-03 | USOR-EQ-15 Rectangular Mix Tank | 04 Mar 2015 10:30 | 11 Mar 2015 10:04 | 11 Mar 2015 10:04 | 11 Mar 2015 15:53 | 1 |
| HS15030179-04 | Field Dup #1 | 04 Mar 2015 10:45 | 11 Mar 2015 10:04 | 11 Mar 2015 10:04 | 11 Mar 2015 15:54 | 1 |
| HS15030179-08 | USOR-EQ-12 Rectangular Mix Tank | 04 Mar 2015 14:00 | 11 Mar 2015 10:04 | 11 Mar 2015 10:04 | 11 Mar 2015 15:59 | 1 |
| HS15030179-09 | USOR-EQ-29 Large Rectangular Box | 04 Mar 2015 14:30 | 11 Mar 2015 10:04 | 11 Mar 2015 10:04 | 11 Mar 2015 16:01 | 1 |
| **Batch ID** 91303 | **Test Name :** TCLP SEMIVOLATILES | | | **Matrix:** Solid | | |
| HS15030179-06 | USOR-EQ-13-ICP Tank A | 04 Mar 2015 13:00 | 09 Mar 2015 14:58 | 11 Mar 2015 11:17 | 11 Mar 2015 15:47 | 10 |
| HS15030179-07 | USOR-EQ-15-Rectangular Mix Tank | 04 Mar 2015 13:30 | 09 Mar 2015 14:58 | 11 Mar 2015 11:17 | 11 Mar 2015 16:34 | 10 |
| **Batch ID** 91303 | **Test Name :** TCLP SEMIVOLATILES | | | **Matrix:** Liquid | | |
| HS15030179-01 | USOR-EQ-1-Heated&Agitated Frac Tank | 04 Mar 2015 07:30 | 10 Mar 2015 17:00 | 11 Mar 2015 11:17 | 11 Mar 2015 16:11 | 10 |
| HS15030179-08 | USOR-EQ-12 Rectangular Mix Tank | 04 Mar 2015 14:00 | 10 Mar 2015 17:00 | 11 Mar 2015 11:17 | 11 Mar 2015 16:57 | 10 |
| HS15030179-09 | USOR-EQ-29 Large Rectangular Box | 04 Mar 2015 14:30 | 10 Mar 2015 17:00 | 11 Mar 2015 11:17 | 11 Mar 2015 18:30 | 10 |

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## DATES REPORT

| Sample ID | Client Samp ID | Collection Date | TCLP Date | Prep Date | Analysis Date | DF |
|---|---|---|---|---|---|---|
| **Batch ID** 91311 | **Test Name :** TCLP SEMIVOLATILES | | | **Matrix:** Liquid | | |
| HS15030179-02 | USOR-EQ-14-ICP Tank B | 04 Mar 2015 10:00 | 10 Mar 2015 17:00 | 11 Mar 2015 12:58 | 12 Mar 2015 14:57 | 10 |
| HS15030179-03 | USOR-EQ-15 Rectangular Mix Tank | 04 Mar 2015 10:30 | 10 Mar 2015 17:00 | 11 Mar 2015 12:58 | 12 Mar 2015 14:12 | 10 |
| HS15030179-04 | Field Dup #1 | 04 Mar 2015 10:45 | 10 Mar 2015 17:00 | 11 Mar 2015 12:58 | 11 Mar 2015 20:48 | 10 |
| **Batch ID** R250703 | **Test Name :** PH BY SM4500H+ B | | | **Matrix:** Water | | |
| HS15030179-05 | Equipment Blank # 2 | 03 Mar 2015 12:00 | | | 06 Mar 2015 15:33 | 1 |
| **Batch ID** R250703 | **Test Name :** PH BY SM4500H+ B | | | **Matrix:** Liquid | | |
| HS15030179-02 | USOR-EQ-14-ICP Tank B | 04 Mar 2015 10:00 | | | 06 Mar 2015 15:33 | 1 |
| HS15030179-03 | USOR-EQ-15 Rectangular Mix Tank | 04 Mar 2015 10:30 | | | 06 Mar 2015 15:33 | 1 |
| HS15030179-04 | Field Dup #1 | 04 Mar 2015 10:45 | | | 06 Mar 2015 15:33 | 1 |
| HS15030179-08 | USOR-EQ-12 Rectangular Mix Tank | 04 Mar 2015 14:00 | | | 06 Mar 2015 15:33 | 1 |
| HS15030179-09 | USOR-EQ-29 Large Rectangular Box | 04 Mar 2015 14:30 | | | 06 Mar 2015 15:33 | 1 |
| **Batch ID** R250705 | **Test Name :** PH SOIL BY SW9045D | | | **Matrix:** Solid | | |
| HS15030179-06 | USOR-EQ-13-ICP Tank A | 04 Mar 2015 13:00 | | | 06 Mar 2015 15:43 | 1 |
| HS15030179-07 | USOR-EQ-15-Rectangular Mix Tank | 04 Mar 2015 13:30 | | | 06 Mar 2015 15:43 | 1 |
| **Batch ID** R250710 | **Test Name :** LOW LEVEL VOLATILES BY SW8260C | | | **Matrix:** Water | | |
| HS15030179-11 | Trip Blank 2 | 04 Mar 2015 00:00 | | | 06 Mar 2015 21:37 | 1 |
| HS15030179-12 | Trip Blank 3 | 04 Mar 2015 00:00 | | | 06 Mar 2015 22:02 | 1 |
| **Batch ID** R250808 | **Test Name :** LOW LEVEL VOLATILES BY SW8260C | | | **Matrix:** Water | | |
| HS15030179-05 | Equipment Blank # 2 | 03 Mar 2015 12:00 | | | 10 Mar 2015 05:41 | 1 |
| HS15030179-10 | Trip Blank | 04 Mar 2015 00:00 | | | 10 Mar 2015 06:06 | 1 |
| **Batch ID** R250852 | **Test Name :** PH SOIL BY SW9045D | | | **Matrix:** Liquid | | |
| HS15030179-01 | USOR-EQ-1-Heated&Agitated Frac Tank | 04 Mar 2015 07:30 | | | 10 Mar 2015 14:28 | 1 |
| **Batch ID** R250862 | **Test Name :** BURN RATE BY METHOD SW1030 | | | **Matrix:** Solid | | |
| HS15030179-06 | USOR-EQ-13-ICP Tank A | 04 Mar 2015 13:00 | | | 10 Mar 2015 16:15 | 1 |
| HS15030179-07 | USOR-EQ-15-Rectangular Mix Tank | 04 Mar 2015 13:30 | | | 10 Mar 2015 16:15 | 1 |
| **Batch ID** R250865 | **Test Name :** IGNITABILITY | | | **Matrix:** Water | | |
| HS15030179-05 | Equipment Blank # 2 | 03 Mar 2015 12:00 | | | 10 Mar 2015 16:00 | 1 |
| **Batch ID** R250865 | **Test Name :** IGNITABILITY | | | **Matrix:** Liquid | | |
| HS15030179-01 | USOR-EQ-1-Heated&Agitated Frac Tank | 04 Mar 2015 07:30 | | | 10 Mar 2015 16:00 | 1 |
| HS15030179-02 | USOR-EQ-14-ICP Tank B | 04 Mar 2015 10:00 | | | 10 Mar 2015 16:00 | 1 |
| HS15030179-03 | USOR-EQ-15 Rectangular Mix Tank | 04 Mar 2015 10:30 | | | 10 Mar 2015 16:00 | 1 |
| HS15030179-04 | Field Dup #1 | 04 Mar 2015 10:45 | | | 10 Mar 2015 16:00 | 1 |
| HS15030179-08 | USOR-EQ-12 Rectangular Mix Tank | 04 Mar 2015 14:00 | | | 10 Mar 2015 16:00 | 1 |
| HS15030179-09 | USOR-EQ-29 Large Rectangular Box | 04 Mar 2015 14:30 | | | 10 Mar 2015 16:00 | 1 |

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## DATES REPORT

| Sample ID | Client Samp ID | Collection Date | TCLP Date | Prep Date | Analysis Date | DF |
|---|---|---|---|---|---|---|
| **Batch ID** R250877 | **Test Name :** REACTIVE CYANIDE | | | **Matrix:** Solid | | |
| HS15030179-06 | USOR-EQ-13-ICP Tank A | 04 Mar 2015 13:00 | | | 09 Mar 2015 21:00 | 1 |
| HS15030179-06 | USOR-EQ-13-ICP Tank A | 04 Mar 2015 13:00 | | | 09 Mar 2015 21:00 | 1 |
| HS15030179-07 | USOR-EQ-15-Rectangular Mix Tank | 04 Mar 2015 13:30 | | | 09 Mar 2015 21:00 | 1 |
| HS15030179-07 | USOR-EQ-15-Rectangular Mix Tank | 04 Mar 2015 13:30 | | | 09 Mar 2015 21:00 | 1 |
| **Batch ID** R250877 | **Test Name :** REACTIVE SULFIDE | | | **Matrix:** Water | | |
| HS15030179-05 | Equipment Blank # 2 | 03 Mar 2015 12:00 | | | 09 Mar 2015 21:45 | 1 |
| HS15030179-05 | Equipment Blank # 2 | 03 Mar 2015 12:00 | | | 09 Mar 2015 21:45 | 1 |
| HS15030179-05 | Equipment Blank # 2 | 03 Mar 2015 12:00 | | | 09 Mar 2015 21:00 | 1 |
| HS15030179-05 | Equipment Blank # 2 | 03 Mar 2015 12:00 | | | 09 Mar 2015 21:00 | 1 |
| **Batch ID** R250877 | **Test Name :** REACTIVE CYANIDE | | | **Matrix:** Liquid | | |
| HS15030179-01 | USOR-EQ-1-Heated&Agitated Frac Tank | 04 Mar 2015 07:30 | | | 09 Mar 2015 21:45 | 1 |
| HS15030179-01 | USOR-EQ-1-Heated&Agitated Frac Tank | 04 Mar 2015 07:30 | | | 09 Mar 2015 21:45 | 1 |
| HS15030179-01 | USOR-EQ-1-Heated&Agitated Frac Tank | 04 Mar 2015 07:30 | | | 09 Mar 2015 21:00 | 1 |
| HS15030179-01 | USOR-EQ-1-Heated&Agitated Frac Tank | 04 Mar 2015 07:30 | | | 09 Mar 2015 21:00 | 1 |
| HS15030179-02 | USOR-EQ-14-ICP Tank B | 04 Mar 2015 10:00 | | | 09 Mar 2015 21:45 | 1 |
| HS15030179-02 | USOR-EQ-14-ICP Tank B | 04 Mar 2015 10:00 | | | 09 Mar 2015 21:45 | 1 |
| HS15030179-02 | USOR-EQ-14-ICP Tank B | 04 Mar 2015 10:00 | | | 09 Mar 2015 21:00 | 1 |
| HS15030179-02 | USOR-EQ-14-ICP Tank B | 04 Mar 2015 10:00 | | | 09 Mar 2015 21:00 | 1 |
| HS15030179-03 | USOR-EQ-15 Rectangular Mix Tank | 04 Mar 2015 10:30 | | | 09 Mar 2015 21:45 | 1 |
| HS15030179-03 | USOR-EQ-15 Rectangular Mix Tank | 04 Mar 2015 10:30 | | | 09 Mar 2015 21:45 | 1 |
| HS15030179-03 | USOR-EQ-15 Rectangular Mix Tank | 04 Mar 2015 10:30 | | | 09 Mar 2015 21:00 | 1 |
| HS15030179-03 | USOR-EQ-15 Rectangular Mix Tank | 04 Mar 2015 10:30 | | | 09 Mar 2015 21:00 | 1 |
| HS15030179-04 | Field Dup #1 | 04 Mar 2015 10:45 | | | 09 Mar 2015 21:45 | 1 |
| HS15030179-04 | Field Dup #1 | 04 Mar 2015 10:45 | | | 09 Mar 2015 21:45 | 1 |
| HS15030179-04 | Field Dup #1 | 04 Mar 2015 10:45 | | | 09 Mar 2015 21:00 | 1 |
| HS15030179-04 | Field Dup #1 | 04 Mar 2015 10:45 | | | 09 Mar 2015 21:00 | 1 |
| HS15030179-08 | USOR-EQ-12 Rectangular Mix Tank | 04 Mar 2015 14:00 | | | 09 Mar 2015 21:45 | 1 |
| HS15030179-08 | USOR-EQ-12 Rectangular Mix Tank | 04 Mar 2015 14:00 | | | 09 Mar 2015 21:45 | 1 |
| HS15030179-08 | USOR-EQ-12 Rectangular Mix Tank | 04 Mar 2015 14:00 | | | 09 Mar 2015 21:00 | 1 |
| HS15030179-08 | USOR-EQ-12 Rectangular Mix Tank | 04 Mar 2015 14:00 | | | 09 Mar 2015 21:00 | 1 |
| HS15030179-09 | USOR-EQ-29 Large Rectangular Box | 04 Mar 2015 14:30 | | | 09 Mar 2015 21:45 | 1 |
| HS15030179-09 | USOR-EQ-29 Large Rectangular Box | 04 Mar 2015 14:30 | | | 09 Mar 2015 21:45 | 1 |
| HS15030179-09 | USOR-EQ-29 Large Rectangular Box | 04 Mar 2015 14:30 | | | 09 Mar 2015 21:00 | 1 |
| HS15030179-09 | USOR-EQ-29 Large Rectangular Box | 04 Mar 2015 14:30 | | | 09 Mar 2015 21:00 | 1 |

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## DATES REPORT

| Sample ID | Client Samp ID | Collection Date | TCLP Date | Prep Date | Analysis Date | DF |
|---|---|---|---|---|---|---|
| **Batch ID** R250903 | **Test Name :** TCLP VOLATILES | | | **Matrix:** Solid | | |
| HS15030179-06 | USOR-EQ-13-ICP Tank A | 04 Mar 2015 13:00 | 09 Mar 2015 17:22 | 09 Mar 2015 17:22 | 10 Mar 2015 19:34 | 20 |
| HS15030179-07 | USOR-EQ-15-Rectangular Mix Tank | 04 Mar 2015 13:30 | 09 Mar 2015 17:22 | 09 Mar 2015 17:22 | 10 Mar 2015 19:58 | 20 |
| **Batch ID** R250959 | **Test Name :** TCLP VOLATILES | | | **Matrix:** Liquid | | |
| HS15030179-01 | USOR-EQ-1-Heated&Agitated Frac Tank | 04 Mar 2015 07:30 | 10 Mar 2015 18:30 | 10 Mar 2015 18:30 | 11 Mar 2015 16:40 | 20 |
| HS15030179-02 | USOR-EQ-14-ICP Tank B | 04 Mar 2015 10:00 | 10 Mar 2015 18:30 | 10 Mar 2015 18:30 | 11 Mar 2015 15:45 | 20 |
| HS15030179-03 | USOR-EQ-15 Rectangular Mix Tank | 04 Mar 2015 10:30 | 10 Mar 2015 18:30 | 10 Mar 2015 18:30 | 11 Mar 2015 16:16 | 20 |
| HS15030179-04 | Field Dup #1 | 04 Mar 2015 10:45 | 10 Mar 2015 18:30 | 10 Mar 2015 18:30 | 11 Mar 2015 17:04 | 20 |
| HS15030179-08 | USOR-EQ-12 Rectangular Mix Tank | 04 Mar 2015 14:00 | 10 Mar 2015 18:30 | 10 Mar 2015 18:30 | 11 Mar 2015 18:40 | 20 |
| HS15030179-09 | USOR-EQ-29 Large Rectangular Box | 04 Mar 2015 14:30 | 10 Mar 2015 18:30 | 10 Mar 2015 18:30 | 11 Mar 2015 19:04 | 20 |
| **Batch ID** R251086 | **Test Name :** REACTIVE CYANIDE | | | **Matrix:** Solid | | |
| HS15030179-06 | USOR-EQ-13-ICP Tank A | 04 Mar 2015 13:00 | | | 09 Mar 2015 21:45 | 1 |
| HS15030179-07 | USOR-EQ-15-Rectangular Mix Tank | 04 Mar 2015 13:30 | | | 09 Mar 2015 21:45 | 1 |

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## QC BATCH REPORT

**Batch ID: 91152** **Instrument: ICPMS05** **Method: SW6020**

**MBLK** Sample ID: **MBLK-91152** Units: **mg/L** Analysis Date: **09-Mar-2015 14:25**
Client ID: Run ID: **ICPMS05_250767** SeqNo: **3207825** PrepDate: **06-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | U | 0.00500 | | | | | | | | |
| Barium | U | 0.00500 | | | | | | | | |
| Cadmium | U | 0.00200 | | | | | | | | |
| Chromium | U | 0.00500 | | | | | | | | |
| Lead | U | 0.00500 | | | | | | | | |
| Selenium | U | 0.00500 | | | | | | | | |
| Silver | U | 0.00500 | | | | | | | | |

**LCS** Sample ID: **MLCS-91152** Units: **mg/L** Analysis Date: **09-Mar-2015 14:27**
Client ID: Run ID: **ICPMS05_250767** SeqNo: **3207826** PrepDate: **06-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.04607 | 0.00500 | 0.05 | 0 | 92.1 | 80 - 120 | | | | |
| Barium | 0.04911 | 0.00500 | 0.05 | 0 | 98.2 | 80 - 120 | | | | |
| Cadmium | 0.04751 | 0.00200 | 0.05 | 0 | 95.0 | 80 - 120 | | | | |
| Chromium | 0.04927 | 0.00500 | 0.05 | 0 | 98.6 | 80 - 120 | | | | |
| Lead | 0.05208 | 0.00500 | 0.05 | 0 | 104 | 80 - 120 | | | | |
| Selenium | 0.04857 | 0.00500 | 0.05 | 0 | 97.1 | 80 - 120 | | | | |
| Silver | 0.05426 | 0.00500 | 0.05 | 0 | 109 | 80 - 120 | | | | |

**MS** Sample ID: **HS15030161-16MS** Units: **mg/L** Analysis Date: **10-Mar-2015 13:19**
Client ID: Run ID: **ICPMS05_250842** SeqNo: **3209314** PrepDate: **06-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.05423 | 0.00500 | 0.05 | 0.002848 | 103 | 80 - 120 | | | | |
| Barium | 0.1801 | 0.00500 | 0.05 | 0.1321 | 96.0 | 80 - 120 | | | | |
| Cadmium | 0.04805 | 0.00200 | 0.05 | 0.000275 | 95.5 | 80 - 120 | | | | |
| Chromium | 0.05486 | 0.00500 | 0.05 | 0.0036 | 103 | 80 - 120 | | | | |
| Lead | 0.05017 | 0.00500 | 0.05 | 0.001001 | 98.3 | 80 - 120 | | | | |
| Selenium | 0.0529 | 0.00500 | 0.05 | 0.001009 | 104 | 80 - 120 | | | | |
| Silver | 0.04378 | 0.00500 | 0.05 | 0.000054 | 87.5 | 80 - 120 | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## QC BATCH REPORT

**Batch ID: 91152** **Instrument: ICPMS05** **Method: SW6020**

**MSD** Sample ID: **HS15030161-16MSD** Units: **mg/L** Analysis Date: **10-Mar-2015 13:22**
Client ID: Run ID: **ICPMS05_250842** SeqNo: **3209315** PrepDate: **06-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.05289 | 0.00500 | 0.05 | 0.002848 | 100 | 80 - 120 | 0.05423 | 2.5 | 20 | |
| Barium | 0.1781 | 0.00500 | 0.05 | 0.1321 | 92.2 | 80 - 120 | 0.1801 | 1.08 | 20 | |
| Cadmium | 0.04704 | 0.00200 | 0.05 | 0.000275 | 93.5 | 80 - 120 | 0.04805 | 2.13 | 20 | |
| Chromium | 0.05248 | 0.00500 | 0.05 | 0.0036 | 97.8 | 80 - 120 | 0.05486 | 4.43 | 20 | |
| Lead | 0.04965 | 0.00500 | 0.05 | 0.001001 | 97.3 | 80 - 120 | 0.05017 | 1.04 | 20 | |
| Selenium | 0.05181 | 0.00500 | 0.05 | 0.001009 | 102 | 80 - 120 | 0.0529 | 2.08 | 20 | |
| Silver | 0.04223 | 0.00500 | 0.05 | 0.000054 | 84.3 | 80 - 120 | 0.04378 | 3.61 | 20 | |

**DUP** Sample ID: **HS15030161-16DUP** Units: **mg/L** Analysis Date: **10-Mar-2015 13:13**
Client ID: Run ID: **ICPMS05_250842** SeqNo: **3209312** PrepDate: **06-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.003211 | 0.00500 | | | | | 0.002848 | 0 | 20 | J |
| Barium | 0.1305 | 0.00500 | | | | | 0.1321 | 1.18 | 20 | |
| Cadmium | U | 0.00200 | | | | | 0.000275 | 0 | 20 | |
| Chromium | 0.00315 | 0.00500 | | | | | 0.0036 | 0 | 20 | J |
| Lead | 0.000998 | 0.00500 | | | | | 0.001001 | 0 | 20 | J |
| Selenium | 0.001102 | 0.00500 | | | | | 0.001009 | 0 | 20 | J |
| Silver | U | 0.00500 | | | | | 0.000054 | 0 | 20 | |

**PDS** Sample ID: **HS15030161-16BS** Units: **mg/L** Analysis Date: **10-Mar-2015 13:25**
Client ID: Run ID: **ICPMS05_250842** SeqNo: **3209316** PrepDate: **06-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.1 | 0.00500 | 0.1 | 0.002848 | 97.2 | 75 - 125 | | | | |
| Barium | 0.2238 | 0.00500 | 0.1 | 0.1321 | 91.8 | 75 - 125 | | | | |
| Cadmium | 0.08939 | 0.00200 | 0.1 | 0.000275 | 89.1 | 75 - 125 | | | | |
| Chromium | 0.09781 | 0.00500 | 0.1 | 0.0036 | 94.2 | 75 - 125 | | | | |
| Lead | 0.09382 | 0.00500 | 0.1 | 0.001001 | 92.8 | 75 - 125 | | | | |
| Selenium | 0.09857 | 0.00500 | 0.1 | 0.001009 | 97.6 | 75 - 125 | | | | |
| Silver | 0.07927 | 0.00500 | 0.1 | 0.000054 | 79.2 | 75 - 125 | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## QC BATCH REPORT

**Batch ID: 91152** **Instrument: ICPMS05** **Method: SW6020**

**SD** Sample ID: **HS15030161-16 DIL SX** Units: **mg/L** Analysis Date: **10-Mar-2015 13:16**
Client ID: Run ID: **ICPMS05_250842** SeqNo: **3209313** PrepDate: **06-Mar-2015** DF: **5**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | U | 0.0250 | | | | | 0.002848 | 0 | 10 | |
| Barium | 0.1308 | 0.0250 | | | | | 0.1321 | 0.97 | 10 | |
| Cadmium | U | 0.0100 | | | | | 0.000275 | 0 | 10 | |
| Chromium | U | 0.0250 | | | | | 0.0036 | 0 | 10 | |
| Lead | U | 0.0250 | | | | | 0.001001 | 0 | 10 | |
| Selenium | U | 0.0250 | | | | | 0.001009 | 0 | 10 | |
| Silver | U | 0.0250 | | | | | 0.000054 | 0 | 10 | |

**The following samples were anayzed in this batch:** HS15030179-05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## QC BATCH REPORT

**Batch ID: 91188** **Instrument: HG03** **Method: SW7470**

**MBLK** Sample ID: **GBLKW1-030615** Units: **mg/L** Analysis Date: **09-Mar-2015 14:01**
Client ID: Run ID: **HG03_250775** SeqNo: **3207939** PrepDate: **09-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | U | 0.000200 | | | | | | | | |

**LCS** Sample ID: **GLCSW1-030615** Units: **mg/L** Analysis Date: **09-Mar-2015 14:12**
Client ID: Run ID: **HG03_250775** SeqNo: **3207940** PrepDate: **09-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.00545 | 0.000200 | 0.005 | 0 | 109 | 80 - 124 | | | | |

**MS** Sample ID: **HS15030217-01MS** Units: **mg/L** Analysis Date: **09-Mar-2015 14:31**
Client ID: Run ID: **HG03_250775** SeqNo: **3207943** PrepDate: **09-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.00572 | 0.000200 | 0.005 | 0.000594 | 103 | 80 - 124 | | | | |

**MSD** Sample ID: **HS15030217-01MSD** Units: **mg/L** Analysis Date: **09-Mar-2015 14:33**
Client ID: Run ID: **HG03_250775** SeqNo: **3207944** PrepDate: **09-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.00573 | 0.000200 | 0.005 | 0.000594 | 103 | 80 - 124 | 0.00572 | 0.175 | 20 | |

**DUP** Sample ID: **HS15030217-01DUP** Units: **mg/L** Analysis Date: **09-Mar-2015 14:15**
Client ID: Run ID: **HG03_250775** SeqNo: **3207942** PrepDate: **09-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.000601 | 0.000200 | | | | | 0.000594 | 1.17 | 20 | |

**The following samples were anayzed in this batch:** HS15030179-05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## QC BATCH REPORT

**Batch ID: 91289** **Instrument: ICPMS04** **Method: SW1311/6020**

**MBLK** Sample ID: **MBLKT1-91289** Units: **mg/L** Analysis Date: **11-Mar-2015 22:34**
Client ID: Run ID: **ICPMS04_250896** SeqNo: **3211211** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | U | 0.0500 | | | | | | | | |
| Barium | 0.03256 | 0.200 | | | | | | | | J |
| Cadmium | U | 0.0500 | | | | | | | | |
| Chromium | U | 0.0500 | | | | | | | | |
| Lead | U | 0.0500 | | | | | | | | |
| Selenium | U | 0.0500 | | | | | | | | |
| Silver | U | 0.0500 | | | | | | | | |

**MBLK** Sample ID: **MBLK-91289** Units: **mg/L** Analysis Date: **11-Mar-2015 22:39**
Client ID: Run ID: **ICPMS04_250896** SeqNo: **3211212** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | U | 0.00500 | | | | | | | | |
| Barium | U | 0.0200 | | | | | | | | |
| Cadmium | U | 0.00500 | | | | | | | | |
| Chromium | U | 0.00500 | | | | | | | | |
| Lead | U | 0.00500 | | | | | | | | |
| Selenium | U | 0.00500 | | | | | | | | |
| Silver | U | 0.00500 | | | | | | | | |

**LCS** Sample ID: **MLCS-91289** Units: **mg/L** Analysis Date: **11-Mar-2015 22:44**
Client ID: Run ID: **ICPMS04_250896** SeqNo: **3211213** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.04865 | 0.00500 | 0.05 | 0 | 97.3 | 80 - 120 | | | | |
| Barium | 0.04923 | 0.0200 | 0.05 | 0 | 98.5 | 80 - 120 | | | | |
| Cadmium | 0.0503 | 0.00500 | 0.05 | 0 | 101 | 80 - 120 | | | | |
| Chromium | 0.04814 | 0.00500 | 0.05 | 0 | 96.3 | 80 - 120 | | | | |
| Lead | 0.04793 | 0.00500 | 0.05 | 0 | 95.9 | 80 - 120 | | | | |
| Selenium | 0.04882 | 0.00500 | 0.05 | 0 | 97.6 | 80 - 120 | | | | |
| Silver | 0.05031 | 0.00500 | 0.05 | 0 | 101 | 80 - 120 | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## QC BATCH REPORT

**Batch ID: 91289** **Instrument: ICPMS04** **Method: SW1311/6020**

**MS** Sample ID: **HS15030206-01MS** Units: **mg/L** Analysis Date: **11-Mar-2015 23:03**
Client ID: Run ID: **ICPMS04_250896** SeqNo: **3211217** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.526 | 0.0500 | 0.5 | 0.01794 | 102 | 80 - 120 | | | | |
| Barium | 1.102 | 0.200 | 0.5 | 0.6276 | 94.9 | 80 - 120 | | | | |
| Cadmium | 0.5072 | 0.0500 | 0.5 | 0.00033 | 101 | 80 - 120 | | | | |
| Chromium | 0.4891 | 0.0500 | 0.5 | 0.00523 | 96.8 | 80 - 120 | | | | |
| Lead | 0.4826 | 0.0500 | 0.5 | 0.00221 | 96.1 | 80 - 120 | | | | |
| Selenium | 0.5412 | 0.0500 | 0.5 | 0.01184 | 106 | 80 - 120 | | | | |
| Silver | 0.4844 | 0.0500 | 0.5 | -0.00047 | 97.0 | 80 - 120 | | | | |

**MSD** Sample ID: **HS15030206-01MSD** Units: **mg/L** Analysis Date: **11-Mar-2015 23:08**
Client ID: Run ID: **ICPMS04_250896** SeqNo: **3211218** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.5094 | 0.0500 | 0.5 | 0.01794 | 98.3 | 80 - 120 | 0.526 | 3.21 | 20 | |
| Barium | 1.087 | 0.200 | 0.5 | 0.6276 | 91.9 | 80 - 120 | 1.102 | 1.37 | 20 | |
| Cadmium | 0.5066 | 0.0500 | 0.5 | 0.00033 | 101 | 80 - 120 | 0.5072 | 0.118 | 20 | |
| Chromium | 0.4727 | 0.0500 | 0.5 | 0.00523 | 93.5 | 80 - 120 | 0.4891 | 3.41 | 20 | |
| Lead | 0.4773 | 0.0500 | 0.5 | 0.00221 | 95.0 | 80 - 120 | 0.4826 | 1.11 | 20 | |
| Selenium | 0.5256 | 0.0500 | 0.5 | 0.01184 | 103 | 80 - 120 | 0.5412 | 2.93 | 20 | |
| Silver | 0.4767 | 0.0500 | 0.5 | -0.00047 | 95.4 | 80 - 120 | 0.4844 | 1.61 | 20 | |

**DUP** Sample ID: **HS15030206-01DUP** Units: **mg/L** Analysis Date: **11-Mar-2015 22:53**
Client ID: Run ID: **ICPMS04_250896** SeqNo: **3211215** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.01775 | 0.0500 | | | | | 0.01794 | 0 | 25 | J |
| Barium | 0.5902 | 0.200 | | | | | 0.6276 | 6.15 | 25 | |
| Cadmium | U | 0.0500 | | | | | 0.00033 | 0 | 25 | |
| Chromium | U | 0.0500 | | | | | 0.00523 | 0 | 25 | |
| Lead | U | 0.0500 | | | | | 0.00221 | 0 | 25 | |
| Selenium | 0.01241 | 0.0500 | | | | | 0.01184 | 0 | 25 | J |
| Silver | U | 0.0500 | | | | | -0.00047 | 0 | 25 | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## QC BATCH REPORT

**Batch ID: 91289** **Instrument: ICPMS04** **Method: SW1311/6020**

**PDS** Sample ID: **HS15030206-01BS** Units: **mg/L** Analysis Date: **11-Mar-2015 23:12**
Client ID: Run ID: **ICPMS04_250896** SeqNo: **3211219** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.9837 | 0.0500 | 1 | 0.01794 | 96.6 | 75 - 125 | | | | |
| Barium | 1.568 | 0.200 | 1 | 0.6276 | 94.1 | 75 - 125 | | | | |
| Cadmium | 0.9826 | 0.0500 | 1 | 0.00033 | 98.2 | 75 - 125 | | | | |
| Chromium | 0.9375 | 0.0500 | 1 | 0.00523 | 93.2 | 75 - 125 | | | | |
| Lead | 0.9756 | 0.0500 | 1 | 0.00221 | 97.3 | 75 - 125 | | | | |
| Selenium | 1.023 | 0.0500 | 1 | 0.01184 | 101 | 75 - 125 | | | | |
| Silver | 0.9523 | 0.0500 | 1 | -0.00047 | 95.3 | 75 - 125 | | | | |

**SD** Sample ID: **HS15030206-01 DIL SX** Units: **mg/L** Analysis Date: **11-Mar-2015 22:58**
Client ID: Run ID: **ICPMS04_250896** SeqNo: **3211216** PrepDate: **11-Mar-2015** DF: **5**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | U | 0.250 | | | | | 0.01794 | 0 | 10 | |
| Barium | 0.6024 | 1.00 | | | | | 0.6276 | 0 | 10 | J |
| Cadmium | U | 0.250 | | | | | 0.00033 | 0 | 10 | |
| Chromium | U | 0.250 | | | | | 0.00523 | 0 | 10 | |
| Lead | U | 0.250 | | | | | 0.00221 | 0 | 10 | |
| Selenium | U | 0.250 | | | | | 0.01184 | 0 | 10 | |
| Silver | U | 0.250 | | | | | -0.00047 | 0 | 10 | |

**The following samples were anayzed in this batch:** HS15030179-01 HS15030179-02 HS15030179-03 HS15030179-04 HS15030179-06 HS15030179-07 HS15030179-08 HS15030179-09

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## QC BATCH REPORT

**Batch ID: 91298** **Instrument: HG03** **Method: SW7470**

**MBLK** Sample ID: **GBLKW1-031115** Units: **mg/L** Analysis Date: **11-Mar-2015 13:19**
Client ID: Run ID: **HG03_250932** SeqNo: **3210687** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | U | 0.000200 | | | | | | | | |

**MBLK** Sample ID: **GBLKT1-031015** Units: **mg/L** Analysis Date: **11-Mar-2015 13:33**
Client ID: Run ID: **HG03_250932** SeqNo: **3210695** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | U | 0.000200 | | | | | | | | |

**LCS** Sample ID: **GLCSW1-031115** Units: **mg/L** Analysis Date: **11-Mar-2015 13:21**
Client ID: Run ID: **HG03_250932** SeqNo: **3210688** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.00517 | 0.000200 | 0.005 | 0 | 103 | 80 - 120 | | | | |

**MS** Sample ID: **HS15030213-01MS** Units: **mg/L** Analysis Date: **11-Mar-2015 13:26**
Client ID: Run ID: **HG03_250932** SeqNo: **3210691** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.00504 | 0.000200 | 0.005 | 0.000013 | 101 | 75 - 125 | | | | |

**MSD** Sample ID: **HS15030213-01MSD** Units: **mg/L** Analysis Date: **11-Mar-2015 13:28**
Client ID: Run ID: **HG03_250932** SeqNo: **3210692** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.00532 | 0.000200 | 0.005 | 0.000013 | 106 | 75 - 125 | 0.00504 | 5.41 | 20 | |

**DUP** Sample ID: **HS15030213-01DUP** Units: **mg/L** Analysis Date: **11-Mar-2015 13:24**
Client ID: Run ID: **HG03_250932** SeqNo: **3210690** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | U | 0.000200 | | | | | 0.000013 | 0 | 20 | |

**The following samples were anayzed in this batch:**

| | | | |
|---|---|---|---|
| HS15030179-01 | HS15030179-02 | HS15030179-03 | HS15030179-04 |
| HS15030179-06 | HS15030179-07 | HS15030179-08 | HS15030179-09 |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## QC BATCH REPORT

**Batch ID: 91136** **Instrument: SV-6** **Method: SW8270**

**MBLK** Sample ID: **MBLK-91136** Units: **ug/L** Analysis Date: **05-Mar-2015 14:54**
Client ID: Run ID: **SV-6_250768** SeqNo: **3207772** PrepDate: **05-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 2,4,5-Trichlorophenol | U | 0.20 | | | | | | | | |
| 2,4,6-Trichlorophenol | U | 0.20 | | | | | | | | |
| 2,4-Dinitrotoluene | U | 0.20 | | | | | | | | |
| 2-Methylphenol | U | 0.20 | | | | | | | | |
| 3&4-Methylphenol | U | 0.20 | | | | | | | | |
| Hexachlorobenzene | U | 0.20 | | | | | | | | |
| Hexachlorobutadiene | U | 0.20 | | | | | | | | |
| Hexachloroethane | U | 0.20 | | | | | | | | |
| Nitrobenzene | U | 0.20 | | | | | | | | |
| Pentachlorophenol | U | 0.20 | | | | | | | | |
| Pyridine | U | 1.0 | | | | | | | | |
| *Surr: 2,4,6-Tribromophenol* | *2.761* | *0.20* | *5* | *0* | *55.2* | *34 - 129* | | | | |
| *Surr: 2-Fluorobiphenyl* | *3.448* | *0.20* | *5* | *0* | *69.0* | *40 - 125* | | | | |
| *Surr: 2-Fluorophenol* | *3.733* | *0.20* | *5* | *0* | *74.7* | *20 - 120* | | | | |
| *Surr: 4-Terphenyl-d14* | *4.218* | *0.20* | *5* | *0* | *84.4* | *40 - 135* | | | | |
| *Surr: Nitrobenzene-d5* | *3.922* | *0.20* | *5* | *0* | *78.4* | *41 - 120* | | | | |
| *Surr: Phenol-d6* | *3.753* | *0.20* | *5* | *0* | *75.1* | *20 - 120* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## QC BATCH REPORT

**Batch ID: 91136** **Instrument: SV-6** **Method: SW8270**

**LCS** Sample ID: **LCS-91136** Units: **ug/L** Analysis Date: **05-Mar-2015 15:13**
Client ID: Run ID: **SV-6_250768** SeqNo: **3207773** PrepDate: **05-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 2,4,5-Trichlorophenol | 3.743 | 0.20 | 5 | 0 | 74.9 | 46 - 120 | | | | |
| 2,4,6-Trichlorophenol | 3.722 | 0.20 | 5 | 0 | 74.4 | 42 - 120 | | | | |
| 2,4-Dinitrotoluene | 4.127 | 0.20 | 5 | 0 | 82.5 | 50 - 122 | | | | |
| 2-Methylphenol | 3.789 | 0.20 | 5 | 0 | 75.8 | 45 - 120 | | | | |
| 3&4-Methylphenol | 3.774 | 0.20 | 5 | 0 | 75.5 | 35 - 120 | | | | |
| Hexachlorobenzene | 3.158 | 0.20 | 5 | 0 | 63.2 | 48 - 120 | | | | |
| Hexachlorobutadiene | 3.271 | 0.20 | 5 | 0 | 65.4 | 40 - 120 | | | | |
| Hexachloroethane | 3.882 | 0.20 | 5 | 0 | 77.6 | 40 - 120 | | | | |
| Nitrobenzene | 4.156 | 0.20 | 5 | 0 | 83.1 | 44 - 120 | | | | |
| Pentachlorophenol | 3.493 | 0.20 | 5 | 0 | 69.9 | 19 - 121 | | | | |
| Pyridine | 3.731 | 1.0 | 5 | 0 | 74.6 | 15 - 120 | | | | |
| *Surr: 2,4,6-Tribromophenol* | *3.415* | *0.20* | *5* | *0* | *68.3* | *34 - 129* | | | | |
| *Surr: 2-Fluorobiphenyl* | *3.844* | *0.20* | *5* | *0* | *76.9* | *40 - 125* | | | | |
| *Surr: 2-Fluorophenol* | *4.249* | *0.20* | *5* | *0* | *85.0* | *20 - 120* | | | | |
| *Surr: 4-Terphenyl-d14* | *4.66* | *0.20* | *5* | *0* | *93.2* | *40 - 135* | | | | |
| *Surr: Nitrobenzene-d5* | *4.335* | *0.20* | *5* | *0* | *86.7* | *41 - 120* | | | | |
| *Surr: Phenol-d6* | *4.267* | *0.20* | *5* | *0* | *85.3* | *20 - 120* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## QC BATCH REPORT

**Batch ID: 91136** **Instrument: SV-6** **Method: SW8270**

**LCSD** Sample ID: **LCSD-91136** Units: **ug/L** Analysis Date: **05-Mar-2015 15:33**
Client ID: Run ID: **SV-6_250768** SeqNo: **3207774** PrepDate: **05-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 2,4,5-Trichlorophenol | 3.691 | 0.20 | 5 | 0 | 73.8 | 46 - 120 | 3.743 | 1.41 | 20 | |
| 2,4,6-Trichlorophenol | 3.266 | 0.20 | 5 | 0 | 65.3 | 42 - 120 | 3.722 | 13.1 | 20 | |
| 2,4-Dinitrotoluene | 3.642 | 0.20 | 5 | 0 | 72.8 | 50 - 122 | 4.127 | 12.5 | 20 | |
| 2-Methylphenol | 3.588 | 0.20 | 5 | 0 | 71.8 | 45 - 120 | 3.789 | 5.45 | 20 | |
| 3&4-Methylphenol | 3.571 | 0.20 | 5 | 0 | 71.4 | 35 - 120 | 3.774 | 5.53 | 20 | |
| Hexachlorobenzene | 2.919 | 0.20 | 5 | 0 | 58.4 | 48 - 120 | 3.158 | 7.87 | 20 | |
| Hexachlorobutadiene | 3.188 | 0.20 | 5 | 0 | 63.8 | 40 - 120 | 3.271 | 2.59 | 20 | |
| Hexachloroethane | 3.76 | 0.20 | 5 | 0 | 75.2 | 40 - 120 | 3.882 | 3.2 | 20 | |
| Nitrobenzene | 4.082 | 0.20 | 5 | 0 | 81.6 | 44 - 120 | 4.156 | 1.8 | 20 | |
| Pentachlorophenol | 3.047 | 0.20 | 5 | 0 | 60.9 | 19 - 121 | 3.493 | 13.6 | 20 | |
| Pyridine | 3.389 | 1.0 | 5 | 0 | 67.8 | 15 - 120 | 3.731 | 9.6 | 20 | |
| *Surr: 2,4,6-Tribromophenol* | *2.919* | *0.20* | *5* | *0* | *58.4* | *34 - 129* | *3.415* | *15.7* | | |
| *Surr: 2-Fluorobiphenyl* | *3.531* | *0.20* | *5* | *0* | *70.6* | *40 - 125* | *3.844* | *8.48* | | |
| *Surr: 2-Fluorophenol* | *3.939* | *0.20* | *5* | *0* | *78.8* | *20 - 120* | *4.249* | *7.57* | | |
| *Surr: 4-Terphenyl-d14* | *4.289* | *0.20* | *5* | *0* | *85.8* | *40 - 135* | *4.66* | *8.28* | | |
| *Surr: Nitrobenzene-d5* | *4.102* | *0.20* | *5* | *0* | *82.0* | *41 - 120* | *4.335* | *5.53* | | |
| *Surr: Phenol-d6* | *3.992* | *0.20* | *5* | *0* | *79.8* | *20 - 120* | *4.267* | *6.65* | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

**QC BATCH REPORT**

**Batch ID: 91136** **Instrument: SV-6** **Method: SW8270**

**MS** Sample ID: **HS15030113-05MS** Units: **ug/L** Analysis Date: **05-Mar-2015 16:12**
Client ID: Run ID: **SV-6_250768** SeqNo: **3207816** PrepDate: **05-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 2,4,5-Trichlorophenol | 3.49 | 0.20 | 5 | 0 | 69.8 | 46 - 120 | | | | |
| 2,4,6-Trichlorophenol | 3.312 | 0.20 | 5 | 0 | 66.2 | 42 - 120 | | | | |
| 2,4-Dinitrotoluene | 3.823 | 0.20 | 5 | 0 | 76.5 | 50 - 122 | | | | |
| 2-Methylphenol | 3.501 | 0.20 | 5 | 0 | 70.0 | 45 - 120 | | | | |
| 3&4-Methylphenol | 3.918 | 0.20 | 5 | 0 | 78.4 | 35 - 120 | | | | |
| Hexachlorobenzene | 2.921 | 0.20 | 5 | 0 | 58.4 | 48 - 120 | | | | |
| Hexachlorobutadiene | 2.92 | 0.20 | 5 | 0 | 58.4 | 40 - 120 | | | | |
| Hexachloroethane | 3.572 | 0.20 | 5 | 0 | 71.4 | 40 - 120 | | | | |
| Nitrobenzene | 3.881 | 0.20 | 5 | 0 | 77.6 | 44 - 120 | | | | |
| Pentachlorophenol | 3.364 | 0.20 | 5 | 0 | 67.3 | 19 - 121 | | | | |
| Pyridine | 3.469 | 1.0 | 5 | 0 | 69.4 | 15 - 120 | | | | |
| *Surr: 2,4,6-Tribromophenol* | *3.021* | *0.20* | *5* | *0* | *60.4* | *34 - 129* | | | | |
| *Surr: 2-Fluorobiphenyl* | *3.437* | *0.20* | *5* | *0* | *68.7* | *40 - 125* | | | | |
| *Surr: 2-Fluorophenol* | *3.679* | *0.20* | *5* | *0* | *73.6* | *20 - 120* | | | | |
| *Surr: 4-Terphenyl-d14* | *4.757* | *0.20* | *5* | *0* | *95.1* | *40 - 135* | | | | |
| *Surr: Nitrobenzene-d5* | *3.939* | *0.20* | *5* | *0* | *78.8* | *41 - 120* | | | | |
| *Surr: Phenol-d6* | *3.802* | *0.20* | *5* | *0* | *76.0* | *20 - 120* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## QC BATCH REPORT

**Batch ID: 91136** **Instrument: SV-6** **Method: SW8270**

**MSD** Sample ID: **HS15030113-05MSD** Units: **ug/L** Analysis Date: **05-Mar-2015 16:31**
Client ID: Run ID: **SV-6_250768** SeqNo: **3207817** PrepDate: **05-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 2,4,5-Trichlorophenol | 3.8 | 0.20 | 5 | 0 | 76.0 | 46 - 120 | 3.49 | 8.51 | 20 | |
| 2,4,6-Trichlorophenol | 3.442 | 0.20 | 5 | 0 | 68.8 | 42 - 120 | 3.312 | 3.84 | 20 | |
| 2,4-Dinitrotoluene | 4.009 | 0.20 | 5 | 0 | 80.2 | 50 - 122 | 3.823 | 4.76 | 20 | |
| 2-Methylphenol | 3.65 | 0.20 | 5 | 0 | 73.0 | 45 - 120 | 3.501 | 4.16 | 20 | |
| 3&4-Methylphenol | 4.117 | 0.20 | 5 | 0 | 82.3 | 35 - 120 | 3.918 | 4.96 | 20 | |
| Hexachlorobenzene | 3.021 | 0.20 | 5 | 0 | 60.4 | 48 - 120 | 2.921 | 3.36 | 20 | |
| Hexachlorobutadiene | 3.04 | 0.20 | 5 | 0 | 60.8 | 40 - 120 | 2.92 | 4.05 | 20 | |
| Hexachloroethane | 3.688 | 0.20 | 5 | 0 | 73.8 | 40 - 120 | 3.572 | 3.22 | 20 | |
| Nitrobenzene | 4.018 | 0.20 | 5 | 0 | 80.4 | 44 - 120 | 3.881 | 3.46 | 20 | |
| Pentachlorophenol | 3.3 | 0.20 | 5 | 0 | 66.0 | 19 - 121 | 3.364 | 1.93 | 20 | |
| Pyridine | 3.599 | 1.0 | 5 | 0 | 72.0 | 15 - 120 | 3.469 | 3.68 | 20 | |
| *Surr: 2,4,6-Tribromophenol* | *3.229* | *0.20* | *5* | *0* | *64.6* | *34 - 129* | *3.021* | *6.64* | | |
| *Surr: 2-Fluorobiphenyl* | *3.504* | *0.20* | *5* | *0* | *70.1* | *40 - 125* | *3.437* | *1.93* | | |
| *Surr: 2-Fluorophenol* | *3.809* | *0.20* | *5* | *0* | *76.2* | *20 - 120* | *3.679* | *3.47* | | |
| *Surr: 4-Terphenyl-d14* | *4.573* | *0.20* | *5* | *0* | *91.5* | *40 - 135* | *4.757* | *3.95* | | |
| *Surr: Nitrobenzene-d5* | *3.994* | *0.20* | *5* | *0* | *79.9* | *41 - 120* | *3.939* | *1.39* | | |
| *Surr: Phenol-d6* | *3.88* | *0.20* | *5* | *0* | *77.6* | *20 - 120* | *3.802* | *2.03* | | |

**The following samples were anayzed in this batch:** HS15030179-05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## QC BATCH REPORT

**Batch ID: 91303** **Instrument: SV-5** **Method: SW1311/8270**

**MBLK** Sample ID: **MBLK-91303** Units: **ug/L** Analysis Date: **11-Mar-2015 15:37**
Client ID: Run ID: **SV-5_250960** SeqNo: **3211369** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 2,4,5-Trichlorophenol | U | 5.0 | | | | | | | | |
| 2,4,6-Trichlorophenol | U | 5.0 | | | | | | | | |
| 2,4-Dinitrotoluene | U | 5.0 | | | | | | | | |
| Cresols, Total | U | 15 | | | | | | | | |
| Hexachlorobenzene | U | 5.0 | | | | | | | | |
| Hexachlorobutadiene | U | 5.0 | | | | | | | | |
| Hexachloroethane | U | 5.0 | | | | | | | | |
| Nitrobenzene | U | 5.0 | | | | | | | | |
| Pentachlorophenol | U | 5.0 | | | | | | | | |
| Pyridine | U | 5.0 | | | | | | | | |
| *Surr: 2,4,6-Tribromophenol* | *74.14* | *5.0* | *100* | *0* | *74.1* | *39 - 153* | | | | |
| *Surr: 2-Fluorobiphenyl* | *71.5* | *5.0* | *100* | *0* | *71.5* | *40 - 147* | | | | |
| *Surr: 2-Fluorophenol* | *73.72* | *5.0* | *100* | *0* | *73.7* | *21 - 110* | | | | |
| *Surr: 4-Terphenyl-d14* | *76.74* | *5.0* | *100* | *0* | *76.7* | *39 - 141* | | | | |
| *Surr: Nitrobenzene-d5* | *73.91* | *5.0* | *100* | *0* | *73.9* | *37 - 140* | | | | |
| *Surr: Phenol-d6* | *86.3* | *5.0* | *100* | *0* | *86.3* | *11 - 110* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## QC BATCH REPORT

**Batch ID: 91303** **Instrument: SV-5** **Method: SW1311/8270**

**LCS** Sample ID: **LCS-91303** Units: **ug/L** Analysis Date: **11-Mar-2015 16:22**
Client ID: Run ID: **SV-5_250960** SeqNo: **3211370** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 2,4,5-Trichlorophenol | 95.47 | 5.0 | 100 | 0 | 95.5 | 55 - 120 | | | | |
| 2,4,6-Trichlorophenol | 95.13 | 5.0 | 100 | 0 | 95.1 | 55 - 120 | | | | |
| 2,4-Dinitrotoluene | 48.24 | 5.0 | 50 | 0 | 96.5 | 55 - 125 | | | | |
| Cresols, Total | 221.4 | 15 | 250 | 0 | 88.6 | 40 - 120 | | | | |
| Hexachlorobenzene | 45.05 | 5.0 | 50 | 0 | 90.1 | 55 - 120 | | | | |
| Hexachlorobutadiene | 39.2 | 5.0 | 50 | 0 | 78.4 | 55 - 120 | | | | |
| Hexachloroethane | 40.41 | 5.0 | 50 | 0 | 80.8 | 55 - 120 | | | | |
| Nitrobenzene | 42.03 | 5.0 | 50 | 0 | 84.1 | 55 - 120 | | | | |
| Pentachlorophenol | 86.34 | 5.0 | 100 | 0 | 86.3 | 50 - 135 | | | | |
| Pyridine | 31.99 | 5.0 | 50 | 0 | 64.0 | 30 - 120 | | | | |
| *Surr: 2,4,6-Tribromophenol* | *101.9* | *5.0* | *100* | *0* | *102* | *39 - 153* | | | | |
| *Surr: 2-Fluorobiphenyl* | *88.07* | *5.0* | *100* | *0* | *88.1* | *40 - 147* | | | | |
| *Surr: 2-Fluorophenol* | *88.83* | *5.0* | *100* | *0* | *88.8* | *20 - 110* | | | | |
| *Surr: 4-Terphenyl-d14* | *81.34* | *5.0* | *100* | *0* | *81.3* | *39 - 141* | | | | |
| *Surr: Nitrobenzene-d5* | *79.55* | *5.0* | *100* | *0* | *79.5* | *37 - 140* | | | | |
| *Surr: Phenol-d6* | *93.19* | *5.0* | *100* | *0* | *93.2* | *11 - 110* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## QC BATCH REPORT

**Batch ID: 91303** **Instrument: SV-5** **Method: SW1311/8270**

**LCSD** Sample ID: **LCSD-91303** Units: **ug/L** Analysis Date: **11-Mar-2015 17:33**
Client ID: Run ID: **SV-5_250960** SeqNo: **3211371** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 2,4,5-Trichlorophenol | 90.62 | 5.0 | 100 | 0 | 90.6 | 55 - 120 | 95.47 | 5.21 | 25 | |
| 2,4,6-Trichlorophenol | 97.48 | 5.0 | 100 | 0 | 97.5 | 55 - 120 | 95.13 | 2.44 | 25 | |
| 2,4-Dinitrotoluene | 37.73 | 5.0 | 50 | 0 | 75.5 | 55 - 125 | 48.24 | 24.5 | 25 | |
| Cresols, Total | 208.8 | 15 | 250 | 0 | 83.5 | 40 - 120 | 221.4 | 5.87 | 25 | |
| Hexachlorobenzene | 45.93 | 5.0 | 50 | 0 | 91.9 | 55 - 120 | 45.05 | 1.93 | 25 | |
| Hexachlorobutadiene | 39.63 | 5.0 | 50 | 0 | 79.3 | 55 - 120 | 39.2 | 1.07 | 25 | |
| Hexachloroethane | 39.39 | 5.0 | 50 | 0 | 78.8 | 55 - 120 | 40.41 | 2.54 | 25 | |
| Nitrobenzene | 42.9 | 5.0 | 50 | 0 | 85.8 | 55 - 120 | 42.03 | 2.06 | 25 | |
| Pentachlorophenol | 91.3 | 5.0 | 100 | 0 | 91.3 | 50 - 135 | 86.34 | 5.58 | 25 | |
| Pyridine | 31.1 | 5.0 | 50 | 0 | 62.2 | 30 - 120 | 31.99 | 2.82 | 25 | |
| *Surr: 2,4,6-Tribromophenol* | *72.04* | *5.0* | *100* | *0* | *72.0* | *39 - 153* | *101.9* | *34.3* | *25* | R |
| *Surr: 2-Fluorobiphenyl* | *83.07* | *5.0* | *100* | *0* | *83.1* | *40 - 147* | *88.07* | *5.84* | *25* | |
| *Surr: 2-Fluorophenol* | *76.12* | *5.0* | *100* | *0* | *76.1* | *21 - 110* | *88.83* | *15.4* | *25* | |
| *Surr: 4-Terphenyl-d14* | *55.94* | *5.0* | *100* | *0* | *55.9* | *39 - 141* | *81.34* | *37* | *25* | R |
| *Surr: Nitrobenzene-d5* | *83.92* | *5.0* | *100* | *0* | *83.9* | *37 - 140* | *79.55* | *5.35* | *25* | |
| *Surr: Phenol-d6* | *89.17* | *5.0* | *100* | *0* | *89.2* | *11 - 110* | *93.19* | *4.42* | *25* | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## QC BATCH REPORT

**Batch ID: 91303** **Instrument: SV-5** **Method: SW1311/8270**

**MS** Sample ID: **HS15030192-01MS** Units: **ug/L** Analysis Date: **12-Mar-2015 12:19**
Client ID: Run ID: **SV-5_250960** SeqNo: **3211555** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 2,4,5-Trichlorophenol | 101 | 5.0 | 100 | 0 | 101 | 55 - 120 | | | | |
| 2,4,6-Trichlorophenol | 106.8 | 5.0 | 100 | 0 | 107 | 55 - 120 | | | | |
| 2,4-Dinitrotoluene | 42.69 | 5.0 | 50 | 0 | 85.4 | 55 - 125 | | | | |
| Cresols, Total | 213.7 | 15 | 250 | 0 | 85.5 | 40 - 120 | | | | |
| Hexachlorobenzene | 50.16 | 5.0 | 50 | 0 | 100 | 55 - 120 | | | | |
| Hexachlorobutadiene | 39.9 | 5.0 | 50 | 0 | 79.8 | 55 - 120 | | | | |
| Hexachloroethane | 37.73 | 5.0 | 50 | 0 | 75.5 | 55 - 120 | | | | |
| Nitrobenzene | 41.92 | 5.0 | 50 | 0 | 83.8 | 55 - 120 | | | | |
| Pentachlorophenol | 96.31 | 5.0 | 100 | 0 | 96.3 | 50 - 135 | | | | |
| Pyridine | 40.35 | 5.0 | 50 | 0 | 80.7 | 30 - 120 | | | | |
| *Surr: 2,4,6-Tribromophenol* | *109.6* | *5.0* | *100* | *0* | *110* | *39 - 153* | | | | |
| *Surr: 2-Fluorobiphenyl* | *94.37* | *5.0* | *100* | *0* | *94.4* | *40 - 147* | | | | |
| *Surr: 2-Fluorophenol* | *97.01* | *5.0* | *100* | *0* | *97.0* | *21 - 110* | | | | |
| *Surr: 4-Terphenyl-d14* | *77.69* | *5.0* | *100* | *0* | *77.7* | *39 - 141* | | | | |
| *Surr: Nitrobenzene-d5* | *81.87* | *5.0* | *100* | *0* | *81.9* | *37 - 140* | | | | |
| *Surr: Phenol-d6* | *99.69* | *5.0* | *100* | *0* | *99.7* | *11 - 110* | | | | |

**The following samples were anayzed in this batch:** HS15030179-01 HS15030179-06 HS15030179-07 HS15030179-08 HS15030179-09

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## QC BATCH REPORT

**Batch ID: 91311** **Instrument: SV-5** **Method: SW1311/8270**

**MBLK** Sample ID: **MBLK-91311** Units: **ug/L** Analysis Date: **11-Mar-2015 13:22**
Client ID: Run ID: **SV-5_250964** SeqNo: **3211426** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 2,4,5-Trichlorophenol | U | 5.0 | | | | | | | | |
| 2,4,6-Trichlorophenol | U | 5.0 | | | | | | | | |
| 2,4-Dinitrotoluene | U | 5.0 | | | | | | | | |
| Cresols, Total | U | 15 | | | | | | | | |
| Hexachlorobenzene | U | 5.0 | | | | | | | | |
| Hexachlorobutadiene | U | 5.0 | | | | | | | | |
| Hexachloroethane | U | 5.0 | | | | | | | | |
| Nitrobenzene | U | 5.0 | | | | | | | | |
| Pentachlorophenol | U | 5.0 | | | | | | | | |
| Pyridine | U | 5.0 | | | | | | | | |
| *Surr: 2,4,6-Tribromophenol* | *88.8* | *5.0* | *100* | *0* | *88.8* | *39 - 153* | | | | |
| *Surr: 2-Fluorobiphenyl* | *75.67* | *5.0* | *100* | *0* | *75.7* | *40 - 147* | | | | |
| *Surr: 2-Fluorophenol* | *76.89* | *5.0* | *100* | *0* | *76.9* | *21 - 110* | | | | |
| *Surr: 4-Terphenyl-d14* | *90.73* | *5.0* | *100* | *0* | *90.7* | *39 - 141* | | | | |
| *Surr: Nitrobenzene-d5* | *83.58* | *5.0* | *100* | *0* | *83.6* | *37 - 140* | | | | |
| *Surr: Phenol-d6* | *81.09* | *5.0* | *100* | *0* | *81.1* | *11 - 110* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## QC BATCH REPORT

**Batch ID: 91311** **Instrument: SV-5** **Method: SW1311/8270**

**LCS** Sample ID: **LCS-91311** Units: **ug/L** Analysis Date: **11-Mar-2015 13:44**
Client ID: Run ID: **SV-5_250964** SeqNo: **3211427** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 2,4,5-Trichlorophenol | 81.74 | 5.0 | 100 | 0 | 81.7 | 55 - 120 | | | | |
| 2,4,6-Trichlorophenol | 84.95 | 5.0 | 100 | 0 | 85.0 | 55 - 120 | | | | |
| 2,4-Dinitrotoluene | 47.14 | 5.0 | 50 | 0 | 94.3 | 55 - 125 | | | | |
| Cresols, Total | 204.1 | 15 | 250 | 0 | 81.6 | 40 - 120 | | | | |
| Hexachlorobenzene | 44.67 | 5.0 | 50 | 0 | 89.3 | 55 - 120 | | | | |
| Hexachlorobutadiene | 44.98 | 5.0 | 50 | 0 | 90.0 | 55 - 120 | | | | |
| Hexachloroethane | 34.84 | 5.0 | 50 | 0 | 69.7 | 55 - 120 | | | | |
| Nitrobenzene | 43.93 | 5.0 | 50 | 0 | 87.9 | 55 - 120 | | | | |
| Pentachlorophenol | 90.95 | 5.0 | 100 | 0 | 90.9 | 50 - 135 | | | | |
| Pyridine | 32.89 | 5.0 | 50 | 0 | 65.8 | 30 - 120 | | | | |
| *Surr: 2,4,6-Tribromophenol* | *90.97* | *5.0* | *100* | *0* | *91.0* | *39 - 153* | | | | |
| *Surr: 2-Fluorobiphenyl* | *74.37* | *5.0* | *100* | *0* | *74.4* | *40 - 147* | | | | |
| *Surr: 2-Fluorophenol* | *83.32* | *5.0* | *100* | *0* | *83.3* | *20 - 110* | | | | |
| *Surr: 4-Terphenyl-d14* | *78.19* | *5.0* | *100* | *0* | *78.2* | *39 - 141* | | | | |
| *Surr: Nitrobenzene-d5* | *86.6* | *5.0* | *100* | *0* | *86.6* | *37 - 140* | | | | |
| *Surr: Phenol-d6* | *91.24* | *5.0* | *100* | *0* | *91.2* | *11 - 110* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## QC BATCH REPORT

**Batch ID: 91311** **Instrument: SV-5** **Method: SW1311/8270**

**LCSD** Sample ID: **LCSD-91311** Units: **ug/L** Analysis Date: **11-Mar-2015 14:07**
Client ID: Run ID: **SV-5_250964** SeqNo: **3211428** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 2,4,5-Trichlorophenol | 95.42 | 5.0 | 100 | 0 | 95.4 | 55 - 120 | 81.74 | 15.4 | 25 | |
| 2,4,6-Trichlorophenol | 99.61 | 5.0 | 100 | 0 | 99.6 | 55 - 120 | 84.95 | 15.9 | 25 | |
| 2,4-Dinitrotoluene | 44.29 | 5.0 | 50 | 0 | 88.6 | 55 - 125 | 47.14 | 6.25 | 25 | |
| Cresols, Total | 199.3 | 15 | 250 | 0 | 79.7 | 40 - 120 | 204.1 | 2.36 | 25 | |
| Hexachlorobenzene | 46.67 | 5.0 | 50 | 0 | 93.3 | 55 - 120 | 44.67 | 4.39 | 25 | |
| Hexachlorobutadiene | 43.91 | 5.0 | 50 | 0 | 87.8 | 55 - 120 | 44.98 | 2.42 | 25 | |
| Hexachloroethane | 36.67 | 5.0 | 50 | 0 | 73.3 | 55 - 120 | 34.84 | 5.1 | 25 | |
| Nitrobenzene | 47.51 | 5.0 | 50 | 0 | 95.0 | 55 - 120 | 43.93 | 7.83 | 25 | |
| Pentachlorophenol | 92.29 | 5.0 | 100 | 0 | 92.3 | 50 - 135 | 90.95 | 1.47 | 25 | |
| Pyridine | 30.8 | 5.0 | 50 | 0 | 61.6 | 30 - 120 | 32.89 | 6.58 | 25 | |
| *Surr: 2,4,6-Tribromophenol* | *99.36* | *5.0* | *100* | *0* | *99.4* | *39 - 153* | *90.97* | *8.81* | *25* | |
| *Surr: 2-Fluorobiphenyl* | *87.64* | *5.0* | *100* | *0* | *87.6* | *40 - 147* | *74.37* | *16.4* | *25* | |
| *Surr: 2-Fluorophenol* | *81.9* | *5.0* | *100* | *0* | *81.9* | *21 - 110* | *83.32* | *1.72* | *25* | |
| *Surr: 4-Terphenyl-d14* | *79.26* | *5.0* | *100* | *0* | *79.3* | *39 - 141* | *78.19* | *1.37* | *25* | |
| *Surr: Nitrobenzene-d5* | *88.14* | *5.0* | *100* | *0* | *88.1* | *37 - 140* | *86.6* | *1.77* | *25* | |
| *Surr: Phenol-d6* | *84.99* | *5.0* | *100* | *0* | *85.0* | *11 - 110* | *91.24* | *7.09* | *25* | |

**The following samples were anayzed in this batch:** HS15030179-02 HS15030179-03 HS15030179-04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## QC BATCH REPORT

**Batch ID: R250710** **Instrument: VOA4** **Method: SW8260**

**MBLK** Sample ID: **VBLKW-150305** Units: **ug/L** Analysis Date: **06-Mar-2015 12:21**
Client ID: Run ID: **VOA4_250710** SeqNo: **3206437** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | U | 1.0 | | | | | | | | |
| 1,2-Dichloroethane | U | 1.0 | | | | | | | | |
| 1,4-Dichlorobenzene | U | 1.0 | | | | | | | | |
| 2-Butanone | U | 2.0 | | | | | | | | |
| Benzene | U | 1.0 | | | | | | | | |
| Carbon tetrachloride | U | 1.0 | | | | | | | | |
| Chlorobenzene | U | 1.0 | | | | | | | | |
| Chloroform | U | 1.0 | | | | | | | | |
| Tetrachloroethene | U | 1.0 | | | | | | | | |
| Trichloroethene | U | 1.0 | | | | | | | | |
| Vinyl chloride | U | 1.0 | | | | | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *50.34* | *1.0* | *50* | *0* | *101* | *71 - 125* | | | | |
| *Surr: 4-Bromofluorobenzene* | *49.6* | *1.0* | *50* | *0* | *99.2* | *70 - 125* | | | | |
| *Surr: Dibromofluoromethane* | *51.14* | *1.0* | *50* | *0* | *102* | *74 - 125* | | | | |
| *Surr: Toluene-d8* | *54.87* | *1.0* | *50* | *0* | *110* | *75 - 125* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## QC BATCH REPORT

**Batch ID: R250710** **Instrument: VOA4** **Method: SW8260**

**LCS** Sample ID: **VLCSW-150305** Units: **ug/L** Analysis Date: **06-Mar-2015 11:29**
Client ID: Run ID: **VOA4_250710** SeqNo: **3206436** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 48.99 | 1.0 | 50 | 0 | 98.0 | 75 - 130 | | | | |
| 1,2-Dichloroethane | 51.09 | 1.0 | 50 | 0 | 102 | 76 - 120 | | | | |
| 1,4-Dichlorobenzene | 47.79 | 1.0 | 50 | 0 | 95.6 | 80 - 120 | | | | |
| 2-Butanone | 104.1 | 2.0 | 100 | 0 | 104 | 60 - 140 | | | | |
| Benzene | 49.52 | 1.0 | 50 | 0 | 99.0 | 80 - 120 | | | | |
| Carbon tetrachloride | 45.71 | 1.0 | 50 | 0 | 91.4 | 75 - 125 | | | | |
| Chlorobenzene | 49 | 1.0 | 50 | 0 | 98.0 | 80 - 120 | | | | |
| Chloroform | 50.66 | 1.0 | 50 | 0 | 101 | 70 - 130 | | | | |
| Tetrachloroethene | 47.04 | 1.0 | 50 | 0 | 94.1 | 75 - 130 | | | | |
| Trichloroethene | 49.62 | 1.0 | 50 | 0 | 99.2 | 71 - 125 | | | | |
| Vinyl chloride | 52.44 | 1.0 | 50 | 0 | 105 | 70 - 135 | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *50.55* | *1.0* | *50* | *0* | *101* | *71 - 125* | | | | |
| *Surr: 4-Bromofluorobenzene* | *49.25* | *1.0* | *50* | *0* | *98.5* | *70 - 125* | | | | |
| *Surr: Dibromofluoromethane* | *53.22* | *1.0* | *50* | *0* | *106* | *74 - 125* | | | | |
| *Surr: Toluene-d8* | *51.58* | *1.0* | *50* | *0* | *103* | *75 - 125* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

**QC BATCH REPORT**

**Batch ID: R250710** **Instrument: VOA4** **Method: SW8260**

**MS** Sample ID: **HS15030137-02MS** Units: **ug/L** Analysis Date: **06-Mar-2015 14:54**
Client ID: Run ID: **VOA4_250710** SeqNo: **3206446** PrepDate: DF: **10**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 525.3 | 10 | 500 | 0 | 105 | 75 - 130 | | | | |
| 1,2-Dichloroethane | 534 | 10 | 500 | 0 | 107 | 76 - 120 | | | | |
| 1,4-Dichlorobenzene | 487.9 | 10 | 500 | 0 | 97.6 | 80 - 120 | | | | |
| 2-Butanone | 1050 | 20 | 1000 | 0 | 105 | 60 - 140 | | | | |
| Benzene | 534.8 | 10 | 500 | 7.968 | 105 | 80 - 120 | | | | |
| Carbon tetrachloride | 486.8 | 10 | 500 | 0 | 97.4 | 79 - 120 | | | | |
| Chlorobenzene | 510.1 | 10 | 500 | 0 | 102 | 80 - 120 | | | | |
| Chloroform | 500.7 | 10 | 500 | 0 | 100 | 70 - 130 | | | | |
| Tetrachloroethene | 511.7 | 10 | 500 | 0 | 102 | 75 - 130 | | | | |
| Trichloroethene | 525.8 | 10 | 500 | 0 | 105 | 71 - 125 | | | | |
| Vinyl chloride | 506.9 | 10 | 500 | 0 | 101 | 70 - 135 | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *492.9* | *10* | *500* | *0* | *98.6* | *71 - 125* | | | | |
| *Surr: 4-Bromofluorobenzene* | *504.5* | *10* | *500* | *0* | *101* | *70 - 125* | | | | |
| *Surr: Dibromofluoromethane* | *498.5* | *10* | *500* | *0* | *99.7* | *74 - 125* | | | | |
| *Surr: Toluene-d8* | *530* | *10* | *500* | *0* | *106* | *75 - 125* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## QC BATCH REPORT

**Batch ID: R250710** **Instrument: VOA4** **Method: SW8260**

**MSD** Sample ID: **HS15030137-02MSD** Units: **ug/L** Analysis Date: **06-Mar-2015 15:19**
Client ID: Run ID: **VOA4_250710** SeqNo: **3206447** PrepDate: DF: **10**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 513.5 | 10 | 500 | 0 | 103 | 75 - 130 | 525.3 | 2.27 | 20 | |
| 1,2-Dichloroethane | 524 | 10 | 500 | 0 | 105 | 76 - 120 | 534 | 1.89 | 20 | |
| 1,4-Dichlorobenzene | 490.6 | 10 | 500 | 0 | 98.1 | 80 - 120 | 487.9 | 0.561 | 20 | |
| 2-Butanone | 1056 | 20 | 1000 | 0 | 106 | 60 - 140 | 1050 | 0.596 | 20 | |
| Benzene | 508.5 | 10 | 500 | 7.968 | 100 | 80 - 120 | 534.8 | 5.05 | 20 | |
| Carbon tetrachloride | 461.8 | 10 | 500 | 0 | 92.4 | 75 - 125 | 486.8 | 5.27 | 20 | |
| Chlorobenzene | 485.3 | 10 | 500 | 0 | 97.1 | 80 - 120 | 510.1 | 4.98 | 20 | |
| Chloroform | 509.8 | 10 | 500 | 0 | 102 | 70 - 130 | 500.7 | 1.8 | 20 | |
| Tetrachloroethene | 481.8 | 10 | 500 | 0 | 96.4 | 75 - 130 | 511.7 | 6 | 20 | |
| Trichloroethene | 499.7 | 10 | 500 | 0 | 99.9 | 71 - 125 | 525.8 | 5.08 | 20 | |
| Vinyl chloride | 524.7 | 10 | 500 | 0 | 105 | 70 - 135 | 506.9 | 3.44 | 20 | |
| *Surr: 1,2-Dichloroethane-d4* | *514.5* | *10* | *500* | *0* | *103* | *71 - 125* | *492.9* | *4.28* | *20* | |
| *Surr: 4-Bromofluorobenzene* | *496.6* | *10* | *500* | *0* | *99.3* | *70 - 125* | *504.5* | *1.57* | *20* | |
| *Surr: Dibromofluoromethane* | *533.8* | *10* | *500* | *0* | *107* | *74 - 125* | *498.5* | *6.84* | *20* | |
| *Surr: Toluene-d8* | *523.5* | *10* | *500* | *0* | *105* | *75 - 125* | *530* | *1.24* | *20* | |

**The following samples were anayzed in this batch:** HS15030179-11 HS15030179-12

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## QC BATCH REPORT

**Batch ID: R250808** **Instrument: VOA4** **Method: SW8260**

**MBLK** Sample ID: **VBLKW-150309** Units: **ug/L** Analysis Date: **09-Mar-2015 20:53**
Client ID: Run ID: **VOA4_250808** SeqNo: **3208786** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | U | 1.0 | | | | | | | | |
| 1,2-Dichloroethane | U | 1.0 | | | | | | | | |
| 1,4-Dichlorobenzene | U | 1.0 | | | | | | | | |
| 2-Butanone | U | 2.0 | | | | | | | | |
| Benzene | U | 1.0 | | | | | | | | |
| Carbon tetrachloride | U | 1.0 | | | | | | | | |
| Chlorobenzene | U | 1.0 | | | | | | | | |
| Chloroform | U | 1.0 | | | | | | | | |
| Tetrachloroethene | U | 1.0 | | | | | | | | |
| Trichloroethene | U | 1.0 | | | | | | | | |
| Vinyl chloride | U | 1.0 | | | | | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *50.65* | *1.0* | *50* | *0* | *101* | *71 - 125* | | | | |
| *Surr: 4-Bromofluorobenzene* | *47.16* | *1.0* | *50* | *0* | *94.3* | *70 - 125* | | | | |
| *Surr: Dibromofluoromethane* | *50.7* | *1.0* | *50* | *0* | *101* | *74 - 125* | | | | |
| *Surr: Toluene-d8* | *52.38* | *1.0* | *50* | *0* | *105* | *75 - 125* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## QC BATCH REPORT

**Batch ID: R250808** **Instrument: VOA4** **Method: SW8260**

**LCS** Sample ID: **VLCSW-150309** Units: **ug/L** Analysis Date: **09-Mar-2015 20:03**
Client ID: Run ID: **VOA4_250808** SeqNo: **3208785** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 51.51 | 1.0 | 50 | 0 | 103 | 75 - 130 | | | | |
| 1,2-Dichloroethane | 55.12 | 1.0 | 50 | 0 | 110 | 76 - 120 | | | | |
| 1,4-Dichlorobenzene | 50.44 | 1.0 | 50 | 0 | 101 | 80 - 120 | | | | |
| 2-Butanone | 112.2 | 2.0 | 100 | 0 | 112 | 60 - 140 | | | | |
| Benzene | 53.23 | 1.0 | 50 | 0 | 106 | 80 - 120 | | | | |
| Carbon tetrachloride | 46.23 | 1.0 | 50 | 0 | 92.5 | 75 - 125 | | | | |
| Chlorobenzene | 52.56 | 1.0 | 50 | 0 | 105 | 80 - 120 | | | | |
| Chloroform | 53.76 | 1.0 | 50 | 0 | 108 | 70 - 130 | | | | |
| Tetrachloroethene | 49.93 | 1.0 | 50 | 0 | 99.9 | 75 - 130 | | | | |
| Trichloroethene | 51.83 | 1.0 | 50 | 0 | 104 | 71 - 125 | | | | |
| Vinyl chloride | 55.63 | 1.0 | 50 | 0 | 111 | 70 - 135 | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *50.68* | *1.0* | *50* | *0* | *101* | *71 - 125* | | | | |
| *Surr: 4-Bromofluorobenzene* | *50.5* | *1.0* | *50* | *0* | *101* | *70 - 125* | | | | |
| *Surr: Dibromofluoromethane* | *51.85* | *1.0* | *50* | *0* | *104* | *74 - 125* | | | | |
| *Surr: Toluene-d8* | *51.58* | *1.0* | *50* | *0* | *103* | *75 - 125* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## QC BATCH REPORT

**Batch ID: R250808** **Instrument: VOA4** **Method: SW8260**

**MS** Sample ID: **HS15030194-13MS** Units: **ug/L** Analysis Date: **09-Mar-2015 23:24**
Client ID: Run ID: **VOA4_250808** SeqNo: **3208789** PrepDate: DF: **5**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 249.3 | 5.0 | 250 | 0 | 99.7 | 75 - 130 | | | | |
| 1,2-Dichloroethane | 256.5 | 5.0 | 250 | 0 | 103 | 76 - 120 | | | | |
| 1,4-Dichlorobenzene | 222.2 | 5.0 | 250 | 0 | 88.9 | 80 - 120 | | | | |
| 2-Butanone | 557.6 | 10 | 500 | 0 | 112 | 60 - 140 | | | | |
| Benzene | 255.3 | 5.0 | 250 | 0 | 102 | 80 - 120 | | | | |
| Carbon tetrachloride | 226.2 | 5.0 | 250 | 0 | 90.5 | 79 - 120 | | | | |
| Chlorobenzene | 234 | 5.0 | 250 | 0 | 93.6 | 80 - 120 | | | | |
| Chloroform | 248.6 | 5.0 | 250 | 0 | 99.4 | 70 - 130 | | | | |
| Tetrachloroethene | 231.3 | 5.0 | 250 | 0 | 92.5 | 75 - 130 | | | | |
| Trichloroethene | 242.5 | 5.0 | 250 | 0 | 97.0 | 71 - 125 | | | | |
| Vinyl chloride | 245.8 | 5.0 | 250 | 0 | 98.3 | 70 - 135 | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *258.6* | *5.0* | *250* | *0* | *103* | *71 - 125* | | | | |
| *Surr: 4-Bromofluorobenzene* | *253.7* | *5.0* | *250* | *0* | *101* | *70 - 125* | | | | |
| *Surr: Dibromofluoromethane* | *261.4* | *5.0* | *250* | *0* | *105* | *74 - 125* | | | | |
| *Surr: Toluene-d8* | *267.8* | *5.0* | *250* | *0* | *107* | *75 - 125* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## QC BATCH REPORT

**Batch ID: R250808** **Instrument: VOA4** **Method: SW8260**

**MSD** Sample ID: **HS15030194-13MSD** Units: **ug/L** Analysis Date: **09-Mar-2015 23:49**
Client ID: Run ID: **VOA4_250808** SeqNo: **3208790** PrepDate: DF: **5**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 279.3 | 5.0 | 250 | 0 | 112 | 75 - 130 | 249.3 | 11.3 | 20 | |
| 1,2-Dichloroethane | 293.7 | 5.0 | 250 | 0 | 117 | 76 - 120 | 256.5 | 13.5 | 20 | |
| 1,4-Dichlorobenzene | 256.7 | 5.0 | 250 | 0 | 103 | 80 - 120 | 222.2 | 14.4 | 20 | |
| 2-Butanone | 665.8 | 10 | 500 | 0 | 133 | 60 - 140 | 557.6 | 17.7 | 20 | |
| Benzene | 286.7 | 5.0 | 250 | 0 | 115 | 80 - 120 | 255.3 | 11.6 | 20 | |
| Carbon tetrachloride | 253.7 | 5.0 | 250 | 0 | 101 | 75 - 125 | 226.2 | 11.5 | 20 | |
| Chlorobenzene | 271.4 | 5.0 | 250 | 0 | 109 | 80 - 120 | 234 | 14.8 | 20 | |
| Chloroform | 284.8 | 5.0 | 250 | 0 | 114 | 70 - 130 | 248.6 | 13.6 | 20 | |
| Tetrachloroethene | 268 | 5.0 | 250 | 0 | 107 | 75 - 130 | 231.3 | 14.7 | 20 | |
| Trichloroethene | 274.1 | 5.0 | 250 | 0 | 110 | 71 - 125 | 242.5 | 12.2 | 20 | |
| Vinyl chloride | 282.4 | 5.0 | 250 | 0 | 113 | 70 - 135 | 245.8 | 13.9 | 20 | |
| *Surr: 1,2-Dichloroethane-d4* | *287.1* | *5.0* | *250* | *0* | *115* | *71 - 125* | *258.6* | *10.5* | *20* | |
| *Surr: 4-Bromofluorobenzene* | *293.6* | *5.0* | *250* | *0* | *117* | *70 - 125* | *253.7* | *14.6* | *20* | |
| *Surr: Dibromofluoromethane* | *286* | *5.0* | *250* | *0* | *114* | *74 - 125* | *261.4* | *8.97* | *20* | |
| *Surr: Toluene-d8* | *295.8* | *5.0* | *250* | *0* | *118* | *75 - 125* | *267.8* | *9.94* | *20* | |

**The following samples were anayzed in this batch:** HS15030179-05 HS15030179-10

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

**QC BATCH REPORT**

**Batch ID: R250903** **Instrument: VOA6** **Method: SW1311/8260B**

**MBLK** Sample ID: **VBLKW-150310** Units: **ug/L** Analysis Date: **10-Mar-2015 13:57**
Client ID: Run ID: **VOA6_250903** SeqNo: **3210236** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | U | 5.0 | | | | | | | | |
| 1,2-Dichloroethane | U | 5.0 | | | | | | | | |
| 1,4-Dichlorobenzene | U | 5.0 | | | | | | | | |
| 2-Butanone | U | 10 | | | | | | | | |
| Benzene | U | 5.0 | | | | | | | | |
| Carbon tetrachloride | U | 5.0 | | | | | | | | |
| Chlorobenzene | U | 5.0 | | | | | | | | |
| Chloroform | U | 5.0 | | | | | | | | |
| Tetrachloroethene | U | 5.0 | | | | | | | | |
| Trichloroethene | U | 5.0 | | | | | | | | |
| Vinyl chloride | U | 2.0 | | | | | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *46.78* | *5.0* | *50* | *0* | *93.6* | *70 - 125* | | | | |
| *Surr: 4-Bromofluorobenzene* | *46.59* | *5.0* | *50* | *0* | *93.2* | *72.4 - 125* | | | | |
| *Surr: Dibromofluoromethane* | *48.8* | *5.0* | *50* | *0* | *97.6* | *71.2 - 125* | | | | |
| *Surr: Toluene-d8* | *48.84* | *5.0* | *50* | *0* | *97.7* | *75 - 125* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

**QC BATCH REPORT**

**Batch ID: R250903** **Instrument: VOA6** **Method: SW1311/8260B**

**MBLK** Sample ID: **MBLKV1-150309** Units: **ug/L** Analysis Date: **10-Mar-2015 18:46**
Client ID: Run ID: **VOA6_250903** SeqNo: **3210242** PrepDate: DF: **20**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | U | 100 | | | | | | | | |
| 1,2-Dichloroethane | U | 100 | | | | | | | | |
| 1,4-Dichlorobenzene | U | 100 | | | | | | | | |
| 2-Butanone | U | 200 | | | | | | | | |
| Benzene | U | 100 | | | | | | | | |
| Carbon tetrachloride | U | 100 | | | | | | | | |
| Chlorobenzene | U | 100 | | | | | | | | |
| Chloroform | U | 100 | | | | | | | | |
| Tetrachloroethene | U | 100 | | | | | | | | |
| Trichloroethene | U | 100 | | | | | | | | |
| Vinyl chloride | U | 40 | | | | | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *937.1* | *100* | *1000* | *0* | *93.7* | *70 - 125* | | | | |
| *Surr: 4-Bromofluorobenzene* | *980* | *100* | *1000* | *0* | *98.0* | *72.4 - 125* | | | | |
| *Surr: Dibromofluoromethane* | *1001* | *100* | *1000* | *0* | *100* | *71.2 - 125* | | | | |
| *Surr: Toluene-d8* | *950.1* | *100* | *1000* | *0* | *95.0* | *75 - 125* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## QC BATCH REPORT

**Batch ID: R250903** **Instrument: VOA6** **Method: SW1311/8260B**

**LCS** Sample ID: **VLCSW-150310** Units: **ug/L** Analysis Date: **10-Mar-2015 12:45**
Client ID: Run ID: **VOA6_250903** SeqNo: **3210235** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 48.5 | 5.0 | 50 | 0 | 97.0 | 73 - 124 | | | | |
| 1,2-Dichloroethane | 44.13 | 5.0 | 50 | 0 | 88.3 | 76 - 120 | | | | |
| 1,4-Dichlorobenzene | 48.43 | 5.0 | 50 | 0 | 96.9 | 70 - 130 | | | | |
| 2-Butanone | 80.98 | 10 | 100 | 0 | 81.0 | 70 - 130 | | | | |
| Benzene | 46.92 | 5.0 | 50 | 0 | 93.8 | 70 - 128 | | | | |
| Carbon tetrachloride | 47.9 | 5.0 | 50 | 0 | 95.8 | 70 - 130 | | | | |
| Chlorobenzene | 47.45 | 5.0 | 50 | 0 | 94.9 | 72 - 127 | | | | |
| Chloroform | 46.29 | 5.0 | 50 | 0 | 92.6 | 70 - 130 | | | | |
| Tetrachloroethene | 47.46 | 5.0 | 50 | 0 | 94.9 | 70 - 130 | | | | |
| Trichloroethene | 49.13 | 5.0 | 50 | 0 | 98.3 | 72 - 129 | | | | |
| Vinyl chloride | 44.35 | 2.0 | 50 | 0 | 88.7 | 70 - 130 | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *46.63* | *5.0* | *50* | *0* | *93.3* | *70 - 125* | | | | |
| *Surr: 4-Bromofluorobenzene* | *50.79* | *5.0* | *50* | *0* | *102* | *72 - 125* | | | | |
| *Surr: Dibromofluoromethane* | *48.46* | *5.0* | *50* | *0* | *96.9* | *71 - 125* | | | | |
| *Surr: Toluene-d8* | *49.57* | *5.0* | *50* | *0* | *99.1* | *75 - 125* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## QC BATCH REPORT

**Batch ID: R250903** **Instrument: VOA6** **Method: SW1311/8260B**

**MS** Sample ID: **HS15030295-01MS** Units: **ug/L** Analysis Date: **10-Mar-2015 15:09**
Client ID: Run ID: **VOA6_250903** SeqNo: **3210238** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 47.12 | 5.0 | 50 | 0 | 94.2 | 73 - 124 | | | | |
| 1,2-Dichloroethane | 43.22 | 5.0 | 50 | 0 | 86.4 | 76 - 120 | | | | |
| 1,4-Dichlorobenzene | 45.09 | 5.0 | 50 | 0 | 90.2 | 70 - 130 | | | | |
| 2-Butanone | 75.39 | 10 | 100 | 0 | 75.4 | 70 - 130 | | | | |
| Benzene | 46.43 | 5.0 | 50 | 0 | 92.9 | 70 - 128 | | | | |
| Carbon tetrachloride | 47.71 | 5.0 | 50 | 0 | 95.4 | 70 - 130 | | | | |
| Chlorobenzene | 47.3 | 5.0 | 50 | 0 | 94.6 | 72 - 127 | | | | |
| Chloroform | 45.56 | 5.0 | 50 | 0 | 91.1 | 70 - 130 | | | | |
| Tetrachloroethene | 48.42 | 5.0 | 50 | 0 | 96.8 | 70 - 130 | | | | |
| Trichloroethene | 48.86 | 5.0 | 50 | 0 | 97.7 | 72 - 129 | | | | |
| Vinyl chloride | 46.84 | 2.0 | 50 | 0 | 93.7 | 70 - 130 | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *46.54* | *5.0* | *50* | *0* | *93.1* | *70 - 125* | | | | |
| *Surr: 4-Bromofluorobenzene* | *50.58* | *5.0* | *50* | *0* | *101* | *72 - 125* | | | | |
| *Surr: Dibromofluoromethane* | *48.63* | *5.0* | *50* | *0* | *97.3* | *71 - 125* | | | | |
| *Surr: Toluene-d8* | *49.89* | *5.0* | *50* | *0* | *99.8* | *75 - 125* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## QC BATCH REPORT

**Batch ID: R250903** **Instrument: VOA6** **Method: SW1311/8260B**

**MSD** Sample ID: **HS15030295-01MSD** Units: **ug/L** Analysis Date: **10-Mar-2015 15:33**
Client ID: Run ID: **VOA6_250903** SeqNo: **3210239** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 43.61 | 5.0 | 50 | 0 | 87.2 | 73 - 124 | 47.12 | 7.74 | 20 | |
| 1,2-Dichloroethane | 42.81 | 5.0 | 50 | 0 | 85.6 | 76 - 120 | 43.22 | 0.952 | 20 | |
| 1,4-Dichlorobenzene | 45.85 | 5.0 | 50 | 0 | 91.7 | 70 - 130 | 45.09 | 1.68 | 20 | |
| 2-Butanone | 79.84 | 10 | 100 | 0 | 79.8 | 70 - 130 | 75.39 | 5.74 | 20 | |
| Benzene | 45.05 | 5.0 | 50 | 0 | 90.1 | 70 - 128 | 46.43 | 3.02 | 20 | |
| Carbon tetrachloride | 44.49 | 5.0 | 50 | 0 | 89.0 | 70 - 130 | 47.71 | 6.99 | 20 | |
| Chlorobenzene | 47.35 | 5.0 | 50 | 0 | 94.7 | 72 - 127 | 47.3 | 0.0984 | 20 | |
| Chloroform | 45.26 | 5.0 | 50 | 0 | 90.5 | 70 - 130 | 45.56 | 0.651 | 20 | |
| Tetrachloroethene | 46.77 | 5.0 | 50 | 0 | 93.5 | 70 - 130 | 48.42 | 3.46 | 20 | |
| Trichloroethene | 47.63 | 5.0 | 50 | 0 | 95.3 | 72 - 129 | 48.86 | 2.55 | 20 | |
| Vinyl chloride | 42.32 | 2.0 | 50 | 0 | 84.6 | 70 - 130 | 46.84 | 10.1 | 20 | |
| *Surr: 1,2-Dichloroethane-d4* | *46.3* | *5.0* | *50* | *0* | *92.6* | *70 - 125* | *46.54* | *0.526* | *20* | |
| *Surr: 4-Bromofluorobenzene* | *51.32* | *5.0* | *50* | *0* | *103* | *72 - 125* | *50.58* | *1.44* | *20* | |
| *Surr: Dibromofluoromethane* | *48.91* | *5.0* | *50* | *0* | *97.8* | *71 - 125* | *48.63* | *0.575* | *20* | |
| *Surr: Toluene-d8* | *50.12* | *5.0* | *50* | *0* | *100* | *75 - 125* | *49.89* | *0.448* | *20* | |

**The following samples were anayzed in this batch:** HS15030179-06 HS15030179-07

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

**QC BATCH REPORT**

**Batch ID: R250959** **Instrument: VOA6** **Method: SW1311/8260B**

**MBLK** Sample ID: **VBLKW-150311** Units: **ug/L** Analysis Date: **11-Mar-2015 11:20**
Client ID: Run ID: **VOA6_250959** SeqNo: **3211328** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | U | 5.0 | | | | | | | | |
| 1,2-Dichloroethane | U | 5.0 | | | | | | | | |
| 1,4-Dichlorobenzene | U | 5.0 | | | | | | | | |
| 2-Butanone | U | 10 | | | | | | | | |
| Benzene | U | 5.0 | | | | | | | | |
| Carbon tetrachloride | U | 5.0 | | | | | | | | |
| Chlorobenzene | U | 5.0 | | | | | | | | |
| Chloroform | U | 5.0 | | | | | | | | |
| Tetrachloroethene | U | 5.0 | | | | | | | | |
| Trichloroethene | U | 5.0 | | | | | | | | |
| Vinyl chloride | U | 2.0 | | | | | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *46.69* | *5.0* | *50* | *0* | *93.4* | *70 - 125* | | | | |
| *Surr: 4-Bromofluorobenzene* | *46.69* | *5.0* | *50* | *0* | *93.4* | *72.4 - 125* | | | | |
| *Surr: Dibromofluoromethane* | *48.57* | *5.0* | *50* | *0* | *97.1* | *71.2 - 125* | | | | |
| *Surr: Toluene-d8* | *49.34* | *5.0* | *50* | *0* | *98.7* | *75 - 125* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## QC BATCH REPORT

**Batch ID: R250959** **Instrument: VOA6** **Method: SW1311/8260B**

**MBLK** Sample ID: **MBLKV1-150310** Units: **ug/L** Analysis Date: **11-Mar-2015 15:21**
Client ID: Run ID: **VOA6_250959** SeqNo: **3211336** PrepDate: DF: **20**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | U | 100 | | | | | | | | |
| 1,2-Dichloroethane | U | 100 | | | | | | | | |
| 1,4-Dichlorobenzene | U | 100 | | | | | | | | |
| 2-Butanone | U | 200 | | | | | | | | |
| Benzene | U | 100 | | | | | | | | |
| Carbon tetrachloride | U | 100 | | | | | | | | |
| Chlorobenzene | U | 100 | | | | | | | | |
| Chloroform | U | 100 | | | | | | | | |
| Tetrachloroethene | U | 100 | | | | | | | | |
| Trichloroethene | U | 100 | | | | | | | | |
| Vinyl chloride | U | 40 | | | | | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *916.7* | *100* | *1000* | *0* | *91.7* | *70 - 125* | | | | |
| *Surr: 4-Bromofluorobenzene* | *950* | *100* | *1000* | *0* | *95.0* | *72.4 - 125* | | | | |
| *Surr: Dibromofluoromethane* | *969.5* | *100* | *1000* | *0* | *97.0* | *71.2 - 125* | | | | |
| *Surr: Toluene-d8* | *993.8* | *100* | *1000* | *0* | *99.4* | *75 - 125* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## QC BATCH REPORT

**Batch ID: R250959** **Instrument: VOA6** **Method: SW1311/8260B**

**LCS** Sample ID: **VLCSW-150311** Units: **ug/L** Analysis Date: **11-Mar-2015 10:32**
Client ID: Run ID: **VOA6_250959** SeqNo: **3211327** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 45.38 | 5.0 | 50 | 0 | 90.8 | 73 - 124 | | | | |
| 1,2-Dichloroethane | 46.37 | 5.0 | 50 | 0 | 92.7 | 76 - 120 | | | | |
| 1,4-Dichlorobenzene | 49.6 | 5.0 | 50 | 0 | 99.2 | 70 - 130 | | | | |
| 2-Butanone | 89.77 | 10 | 100 | 0 | 89.8 | 70 - 130 | | | | |
| Benzene | 48.91 | 5.0 | 50 | 0 | 97.8 | 70 - 128 | | | | |
| Carbon tetrachloride | 50.09 | 5.0 | 50 | 0 | 100 | 70 - 130 | | | | |
| Chlorobenzene | 50.59 | 5.0 | 50 | 0 | 101 | 72 - 127 | | | | |
| Chloroform | 47.54 | 5.0 | 50 | 0 | 95.1 | 70 - 130 | | | | |
| Tetrachloroethene | 50.41 | 5.0 | 50 | 0 | 101 | 70 - 130 | | | | |
| Trichloroethene | 52.34 | 5.0 | 50 | 0 | 105 | 72 - 129 | | | | |
| Vinyl chloride | 44.18 | 2.0 | 50 | 0 | 88.4 | 70 - 130 | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *45.42* | *5.0* | *50* | *0* | *90.8* | *70 - 125* | | | | |
| *Surr: 4-Bromofluorobenzene* | *50.76* | *5.0* | *50* | *0* | *102* | *72 - 125* | | | | |
| *Surr: Dibromofluoromethane* | *49.09* | *5.0* | *50* | *0* | *98.2* | *71 - 125* | | | | |
| *Surr: Toluene-d8* | *49* | *5.0* | *50* | *0* | *98.0* | *75 - 125* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## QC BATCH REPORT

**Batch ID: R250959** **Instrument: VOA6** **Method: SW1311/8260B**

**MS** Sample ID: **HS15030332-02MS** Units: **ug/L** Analysis Date: **11-Mar-2015 14:09**
Client ID: Run ID: **VOA6_250959** SeqNo: **3211334** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 43.43 | 5.0 | 50 | 0 | 86.9 | 73 - 124 | | | | |
| 1,2-Dichloroethane | 45.16 | 5.0 | 50 | 0 | 90.3 | 76 - 120 | | | | |
| 1,4-Dichlorobenzene | 44.8 | 5.0 | 50 | 0 | 89.6 | 70 - 130 | | | | |
| 2-Butanone | 90.12 | 10 | 100 | 0 | 90.1 | 70 - 130 | | | | |
| Benzene | 46.37 | 5.0 | 50 | 0 | 92.7 | 70 - 128 | | | | |
| Carbon tetrachloride | 45.77 | 5.0 | 50 | 0 | 91.5 | 70 - 130 | | | | |
| Chlorobenzene | 47.57 | 5.0 | 50 | 0 | 95.1 | 72 - 127 | | | | |
| Chloroform | 48.11 | 5.0 | 50 | 0 | 96.2 | 70 - 130 | | | | |
| Tetrachloroethene | 45.36 | 5.0 | 50 | 0 | 90.7 | 70 - 130 | | | | |
| Trichloroethene | 48.33 | 5.0 | 50 | 0 | 96.7 | 72 - 129 | | | | |
| Vinyl chloride | 46.32 | 2.0 | 50 | 0 | 92.6 | 70 - 130 | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *46.64* | *5.0* | *50* | *0* | *93.3* | *70 - 125* | | | | |
| *Surr: 4-Bromofluorobenzene* | *50.37* | *5.0* | *50* | *0* | *101* | *72 - 125* | | | | |
| *Surr: Dibromofluoromethane* | *49.3* | *5.0* | *50* | *0* | *98.6* | *71 - 125* | | | | |
| *Surr: Toluene-d8* | *48.97* | *5.0* | *50* | *0* | *97.9* | *75 - 125* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## QC BATCH REPORT

**Batch ID: R250959** **Instrument: VOA6** **Method: SW1311/8260B**

**MSD** Sample ID: **HS15030332-02MSD** Units: **ug/L** Analysis Date: **11-Mar-2015 14:33**
Client ID: Run ID: **VOA6_250959** SeqNo: **3211335** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 43.66 | 5.0 | 50 | 0 | 87.3 | 73 - 124 | 43.43 | 0.535 | 20 | |
| 1,2-Dichloroethane | 48.99 | 5.0 | 50 | 0 | 98.0 | 76 - 120 | 45.16 | 8.12 | 20 | |
| 1,4-Dichlorobenzene | 47.87 | 5.0 | 50 | 0 | 95.7 | 70 - 130 | 44.8 | 6.62 | 20 | |
| 2-Butanone | 98.57 | 10 | 100 | 0 | 98.6 | 70 - 130 | 90.12 | 8.95 | 20 | |
| Benzene | 47.72 | 5.0 | 50 | 0 | 95.4 | 70 - 128 | 46.37 | 2.87 | 20 | |
| Carbon tetrachloride | 47.37 | 5.0 | 50 | 0 | 94.7 | 70 - 130 | 45.77 | 3.43 | 20 | |
| Chlorobenzene | 49.52 | 5.0 | 50 | 0 | 99.0 | 72 - 127 | 47.57 | 4.02 | 20 | |
| Chloroform | 47.94 | 5.0 | 50 | 0 | 95.9 | 70 - 130 | 48.11 | 0.366 | 20 | |
| Tetrachloroethene | 46.89 | 5.0 | 50 | 0 | 93.8 | 70 - 130 | 45.36 | 3.32 | 20 | |
| Trichloroethene | 50.3 | 5.0 | 50 | 0 | 101 | 72 - 129 | 48.33 | 3.99 | 20 | |
| Vinyl chloride | 44.58 | 2.0 | 50 | 0 | 89.2 | 70 - 130 | 46.32 | 3.83 | 20 | |
| *Surr: 1,2-Dichloroethane-d4* | *46.39* | *5.0* | *50* | *0* | *92.8* | *70 - 125* | *46.64* | *0.533* | *20* | |
| *Surr: 4-Bromofluorobenzene* | *50.62* | *5.0* | *50* | *0* | *101* | *72 - 125* | *50.37* | *0.495* | *20* | |
| *Surr: Dibromofluoromethane* | *49.27* | *5.0* | *50* | *0* | *98.5* | *71 - 125* | *49.3* | *0.0669* | *20* | |
| *Surr: Toluene-d8* | *49.27* | *5.0* | *50* | *0* | *98.5* | *75 - 125* | *48.97* | *0.606* | *20* | |

**The following samples were anayzed in this batch:** HS15030179-01 HS15030179-02 HS15030179-03 HS15030179-04 HS15030179-08 HS15030179-09

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## QC BATCH REPORT

**Batch ID: R250703** **Instrument: WetChem_HS** **Method: SM4500H+ B**

**LCS** Sample ID: **LCS-250703** Units: **pH Units** Analysis Date: **06-Mar-2015 15:33**
Client ID: Run ID: **WetChem_HS_250703** SeqNo: **3206313** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| pH | 5.98 | 0.100 | 6 | 0 | 99.7 | 97 - 103 | | | | |

**DUP** Sample ID: **HS15030191-01DUP** Units: **pH Units** Analysis Date: **06-Mar-2015 15:33**
Client ID: Run ID: **WetChem_HS_250703** SeqNo: **3206314** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| pH | 7.12 | 0.100 | | | | | 7.19 | 0.978 | 10 | |
| Temp Deg C @pH | 21 | 0 | | | | | 21 | 0 | 10 | |

**The following samples were anayzed in this batch:** HS15030179-02 HS15030179-03 HS15030179-04 HS15030179-05 HS15030179-08 HS15030179-09

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## QC BATCH REPORT

**Batch ID:** **R250705** **Instrument:** **WetChem_HS** **Method:** **SW9045B**

**LCS** Sample ID: **LCS-250705** Units: **pH Units** Analysis Date: **06-Mar-2015 15:43**
Client ID: Run ID: **WetChem_HS_250705** SeqNo: **3206325** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| pH | 5.97 | 0.100 | 6 | 0 | 99.5 | 97 - 103 | | | | |

**DUP** Sample ID: **HS15030179-06DUP** Units: **pH Units** Analysis Date: **06-Mar-2015 15:43**
Client ID: **USOR-EQ-13-ICP Tank A** Run ID: **WetChem_HS_250705** SeqNo: **3206326** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| pH | 7.77 | 0.100 | | | | | 7.76 | 0.129 | 10 | |

**The following samples were anayzed in this batch:** HS15030179-06 HS15030179-07

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## QC BATCH REPORT

**Batch ID: R250852** **Instrument: WetChem_HS** **Method: SW9045B**

**LCS** Sample ID: **LCS-250852** Units: **pH Units** Analysis Date: **10-Mar-2015 14:28**
Client ID: Run ID: **WetChem_HS_250852** SeqNo: **3209378** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| pH | 5.97 | 0.100 | 6 | 0 | 99.5 | 97 - 103 | | | | |

**DUP** Sample ID: **HS15030279-06DUP** Units: **pH Units** Analysis Date: **10-Mar-2015 14:28**
Client ID: Run ID: **WetChem_HS_250852** SeqNo: **3209379** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| pH | 8.08 | 0.100 | | | | | 8.01 | 0.87 | 10 | |

**The following samples were anayzed in this batch:** HS15030179-01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## QC BATCH REPORT

**Batch ID:** **R250862** **Instrument:** **WetChem_HS** **Method:** **SW1030**

**DUP** Sample ID: **HS15030283-01DUP** Units: **Burn Rate, mm/sec** Analysis Date: **10-Mar-2015 16:15**

Client ID: Run ID: **WetChem_HS_250862** SeqNo: **3209595** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Ignitability, Solid | Negative | 0 | | | | | 0 | 0 | 25 | |

**The following samples were anayzed in this batch:** HS15030179-06 HS15030179-07

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** HS15030179

## QC BATCH REPORT

**Batch ID:** **R250865** **Instrument:** **WetChem_HS** **Method:** **SW1010**

**LCS** Sample ID: **LCS-250865** Units: **°F** Analysis Date: **10-Mar-2015 16:00**
Client ID: Run ID: **WetChem_HS_250865** SeqNo: **3209624** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Ignitability | 82 | 50.0 | 81 | 0 | 101 | 95 - 105 | | | | |

**DUP** Sample ID: **HS15030179-01DUP** Units: **°F** Analysis Date: **10-Mar-2015 16:00**
Client ID: **USOR-EQ-1-Heated&Agitated Frac Tank** Run ID: **WetChem_HS_250865** SeqNo: **3209625** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Ignitability | > 212 | 50.0 | | | | | 0 | 0 | 25 | |

**The following samples were anayzed in this batch:** HS15030179-01 HS15030179-02 HS15030179-03 HS15030179-04 HS15030179-05 HS15030179-08 HS15030179-09

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**WorkOrder:** **HS15030179**

## QUALIFIERS, ACRONYMS, UNITS

| Qualifier | Description |
|---|---|
| * | Value exceeds Regulatory Limit |
| a | Not accredited |
| B | Analyte detected in the associated Method Blank above the Reporting Limit |
| E | Value above quantitation range |
| H | Analyzed outside of Holding Time |
| J | Analyte detected below quantitation limit |
| M | Manually integrated, see raw data for justification |
| n | Not offered for accreditation |
| ND | Not Detected at the Reporting Limit |
| O | Sample amount is > 4 times amount spiked |
| P | Dual Column results percent difference > 40% |
| R | RPD above laboratory control limit |
| S | Spike Recovery outside laboratory control limits |
| U | Analyzed but not detected above the MDL/SDL |

| Acronym | Description |
|---|---|
| DCS | Detectability Check Study |
| DUP | Method Duplicate |
| LCS | Laboratory Control Sample |
| LCSD | Laboratory Control Sample Duplicate |
| MBLK | Method Blank |
| MDL | Method Detection Limit |
| MQL | Method Quantitation Limit |
| MS | Matrix Spike |
| MSD | Matrix Spike Duplicate |
| PDS | Post Digestion Spike |
| PQL | Practical Quantitaion Limit |
| SD | Serial Dilution |
| SDL | Sample Detection Limit |
| TRRP | Texas Risk Reduction Program |

| Unit Reported | Description |
|---|---|
| °F | Farenheit degrees |
| Date | |
| mg/Kg | Milligrams per Kilogram |
| mg/L | Milligrams per Liter |
| no unit | |
| pH Units | |

## CERTIFICATIONS,ACCREDITATIONS & LICENSES

| Agency | Number | Expire Date |
|---|---|---|
| Arkansas | AR - 2014 | 27-Mar-2015 |
| California | 2919 | 31-Jul-2016 |
| Dept of Defense | L2231 Rev 3-20-2014 | 22-Dec-2015 |
| Illinois | 003403 | 09-May-2015 |
| Kansas | E-10352 2014-2015 | 31-Jul-2015 |
| Kentucky | KY 2014-2015 | 30-Apr-2015 |
| Louisiana | 03087 2014/2015 | 30-Jun-2015 |
| North Carolina | 624 - 2015 | 31-Dec-2015 |
| North Dakota | R-193 2025 | 30-Apr-2015 |
| Oklahoma | 2014-128 | 31-Aug-2015 |
| Texas | T104704231-14-14 | 30-Apr-2015 |

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**Work Order:** HS15030179

## SAMPLE TRACKING

| Lab Samp ID | Client Sample ID | Action | Date | Person | New Location |
|---|---|---|---|---|---|
| HS15030179-01 | USOR-EQ-1-Heated&Agitated Frac Tank | Login | 3/5/2015 6:18:42 PM | RPG | 13E |
| HS15030179-01 | USOR-EQ-1-Heated&Agitated Frac Tank | Login | 3/5/2015 6:18:42 PM | RPG | 13E |
| HS15030179-01 | USOR-EQ-1-Heated&Agitated Frac Tank | Login | 3/5/2015 6:18:42 PM | RPG | 13E |
| HS15030179-01 | USOR-EQ-1-Heated&Agitated Frac Tank | Login | 3/5/2015 6:18:42 PM | RPG | Sub |
| HS15030179-01 | USOR-EQ-1-Heated&Agitated Frac Tank | Login | 3/5/2015 6:18:42 PM | RPG | VW-3 |
| HS15030179-02 | USOR-EQ-14-ICP Tank B | Login | 3/5/2015 6:31:59 PM | RPG | 13E |
| HS15030179-02 | USOR-EQ-14-ICP Tank B | Login | 3/5/2015 6:31:59 PM | RPG | 13E |
| HS15030179-02 | USOR-EQ-14-ICP Tank B | Login | 3/5/2015 6:31:59 PM | RPG | 13E |
| HS15030179-02 | USOR-EQ-14-ICP Tank B | Login | 3/5/2015 6:31:59 PM | RPG | Sub |
| HS15030179-02 | USOR-EQ-14-ICP Tank B | Login | 3/5/2015 6:31:59 PM | RPG | VW-3 |
| HS15030179-03 | USOR-EQ-15 Rectangular Mix Tank | Login | 3/5/2015 6:31:59 PM | RPG | 13E |
| HS15030179-03 | USOR-EQ-15 Rectangular Mix Tank | Login | 3/5/2015 6:31:59 PM | RPG | 13E |
| HS15030179-03 | USOR-EQ-15 Rectangular Mix Tank | Login | 3/5/2015 6:31:59 PM | RPG | 13E |
| HS15030179-03 | USOR-EQ-15 Rectangular Mix Tank | Login | 3/5/2015 6:31:59 PM | RPG | Sub |
| HS15030179-03 | USOR-EQ-15 Rectangular Mix Tank | Login | 3/5/2015 6:31:59 PM | RPG | VW-3 |
| HS15030179-04 | Field Dup #1 | Login | 3/5/2015 6:31:59 PM | RPG | 13E |
| HS15030179-04 | Field Dup #1 | Login | 3/5/2015 6:31:59 PM | RPG | 13E |
| HS15030179-04 | Field Dup #1 | Login | 3/5/2015 6:31:59 PM | RPG | 13E |
| HS15030179-04 | Field Dup #1 | Login | 3/5/2015 6:31:59 PM | RPG | Sub |
| HS15030179-04 | Field Dup #1 | Login | 3/5/2015 6:31:59 PM | RPG | VW-3 |
| HS15030179-05 | Equipment Blank # 2 | Login | 3/5/2015 6:37:58 PM | RPG | 13E |
| HS15030179-05 | Equipment Blank # 2 | Login | 3/5/2015 6:37:58 PM | RPG | 13E |
| HS15030179-05 | Equipment Blank # 2 | Login | 3/5/2015 6:37:58 PM | RPG | 13E |
| HS15030179-05 | Equipment Blank # 2 | Login | 3/5/2015 6:37:58 PM | RPG | Sub |
| HS15030179-05 | Equipment Blank # 2 | Login | 3/5/2015 6:37:58 PM | RPG | VW-3 |
| HS15030179-06 | USOR-EQ-13-ICP Tank A | Login | 3/5/2015 6:45:50 PM | RPG | 13E |
| HS15030179-06 | USOR-EQ-13-ICP Tank A | Login | 3/5/2015 6:45:50 PM | RPG | 13E |
| HS15030179-06 | USOR-EQ-13-ICP Tank A | Login | 3/5/2015 6:45:50 PM | RPG | Sub |
| HS15030179-07 | USOR-EQ-15-Rectangular Mix Tank | Login | 3/5/2015 6:45:50 PM | RPG | 13E |
| HS15030179-07 | USOR-EQ-15-Rectangular Mix Tank | Login | 3/5/2015 6:45:50 PM | RPG | 13E |
| HS15030179-07 | USOR-EQ-15-Rectangular Mix Tank | Login | 3/5/2015 6:45:50 PM | RPG | Sub |
| HS15030179-08 | USOR-EQ-12 Rectangular Mix Tank | Login | 3/5/2015 6:55:44 PM | RPG | 13E |
| HS15030179-08 | USOR-EQ-12 Rectangular Mix Tank | Login | 3/5/2015 6:55:44 PM | RPG | 13E |
| HS15030179-08 | USOR-EQ-12 Rectangular Mix Tank | Login | 3/5/2015 6:55:44 PM | RPG | 13E |
| HS15030179-08 | USOR-EQ-12 Rectangular Mix Tank | Login | 3/5/2015 6:55:44 PM | RPG | Sub |
| HS15030179-08 | USOR-EQ-12 Rectangular Mix Tank | Login | 3/5/2015 6:55:44 PM | RPG | VW-3 |
| HS15030179-09 | USOR-EQ-29 Large Rectangular Box | Login | 3/5/2015 6:55:44 PM | RPG | 13E |
| HS15030179-09 | USOR-EQ-29 Large Rectangular Box | Login | 3/5/2015 6:55:44 PM | RPG | 13E |
| HS15030179-09 | USOR-EQ-29 Large Rectangular Box | Login | 3/5/2015 6:55:44 PM | RPG | 13E |
| HS15030179-09 | USOR-EQ-29 Large Rectangular Box | Login | 3/5/2015 6:55:44 PM | RPG | Sub |

**Client:** Effective Environmental Inc.
**Project:** USOR Equ Assessment and Sampling 8181
**Work Order:** HS15030179

## SAMPLE TRACKING

| | | | | | |
|---|---|---|---|---|---|
| HS15030179-09 | USOR-EQ-29 Large Rectangular Box | Login | 3/5/2015 6:55:44 PM | RPG | VW-3 |
| HS15030179-10 | Trip Blank | Login | 3/5/2015 7:02:22 PM | RPG | VW-3 |
| HS15030179-11 | Trip Blank 2 | Login | 3/5/2015 7:04:15 PM | RPG | VW-3 |
| HS15030179-12 | Trip Blank 3 | Login | 3/5/2015 7:04:16 PM | RPG | VW-3 |
| HS15030179-13 | USOR EQ 1 Heated&Agitated Frac Tank | Login | 3/5/2015 7:17:25 PM | RPG | 13E |
| HS15030179-13 | USOR EQ 1 Heated&Agitated Frac Tank | Login | 3/5/2015 7:17:25 PM | RPG | 13E |
| HS15030179-13 | USOR EQ 1 Heated&Agitated Frac Tank | Login | 3/5/2015 7:17:25 PM | RPG | 13E |
| HS15030179-14 | USOR EQ 2 Dissolved Air Flotation Tank | Login | 3/5/2015 7:17:25 PM | RPG | 13E |
| HS15030179-14 | USOR EQ 2 Dissolved Air Flotation Tank | Login | 3/5/2015 7:17:25 PM | RPG | 13E |
| HS15030179-14 | USOR EQ 2 Dissolved Air Flotation Tank | Login | 3/5/2015 7:17:25 PM | RPG | 13E |

## Sample Receipt Checklist

| | | | |
|---|---|---|---|
| Client Name: | Effective Env-HOU | Date/Time Received: | **05-Mar-2015 15:05** |
| Work Order: | HS15030179 | Received by: | **JBA** |

| | | | | |
|---|---|---|---|---|
| Checklist completed by: | *Raegen Giga* eSignature | 5-Mar-2015 Date | Reviewed by: *Dane J. Wacasey* eSignature | 9-Mar-2015 Date |

Matrices: **Liquid/Solid** Carrier name: **ALS.HS**

| | Yes | No | Not Present |
|---|---|---|---|
| Shipping container/cooler in good condition? | ☑ | ☐ | ☐ |
| Custody seals intact on shipping container/cooler? | ☐ | ☐ | ☑ |
| Custody seals intact on sample bottles? | ☐ | ☐ | ☑ |
| Chain of custody present? | ☑ | ☐ | |
| Chain of custody signed when relinquished and received? | ☑ | ☐ | |
| Chain of custody agrees with sample labels? | ☑ | ☐ | |
| Samples in proper container/bottle? | ☑ | ☐ | |
| Sample containers intact? | ☑ | ☐ | |
| Sufficient sample volume for indicated test? | ☑ | ☐ | |
| All samples received within holding time? | ☑ | ☐ | |
| Container/Temp Blank temperature in compliance? | ☑ | ☐ | |
| Temperature(s)/Thermometer(s): | 1.0c/1.0c - 0.8c/0.8c - 0.7c/0.7c c/u | IR 3 | |
| Cooler(s)/Kit(s): | 5620/5625/23864 | | |
| Date/Time sample(s) sent to storage: | 03/05/2015 19:10 | | |
| Water - VOA vials have zero headspace? | ☑ | ☐ | No VOA vials submitted ☐ |
| Water - pH acceptable upon receipt? | ☑ | ☐ | N/A ☐ |
| pH adjusted? | ☐ | ☑ | N/A ☐ |
| pH adjusted by: | | | |

Login Notes: USOR-EQ-1 and 2 samples (Solids) logged in no test codes per client request to cancel. Samples will be submitted and reported under a separate work order. Logged in at the end of the work order.

Client Contacted: Date Contacted: Person Contacted:

Contacted By: 0 Regarding:

Comments:

Corrective Action:

ALS Laboratory Group
10450 Stancliff Rd. #210
Houston, Texas 77099
(Tel) 281.530.5656
(Fax) 281.530.5887

# Chain of Custody Form

Page 1 of 1

HS15030179

Effective Environmental Inc.

USOR Equ Assessment and Sampling 8181

ALS Project Manager:

| Customer Information | | Project Information | | Para | |
|---|---|---|---|---|---|
| Purchase Order | FS-10054 | Project Name | USOR-Equ. Assessment & Sampling | A | TCLP - VOCs |
| Work Order | | Project Number | 8181 | B | TCLP - SVOCs |
| Company Name | Effective Environmental | Bill To Company | Effective Environmental | C | TCLP RCRA 8 Metals |
| Send Report To | Hiren Shah | Invoice Attn. | Hiren Shah | D | RCI |
| Address | 9950 Chemical Road | Address | 2515 S. Beltline Road | E | VOCs for trip blank |
| | | | | F | |
| City/State/Zip | Pasadena, TX 77507 | City/State/Zip | Mesquite, TX 75181 | G | |
| Phone | 281-842-0804 | Phone | 972-329-1200 | H | |
| Fax | 281-474-2580 | Fax | 972-329-1206 | I | |
| e-Mail Address | hshah@eff-env.com | e-Mail Address | hshah@eff-env.com | J | |

| No. | Sample Description | Date | Time | Matrix | Pres. | # Bottles | A | B | C | D | E | F | G | H | I | J | Hold |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | USOR-EQ-1 - Heated & Agitated Frac Tank | 03/04/15 | 7:30 a.m. | Liquid | | 8 | X | X | X | X | | | | | | | |
| 2 | USOR-EQ-1 - Heated & Agitated Frac Tank | 03/04/15 | 7:40 a.m. | Solids | | 4 | X | X | X | X | | | | | | | |
| 3 | USOR-EQ-2 - Dissolved Air Flotation Unit | 03/04/15 | 9:00 a.m. | Solids | | 4 | X | X | X | X | | | | | | | |
| 4 | USOR-EQ-14 - ICP Tank B | 03/04/15 | 10:00 a.m. | Liquid | | 8 | X | X | X | X | | | | | | | |
| 5 | USOR-EQ-15 - Rectangular Mix Tank | 03/04/15 | 10:30 a.m. | Liquid | | 8 | X | X | X | X | | | | | | | |
| 6 | Field Dup #1 | 03/04/15 | 10:45 a.m. | Liquid | | 8 | X | X | X | X | | | | | | | |
| 7 | Equipment Blank #2 | 03/03/15 | 12:00 noon | Liquid | | 8 | X | X | X | X | | | | | | | |
| 8 | USOR-EQ-13 - ICP Tank A | 03/04/15 | 1:00 p.m. | Solids | | 4 | X | X | X | X | | | | | | | |
| 9 | USOR-EQ-15 - Rectangular Mix Tank | 03/04/15 | 1:30 p.m. | Solids | | 4 | X | X | X | X | | | | | | | |
| 10 | USOR-EQ-12 - Rectangular Mix Tank | 03/04/15 | 2:00 p.m. | Liquid | | 8 | X | X | X | X | | | | | | | |
| 11 | USOR-EQ-29 Large Rectangular Box | 03/04/15 | 2:30 p.m. | Liquid | | 8 | X | X | X | X | | | | | | | |
| 12 | Trip Blank-3 samples (1 sample/cooler) | | | | | | | | | | X | | | | | | |

Sampler(s): Please Print & Sign
Joe Carillo

Shipment Method:

Required Turnaround Time: ☐ STD 10 Wk Days ☑ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour ☐ Other _____

Results Due Date:

| Relinquished by: | Date: | Time: | Received by: |
|---|---|---|---|
| Joe Carillo | 3/4/15 | 6:10 p.m. | Hiren Shah |
| Hiren Shah | 3/5/15 | 1350 | Received by (Laboratory): |
| | | 15-05 | J Auon. 3/5/15 |

Notes:

Cooler Temp.

QC Package: (Check Box Below)

| | | |
|---|---|---|
| | Level II: Standard QC | TRRP-Checklist |
| | Level III: Std QC + Raw Data | TRRP Level IV |
| | Level IV: SW846 CLP-Like | |
| | Other: _____ | |

Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.

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10-Mar-2015

Dane J. Wacasey
ALS Environmental
10450 Stancliff Rd
Suite 210
Houston, TX 77099

Re: **HS15030179** Work Order: **1503380**

Dear Dane,

ALS Environmental received 9 samples on 07-Mar-2015 01:30 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 17.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Chad Whelton

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Certificate No: MN 532786



ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental www.alsglobal.com
RIGHT SOLUTIONS RIGHT PARTNER

# ALS Group USA, Corp

Date: 10-Mar-15

**Client:** ALS Environmental
**Project:** HS15030179
**Work Order:** **1503380**

## Work Order Sample Summary

| Lab Samp ID | Client Sample ID | Matrix | Tag Number | Collection Date | Date Received | Hold |
|---|---|---|---|---|---|---|
| 1503380-01 | HS15030179-01 | Liquid | USOR-EQ-1-Heated&Agitated F/Tnk | 3/4/2015 07:30 | 3/7/2015 13:30 | ☐ |
| 1503380-02 | HS15030179-02 | Liquid | USOR-EQ-14-ICP Tank B | 3/4/2015 10:00 | 3/7/2015 13:30 | ☐ |
| 1503380-03 | HS15030179-03 | Liquid | USOR-EQ-15 Rectangular Mix Tank | 3/4/2015 10:30 | 3/7/2015 13:30 | ☐ |
| 1503380-04 | HS15030179-04 | Liquid | Field Dup #1 | 3/4/2015 10:45 | 3/7/2015 13:30 | ☐ |
| 1503380-05 | HS15030179-05 | Liquid | Equipment Blank # 2 | 3/4/2015 12:00 | 3/7/2015 13:30 | ☐ |
| 1503380-06 | HS15030179-06 | Solid | USOR-EQ-13-ICP Tank A | 3/4/2015 13:00 | 3/7/2015 13:30 | ☐ |
| 1503380-07 | HS15030179-07 | Solid | USOR-EQ-15-Rectangular Mix Tank | 3/4/2015 13:30 | 3/7/2015 13:30 | ☐ |
| 1503380-08 | HS15030179-08 | Liquid | USOR-EQ-12 Rectangular Mix Tank | 3/4/2015 14:00 | 3/7/2015 13:30 | ☐ |
| 1503380-09 | HS15030179-09 | Liquid | USOR-EQ-29 Large Rectangular Box | 3/4/2015 14:30 | 3/7/2015 13:30 | ☐ |

# ALS Group USA, Corp

Date: 10-Mar-15

**Client:** ALS Environmental
**Project:** HS15030179
**WorkOrder:** **1503380**

## QUALIFIERS, ACRONYMS, UNITS

| Qualifier | Description |
|---|---|
| * | Value exceeds Regulatory Limit |
| a | Not accredited |
| B | Analyte detected in the associated Method Blank above the Reporting Limit |
| E | Value above quantitation range |
| H | Analyzed outside of Holding Time |
| J | Analyte is present at an estimated concentration between the MDL and Report Limit |
| n | Not offered for accreditation |
| ND | Not Detected at the Reporting Limit |
| O | Sample amount is > 4 times amount spiked |
| P | Dual Column results percent difference > 40% |
| R | RPD above laboratory control limit |
| S | Spike Recovery outside laboratory control limits |
| U | Analyzed but not detected above the MDL |
| X | Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level. |

| Acronym | Description |
|---|---|
| DUP | Method Duplicate |
| LCS | Laboratory Control Sample |
| LCSD | Laboratory Control Sample Duplicate |
| LOD | Limit of Detection (see MDL) |
| LOQ | Limit of Quantitation (see PQL) |
| MBLK | Method Blank |
| MDL | Method Detection Limit |
| MS | Matrix Spike |
| MSD | Matrix Spike Duplicate |
| PQL | Practical Quantitation Limit |
| RPD | Relative Percent Difference |
| TDL | Target Detection Limit |
| TNTC | Too Numerous To Count |
| A | APHA Standard Methods |
| D | ASTM |
| E | EPA |
| SW | SW-846 Update III |

| Units Reported | Description |
|---|---|
| mg/Kg | Milligrams per Kilogram |

# ALS Group USA, Corp

**Date:** *10-Mar-15*

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental | | |
| **Project:** | HS15030179 | **Work Order:** | 1503380 |
| **Sample ID:** | HS15030179-01 | **Lab ID:** | 1503380-01 |
| **Collection Date:** | 3/4/2015 07:30 AM | **Matrix:** | LIQUID |

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| **CYANIDE, REACTIVE** | | | **SW7.3.3.2** | | | Analyst: **TVD** |
| Cyanide, Reactive | ND | | 100 | mg/Kg | 1 | 3/9/2015 09:45 PM |
| **SULFIDE, REACTIVE** | | | **SW7.3.4.2** | | | Analyst: **TVD** |
| Sulfide, Reactive | ND | | 100 | mg/Kg | 1 | 3/9/2015 09:00 PM |

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

**Date:** *10-Mar-15*

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental | | |
| **Project:** | HS15030179 | **Work Order:** | 1503380 |
| **Sample ID:** | HS15030179-02 | **Lab ID:** | 1503380-02 |
| **Collection Date:** | 3/4/2015 10:00 AM | **Matrix:** | LIQUID |

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| **CYANIDE, REACTIVE** | | | **SW7.3.3.2** | | | Analyst: **TVD** |
| Cyanide, Reactive | ND | | 100 | mg/Kg | 1 | 3/9/2015 09:45 PM |
| **SULFIDE, REACTIVE** | | | **SW7.3.4.2** | | | Analyst: **TVD** |
| Sulfide, Reactive | ND | | 100 | mg/Kg | 1 | 3/9/2015 09:00 PM |

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

**Date:** *10-Mar-15*

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental | | |
| **Project:** | HS15030179 | **Work Order:** | 1503380 |
| **Sample ID:** | HS15030179-03 | **Lab ID:** | 1503380-03 |
| **Collection Date:** | 3/4/2015 10:30 AM | **Matrix:** | LIQUID |

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| **CYANIDE, REACTIVE** | | | **SW7.3.3.2** | | | Analyst: **TVD** |
| Cyanide, Reactive | ND | | 100 | mg/Kg | 1 | 3/9/2015 09:45 PM |
| **SULFIDE, REACTIVE** | | | **SW7.3.4.2** | | | Analyst: **TVD** |
| Sulfide, Reactive | ND | | 100 | mg/Kg | 1 | 3/9/2015 09:00 PM |

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

**Date:** *10-Mar-15*

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental | | |
| **Project:** | HS15030179 | **Work Order:** | 1503380 |
| **Sample ID:** | HS15030179-04 | **Lab ID:** | 1503380-04 |
| **Collection Date:** | 3/4/2015 10:45 AM | **Matrix:** | LIQUID |

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| **CYANIDE, REACTIVE** | | | **SW7.3.3.2** | | | Analyst: **TVD** |
| Cyanide, Reactive | ND | | 100 | mg/Kg | 1 | 3/9/2015 09:45 PM |
| **SULFIDE, REACTIVE** | | | **SW7.3.4.2** | | | Analyst: **TVD** |
| Sulfide, Reactive | ND | | 100 | mg/Kg | 1 | 3/9/2015 09:00 PM |

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

**Date:** *10-Mar-15*

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental | | |
| **Project:** | HS15030179 | **Work Order:** | 1503380 |
| **Sample ID:** | HS15030179-05 | **Lab ID:** | 1503380-05 |
| **Collection Date:** | 3/4/2015 12:00 PM | **Matrix:** | LIQUID |

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| **CYANIDE, REACTIVE** | | | **SW7.3.3.2** | | | Analyst: **TVD** |
| Cyanide, Reactive | ND | | 100 | mg/Kg | 1 | 3/9/2015 09:45 PM |
| **SULFIDE, REACTIVE** | | | **SW7.3.4.2** | | | Analyst: **TVD** |
| Sulfide, Reactive | ND | | 100 | mg/Kg | 1 | 3/9/2015 09:00 PM |

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

**Date:** *10-Mar-15*

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental | | |
| **Project:** | HS15030179 | **Work Order:** | 1503380 |
| **Sample ID:** | HS15030179-06 | **Lab ID:** | 1503380-06 |
| **Collection Date:** | 3/4/2015 01:00 PM | **Matrix:** | SOLID |

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| **CYANIDE, REACTIVE** | | | **SW7.3.3.2** | | | Analyst: **TVD** |
| Cyanide, Reactive | ND | | 100 | mg/Kg | 1 | 3/9/2015 09:45 PM |
| **SULFIDE, REACTIVE** | | | **SW7.3.4.2** | | | Analyst: **TVD** |
| Sulfide, Reactive | ND | | 100 | mg/Kg | 1 | 3/9/2015 09:00 PM |

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

**Date:** *10-Mar-15*

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental | | |
| **Project:** | HS15030179 | **Work Order:** | 1503380 |
| **Sample ID:** | HS15030179-07 | **Lab ID:** | 1503380-07 |
| **Collection Date:** | 3/4/2015 01:30 PM | **Matrix:** | SOLID |

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| **CYANIDE, REACTIVE** | | | **SW7.3.3.2** | | | Analyst: **TVD** |
| Cyanide, Reactive | ND | | 100 | mg/Kg | 1 | 3/9/2015 09:45 PM |
| **SULFIDE, REACTIVE** | | | **SW7.3.4.2** | | | Analyst: **TVD** |
| Sulfide, Reactive | ND | | 100 | mg/Kg | 1 | 3/9/2015 09:00 PM |

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

**Date:** *10-Mar-15*

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental | | |
| **Project:** | HS15030179 | **Work Order:** | 1503380 |
| **Sample ID:** | HS15030179-08 | **Lab ID:** | 1503380-08 |
| **Collection Date:** | 3/4/2015 02:00 PM | **Matrix:** | LIQUID |

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| **CYANIDE, REACTIVE** | | | **SW7.3.3.2** | | | Analyst: **TVD** |
| Cyanide, Reactive | ND | | 100 | mg/Kg | 1 | 3/9/2015 09:45 PM |
| **SULFIDE, REACTIVE** | | | **SW7.3.4.2** | | | Analyst: **TVD** |
| **Sulfide, Reactive** | **130** | | **100** | **mg/Kg** | 1 | 3/9/2015 09:00 PM |

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

**Date:** *10-Mar-15*

| | | | |
|---|---|---|---|
| **Client:** | ALS Environmental | | |
| **Project:** | HS15030179 | **Work Order:** | 1503380 |
| **Sample ID:** | HS15030179-09 | **Lab ID:** | 1503380-09 |
| **Collection Date:** | 3/4/2015 02:30 PM | **Matrix:** | LIQUID |

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| **CYANIDE, REACTIVE** | | | **SW7.3.3.2** | | | Analyst: **TVD** |
| Cyanide, Reactive | ND | | 100 | mg/Kg | 1 | 3/9/2015 09:45 PM |
| **SULFIDE, REACTIVE** | | | **SW7.3.4.2** | | | Analyst: **TVD** |
| **Sulfide, Reactive** | **110** | | **100** | **mg/Kg** | 1 | 3/9/2015 09:00 PM |

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 10-Mar-15

**Client:** ALS Environmental
**Work Order:** 1503380
**Project:** HS15030179

# QC BATCH REPORT

Batch ID: **R158833** Instrument ID **WETCHEM** Method: **SW7.3.4.2**

**MBLK** Sample ID: **MB-R158833-R158833** Units: **mg/Kg** Analysis Date: **3/9/2015 09:00 PM**

Client ID: Run ID: **WETCHEM_150309O** SeqNo: **3171067** Prep Date: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Sulfide, Reactive | ND | 100 | | | | | | | | |

**LCS** Sample ID: **LCS-R158833-R158833** Units: **mg/Kg** Analysis Date: **3/9/2015 09:00 PM**

Client ID: Run ID: **WETCHEM_150309O** SeqNo: **3171068** Prep Date: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Sulfide, Reactive | 1488 | 100 | 2149 | 0 | 69.2 | 60-120 | | 0 | | |

**The following samples were analyzed in this batch:**

| | | |
|---|---|---|
| 1503380-01A | 1503380-02A | 1503380-03A |
| 1503380-04A | 1503380-05A | 1503380-06A |
| 1503380-07A | 1503380-08A | 1503380-09A |

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** ALS Environmental
**Work Order:** 1503380
**Project:** HS15030179

# QC BATCH REPORT

Batch ID: **R158837** Instrument ID **WETCHEM** Method: **SW7.3.3.2**

**MBLK** Sample ID: **MB-R158837-R158837** Units: **mg/Kg** Analysis Date: **3/9/2015 09:45 PM**

Client ID: Run ID: **WETCHEM_150309P** SeqNo: **3171123** Prep Date: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Cyanide, Reactive | ND | 100 | | | | | | | | |

**LCS** Sample ID: **LCS-R158837-R158837** Units: **mg/Kg** Analysis Date: **3/9/2015 09:45 PM**

Client ID: Run ID: **WETCHEM_150309P** SeqNo: **3171124** Prep Date: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Cyanide, Reactive | 102.8 | 100 | 125 | 0 | 82.2 | 75-125 | 0 | | | |

**MS** Sample ID: **1503380-03A MS** Units: **mg/Kg** Analysis Date: **3/9/2015 09:45 PM**

Client ID: **HS15030179-03** Run ID: **WETCHEM_150309P** SeqNo: **3171142** Prep Date: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Cyanide, Reactive | 232.6 | 100 | 250 | 14.56 | 87.2 | 50-150 | 0 | | | |

**MSD** Sample ID: **1503380-03A MSD** Units: **mg/Kg** Analysis Date: **3/9/2015 09:45 PM**

Client ID: **HS15030179-03** Run ID: **WETCHEM_150309P** SeqNo: **3171143** Prep Date: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Cyanide, Reactive | 247.1 | 100 | 250 | 14.56 | 93 | 50-150 | 232.6 | 6.06 | 35 | |

**The following samples were analyzed in this batch:**

| | | |
|---|---|---|
| 1503380-01A | 1503380-02A | 1503380-03A |
| 1503380-04A | 1503380-05A | 1503380-06A |
| 1503380-07A | 1503380-08A | 1503380-09A |

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

1503380

# CHAIN OF CUSTODY RECORD

ALS Environmental



| | |
|---|---|
| Date | 5 Mar 2015 |
| COC ID | 2386 |
| Due date | 12 MAR 15 |

Subcontractor

| | |
|---|---|
| ALS Laboratory Group | Phone |
| 3352 128th Ave. | 6163996070 |
| Holland, MI 494249263 | Fax |
| | 6163996185 |

| Customer Information | | Project Information | |
|---|---|---|---|
| PO | | Project Name | HS15030179 |

| | | | |
|---|---|---|---|
| Company Name | ALS Houston | Company Name | ALS Houston |
| | | Inv Attn | Accounts Payable |
| Address | 10450 Stancliff Rd, Ste 210 | Address | 10450 Stancliff Rd, Ste 210 |
| | Houston, TX 77099 | | Houston, TX 77099 |
| Phone | 281-530-5656 | Phone | 281-530-5656 |
| Email1 | Dane.Wacasey@alsglobal.com | Email2 | jumoke.lawal@alsglobal.com |

| Lab ID | Client Samp ID | Collection Date | Matrix | Analysis Requested |
|---|---|---|---|---|
| HS15030179-01 | USOR-EQ-1-Heated&Agitated F/Tnk | 04-Mar-15 07:30 am | Liquid | RCN_W, RS_W |
| HS15030179-02 | USOR-EQ-14-ICP Tank B | 04-Mar-15 10:00 am | Liquid | RCN_W, RS_W |
| HS15030179-03 | USOR-EQ-15 Rectangular Mix Tank | 04-Mar-15 10:30 am | Liquid | RCN_W, RS_W |
| HS15030179-04 | Field Dup #1 | 04-Mar-15 10:45 am | Liquid | RCN_W, RS_W |
| HS15030179-05 | Equipment Blank # 2 | 03-Mar-15 12:00 pm | Liquid | RCN_W, RS_W |
| HS15030179-06 | USOR-EQ-13-ICP Tank A | 04-Mar-15 01:00 pm | Solid | RCN_S, RS_S |
| HS15030179-07 | USOR-EQ-15-Rectangular Mix Tank | 04-Mar-15 01:30 pm | Solid | RCN_S, RS_S |
| HS15030179-08 | USOR-EQ-12 Rectangular Mix Tank | 04-Mar-15 02:00 pm | Liquid | RCN_W, RS_W |
| HS15030179-09 | USOR-EQ-29 Large Rectangular Box | 04-Mar-15 02:30 pm | Liquid | RCN_W, RS_W |

**Comments** Please analyze for the above. Send reports to e-mail 1 & 2 provided on COC.

| Relinquished by: | Date/Time: | Received by: | Date/Time: | Cooler IDs: | Report/QC Level |
|---|---|---|---|---|---|
| R Giga | 03/06/15 18:00 | | | | |
| | | [illegible] | 3/7/15 1330 | | |

3.0°C

ORIGIN ID:SGRA (281) 530-5656
SHIPPING DEPT
ALS LABORATORY GROUP
10450 STANCLIFF
SUITE 210
HOUSTON, TX 77099
UNITED STATES US

SH
AC
CA
DIM
BILL

TO JOE RIBAR
ALS ENVIRONMENTAL
3352 128TH AVE.

HOLLAND MI 49424
(616) 399-6070
REF: HS15030179/192/201/213/218

Fedt...
Express

E

SATURDAY 12:00P
PRIORITY OVERNIGHT

TRK# 0201 5813 7992 2682

X0 HLMA

49424
MI-US GRR

Part # 158148-434 RIT2 09/14

Seal Broken By:
Date:

CUSTODY SEAL
Date: 3/6/15
Time: 1800
Name:
Company:

ALS Environmental
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

ALS Group USA, Corp

## Sample Receipt Checklist

Client Name: **ALS - HOUSTON** Date/Time Received: **07-Mar-15 13:30**

Work Order: **1503380** Received by: **DS**

Checklist completed by Diane Shaw (eSignature) 09-Mar-15 (Date) Reviewed by: Chad Whelton (eSignature) 09-Mar-15 (Date)

Matrices: Liquid, Solid
Carrier name: FedEx

| | | | |
|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ |
| Custody seals intact on shipping container/cooler? | Yes ☑ | No ☐ | Not Present ☐ |
| Custody seals intact on sample bottles? | Yes ☐ | No ☐ | Not Present ☑ |
| Chain of custody present? | Yes ☑ | No ☐ | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | |
| Sample containers intact? | Yes ☑ | No ☐ | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | |
| All samples received within holding time? | Yes ☑ | No ☐ | |
| Container/Temp Blank temperature in compliance? | Yes ☑ | No ☐ | |
| Sample(s) received on ice? | Yes ☑ | No ☐ | |
| Temperature(s)/Thermometer(s): | 3.0 c | SR2 | |
| Cooler(s)/Kit(s): | | | |
| Date/Time sample(s) sent to storage: | 3/9/2015 9:00:04 AM | | |
| Water - VOA vials have zero headspace? | Yes ☐ | No ☐ | No VOA vials submitted ☑ |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☐ | N/A ☑ |
| pH adjusted? | Yes ☐ | No ☐ | N/A ☑ |
| pH adjusted by: | - | | |

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

SRC Page 1 of 1

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

March 30, 2015

Hiren Shah
Effective Environmental Inc.
9950 Chemical Road
Pasadena, TX 77507

Work Order: **HS15030223**

Revision: **1**

Laboratory Results for: **USOR - Equ Assesment and Sampling 8181**

Dear Hiren,

ALS Environmental received 4 sample(s) on Mar 06, 2015 for the analysis presented in the following report.

This is a REVISED REPORT. Please see the Case Narrative for discussion concerning this revision.

Regards,

**Generated By: Dane.Wacasey**

Dane J. Wacasey

**Client:** Effective Environmental Inc.
**Project:** USOR - Equ Assesment and Sampling 8181
**Work Order:** HS15030223

## SAMPLE SUMMARY

| Lab Samp ID | Client Sample ID | Matrix | TagNo | Collection Date | Date Received | Hold |
|---|---|---|---|---|---|---|
| HS15030223-01 | USOR-EQ-14-ICP Tank B | Solid | | 05-Mar-2015 10:25 | 06-Mar-2015 13:26 | ☐ |
| HS15030223-02 | USOR-EQ-01 Heated & Agitated Frac Tank | Solid | | 05-Mar-2015 09:15 | 06-Mar-2015 13:26 | ☐ |
| HS15030223-03 | USOR-EQ-02 Dissolved Air Flotation Unit | Solid | | 05-Mar-2015 09:45 | 06-Mar-2015 13:26 | ☐ |
| HS15030223-04 | Trip Blank 030215-13 | Water | | 05-Mar-2015 00:00 | 06-Mar-2015 13:26 | ☐ |

**Revision:** 1

**Client:** Effective Environmental Inc.
**Project:** USOR - Equ Assesment and Sampling 8181
**Work Order:** HS15030223

**CASE NARRATIVE**

## Work Order Comments

- At the request of the client, this report was revised March 30, 2015 in order to adjust the sample name for HS15030223-01 to match sample name listed on the container labels.
- Sample received outside method holding time for pH. pH is an immediate test. Sample results are flagged with an "H" qualifier.
- The analyses for Reactive Cyanide and Reactive Sulfide were subcontracted to ALS Environmental in Holland, MI.

## GCMS Semivolatiles by Method SW1311/8270

### Batch ID: 91303

Sample ID: **HS15030223-01**
Sample ID: **HS15030223-02**
Sample ID: **HS15030223-03**
- The GCMS semi-volatile extract of this sample was run at a dilution because the undiluted extract cause an instrument shutdown due to a high level of sample matrix interference.

Sample ID: **LCSD-91303**
- The RPD between the LCS and LCSD was outside of the control limit.

## GCMS Volatiles by Method SW1311/8260B

### Batch ID: R250959

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

## GCMS Volatiles by Method SW8260

### Batch ID: R250808

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Sample ID: **VSTD050**
- 2-Butanone, exceeded %D limits for CCV, Samples are ND for this compound.

## Metals by Method SW7470

### Batch ID: 91298

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

## Metals by Method SW1311/6020

### Batch ID: 91289

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

## WetChemistry by Method SW1030

### Batch ID: R250986

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

## WetChemistry by Method SW9045B

### Batch ID: R250802

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

| | | |
|---|---|---|
| Client: | Effective Environmental Inc. | **ANALYTICAL REPORT** |
| Project: | USOR - Equ Assesment and Sampling 8181 | WorkOrder:HS15030223 |
| Sample ID: | USOR-EQ-14-ICP Tank B | Lab ID:HS15030223-01 |
| Collection Date: | 05-Mar-2015 10:25 | Matrix:Solid |

| ANALYSES | RESULT | QUAL | MDL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|
| **TCLP VOLATILES** | | **Method:SW1311/8260B** | | Leache:SW1311 / 09-Mar-2015 | Prep:SW1311 / 09-Mar-2015 | | Analyst: PC |
| 1,1-Dichloroethene | U | | 0.010 | 0.10 | mg/L | 20 | 11-Mar-2015 12:08 |
| 1,2-Dichloroethane | U | | 0.010 | 0.10 | mg/L | 20 | 11-Mar-2015 12:08 |
| 1,4-Dichlorobenzene | U | | 0.012 | 0.10 | mg/L | 20 | 11-Mar-2015 12:08 |
| **2-Butanone** | **0.052** | J | **0.020** | **0.20** | **mg/L** | 20 | 11-Mar-2015 12:08 |
| **Benzene** | **0.73** | | **0.012** | **0.10** | **mg/L** | 20 | 11-Mar-2015 12:08 |
| Carbon tetrachloride | U | | 0.012 | 0.10 | mg/L | 20 | 11-Mar-2015 12:08 |
| Chlorobenzene | U | | 0.0080 | 0.10 | mg/L | 20 | 11-Mar-2015 12:08 |
| Chloroform | U | | 0.012 | 0.10 | mg/L | 20 | 11-Mar-2015 12:08 |
| Tetrachloroethene | U | | 0.012 | 0.10 | mg/L | 20 | 11-Mar-2015 12:08 |
| **Trichloroethene** | **0.018** | J | **0.010** | **0.10** | **mg/L** | 20 | 11-Mar-2015 12:08 |
| Vinyl chloride | U | | 0.0080 | 0.040 | mg/L | 20 | 11-Mar-2015 12:08 |
| *Surr: 1,2-Dichloroethane-d4* | *93.2* | | | *70-125* | *%REC* | *20* | *11-Mar-2015 12:08* |
| *Surr: 4-Bromofluorobenzene* | *98.9* | | | *72-125* | *%REC* | *20* | *11-Mar-2015 12:08* |
| *Surr: Dibromofluoromethane* | *96.9* | | | *71-125* | *%REC* | *20* | *11-Mar-2015 12:08* |
| *Surr: Toluene-d8* | *96.5* | | | *75-125* | *%REC* | *20* | *11-Mar-2015 12:08* |
| **TCLP SEMIVOLATILES** | | **Method:SW1311/8270** | | Leache:SW1311 / 09-Mar-2015 | Prep:SW3510 / 11-Mar-2015 | | Analyst: ACN |
| 2,4,5-Trichlorophenol | U | | 0.0090 | 0.050 | mg/L | 10 | 12-Mar-2015 13:04 |
| 2,4,6-Trichlorophenol | U | | 0.014 | 0.050 | mg/L | 10 | 12-Mar-2015 13:04 |
| 2,4-Dinitrotoluene | U | | 0.010 | 0.050 | mg/L | 10 | 12-Mar-2015 13:04 |
| **Cresols, Total** | **0.54** | | **0.020** | **0.15** | **mg/L** | 10 | 12-Mar-2015 13:04 |
| Hexachlorobenzene | U | | 0.011 | 0.050 | mg/L | 10 | 12-Mar-2015 13:04 |
| Hexachlorobutadiene | U | | 0.011 | 0.050 | mg/L | 10 | 12-Mar-2015 13:04 |
| Hexachloroethane | U | | 0.010 | 0.050 | mg/L | 10 | 12-Mar-2015 13:04 |
| Nitrobenzene | U | | 0.0080 | 0.050 | mg/L | 10 | 12-Mar-2015 13:04 |
| Pentachlorophenol | U | | 0.016 | 0.050 | mg/L | 10 | 12-Mar-2015 13:04 |
| Pyridine | U | | 0.020 | 0.050 | mg/L | 10 | 12-Mar-2015 13:04 |
| *Surr: 2,4,6-Tribromophenol* | *80.1* | | | *39-153* | *%REC* | *10* | *12-Mar-2015 13:04* |
| *Surr: 2-Fluorobiphenyl* | *84.1* | | | *40-147* | *%REC* | *10* | *12-Mar-2015 13:04* |
| *Surr: 2-Fluorophenol* | *71.0* | | | *21-110* | *%REC* | *10* | *12-Mar-2015 13:04* |
| *Surr: 4-Terphenyl-d14* | *100* | | | *39-141* | *%REC* | *10* | *12-Mar-2015 13:04* |
| *Surr: Nitrobenzene-d5* | *69.0* | | | *37-140* | *%REC* | *10* | *12-Mar-2015 13:04* |
| *Surr: Phenol-d6* | *99.3* | | | *11-110* | *%REC* | *10* | *12-Mar-2015 13:04* |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Revision:**1

| | | |
|---|---|---|
| Client: | Effective Environmental Inc. | **ANALYTICAL REPORT** |
| Project: | USOR - Equ Assesment and Sampling 8181 | WorkOrder:HS15030223 |
| Sample ID: | USOR-EQ-14-ICP Tank B | Lab ID:HS15030223-01 |
| Collection Date: | 05-Mar-2015 10:25 | Matrix:Solid |

| ANALYSES | RESULT | QUAL | MDL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|
| **TCLP METALS BY SW6020A** | | **Method:SW1311/6020** | | Leache:SW1311 / 09-Mar-2015 | Prep:SW3010A / 11-Mar-2015 | | Analyst: JDE |
| Arsenic | U | | 0.0100 | 0.0500 | mg/L | 1 | 12-Mar-2015 01:19 |
| **Barium** | **0.0893** | J | **0.00900** | **0.200** | **mg/L** | 1 | 12-Mar-2015 01:19 |
| Cadmium | U | | 0.00800 | 0.0500 | mg/L | 1 | 12-Mar-2015 01:19 |
| **Chromium** | **0.126** | | **0.0100** | **0.0500** | **mg/L** | 1 | 12-Mar-2015 01:19 |
| **Lead** | **0.0194** | J | **0.00700** | **0.0500** | **mg/L** | 1 | 12-Mar-2015 01:19 |
| Selenium | U | | 0.0100 | 0.0500 | mg/L | 1 | 12-Mar-2015 01:19 |
| Silver | U | | 0.00800 | 0.0500 | mg/L | 1 | 12-Mar-2015 01:19 |
| **BURN RATE BY METHOD SW1030** | | **Method:SW1030** | | | | | Analyst: KAH |
| Ignitability, Solid | Negative | | 0 | 0 | Burn Rate, mm/sec | 1 | 12-Mar-2015 15:50 |
| **TCLP MERCURY BY SW7470A** | | **Method:SW7470** | | Leache:SW1311 / 09-Mar-2015 | Prep:SW7470 / 11-Mar-2015 | | Analyst: OFO |
| **Mercury** | **0.0000960** | J | **0.0000420** | **0.000200** | **mg/L** | 1 | 11-Mar-2015 16:04 |
| **PH SOIL BY SW9045D** | | **Method:SW9045B** | | | | | Analyst: JHD |
| **pH** | **7.01** | H | **0.100** | **0.100** | **pH Units** | 1 | 09-Mar-2015 15:10 |
| **REACTIVE CYANIDE** | | **Method:SW7.3.3.2** | | | | | Analyst: SUB |
| Reactive Cyanide | See Attached | | 100 | | mg/Kg | 1 | 10-Mar-2015 16:30 |
| **REACTIVE SULFIDE** | | **Method:SW7.3.4.2** | | | | | Analyst: SUB |
| Reactive Sulfide | See Attached | | 100 | | mg/Kg | 1 | 10-Mar-2015 15:30 |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Revision:**1

| | | |
|---|---|---|
| Client: | Effective Environmental Inc. | **ANALYTICAL REPORT** |
| Project: | USOR - Equ Assesment and Sampling 8181 | WorkOrder:HS15030223 |
| Sample ID: | USOR-EQ-01 Heated & Agitated Frac Tank | Lab ID:HS15030223-02 |
| Collection Date: | 05-Mar-2015 09:15 | Matrix:Solid |

| ANALYSES | RESULT | QUAL | MDL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|
| **TCLP VOLATILES** | | **Method:SW1311/8260B** | | Leache:SW1311 / 09-Mar-2015 | Prep:SW1311 / 09-Mar-2015 | | Analyst: PC |
| 1,1-Dichloroethene | U | | 0.010 | 0.10 | mg/L | 20 | 11-Mar-2015 12:32 |
| 1,2-Dichloroethane | U | | 0.010 | 0.10 | mg/L | 20 | 11-Mar-2015 12:32 |
| 1,4-Dichlorobenzene | U | | 0.012 | 0.10 | mg/L | 20 | 11-Mar-2015 12:32 |
| **2-Butanone** | **0.091** | J | **0.020** | **0.20** | **mg/L** | 20 | 11-Mar-2015 12:32 |
| **Benzene** | **0.34** | | **0.012** | **0.10** | **mg/L** | 20 | 11-Mar-2015 12:32 |
| Carbon tetrachloride | U | | 0.012 | 0.10 | mg/L | 20 | 11-Mar-2015 12:32 |
| Chlorobenzene | U | | 0.0080 | 0.10 | mg/L | 20 | 11-Mar-2015 12:32 |
| Chloroform | U | | 0.012 | 0.10 | mg/L | 20 | 11-Mar-2015 12:32 |
| Tetrachloroethene | U | | 0.012 | 0.10 | mg/L | 20 | 11-Mar-2015 12:32 |
| Trichloroethene | U | | 0.010 | 0.10 | mg/L | 20 | 11-Mar-2015 12:32 |
| Vinyl chloride | U | | 0.0080 | 0.040 | mg/L | 20 | 11-Mar-2015 12:32 |
| *Surr: 1,2-Dichloroethane-d4* | *93.8* | | | *70-125* | *%REC* | *20* | *11-Mar-2015 12:32* |
| *Surr: 4-Bromofluorobenzene* | *96.7* | | | *72-125* | *%REC* | *20* | *11-Mar-2015 12:32* |
| *Surr: Dibromofluoromethane* | *96.3* | | | *71-125* | *%REC* | *20* | *11-Mar-2015 12:32* |
| *Surr: Toluene-d8* | *95.3* | | | *75-125* | *%REC* | *20* | *11-Mar-2015 12:32* |
| **TCLP SEMIVOLATILES** | | **Method:SW1311/8270** | | Leache:SW1311 / 09-Mar-2015 | Prep:SW3510 / 11-Mar-2015 | | Analyst: ACN |
| 2,4,5-Trichlorophenol | U | | 0.0090 | 0.050 | mg/L | 10 | 12-Mar-2015 14:35 |
| 2,4,6-Trichlorophenol | U | | 0.014 | 0.050 | mg/L | 10 | 12-Mar-2015 14:35 |
| 2,4-Dinitrotoluene | U | | 0.010 | 0.050 | mg/L | 10 | 12-Mar-2015 14:35 |
| **Cresols, Total** | **0.54** | | **0.020** | **0.15** | **mg/L** | 10 | 12-Mar-2015 14:35 |
| Hexachlorobenzene | U | | 0.011 | 0.050 | mg/L | 10 | 12-Mar-2015 14:35 |
| Hexachlorobutadiene | U | | 0.011 | 0.050 | mg/L | 10 | 12-Mar-2015 14:35 |
| Hexachloroethane | U | | 0.010 | 0.050 | mg/L | 10 | 12-Mar-2015 14:35 |
| Nitrobenzene | U | | 0.0080 | 0.050 | mg/L | 10 | 12-Mar-2015 14:35 |
| Pentachlorophenol | U | | 0.016 | 0.050 | mg/L | 10 | 12-Mar-2015 14:35 |
| Pyridine | U | | 0.020 | 0.050 | mg/L | 10 | 12-Mar-2015 14:35 |
| *Surr: 2,4,6-Tribromophenol* | *98.1* | | | *39-153* | *%REC* | *10* | *12-Mar-2015 14:35* |
| *Surr: 2-Fluorobiphenyl* | *80.5* | | | *40-147* | *%REC* | *10* | *12-Mar-2015 14:35* |
| *Surr: 2-Fluorophenol* | *73.7* | | | *21-110* | *%REC* | *10* | *12-Mar-2015 14:35* |
| *Surr: 4-Terphenyl-d14* | *111* | | | *39-141* | *%REC* | *10* | *12-Mar-2015 14:35* |
| *Surr: Nitrobenzene-d5* | *60.0* | | | *37-140* | *%REC* | *10* | *12-Mar-2015 14:35* |
| *Surr: Phenol-d6* | *89.8* | | | *11-110* | *%REC* | *10* | *12-Mar-2015 14:35* |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Revision:**1

| | | |
|---|---|---|
| Client: | Effective Environmental Inc. | **ANALYTICAL REPORT** |
| Project: | USOR - Equ Assesment and Sampling 8181 | WorkOrder:HS15030223 |
| Sample ID: | USOR-EQ-01 Heated & Agitated Frac Tank | Lab ID:HS15030223-02 |
| Collection Date: | 05-Mar-2015 09:15 | Matrix:Solid |

| ANALYSES | RESULT | QUAL | MDL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|
| **TCLP METALS BY SW6020A** | | **Method:SW1311/6020** | | Leache:SW1311 / 09-Mar-2015 | Prep:SW3010A / 11-Mar-2015 | | Analyst: JDE |
| Arsenic | U | | 0.0100 | 0.0500 | mg/L | 1 | 12-Mar-2015 01:24 |
| **Barium** | **2.59** | | **0.00900** | **0.200** | **mg/L** | 1 | 12-Mar-2015 01:24 |
| Cadmium | U | | 0.00800 | 0.0500 | mg/L | 1 | 12-Mar-2015 01:24 |
| Chromium | U | | 0.0100 | 0.0500 | mg/L | 1 | 12-Mar-2015 01:24 |
| **Lead** | **0.0147** | J | **0.00700** | **0.0500** | **mg/L** | 1 | 12-Mar-2015 01:24 |
| Selenium | U | | 0.0100 | 0.0500 | mg/L | 1 | 12-Mar-2015 01:24 |
| Silver | U | | 0.00800 | 0.0500 | mg/L | 1 | 12-Mar-2015 01:24 |
| **BURN RATE BY METHOD SW1030** | | **Method:SW1030** | | | | | Analyst: KAH |
| Ignitability, Solid | Negative | | 0 | 0 | Burn Rate, mm/sec | 1 | 12-Mar-2015 15:50 |
| **TCLP MERCURY BY SW7470A** | | **Method:SW7470** | | Leache:SW1311 / 09-Mar-2015 | Prep:SW7470 / 11-Mar-2015 | | Analyst: OFO |
| Mercury | U | | 0.0000420 | 0.000200 | mg/L | 1 | 11-Mar-2015 16:10 |
| **PH SOIL BY SW9045D** | | **Method:SW9045B** | | | | | Analyst: JHD |
| **pH** | **6.01** | H | **0.100** | **0.100** | **pH Units** | 1 | 09-Mar-2015 15:10 |
| **REACTIVE CYANIDE** | | **Method:SW7.3.3.2** | | | | | Analyst: SUB |
| Reactive Cyanide | See Attached | | 100 | | mg/Kg | 1 | 10-Mar-2015 16:30 |
| **REACTIVE SULFIDE** | | **Method:SW7.3.4.2** | | | | | Analyst: SUB |
| Reactive Sulfide | See Attached | | 100 | | mg/Kg | 1 | 10-Mar-2015 15:30 |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Revision:**1

| | | | |
|---|---|---|---|
| Client: | Effective Environmental Inc. | **ANALYTICAL REPORT** | |
| Project: | USOR - Equ Assesment and Sampling 8181 | WorkOrder:HS15030223 | |
| Sample ID: | USOR-EQ-02 Dissolved Air Flotation Unit | Lab ID:HS15030223-03 | |
| Collection Date: | 05-Mar-2015 09:45 | Matrix:Solid | |

| ANALYSES | RESULT | QUAL | MDL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|
| **TCLP VOLATILES** | | **Method:SW1311/8260B** | | Leache:SW1311 / 09-Mar-2015 | Prep:SW1311 / 09-Mar-2015 | | Analyst: PC |
| 1,1-Dichloroethene | U | | 0.010 | 0.10 | mg/L | 20 | 11-Mar-2015 12:56 |
| 1,2-Dichloroethane | U | | 0.010 | 0.10 | mg/L | 20 | 11-Mar-2015 12:56 |
| 1,4-Dichlorobenzene | U | | 0.012 | 0.10 | mg/L | 20 | 11-Mar-2015 12:56 |
| **2-Butanone** | **0.070** | J | **0.020** | **0.20** | **mg/L** | 20 | 11-Mar-2015 12:56 |
| **Benzene** | **1.2** | | **0.012** | **0.10** | **mg/L** | 20 | 11-Mar-2015 12:56 |
| Carbon tetrachloride | U | | 0.012 | 0.10 | mg/L | 20 | 11-Mar-2015 12:56 |
| Chlorobenzene | U | | 0.0080 | 0.10 | mg/L | 20 | 11-Mar-2015 12:56 |
| Chloroform | U | | 0.012 | 0.10 | mg/L | 20 | 11-Mar-2015 12:56 |
| **Tetrachloroethene** | **0.027** | J | **0.012** | **0.10** | **mg/L** | 20 | 11-Mar-2015 12:56 |
| **Trichloroethene** | **0.055** | J | **0.010** | **0.10** | **mg/L** | 20 | 11-Mar-2015 12:56 |
| Vinyl chloride | U | | 0.0080 | 0.040 | mg/L | 20 | 11-Mar-2015 12:56 |
| *Surr: 1,2-Dichloroethane-d4* | *90.6* | | | *70-125* | *%REC* | *20* | *11-Mar-2015 12:56* |
| *Surr: 4-Bromofluorobenzene* | *97.4* | | | *72-125* | *%REC* | *20* | *11-Mar-2015 12:56* |
| *Surr: Dibromofluoromethane* | *94.3* | | | *71-125* | *%REC* | *20* | *11-Mar-2015 12:56* |
| *Surr: Toluene-d8* | *94.6* | | | *75-125* | *%REC* | *20* | *11-Mar-2015 12:56* |
| **TCLP SEMIVOLATILES** | | **Method:SW1311/8270** | | Leache:SW1311 / 09-Mar-2015 | Prep:SW3510 / 11-Mar-2015 | | Analyst: ACN |
| 2,4,5-Trichlorophenol | U | | 0.0090 | 0.050 | mg/L | 10 | 11-Mar-2015 19:39 |
| 2,4,6-Trichlorophenol | U | | 0.014 | 0.050 | mg/L | 10 | 11-Mar-2015 19:39 |
| 2,4-Dinitrotoluene | U | | 0.010 | 0.050 | mg/L | 10 | 11-Mar-2015 19:39 |
| **Cresols, Total** | **0.52** | | **0.020** | **0.15** | **mg/L** | 10 | 11-Mar-2015 19:39 |
| Hexachlorobenzene | U | | 0.011 | 0.050 | mg/L | 10 | 11-Mar-2015 19:39 |
| Hexachlorobutadiene | U | | 0.011 | 0.050 | mg/L | 10 | 11-Mar-2015 19:39 |
| Hexachloroethane | U | | 0.010 | 0.050 | mg/L | 10 | 11-Mar-2015 19:39 |
| Nitrobenzene | U | | 0.0080 | 0.050 | mg/L | 10 | 11-Mar-2015 19:39 |
| Pentachlorophenol | U | | 0.016 | 0.050 | mg/L | 10 | 11-Mar-2015 19:39 |
| Pyridine | U | | 0.020 | 0.050 | mg/L | 10 | 11-Mar-2015 19:39 |
| *Surr: 2,4,6-Tribromophenol* | *78.5* | | | *39-153* | *%REC* | *10* | *11-Mar-2015 19:39* |
| *Surr: 2-Fluorobiphenyl* | *87.4* | | | *40-147* | *%REC* | *10* | *11-Mar-2015 19:39* |
| *Surr: 2-Fluorophenol* | *72.0* | | | *21-110* | *%REC* | *10* | *11-Mar-2015 19:39* |
| *Surr: 4-Terphenyl-d14* | *79.9* | | | *39-141* | *%REC* | *10* | *11-Mar-2015 19:39* |
| *Surr: Nitrobenzene-d5* | *80.1* | | | *37-140* | *%REC* | *10* | *11-Mar-2015 19:39* |
| *Surr: Phenol-d6* | *81.7* | | | *11-110* | *%REC* | *10* | *11-Mar-2015 19:39* |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Revision:**1

| | | |
|---|---|---|
| Client: | Effective Environmental Inc. | **ANALYTICAL REPORT** |
| Project: | USOR - Equ Assesment and Sampling 8181 | WorkOrder:HS15030223 |
| Sample ID: | USOR-EQ-02 Dissolved Air Flotation Unit | Lab ID:HS15030223-03 |
| Collection Date: | 05-Mar-2015 09:45 | Matrix:Solid |

| ANALYSES | RESULT | QUAL | MDL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|
| **TCLP METALS BY SW6020A** | | **Method:SW1311/6020** | | Leache:SW1311 / 09-Mar-2015 | Prep:SW3010A / 11-Mar-2015 | | Analyst: JDE |
| Arsenic | U | | 0.0100 | 0.0500 | mg/L | 1 | 12-Mar-2015 01:29 |
| **Barium** | **0.294** | | **0.00900** | **0.200** | **mg/L** | 1 | 12-Mar-2015 01:29 |
| Cadmium | U | | 0.00800 | 0.0500 | mg/L | 1 | 12-Mar-2015 01:29 |
| **Chromium** | **0.0148** | J | **0.0100** | **0.0500** | **mg/L** | 1 | 12-Mar-2015 01:29 |
| Lead | U | | 0.00700 | 0.0500 | mg/L | 1 | 12-Mar-2015 01:29 |
| Selenium | U | | 0.0100 | 0.0500 | mg/L | 1 | 12-Mar-2015 01:29 |
| Silver | U | | 0.00800 | 0.0500 | mg/L | 1 | 12-Mar-2015 01:29 |
| **BURN RATE BY METHOD SW1030** | | **Method:SW1030** | | | | | Analyst: KAH |
| Ignitability, Solid | Negative | | 0 | 0 | Burn Rate, mm/sec | 1 | 12-Mar-2015 15:50 |
| **TCLP MERCURY BY SW7470A** | | **Method:SW7470** | | Leache:SW1311 / 09-Mar-2015 | Prep:SW7470 / 11-Mar-2015 | | Analyst: OFO |
| Mercury | U | | 0.0000420 | 0.000200 | mg/L | 1 | 11-Mar-2015 16:11 |
| **PH SOIL BY SW9045D** | | **Method:SW9045B** | | | | | Analyst: JHD |
| **pH** | **6.63** | H | **0.100** | **0.100** | **pH Units** | 1 | 09-Mar-2015 15:10 |
| **REACTIVE CYANIDE** | | **Method:SW7.3.3.2** | | | | | Analyst: SUB |
| Reactive Cyanide | See Attached | | 100 | | mg/Kg | 1 | 10-Mar-2015 16:30 |
| **REACTIVE SULFIDE** | | **Method:SW7.3.4.2** | | | | | Analyst: SUB |
| Reactive Sulfide | See Attached | | 100 | | mg/Kg | 1 | 10-Mar-2015 15:30 |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Revision:**1

| | | |
|---|---|---|
| Client: | Effective Environmental Inc. | **ANALYTICAL REPORT** |
| Project: | USOR - Equ Assesment and Sampling 8181 | WorkOrder:HS15030223 |
| Sample ID: | Trip Blank 030215-13 | Lab ID:HS15030223-04 |
| Collection Date: | 05-Mar-2015 00:00 | Matrix:Water |

| ANALYSES | RESULT | QUAL | MDL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---|---|---|---|---|---|---|
| **LOW LEVEL VOLATILES BY SW8260C** | | **Method:SW8260** | | | | | Analyst: PC |
| 1,1-Dichloroethene | U | | 0.00020 | 0.0010 | mg/L | 1 | 10-Mar-2015 02:45 |
| 1,2-Dichloroethane | U | | 0.00020 | 0.0010 | mg/L | 1 | 10-Mar-2015 02:45 |
| 1,4-Dichlorobenzene | U | | 0.00040 | 0.0010 | mg/L | 1 | 10-Mar-2015 02:45 |
| 2-Butanone | U | | 0.00050 | 0.0020 | mg/L | 1 | 10-Mar-2015 02:45 |
| Benzene | U | | 0.00020 | 0.0010 | mg/L | 1 | 10-Mar-2015 02:45 |
| Carbon tetrachloride | U | | 0.00050 | 0.0010 | mg/L | 1 | 10-Mar-2015 02:45 |
| Chlorobenzene | U | | 0.00030 | 0.0010 | mg/L | 1 | 10-Mar-2015 02:45 |
| Chloroform | U | | 0.00020 | 0.0010 | mg/L | 1 | 10-Mar-2015 02:45 |
| Tetrachloroethene | U | | 0.00030 | 0.0010 | mg/L | 1 | 10-Mar-2015 02:45 |
| Trichloroethene | U | | 0.00020 | 0.0010 | mg/L | 1 | 10-Mar-2015 02:45 |
| Vinyl chloride | U | | 0.00020 | 0.0010 | mg/L | 1 | 10-Mar-2015 02:45 |
| *Surr: 1,2-Dichloroethane-d4* | *114* | | | *71-125* | *%REC* | *1* | *10-Mar-2015 02:45* |
| *Surr: 4-Bromofluorobenzene* | *108* | | | *70-125* | *%REC* | *1* | *10-Mar-2015 02:45* |
| *Surr: Dibromofluoromethane* | *112* | | | *74-125* | *%REC* | *1* | *10-Mar-2015 02:45* |
| *Surr: Toluene-d8* | *121* | | | *75-125* | *%REC* | *1* | *10-Mar-2015 02:45* |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Revision:**1

**Client:** Effective Environmental Inc.
**Project:** USOR - Equ Assesment and Sampling 8181
**WorkOrder:** HS15030223

## DATES REPORT

| Sample ID | Client Samp ID | Collection Date | TCLP Date | Prep Date | Analysis Date | DF |
|---|---|---|---|---|---|---|
| **Batch ID** 91289 | **Test Name :** TCLP METALS BY SW6020A | | | **Matrix:** Solid | | |
| HS15030223-01 | USOR-EQ-14-ICP Tank B | 05 Mar 2015 10:25 | 09 Mar 2015 15:11 | 11 Mar 2015 11:40 | 12 Mar 2015 01:19 | 1 |
| HS15030223-02 | USOR-EQ-01 Heated & Agitated Frac Tank | 05 Mar 2015 09:15 | 09 Mar 2015 15:11 | 11 Mar 2015 11:40 | 12 Mar 2015 01:24 | 1 |
| HS15030223-03 | USOR-EQ-02 Dissolved Air Flotation Unit | 05 Mar 2015 09:45 | 09 Mar 2015 15:11 | 11 Mar 2015 11:40 | 12 Mar 2015 01:29 | 1 |
| **Batch ID** 91298 | **Test Name :** TCLP MERCURY BY SW7470A | | | **Matrix:** Solid | | |
| HS15030223-01 | USOR-EQ-14-ICP Tank B | 05 Mar 2015 10:25 | 11 Mar 2015 10:04 | 11 Mar 2015 10:04 | 11 Mar 2015 16:04 | 1 |
| HS15030223-02 | USOR-EQ-01 Heated & Agitated Frac Tank | 05 Mar 2015 09:15 | 11 Mar 2015 10:04 | 11 Mar 2015 10:04 | 11 Mar 2015 16:10 | 1 |
| HS15030223-03 | USOR-EQ-02 Dissolved Air Flotation Unit | 05 Mar 2015 09:45 | 11 Mar 2015 10:04 | 11 Mar 2015 10:04 | 11 Mar 2015 16:11 | 1 |
| **Batch ID** 91303 | **Test Name :** TCLP SEMIVOLATILES | | | **Matrix:** Solid | | |
| HS15030223-01 | USOR-EQ-14-ICP Tank B | 05 Mar 2015 10:25 | 09 Mar 2015 14:58 | 11 Mar 2015 11:17 | 12 Mar 2015 13:04 | 10 |
| HS15030223-02 | USOR-EQ-01 Heated & Agitated Frac Tank | 05 Mar 2015 09:15 | 09 Mar 2015 14:58 | 11 Mar 2015 11:17 | 12 Mar 2015 14:35 | 10 |
| HS15030223-03 | USOR-EQ-02 Dissolved Air Flotation Unit | 05 Mar 2015 09:45 | 09 Mar 2015 14:58 | 11 Mar 2015 11:17 | 11 Mar 2015 19:39 | 10 |
| **Batch ID** R250802 | **Test Name :** PH SOIL BY SW9045D | | | **Matrix:** Solid | | |
| HS15030223-01 | USOR-EQ-14-ICP Tank B | 05 Mar 2015 10:25 | | | 09 Mar 2015 15:10 | 1 |
| HS15030223-02 | USOR-EQ-01 Heated & Agitated Frac Tank | 05 Mar 2015 09:15 | | | 09 Mar 2015 15:10 | 1 |
| HS15030223-03 | USOR-EQ-02 Dissolved Air Flotation Unit | 05 Mar 2015 09:45 | | | 09 Mar 2015 15:10 | 1 |
| **Batch ID** R250808 | **Test Name :** LOW LEVEL VOLATILES BY SW8260C | | | **Matrix:** Water | | |
| HS15030223-04 | Trip Blank 030215-13 | 05 Mar 2015 00:00 | | | 10 Mar 2015 02:45 | 1 |
| **Batch ID** R250883 | **Test Name :** REACTIVE CYANIDE | | | **Matrix:** Solid | | |
| HS15030223-01 | USOR-EQ-14-ICP Tank B | 05 Mar 2015 10:25 | | | 10 Mar 2015 16:30 | 1 |
| HS15030223-01 | USOR-EQ-14-ICP Tank B | 05 Mar 2015 10:25 | | | 10 Mar 2015 16:30 | 1 |
| HS15030223-01 | USOR-EQ-14-ICP Tank B | 05 Mar 2015 10:25 | | | 10 Mar 2015 15:30 | 1 |
| HS15030223-01 | USOR-EQ-14-ICP Tank B | 05 Mar 2015 10:25 | | | 10 Mar 2015 15:30 | 1 |
| HS15030223-02 | USOR-EQ-01 Heated & Agitated Frac Tank | 05 Mar 2015 09:15 | | | 10 Mar 2015 16:30 | 1 |
| HS15030223-02 | USOR-EQ-01 Heated & Agitated Frac Tank | 05 Mar 2015 09:15 | | | 10 Mar 2015 16:30 | 1 |
| HS15030223-02 | USOR-EQ-01 Heated & Agitated Frac Tank | 05 Mar 2015 09:15 | | | 10 Mar 2015 15:30 | 1 |
| HS15030223-02 | USOR-EQ-01 Heated & Agitated Frac Tank | 05 Mar 2015 09:15 | | | 10 Mar 2015 15:30 | 1 |
| HS15030223-03 | USOR-EQ-02 Dissolved Air Flotation Unit | 05 Mar 2015 09:45 | | | 10 Mar 2015 16:30 | 1 |
| HS15030223-03 | USOR-EQ-02 Dissolved Air Flotation Unit | 05 Mar 2015 09:45 | | | 10 Mar 2015 16:30 | 1 |
| HS15030223-03 | USOR-EQ-02 Dissolved Air Flotation Unit | 05 Mar 2015 09:45 | | | 10 Mar 2015 15:30 | 1 |
| HS15030223-03 | USOR-EQ-02 Dissolved Air Flotation Unit | 05 Mar 2015 09:45 | | | 10 Mar 2015 15:30 | 1 |

**Revision:**1

**Client:** Effective Environmental Inc.
**Project:** USOR - Equ Assesment and Sampling 8181
**WorkOrder:** HS15030223

## DATES REPORT

| Sample ID | Client Samp ID | Collection Date | TCLP Date | Prep Date | Analysis Date | DF |
|---|---|---|---|---|---|---|
| **Batch ID** R250959 | **Test Name :** TCLP VOLATILES | | | **Matrix:** Solid | | |
| HS15030223-01 | USOR-EQ-14-ICP Tank B | 05 Mar 2015 10:25 | 09 Mar 2015 17:22 | 09 Mar 2015 17:22 | 11 Mar 2015 12:08 | 20 |
| HS15030223-02 | USOR-EQ-01 Heated & Agitated Frac Tank | 05 Mar 2015 09:15 | 09 Mar 2015 17:22 | 09 Mar 2015 17:22 | 11 Mar 2015 12:32 | 20 |
| HS15030223-03 | USOR-EQ-02 Dissolved Air Flotation Unit | 05 Mar 2015 09:45 | 09 Mar 2015 17:22 | 09 Mar 2015 17:22 | 11 Mar 2015 12:56 | 20 |
| **Batch ID** R250986 | **Test Name :** BURN RATE BY METHOD SW1030 | | | **Matrix:** Solid | | |
| HS15030223-01 | USOR-EQ-14-ICP Tank B | 05 Mar 2015 10:25 | | | 12 Mar 2015 15:50 | 1 |
| HS15030223-02 | USOR-EQ-01 Heated & Agitated Frac Tank | 05 Mar 2015 09:15 | | | 12 Mar 2015 15:50 | 1 |
| HS15030223-03 | USOR-EQ-02 Dissolved Air Flotation Unit | 05 Mar 2015 09:45 | | | 12 Mar 2015 15:50 | 1 |

**Revision:**1

**Client:** Effective Environmental Inc.
**Project:** USOR - Equ Assesment and Sampling 8181
**WorkOrder:** HS15030223

## QC BATCH REPORT

**Batch ID: 91289** **Instrument: ICPMS04** **Method: SW1311/6020**

**MBLK** Sample ID: **MBLKT1-91289** Units: **mg/L** Analysis Date: **11-Mar-2015 22:34**
Client ID: Run ID: **ICPMS04_250896** SeqNo: **3211211** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | U | 0.0500 | | | | | | | | |
| Barium | 0.03256 | 0.200 | | | | | | | | J |
| Cadmium | U | 0.0500 | | | | | | | | |
| Chromium | U | 0.0500 | | | | | | | | |
| Lead | U | 0.0500 | | | | | | | | |
| Selenium | U | 0.0500 | | | | | | | | |
| Silver | U | 0.0500 | | | | | | | | |

**MBLK** Sample ID: **MBLK-91289** Units: **mg/L** Analysis Date: **11-Mar-2015 22:39**
Client ID: Run ID: **ICPMS04_250896** SeqNo: **3211212** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | U | 0.00500 | | | | | | | | |
| Barium | U | 0.0200 | | | | | | | | |
| Cadmium | U | 0.00500 | | | | | | | | |
| Chromium | U | 0.00500 | | | | | | | | |
| Lead | U | 0.00500 | | | | | | | | |
| Selenium | U | 0.00500 | | | | | | | | |
| Silver | U | 0.00500 | | | | | | | | |

**LCS** Sample ID: **MLCS-91289** Units: **mg/L** Analysis Date: **11-Mar-2015 22:44**
Client ID: Run ID: **ICPMS04_250896** SeqNo: **3211213** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.04865 | 0.00500 | 0.05 | 0 | 97.3 | 80 - 120 | | | | |
| Barium | 0.04923 | 0.0200 | 0.05 | 0 | 98.5 | 80 - 120 | | | | |
| Cadmium | 0.0503 | 0.00500 | 0.05 | 0 | 101 | 80 - 120 | | | | |
| Chromium | 0.04814 | 0.00500 | 0.05 | 0 | 96.3 | 80 - 120 | | | | |
| Lead | 0.04793 | 0.00500 | 0.05 | 0 | 95.9 | 80 - 120 | | | | |
| Selenium | 0.04882 | 0.00500 | 0.05 | 0 | 97.6 | 80 - 120 | | | | |
| Silver | 0.05031 | 0.00500 | 0.05 | 0 | 101 | 80 - 120 | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Revision:** 1

**Client:** Effective Environmental Inc.
**Project:** USOR - Equ Assesment and Sampling 8181
**WorkOrder:** HS15030223

## QC BATCH REPORT

**Batch ID: 91289** **Instrument: ICPMS04** **Method: SW1311/6020**

**MS** Sample ID: **HS15030206-01MS** Units: **mg/L** Analysis Date: **11-Mar-2015 23:03**
Client ID: Run ID: **ICPMS04_250896** SeqNo: **3211217** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.526 | 0.0500 | 0.5 | 0.01794 | 102 | 80 - 120 | | | | |
| Barium | 1.102 | 0.200 | 0.5 | 0.6276 | 94.9 | 80 - 120 | | | | |
| Cadmium | 0.5072 | 0.0500 | 0.5 | 0.00033 | 101 | 80 - 120 | | | | |
| Chromium | 0.4891 | 0.0500 | 0.5 | 0.00523 | 96.8 | 80 - 120 | | | | |
| Lead | 0.4826 | 0.0500 | 0.5 | 0.00221 | 96.1 | 80 - 120 | | | | |
| Selenium | 0.5412 | 0.0500 | 0.5 | 0.01184 | 106 | 80 - 120 | | | | |
| Silver | 0.4844 | 0.0500 | 0.5 | -0.00047 | 97.0 | 80 - 120 | | | | |

**MSD** Sample ID: **HS15030206-01MSD** Units: **mg/L** Analysis Date: **11-Mar-2015 23:08**
Client ID: Run ID: **ICPMS04_250896** SeqNo: **3211218** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.5094 | 0.0500 | 0.5 | 0.01794 | 98.3 | 80 - 120 | 0.526 | 3.21 | 20 | |
| Barium | 1.087 | 0.200 | 0.5 | 0.6276 | 91.9 | 80 - 120 | 1.102 | 1.37 | 20 | |
| Cadmium | 0.5066 | 0.0500 | 0.5 | 0.00033 | 101 | 80 - 120 | 0.5072 | 0.118 | 20 | |
| Chromium | 0.4727 | 0.0500 | 0.5 | 0.00523 | 93.5 | 80 - 120 | 0.4891 | 3.41 | 20 | |
| Lead | 0.4773 | 0.0500 | 0.5 | 0.00221 | 95.0 | 80 - 120 | 0.4826 | 1.11 | 20 | |
| Selenium | 0.5256 | 0.0500 | 0.5 | 0.01184 | 103 | 80 - 120 | 0.5412 | 2.93 | 20 | |
| Silver | 0.4767 | 0.0500 | 0.5 | -0.00047 | 95.4 | 80 - 120 | 0.4844 | 1.61 | 20 | |

**DUP** Sample ID: **HS15030206-01DUP** Units: **mg/L** Analysis Date: **11-Mar-2015 22:53**
Client ID: Run ID: **ICPMS04_250896** SeqNo: **3211215** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.01775 | 0.0500 | | | | | 0.01794 | 0 | 25 | J |
| Barium | 0.5902 | 0.200 | | | | | 0.6276 | 6.15 | 25 | |
| Cadmium | U | 0.0500 | | | | | 0.00033 | 0 | 25 | |
| Chromium | U | 0.0500 | | | | | 0.00523 | 0 | 25 | |
| Lead | U | 0.0500 | | | | | 0.00221 | 0 | 25 | |
| Selenium | 0.01241 | 0.0500 | | | | | 0.01184 | 0 | 25 | J |
| Silver | U | 0.0500 | | | | | -0.00047 | 0 | 25 | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Revision:** 1

**Client:** Effective Environmental Inc.
**Project:** USOR - Equ Assesment and Sampling 8181
**WorkOrder:** HS15030223

## QC BATCH REPORT

**Batch ID: 91289** **Instrument: ICPMS04** **Method: SW1311/6020**

**PDS** Sample ID: **HS15030206-01BS** Units: **mg/L** Analysis Date: **11-Mar-2015 23:12**
Client ID: Run ID: **ICPMS04_250896** SeqNo: **3211219** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.9837 | 0.0500 | 1 | 0.01794 | 96.6 | 75 - 125 | | | | |
| Barium | 1.568 | 0.200 | 1 | 0.6276 | 94.1 | 75 - 125 | | | | |
| Cadmium | 0.9826 | 0.0500 | 1 | 0.00033 | 98.2 | 75 - 125 | | | | |
| Chromium | 0.9375 | 0.0500 | 1 | 0.00523 | 93.2 | 75 - 125 | | | | |
| Lead | 0.9756 | 0.0500 | 1 | 0.00221 | 97.3 | 75 - 125 | | | | |
| Selenium | 1.023 | 0.0500 | 1 | 0.01184 | 101 | 75 - 125 | | | | |
| Silver | 0.9523 | 0.0500 | 1 | -0.00047 | 95.3 | 75 - 125 | | | | |

**SD** Sample ID: **HS15030206-01 DIL SX** Units: **mg/L** Analysis Date: **11-Mar-2015 22:58**
Client ID: Run ID: **ICPMS04_250896** SeqNo: **3211216** PrepDate: **11-Mar-2015** DF: **5**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | U | 0.250 | | | | | 0.01794 | 0 | 10 | |
| Barium | 0.6024 | 1.00 | | | | | 0.6276 | 0 | 10 | J |
| Cadmium | U | 0.250 | | | | | 0.00033 | 0 | 10 | |
| Chromium | U | 0.250 | | | | | 0.00523 | 0 | 10 | |
| Lead | U | 0.250 | | | | | 0.00221 | 0 | 10 | |
| Selenium | U | 0.250 | | | | | 0.01184 | 0 | 10 | |
| Silver | U | 0.250 | | | | | -0.00047 | 0 | 10 | |

**The following samples were anayzed in this batch:** HS15030223-01 HS15030223-02 HS15030223-03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Revision:** 1

**Client:** Effective Environmental Inc.
**Project:** USOR - Equ Assesment and Sampling 8181
**WorkOrder:** HS15030223

## QC BATCH REPORT

**Batch ID: 91298** **Instrument: HG03** **Method: SW7470**

**MBLK** Sample ID: **GBLKW1-031115** Units: **mg/L** Analysis Date: **11-Mar-2015 13:19**
Client ID: Run ID: **HG03_250932** SeqNo: **3210687** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | U | 0.000200 | | | | | | | | |

**MBLK** Sample ID: **GBLKT1-031015** Units: **mg/L** Analysis Date: **11-Mar-2015 13:33**
Client ID: Run ID: **HG03_250932** SeqNo: **3210695** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | U | 0.000200 | | | | | | | | |

**LCS** Sample ID: **GLCSW1-031115** Units: **mg/L** Analysis Date: **11-Mar-2015 13:21**
Client ID: Run ID: **HG03_250932** SeqNo: **3210688** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.00517 | 0.000200 | 0.005 | 0 | 103 | 80 - 120 | | | | |

**MS** Sample ID: **HS15030213-01MS** Units: **mg/L** Analysis Date: **11-Mar-2015 13:26**
Client ID: Run ID: **HG03_250932** SeqNo: **3210691** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.00504 | 0.000200 | 0.005 | 0.000013 | 101 | 75 - 125 | | | | |

**MSD** Sample ID: **HS15030213-01MSD** Units: **mg/L** Analysis Date: **11-Mar-2015 13:28**
Client ID: Run ID: **HG03_250932** SeqNo: **3210692** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.00532 | 0.000200 | 0.005 | 0.000013 | 106 | 75 - 125 | 0.00504 | 5.41 | 20 | |

**DUP** Sample ID: **HS15030213-01DUP** Units: **mg/L** Analysis Date: **11-Mar-2015 13:24**
Client ID: Run ID: **HG03_250932** SeqNo: **3210690** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | U | 0.000200 | | | | | 0.000013 | 0 | 20 | |

**The following samples were anayzed in this batch:** HS15030223-01 HS15030223-02 HS15030223-03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Revision:** 1

**Client:** Effective Environmental Inc.
**Project:** USOR - Equ Assesment and Sampling 8181
**WorkOrder:** HS15030223

**QC BATCH REPORT**

**Batch ID: 91303** **Instrument: SV-5** **Method: SW1311/8270**

**MBLK** Sample ID: **MBLK-91303** Units: **ug/L** Analysis Date: **11-Mar-2015 15:37**
Client ID: Run ID: **SV-5_250960** SeqNo: **3211369** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 2,4,5-Trichlorophenol | U | 5.0 | | | | | | | | |
| 2,4,6-Trichlorophenol | U | 5.0 | | | | | | | | |
| 2,4-Dinitrotoluene | U | 5.0 | | | | | | | | |
| Cresols, Total | U | 15 | | | | | | | | |
| Hexachlorobenzene | U | 5.0 | | | | | | | | |
| Hexachlorobutadiene | U | 5.0 | | | | | | | | |
| Hexachloroethane | U | 5.0 | | | | | | | | |
| Nitrobenzene | U | 5.0 | | | | | | | | |
| Pentachlorophenol | U | 5.0 | | | | | | | | |
| Pyridine | U | 5.0 | | | | | | | | |
| *Surr: 2,4,6-Tribromophenol* | *74.14* | *5.0* | *100* | *0* | *74.1* | *39 - 153* | | | | |
| *Surr: 2-Fluorobiphenyl* | *71.5* | *5.0* | *100* | *0* | *71.5* | *40 - 147* | | | | |
| *Surr: 2-Fluorophenol* | *73.72* | *5.0* | *100* | *0* | *73.7* | *21 - 110* | | | | |
| *Surr: 4-Terphenyl-d14* | *76.74* | *5.0* | *100* | *0* | *76.7* | *39 - 141* | | | | |
| *Surr: Nitrobenzene-d5* | *73.91* | *5.0* | *100* | *0* | *73.9* | *37 - 140* | | | | |
| *Surr: Phenol-d6* | *86.3* | *5.0* | *100* | *0* | *86.3* | *11 - 110* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Revision:** 1

**Client:** Effective Environmental Inc.
**Project:** USOR - Equ Assesment and Sampling 8181
**WorkOrder:** HS15030223

## QC BATCH REPORT

**Batch ID: 91303** **Instrument: SV-5** **Method: SW1311/8270**

**LCS** Sample ID: **LCS-91303** Units: **ug/L** Analysis Date: **11-Mar-2015 16:22**
Client ID: Run ID: **SV-5_250960** SeqNo: **3211370** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 2,4,5-Trichlorophenol | 95.47 | 5.0 | 100 | 0 | 95.5 | 55 - 120 | | | | |
| 2,4,6-Trichlorophenol | 95.13 | 5.0 | 100 | 0 | 95.1 | 55 - 120 | | | | |
| 2,4-Dinitrotoluene | 48.24 | 5.0 | 50 | 0 | 96.5 | 55 - 125 | | | | |
| Cresols, Total | 221.4 | 15 | 250 | 0 | 88.6 | 40 - 120 | | | | |
| Hexachlorobenzene | 45.05 | 5.0 | 50 | 0 | 90.1 | 55 - 120 | | | | |
| Hexachlorobutadiene | 39.2 | 5.0 | 50 | 0 | 78.4 | 55 - 120 | | | | |
| Hexachloroethane | 40.41 | 5.0 | 50 | 0 | 80.8 | 55 - 120 | | | | |
| Nitrobenzene | 42.03 | 5.0 | 50 | 0 | 84.1 | 55 - 120 | | | | |
| Pentachlorophenol | 86.34 | 5.0 | 100 | 0 | 86.3 | 50 - 135 | | | | |
| Pyridine | 31.99 | 5.0 | 50 | 0 | 64.0 | 30 - 120 | | | | |
| *Surr: 2,4,6-Tribromophenol* | *101.9* | *5.0* | *100* | *0* | *102* | *39 - 153* | | | | |
| *Surr: 2-Fluorobiphenyl* | *88.07* | *5.0* | *100* | *0* | *88.1* | *40 - 147* | | | | |
| *Surr: 2-Fluorophenol* | *88.83* | *5.0* | *100* | *0* | *88.8* | *20 - 110* | | | | |
| *Surr: 4-Terphenyl-d14* | *81.34* | *5.0* | *100* | *0* | *81.3* | *39 - 141* | | | | |
| *Surr: Nitrobenzene-d5* | *79.55* | *5.0* | *100* | *0* | *79.5* | *37 - 140* | | | | |
| *Surr: Phenol-d6* | *93.19* | *5.0* | *100* | *0* | *93.2* | *11 - 110* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Revision:** 1

**Client:** Effective Environmental Inc.
**Project:** USOR - Equ Assesment and Sampling 8181
**WorkOrder:** HS15030223

## QC BATCH REPORT

**Batch ID: 91303** **Instrument: SV-5** **Method: SW1311/8270**

**LCSD** Sample ID: **LCSD-91303** Units: **ug/L** Analysis Date: **11-Mar-2015 17:33**
Client ID: Run ID: **SV-5_250960** SeqNo: **3211371** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 2,4,5-Trichlorophenol | 90.62 | 5.0 | 100 | 0 | 90.6 | 55 - 120 | 95.47 | 5.21 | 25 | |
| 2,4,6-Trichlorophenol | 97.48 | 5.0 | 100 | 0 | 97.5 | 55 - 120 | 95.13 | 2.44 | 25 | |
| 2,4-Dinitrotoluene | 37.73 | 5.0 | 50 | 0 | 75.5 | 55 - 125 | 48.24 | 24.5 | 25 | |
| Cresols, Total | 208.8 | 15 | 250 | 0 | 83.5 | 40 - 120 | 221.4 | 5.87 | 25 | |
| Hexachlorobenzene | 45.93 | 5.0 | 50 | 0 | 91.9 | 55 - 120 | 45.05 | 1.93 | 25 | |
| Hexachlorobutadiene | 39.63 | 5.0 | 50 | 0 | 79.3 | 55 - 120 | 39.2 | 1.07 | 25 | |
| Hexachloroethane | 39.39 | 5.0 | 50 | 0 | 78.8 | 55 - 120 | 40.41 | 2.54 | 25 | |
| Nitrobenzene | 42.9 | 5.0 | 50 | 0 | 85.8 | 55 - 120 | 42.03 | 2.06 | 25 | |
| Pentachlorophenol | 91.3 | 5.0 | 100 | 0 | 91.3 | 50 - 135 | 86.34 | 5.58 | 25 | |
| Pyridine | 31.1 | 5.0 | 50 | 0 | 62.2 | 30 - 120 | 31.99 | 2.82 | 25 | |
| *Surr: 2,4,6-Tribromophenol* | *72.04* | *5.0* | *100* | *0* | *72.0* | *39 - 153* | *101.9* | *34.3* | *25* | R |
| *Surr: 2-Fluorobiphenyl* | *83.07* | *5.0* | *100* | *0* | *83.1* | *40 - 147* | *88.07* | *5.84* | *25* | |
| *Surr: 2-Fluorophenol* | *76.12* | *5.0* | *100* | *0* | *76.1* | *21 - 110* | *88.83* | *15.4* | *25* | |
| *Surr: 4-Terphenyl-d14* | *55.94* | *5.0* | *100* | *0* | *55.9* | *39 - 141* | *81.34* | *37* | *25* | R |
| *Surr: Nitrobenzene-d5* | *83.92* | *5.0* | *100* | *0* | *83.9* | *37 - 140* | *79.55* | *5.35* | *25* | |
| *Surr: Phenol-d6* | *89.17* | *5.0* | *100* | *0* | *89.2* | *11 - 110* | *93.19* | *4.42* | *25* | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Revision:** 1

**Client:** Effective Environmental Inc.
**Project:** USOR - Equ Assesment and Sampling 8181
**WorkOrder:** HS15030223

## QC BATCH REPORT

**Batch ID: 91303** **Instrument: SV-5** **Method: SW1311/8270**

**MS** Sample ID: **HS15030192-01MS** Units: **ug/L** Analysis Date: **12-Mar-2015 12:19**
Client ID: Run ID: **SV-5_250960** SeqNo: **3211555** PrepDate: **11-Mar-2015** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 2,4,5-Trichlorophenol | 101 | 5.0 | 100 | 0 | 101 | 55 - 120 | | | | |
| 2,4,6-Trichlorophenol | 106.8 | 5.0 | 100 | 0 | 107 | 55 - 120 | | | | |
| 2,4-Dinitrotoluene | 42.69 | 5.0 | 50 | 0 | 85.4 | 55 - 125 | | | | |
| Cresols, Total | 213.7 | 15 | 250 | 0 | 85.5 | 40 - 120 | | | | |
| Hexachlorobenzene | 50.16 | 5.0 | 50 | 0 | 100 | 55 - 120 | | | | |
| Hexachlorobutadiene | 39.9 | 5.0 | 50 | 0 | 79.8 | 55 - 120 | | | | |
| Hexachloroethane | 37.73 | 5.0 | 50 | 0 | 75.5 | 55 - 120 | | | | |
| Nitrobenzene | 41.92 | 5.0 | 50 | 0 | 83.8 | 55 - 120 | | | | |
| Pentachlorophenol | 96.31 | 5.0 | 100 | 0 | 96.3 | 50 - 135 | | | | |
| Pyridine | 40.35 | 5.0 | 50 | 0 | 80.7 | 30 - 120 | | | | |
| *Surr: 2,4,6-Tribromophenol* | *109.6* | *5.0* | *100* | *0* | *110* | *39 - 153* | | | | |
| *Surr: 2-Fluorobiphenyl* | *94.37* | *5.0* | *100* | *0* | *94.4* | *40 - 147* | | | | |
| *Surr: 2-Fluorophenol* | *97.01* | *5.0* | *100* | *0* | *97.0* | *21 - 110* | | | | |
| *Surr: 4-Terphenyl-d14* | *77.69* | *5.0* | *100* | *0* | *77.7* | *39 - 141* | | | | |
| *Surr: Nitrobenzene-d5* | *81.87* | *5.0* | *100* | *0* | *81.9* | *37 - 140* | | | | |
| *Surr: Phenol-d6* | *99.69* | *5.0* | *100* | *0* | *99.7* | *11 - 110* | | | | |

**The following samples were anayzed in this batch:** HS15030223-01 HS15030223-02 HS15030223-03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Revision:** 1

**Client:** Effective Environmental Inc.
**Project:** USOR - Equ Assesment and Sampling 8181
**WorkOrder:** HS15030223

## QC BATCH REPORT

**Batch ID:** **R250808** **Instrument:** **VOA4** **Method:** **SW8260**

**MBLK** Sample ID: **VBLKW-150309** Units: **ug/L** Analysis Date: **09-Mar-2015 20:53**
Client ID: Run ID: **VOA4_250808** SeqNo: **3208786** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | U | 1.0 | | | | | | | | |
| 1,2-Dichloroethane | U | 1.0 | | | | | | | | |
| 1,4-Dichlorobenzene | U | 1.0 | | | | | | | | |
| 2-Butanone | U | 2.0 | | | | | | | | |
| Benzene | U | 1.0 | | | | | | | | |
| Carbon tetrachloride | U | 1.0 | | | | | | | | |
| Chlorobenzene | U | 1.0 | | | | | | | | |
| Chloroform | U | 1.0 | | | | | | | | |
| Tetrachloroethene | U | 1.0 | | | | | | | | |
| Trichloroethene | U | 1.0 | | | | | | | | |
| Vinyl chloride | U | 1.0 | | | | | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *50.65* | *1.0* | *50* | *0* | *101* | *71 - 125* | | | | |
| *Surr: 4-Bromofluorobenzene* | *47.16* | *1.0* | *50* | *0* | *94.3* | *70 - 125* | | | | |
| *Surr: Dibromofluoromethane* | *50.7* | *1.0* | *50* | *0* | *101* | *74 - 125* | | | | |
| *Surr: Toluene-d8* | *52.38* | *1.0* | *50* | *0* | *105* | *75 - 125* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Revision:** 1

**Client:** Effective Environmental Inc.
**Project:** USOR - Equ Assesment and Sampling 8181
**WorkOrder:** HS15030223

## QC BATCH REPORT

**Batch ID: R250808** **Instrument: VOA4** **Method: SW8260**

**LCS** Sample ID: **VLCSW-150309** Units: **ug/L** Analysis Date: **09-Mar-2015 20:03**
Client ID: Run ID: **VOA4_250808** SeqNo: **3208785** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 51.51 | 1.0 | 50 | 0 | 103 | 75 - 130 | | | | |
| 1,2-Dichloroethane | 55.12 | 1.0 | 50 | 0 | 110 | 76 - 120 | | | | |
| 1,4-Dichlorobenzene | 50.44 | 1.0 | 50 | 0 | 101 | 80 - 120 | | | | |
| 2-Butanone | 112.2 | 2.0 | 100 | 0 | 112 | 60 - 140 | | | | |
| Benzene | 53.23 | 1.0 | 50 | 0 | 106 | 80 - 120 | | | | |
| Carbon tetrachloride | 46.23 | 1.0 | 50 | 0 | 92.5 | 75 - 125 | | | | |
| Chlorobenzene | 52.56 | 1.0 | 50 | 0 | 105 | 80 - 120 | | | | |
| Chloroform | 53.76 | 1.0 | 50 | 0 | 108 | 70 - 130 | | | | |
| Tetrachloroethene | 49.93 | 1.0 | 50 | 0 | 99.9 | 75 - 130 | | | | |
| Trichloroethene | 51.83 | 1.0 | 50 | 0 | 104 | 71 - 125 | | | | |
| Vinyl chloride | 55.63 | 1.0 | 50 | 0 | 111 | 70 - 135 | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *50.68* | *1.0* | *50* | *0* | *101* | *71 - 125* | | | | |
| *Surr: 4-Bromofluorobenzene* | *50.5* | *1.0* | *50* | *0* | *101* | *70 - 125* | | | | |
| *Surr: Dibromofluoromethane* | *51.85* | *1.0* | *50* | *0* | *104* | *74 - 125* | | | | |
| *Surr: Toluene-d8* | *51.58* | *1.0* | *50* | *0* | *103* | *75 - 125* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Revision:** 1

**Client:** Effective Environmental Inc.
**Project:** USOR - Equ Assesment and Sampling 8181
**WorkOrder:** HS15030223

## QC BATCH REPORT

**Batch ID: R250808** **Instrument: VOA4** **Method: SW8260**

**MS** Sample ID: **HS15030194-13MS** Units: **ug/L** Analysis Date: **09-Mar-2015 23:24**
Client ID: Run ID: **VOA4_250808** SeqNo: **3208789** PrepDate: DF: **5**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 249.3 | 5.0 | 250 | 0 | 99.7 | 75 - 130 | | | | |
| 1,2-Dichloroethane | 256.5 | 5.0 | 250 | 0 | 103 | 76 - 120 | | | | |
| 1,4-Dichlorobenzene | 222.2 | 5.0 | 250 | 0 | 88.9 | 80 - 120 | | | | |
| 2-Butanone | 557.6 | 10 | 500 | 0 | 112 | 60 - 140 | | | | |
| Benzene | 255.3 | 5.0 | 250 | 0 | 102 | 80 - 120 | | | | |
| Carbon tetrachloride | 226.2 | 5.0 | 250 | 0 | 90.5 | 79 - 120 | | | | |
| Chlorobenzene | 234 | 5.0 | 250 | 0 | 93.6 | 80 - 120 | | | | |
| Chloroform | 248.6 | 5.0 | 250 | 0 | 99.4 | 70 - 130 | | | | |
| Tetrachloroethene | 231.3 | 5.0 | 250 | 0 | 92.5 | 75 - 130 | | | | |
| Trichloroethene | 242.5 | 5.0 | 250 | 0 | 97.0 | 71 - 125 | | | | |
| Vinyl chloride | 245.8 | 5.0 | 250 | 0 | 98.3 | 70 - 135 | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *258.6* | *5.0* | *250* | *0* | *103* | *71 - 125* | | | | |
| *Surr: 4-Bromofluorobenzene* | *253.7* | *5.0* | *250* | *0* | *101* | *70 - 125* | | | | |
| *Surr: Dibromofluoromethane* | *261.4* | *5.0* | *250* | *0* | *105* | *74 - 125* | | | | |
| *Surr: Toluene-d8* | *267.8* | *5.0* | *250* | *0* | *107* | *75 - 125* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Revision:** 1

**Client:** Effective Environmental Inc.
**Project:** USOR - Equ Assesment and Sampling 8181
**WorkOrder:** HS15030223

## QC BATCH REPORT

**Batch ID: R250808** **Instrument: VOA4** **Method: SW8260**

**MSD** Sample ID: **HS15030194-13MSD** Units: **ug/L** Analysis Date: **09-Mar-2015 23:49**
Client ID: Run ID: **VOA4_250808** SeqNo: **3208790** PrepDate: DF: **5**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 279.3 | 5.0 | 250 | 0 | 112 | 75 - 130 | 249.3 | 11.3 | 20 | |
| 1,2-Dichloroethane | 293.7 | 5.0 | 250 | 0 | 117 | 76 - 120 | 256.5 | 13.5 | 20 | |
| 1,4-Dichlorobenzene | 256.7 | 5.0 | 250 | 0 | 103 | 80 - 120 | 222.2 | 14.4 | 20 | |
| 2-Butanone | 665.8 | 10 | 500 | 0 | 133 | 60 - 140 | 557.6 | 17.7 | 20 | |
| Benzene | 286.7 | 5.0 | 250 | 0 | 115 | 80 - 120 | 255.3 | 11.6 | 20 | |
| Carbon tetrachloride | 253.7 | 5.0 | 250 | 0 | 101 | 75 - 125 | 226.2 | 11.5 | 20 | |
| Chlorobenzene | 271.4 | 5.0 | 250 | 0 | 109 | 80 - 120 | 234 | 14.8 | 20 | |
| Chloroform | 284.8 | 5.0 | 250 | 0 | 114 | 70 - 130 | 248.6 | 13.6 | 20 | |
| Tetrachloroethene | 268 | 5.0 | 250 | 0 | 107 | 75 - 130 | 231.3 | 14.7 | 20 | |
| Trichloroethene | 274.1 | 5.0 | 250 | 0 | 110 | 71 - 125 | 242.5 | 12.2 | 20 | |
| Vinyl chloride | 282.4 | 5.0 | 250 | 0 | 113 | 70 - 135 | 245.8 | 13.9 | 20 | |
| *Surr: 1,2-Dichloroethane-d4* | *287.1* | *5.0* | *250* | *0* | *115* | *71 - 125* | *258.6* | *10.5* | *20* | |
| *Surr: 4-Bromofluorobenzene* | *293.6* | *5.0* | *250* | *0* | *117* | *70 - 125* | *253.7* | *14.6* | *20* | |
| *Surr: Dibromofluoromethane* | *286* | *5.0* | *250* | *0* | *114* | *74 - 125* | *261.4* | *8.97* | *20* | |
| *Surr: Toluene-d8* | *295.8* | *5.0* | *250* | *0* | *118* | *75 - 125* | *267.8* | *9.94* | *20* | |

**The following samples were anayzed in this batch:** HS15030223-04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Revision:** 1

**Client:** Effective Environmental Inc.
**Project:** USOR - Equ Assesment and Sampling 8181
**WorkOrder:** HS15030223

## QC BATCH REPORT

**Batch ID:** **R250959** **Instrument:** **VOA6** **Method:** **SW1311/8260B**

**MBLK** Sample ID: **VBLKW-150311** Units: **ug/L** Analysis Date: **11-Mar-2015 11:20**
Client ID: Run ID: **VOA6_250959** SeqNo: **3211328** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | U | 5.0 | | | | | | | | |
| 1,2-Dichloroethane | U | 5.0 | | | | | | | | |
| 1,4-Dichlorobenzene | U | 5.0 | | | | | | | | |
| 2-Butanone | U | 10 | | | | | | | | |
| Benzene | U | 5.0 | | | | | | | | |
| Carbon tetrachloride | U | 5.0 | | | | | | | | |
| Chlorobenzene | U | 5.0 | | | | | | | | |
| Chloroform | U | 5.0 | | | | | | | | |
| Tetrachloroethene | U | 5.0 | | | | | | | | |
| Trichloroethene | U | 5.0 | | | | | | | | |
| Vinyl chloride | U | 2.0 | | | | | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *46.69* | *5.0* | *50* | *0* | *93.4* | *70 - 125* | | | | |
| *Surr: 4-Bromofluorobenzene* | *46.69* | *5.0* | *50* | *0* | *93.4* | *72.4 - 125* | | | | |
| *Surr: Dibromofluoromethane* | *48.57* | *5.0* | *50* | *0* | *97.1* | *71.2 - 125* | | | | |
| *Surr: Toluene-d8* | *49.34* | *5.0* | *50* | *0* | *98.7* | *75 - 125* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Revision:** 1

**Client:** Effective Environmental Inc.
**Project:** USOR - Equ Assesment and Sampling 8181
**WorkOrder:** HS15030223

## QC BATCH REPORT

**Batch ID:** **R250959** **Instrument:** **VOA6** **Method:** **SW1311/8260B**

**MBLK** Sample ID: **MBLKV1-150310** Units: **ug/L** Analysis Date: **11-Mar-2015 15:21**
Client ID: Run ID: **VOA6_250959** SeqNo: **3211336** PrepDate: DF: **20**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | U | 100 | | | | | | | | |
| 1,2-Dichloroethane | U | 100 | | | | | | | | |
| 1,4-Dichlorobenzene | U | 100 | | | | | | | | |
| 2-Butanone | U | 200 | | | | | | | | |
| Benzene | U | 100 | | | | | | | | |
| Carbon tetrachloride | U | 100 | | | | | | | | |
| Chlorobenzene | U | 100 | | | | | | | | |
| Chloroform | U | 100 | | | | | | | | |
| Tetrachloroethene | U | 100 | | | | | | | | |
| Trichloroethene | U | 100 | | | | | | | | |
| Vinyl chloride | U | 40 | | | | | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *916.7* | *100* | *1000* | *0* | *91.7* | *70 - 125* | | | | |
| *Surr: 4-Bromofluorobenzene* | *950* | *100* | *1000* | *0* | *95.0* | *72.4 - 125* | | | | |
| *Surr: Dibromofluoromethane* | *969.5* | *100* | *1000* | *0* | *97.0* | *71.2 - 125* | | | | |
| *Surr: Toluene-d8* | *993.8* | *100* | *1000* | *0* | *99.4* | *75 - 125* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Revision:** 1

**Client:** Effective Environmental Inc.
**Project:** USOR - Equ Assesment and Sampling 8181
**WorkOrder:** HS15030223

## QC BATCH REPORT

**Batch ID:** **R250959** **Instrument:** **VOA6** **Method:** **SW1311/8260B**

**LCS** Sample ID: **VLCSW-150311** Units: **ug/L** Analysis Date: **11-Mar-2015 10:32**
Client ID: Run ID: **VOA6_250959** SeqNo: **3211327** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 45.38 | 5.0 | 50 | 0 | 90.8 | 73 - 124 | | | | |
| 1,2-Dichloroethane | 46.37 | 5.0 | 50 | 0 | 92.7 | 76 - 120 | | | | |
| 1,4-Dichlorobenzene | 49.6 | 5.0 | 50 | 0 | 99.2 | 70 - 130 | | | | |
| 2-Butanone | 89.77 | 10 | 100 | 0 | 89.8 | 70 - 130 | | | | |
| Benzene | 48.91 | 5.0 | 50 | 0 | 97.8 | 70 - 128 | | | | |
| Carbon tetrachloride | 50.09 | 5.0 | 50 | 0 | 100 | 70 - 130 | | | | |
| Chlorobenzene | 50.59 | 5.0 | 50 | 0 | 101 | 72 - 127 | | | | |
| Chloroform | 47.54 | 5.0 | 50 | 0 | 95.1 | 70 - 130 | | | | |
| Tetrachloroethene | 50.41 | 5.0 | 50 | 0 | 101 | 70 - 130 | | | | |
| Trichloroethene | 52.34 | 5.0 | 50 | 0 | 105 | 72 - 129 | | | | |
| Vinyl chloride | 44.18 | 2.0 | 50 | 0 | 88.4 | 70 - 130 | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *45.42* | *5.0* | *50* | *0* | *90.8* | *70 - 125* | | | | |
| *Surr: 4-Bromofluorobenzene* | *50.76* | *5.0* | *50* | *0* | *102* | *72 - 125* | | | | |
| *Surr: Dibromofluoromethane* | *49.09* | *5.0* | *50* | *0* | *98.2* | *71 - 125* | | | | |
| *Surr: Toluene-d8* | *49* | *5.0* | *50* | *0* | *98.0* | *75 - 125* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Revision:** 1

**Client:** Effective Environmental Inc.
**Project:** USOR - Equ Assesment and Sampling 8181
**WorkOrder:** HS15030223

## QC BATCH REPORT

**Batch ID:** **R250959** **Instrument:** **VOA6** **Method:** **SW1311/8260B**

**MS** Sample ID: **HS15030332-02MS** Units: **ug/L** Analysis Date: **11-Mar-2015 14:09**
Client ID: Run ID: **VOA6_250959** SeqNo: **3211334** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 43.43 | 5.0 | 50 | 0 | 86.9 | 73 - 124 | | | | |
| 1,2-Dichloroethane | 45.16 | 5.0 | 50 | 0 | 90.3 | 76 - 120 | | | | |
| 1,4-Dichlorobenzene | 44.8 | 5.0 | 50 | 0 | 89.6 | 70 - 130 | | | | |
| 2-Butanone | 90.12 | 10 | 100 | 0 | 90.1 | 70 - 130 | | | | |
| Benzene | 46.37 | 5.0 | 50 | 0 | 92.7 | 70 - 128 | | | | |
| Carbon tetrachloride | 45.77 | 5.0 | 50 | 0 | 91.5 | 70 - 130 | | | | |
| Chlorobenzene | 47.57 | 5.0 | 50 | 0 | 95.1 | 72 - 127 | | | | |
| Chloroform | 48.11 | 5.0 | 50 | 0 | 96.2 | 70 - 130 | | | | |
| Tetrachloroethene | 45.36 | 5.0 | 50 | 0 | 90.7 | 70 - 130 | | | | |
| Trichloroethene | 48.33 | 5.0 | 50 | 0 | 96.7 | 72 - 129 | | | | |
| Vinyl chloride | 46.32 | 2.0 | 50 | 0 | 92.6 | 70 - 130 | | | | |
| *Surr: 1,2-Dichloroethane-d4* | *46.64* | *5.0* | *50* | *0* | *93.3* | *70 - 125* | | | | |
| *Surr: 4-Bromofluorobenzene* | *50.37* | *5.0* | *50* | *0* | *101* | *72 - 125* | | | | |
| *Surr: Dibromofluoromethane* | *49.3* | *5.0* | *50* | *0* | *98.6* | *71 - 125* | | | | |
| *Surr: Toluene-d8* | *48.97* | *5.0* | *50* | *0* | *97.9* | *75 - 125* | | | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Revision:** 1

**Client:** Effective Environmental Inc.
**Project:** USOR - Equ Assesment and Sampling 8181
**WorkOrder:** HS15030223

## QC BATCH REPORT

**Batch ID: R250959** **Instrument: VOA6** **Method: SW1311/8260B**

**MSD** Sample ID: **HS15030332-02MSD** Units: **ug/L** Analysis Date: **11-Mar-2015 14:33**
Client ID: Run ID: **VOA6_250959** SeqNo: **3211335** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 43.66 | 5.0 | 50 | 0 | 87.3 | 73 - 124 | 43.43 | 0.535 | 20 | |
| 1,2-Dichloroethane | 48.99 | 5.0 | 50 | 0 | 98.0 | 76 - 120 | 45.16 | 8.12 | 20 | |
| 1,4-Dichlorobenzene | 47.87 | 5.0 | 50 | 0 | 95.7 | 70 - 130 | 44.8 | 6.62 | 20 | |
| 2-Butanone | 98.57 | 10 | 100 | 0 | 98.6 | 70 - 130 | 90.12 | 8.95 | 20 | |
| Benzene | 47.72 | 5.0 | 50 | 0 | 95.4 | 70 - 128 | 46.37 | 2.87 | 20 | |
| Carbon tetrachloride | 47.37 | 5.0 | 50 | 0 | 94.7 | 70 - 130 | 45.77 | 3.43 | 20 | |
| Chlorobenzene | 49.52 | 5.0 | 50 | 0 | 99.0 | 72 - 127 | 47.57 | 4.02 | 20 | |
| Chloroform | 47.94 | 5.0 | 50 | 0 | 95.9 | 70 - 130 | 48.11 | 0.366 | 20 | |
| Tetrachloroethene | 46.89 | 5.0 | 50 | 0 | 93.8 | 70 - 130 | 45.36 | 3.32 | 20 | |
| Trichloroethene | 50.3 | 5.0 | 50 | 0 | 101 | 72 - 129 | 48.33 | 3.99 | 20 | |
| Vinyl chloride | 44.58 | 2.0 | 50 | 0 | 89.2 | 70 - 130 | 46.32 | 3.83 | 20 | |
| *Surr: 1,2-Dichloroethane-d4* | *46.39* | *5.0* | *50* | *0* | *92.8* | *70 - 125* | *46.64* | *0.533* | *20* | |
| *Surr: 4-Bromofluorobenzene* | *50.62* | *5.0* | *50* | *0* | *101* | *72 - 125* | *50.37* | *0.495* | *20* | |
| *Surr: Dibromofluoromethane* | *49.27* | *5.0* | *50* | *0* | *98.5* | *71 - 125* | *49.3* | *0.0669* | *20* | |
| *Surr: Toluene-d8* | *49.27* | *5.0* | *50* | *0* | *98.5* | *75 - 125* | *48.97* | *0.606* | *20* | |

**The following samples were anayzed in this batch:** HS15030223-01 HS15030223-02 HS15030223-03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Revision:** 1

**Client:** Effective Environmental Inc.
**Project:** USOR - Equ Assesment and Sampling 8181
**WorkOrder:** HS15030223

## QC BATCH REPORT

**Batch ID: R250802** **Instrument: WetChem_HS** **Method: SW9045B**

**LCS** Sample ID: **LCS-250802** Units: **pH Units** Analysis Date: **09-Mar-2015 15:10**
Client ID: Run ID: **WetChem_HS_250802** SeqNo: **3208705** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| pH | 5.98 | 0.100 | 6 | 0 | 99.7 | 97 - 103 | | | | |

**DUP** Sample ID: **HS15030192-02DUP** Units: **pH Units** Analysis Date: **09-Mar-2015 15:10**
Client ID: Run ID: **WetChem_HS_250802** SeqNo: **3208706** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| pH | 8.01 | 0.100 | | | | | 8.08 | 0.87 | 10 | |

**The following samples were anayzed in this batch:** HS15030223-01 HS15030223-02 HS15030223-03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Revision:** 1

**Client:** Effective Environmental Inc.
**Project:** USOR - Equ Assesment and Sampling 8181
**WorkOrder:** HS15030223

## QC BATCH REPORT

**Batch ID:** **R250986** **Instrument:** **WetChem_HS** **Method:** **SW1030**

**DUP** Sample ID: **HS15030331-01DUP** Units: **Burn Rate, mm/sec** Analysis Date: **12-Mar-2015 15:50**

Client ID: Run ID: **WetChem_HS_250986** SeqNo: **3211840** PrepDate: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Ignitability, Solid | Negative | 0 | | | | | 0 | 0 | 25 | |

**The following samples were anayzed in this batch:** HS15030223-01 HS15030223-02 HS15030223-03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Revision:** 1

**Client:** Effective Environmental Inc.
**Project:** USOR - Equ Assesment and Sampling 8181
**WorkOrder:** **HS15030223**

## QUALIFIERS, ACRONYMS, UNITS

| Qualifier | Description |
|---|---|
| * | Value exceeds Regulatory Limit |
| a | Not accredited |
| B | Analyte detected in the associated Method Blank above the Reporting Limit |
| E | Value above quantitation range |
| H | Analyzed outside of Holding Time |
| J | Analyte detected below quantitation limit |
| M | Manually integrated, see raw data for justification |
| n | Not offered for accreditation |
| ND | Not Detected at the Reporting Limit |
| O | Sample amount is > 4 times amount spiked |
| P | Dual Column results percent difference > 40% |
| R | RPD above laboratory control limit |
| S | Spike Recovery outside laboratory control limits |
| U | Analyzed but not detected above the MDL/SDL |

| Acronym | Description |
|---|---|
| DCS | Detectability Check Study |
| DUP | Method Duplicate |
| LCS | Laboratory Control Sample |
| LCSD | Laboratory Control Sample Duplicate |
| MBLK | Method Blank |
| MDL | Method Detection Limit |
| MQL | Method Quantitation Limit |
| MS | Matrix Spike |
| MSD | Matrix Spike Duplicate |
| PDS | Post Digestion Spike |
| PQL | Practical Quantitaion Limit |
| SD | Serial Dilution |
| SDL | Sample Detection Limit |
| TRRP | Texas Risk Reduction Program |

| Unit Reported | Description |
|---|---|
| Date | |
| mg/Kg | Milligrams per Kilogram |
| mg/L | Milligrams per Liter |
| no unit | |
| pH Units | |

## CERTIFICATIONS,ACCREDITATIONS & LICENSES

| Agency | Number | Expire Date |
|---|---|---|
| Arkansas | 15-024-0 | 27-Mar-2016 |
| California | 2919 | 31-Jul-2016 |
| Dept of Defense | L2231 Rev 3-20-2014 | 22-Dec-2015 |
| Illinois | 003403 | 09-May-2015 |
| Kansas | E-10352 2014-2015 | 31-Jul-2015 |
| Kentucky | KY 2014-2015 | 30-Apr-2015 |
| Louisiana | 03087 2014/2015 | 30-Jun-2015 |
| North Carolina | 624 - 2015 | 31-Dec-2015 |
| North Dakota | R-193 2025 | 30-Apr-2015 |
| Oklahoma | 2014-128 | 31-Aug-2015 |
| Texas | T104704231-14-14 | 30-Apr-2015 |

**Client:** Effective Environmental Inc.
**Project:** USOR - Equ Assesment and Sampling 8181
**Work Order:** HS15030223

## SAMPLE TRACKING

| Lab Samp ID | Client Sample ID | Action | Date | Person | New Location |
|---|---|---|---|---|---|
| HS15030223-01 | USOR-EQ-14-ICP Tank B | Login | 3/6/2015 6:11:15 PM | RPG | 14A |
| HS15030223-01 | USOR-EQ-14-ICP Tank B | Login | 3/6/2015 6:11:15 PM | RPG | 14A |
| HS15030223-01 | USOR-EQ-14-ICP Tank B | Login | 3/6/2015 6:11:15 PM | RPG | Sub |
| HS15030223-02 | USOR-EQ-01 Heated & Agitated Frac Tank | Login | 3/6/2015 6:11:15 PM | RPG | 14A |
| HS15030223-02 | USOR-EQ-01 Heated & Agitated Frac Tank | Login | 3/6/2015 6:11:15 PM | RPG | 14A |
| HS15030223-02 | USOR-EQ-01 Heated & Agitated Frac Tank | Login | 3/6/2015 6:11:15 PM | RPG | Sub |
| HS15030223-03 | USOR-EQ-02 Dissolved Air Flotation Unit | Login | 3/6/2015 6:11:15 PM | RPG | 14A |
| HS15030223-03 | USOR-EQ-02 Dissolved Air Flotation Unit | Login | 3/6/2015 6:11:15 PM | RPG | 14A |
| HS15030223-03 | USOR-EQ-02 Dissolved Air Flotation Unit | Login | 3/6/2015 6:11:15 PM | RPG | Sub |
| HS15030223-04 | Trip Blank 030215-13 | Login | 3/6/2015 6:50:50 PM | RPG | VW-3 |

**Revision:** 1

**ALS Group USA, Corp** Date: 30-Mar-15

## Sample Receipt Checklist

| | | | |
|---|---|---|---|
| Client Name: | Effective Env-HOU | Date/Time Received: | **06-Mar-2015 13:26** |
| Work Order: | HS15030223 | Received by: | **PS** |

| | | | | |
|---|---|---|---|---|
| Checklist completed by: | *Raegen Giga* eSignature | 6-Mar-2015 Date | Reviewed by: *Dane J. Wacasey* eSignature | 10-Mar-2015 Date |

Matrices: **solid** Carrier name: **ALS Courier**

| | Yes | No | Not Present |
|---|---|---|---|
| Shipping container/cooler in good condition? | ☑ | ☐ | ☐ |
| Custody seals intact on shipping container/cooler? | ☐ | ☐ | ☑ |
| Custody seals intact on sample bottles? | ☐ | ☐ | ☑ |
| Chain of custody present? | ☑ | ☐ | |
| Chain of custody signed when relinquished and received? | ☑ | ☐ | |
| Chain of custody agrees with sample labels? | ☑ | ☐ | |
| Samples in proper container/bottle? | ☑ | ☐ | |
| Sample containers intact? | ☑ | ☐ | |
| Sufficient sample volume for indicated test? | ☑ | ☐ | |
| All samples received within holding time? | ☑ | ☐ | |
| Container/Temp Blank temperature in compliance? | ☑ | ☐ | |

| | | | | |
|---|---|---|---|---|
| Temperature(s)/Thermometer(s): | 1.0c/1.0c c/u | | IR 1 | |
| Cooler(s)/Kit(s): | 7165 | | | |
| Date/Time sample(s) sent to storage: | 03/06/2015 18:25 | | | |
| Water - VOA vials have zero headspace? | Yes ☐ | No ☐ | No VOA vials submitted | ☑ |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☐ | N/A | ☑ |
| pH adjusted? | Yes ☐ | No ☐ | N/A | ☑ |
| pH adjusted by: | | | | |

Login Notes: Sample bottle label: EQ-14 logged in per COC as EQ-03

Client Contacted: Date Contacted: Person Contacted:

Contacted By: 0 Regarding:

Comments:

Corrective Action:

ALS Laboratory Group
10450 Stancliff Rd. #210
Houston, Texas 77099
(Tel) 281.530.5656
(Fax) 281.530.5887

# Chain of Custody Form

Page 1 of 1

HS15030223

Effective Environmental Inc.

USOR - Equ. Assesment and Sampling

ALS Project Manager:

| Customer Information | | Project Information | | | |
|---|---|---|---|---|---|
| Purchase Order | FS-10054 | Project Name | USOR-Equ. Assessment & Sampling | A | TCLP - VOCs |
| Work Order | | Project Number | 8181 | B | TCLP - SVOCs |
| Company Name | Effective Environmental | Bill To Company | Effective Environmental | C | TCLP RCRA 8 Metals |
| Send Report To | Hiren Shah | Invoice Attn. | Hiren Shah | D | RCI |
| Address | 9950 Chemical Road | Address | 2515 S. Beltline Road | E | VOCs for trip blank |
| | | | | F | |
| City/State/Zip | Pasadena, TX 77507 | City/State/Zip | Mesquite, TX 75181 | G | |
| Phone | 281-842-0804 | Phone | 972-329-1200 | H | |
| Fax | 281-474-2580 | Fax | 972-329-1206 | I | |
| e-Mail Address | hshah@eff-env.com | e-Mail Address | hshah@eff-env.com | J | |

| No. | Sample Description | Date | Time | Matrix | Pres. | # Bottles | A | B | C | D | E | F | G | H | I | J | Hold |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | USOR-EQ-03 Light Blue Horizontal Cylinder | 03/05/15 | 10:25 a.m. | solids | | 4 | X | X | X | X | | | | | | | |
| 2 | USOR-EQ-01 Heated & Agitated Frac Tank | 03/05/15 | 9:15 a.m. | Solids | | 4 | X | X | X | X | | | | | | | |
| 3 | USOR-EQ-02 Dissolved Air Flotation Unit | 03/05/15 | 9:45 a.m. | Solids | | 4 | X | X | X | X | | | | | | | |
| 4 | Trip Blank | | | | | | | | | | X | | | | | | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | |

Sampler(s): Please Print & Sign: Joe Carillo

Shipment Method:

Required Turnaround Time: ☐ STD 10 Wk Days ☑ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour ☐ Other _____

Results Due Date:

| Relinquished by: | Date: | Time: | Received by: |
|---|---|---|---|
| Joe Carillo | 3/5/15 | 4:18 p.m. | Hiren Shah |
| Hiren Shah | 3/6/15 | 12:05 p.m. | [signature] |
| [signature] | 3-6-15 | 1326 | [signature] |

Notes:

Cooler Temp.

QC Package: (Check Box Below)

| | | | |
|---|---|---|---|
| | Level II: Standard QC | | TRRP-Checklist |
| | Level III: Std QC + Raw Data | | TRRP Level IV |
| | Level IV: SW846 CLP-Like | | |
| | Other: _____ | | |

Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.

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## APPENDIX C: EQUIPMENT WASTE REMOVAL ACTION WORK PLAN

The Equipment Waste Removal Action Work Plan presented as Appendix C of the USOR Equipment Waste Removal and Disposal Report is a copy of Appendix E of the July 14, 2016 AOC and retains the labeling of that report.

# APPENDIX E
# EQUIPMENT WASTE REMOVAL ACTION WORK PLAN

## US OIL RECOVERY SUPERFUND SITE
## 400 NORTH RICHEY AREA
## PASADENA, HARRIS COUNTY, TEXAS

### Introduction

This Work Plan describes activities that will be carried out by Respondents as they implement a time-critical Removal Action to address residual wastes within former process equipment at the US Oil Recovery Superfund Site (Site). Sixty-five (65) former process equipment items were inventoried in 2015 and residual wastes were identified in 13 of these items. Respondents removed the waste from and pressure washed six of these items (EQ-02, EQ-07 thru EQ-10 and EQ-29) during September 2015 to address potential near-term risks associated with possible release from these items. The remaining seven items containing waste and the estimated volumes of that residual waste are listed in Table 1.

Respondents contracted with Effective Environmental, Inc. ($E^2$) to survey each equipment item in accordance with a prior EPA-approved Work Plan. Samples of the contained materials in the equipment items that contained amounts of process material were collected by $E^2$ in accordance with a prior EPA-approved Quality Assurance Sampling Plan (QASP) addendum and were classified as hazardous and non-hazardous waste based on the analytical results obtained from the sampling events. The analytical data for waste samples from the seven remaining equipment items are listed in Table 2.

This Work Plan describes the approach and procedures for removal of residual wastes contained in the seven remaining equipment items and pressure washing of the equipment to allow the potential removal and/or demolition, if needed, of some or all of the equipment items at the Respondent's discretion.

### Removal Action Responsibilities

The waste removal and equipment pressure washing described herein will be performed by contractor(s) selected by the Respondents and approved by EPA. Oversight on behalf of the Respondents will be provided by EHS Support LLC (EHS) and Pastor, Behling & Wheeler, LLC (PBW). PBW will have personnel on-site full time who will be responsible for oversight of the contractor(s), compliance with the Work Plan and Site Health and Safety Plan (HASP), tracking the removal of wastes, and documenting site activities. Although not contracted directly with the contractor(s), PBW's on-site personnel will be acting as the Respondents' on-site representative and will have the Respondents' full authority to stop work and re-direct the contractor(s) compliance with approved Work Plan and HASP for this removal action. Deliverables and tracking documents will be provided to EPA by PBW through established Respondents communications and/or reporting methods.

### Health and Safety Plan

The contractor(s) will operate under the overall Site Health and Safety Plan (HASP) dated May 2012 and prior to mobilization the primary Contractor will prepare a HASP specific to this removal action. The HASP will ensure the protection of the public health and safety during performance of the removal action and will be submitted to EPA for review. Changes to the plan recommended by EPA will be incorporated into the final plan that will be implemented during the pendency of the removal action. The HASP will describe appropriate personal protective equipment (PPE) for the anticipated hazards. All site workers shall receive the appropriate level of training according to 29 CFR 1910.120 that prepares them for their

job functions and responsibilities.

At a minimum, the PPE should include Level D PPE protection (i.e., hardhat, safety glasses, steel toe shoes, earplugs, and long sleeve shirt/pants) and activities associated with waste handling and sampling will be performed using Level C PPE protection. Personnel handling the materials (liquids or sludges) in or in the vicinity of the equipment or vacuum boxes SHALL have a functional personal hydrogen sulfide monitor on their person. Additional periodic air quality monitoring of the work area and continuous air monitoring of confined space entry areas will be performed using a 4-gas meter. PPE will be upgraded to OSHA Level B as needed based on readings from the 4-gas meters and hydrogen sulfide monitors.

**Removal Action Description**

The desire of the PRP Group is to remove process wastes from the equipment, pressure wash the equipment and potentially remove selected pieces of equipment as scrap metal. Following a review of the analytical data provided in Table 2, it was determined that the most timely and effective plan would be via the following steps:

1. Remove waste materials from EQ-01, EQ-03 and EQ-11 through 15, including:
    - 197 tons (estimated approximate weight - See Table 1, Note 5) of non-hazardous material.
    - 86 tons (estimated approximate weight - See Table 1, Note 5) of hazardous material with TCLP- benzene concentrations >0.5 mg/L.

2. Wash equipment interiors in preparation for potential equipment removal (and/or demolition, if needed) as scrap at Respondents' discretion.
3. Potentially remove other equipment items (and/or demolish, if needed) as scrap at the Respondents' discretion. These equipment items were previously inspected, found to not contain process material and cleaned as needed as part of implementing a prior EPA-approved Work Plan.
4. Remove all used personal protective equipment (PPE) and other equipment, followed by contractor(s) demobilization from the Site.

With regard to Step One in this process:

- The contractor(s) will prepare and obtain approval of a waste profile for shipment of the non-hazardous sludge waste to: (1) the Seabreeze Environmental Landfill in Angleton, Texas; (2) the Waste Management Coastal Plains Landfill in Alvin, TX; and/or (3) the Waste Management Conroe Landfill in Conroe, TX.

- The contractor(s) will prepare and obtain approval of a waste profile for shipment of the hazardous waste. Upon facility acceptance, the hazardous waste will be shipped to: (1) the Systech Environmental Corporation Facility in Fredonia, KS (to be blended into a hazardous waste derived fuel for energy recovery at another site); (2) the Clean Harbors Deer Park Incinerator in Deer Park, TX; and/or (3) the Clean Harbors LaPorte, TX site (with subsequent shipment under Clean Harbors manifest to the Clean Harbors Thermal Desorption Unit in Lambton, Ontario, Canada). Upon facility acceptance and confirmation of EPA approval of these disposal facilities, waste shipment will be performed as described below.

*Waste Removal and Disposal*

Following receipt of the aforementioned approvals:

1. Non-hazardous liquid contained in Equipment Items EQ-01, EQ-03, EQ-12, EQ-14 and EQ-15 will be pumped into vacuum trucks for shipment to the Intergulf, Seabreeze, Coastal Plains and/or Conroe facilities. EPA will be notified if the waste profile is not approved by, or if individual shipments are not accepted by one of these facilities, in which case, approval of an alternative facility will be sought and obtained prior to use.
2. Non-hazardous sludge contained in Equipment Items EQ-01 and EQ-11 will be pumped into vacuum boxes for shipment to the Seabreeze, Coastal Plains and/or Conroe facility EPA will be notified if the waste profile is not approved by, or if individual shipments are not accepted by one of these facilities, in which case, approval of an alternative facility will be sought and obtained prior to use.
3. Hazardous sludge contained in Equipment Items EQ-13, EQ-14 and EQ-15 will be pumped into vacuum boxes for shipment to the Systech Fredonia facility, the Clean Harbors Deer Park Incinerator and/or the Clean Harbors LaPorte site. EPA will be notified if the waste profile is not approved by, or if individual shipments are not accepted by one of these facilities, in which case, approval of an alternative facility will be sought and obtained prior to use.

<u>Non-Hazardous Waste Removal and Disposal</u>

The liquids within the following equipment items were deemed to be non-hazardous via the aforementioned sampling by $E^2$ and analysis by ALS Environmental (as summarized in Table 2):

- EQ-01
- EQ-03
- EQ-12
- EQ-14
- EQ-15

The non-hazardous liquids from these five equipment items will be accessed from existing openings and pumped to vacuum trucks, vacuum boxes and/or totes for shipment to the Intergulf, Seabreeze, Coastal Plains, and/or Conroe facilities.

The sludge within the following equipment items was deemed to be non-hazardous via the aforementioned sampling by $E^2$ and analysis by ALS Environmental (as summarized in Table 2):

- EQ-01
- EQ-11

The non-hazardous sludge from these three equipment items will be accessed from existing openings, liquefied using an automated 3D nozzle and ≥5,000 psig high pressure water blaster and pumped to vacuum boxes for shipment to the Seabreeze, Coastal Plains, and/or Conroe Landfills. Prior to combining materials from two or more equipment items into a vacuum box, a “bucket test” will be performed to check if undesirable reactions occur. For this test, CHES will add a small representative sample of each equipment item planned to be mixed in a vacuum box, in the order it is to be added to the vacuum box, into a metal pail. The bucket sample will be inspected for signs of reaction prior to materials represented by the samples being loaded into the vacuum box. If the bucket test does not indicate any potential compatibility issues, the sludge will be to a vacuum box.

Any sludge that is not removed by the method above will be accessed through the equipment manways by personnel wearing OSHA Level C PPE and following confined space entry procedures. PPE will be upgraded to OSHA Level B if pre-entry 4-gas meter and hydrogen sulfide meter monitoring of vapor within a piece of equipment indicates a need. The sludge will be broken up as needed using a >3,000 psig pressure washer and lance and then pumped to vacuum boxes. Some materials may be moved by shovel and placed into the vacuum boxes or roll-offs.

Hazardous Waste Removal and Disposal

The sludge within the following equipment items was deemed to be hazardous via the aforementioned sampling by $E^2$ and analysis by ALS Environmental (as summarized in Table 2):

- EQ-13
- EQ-14
- EQ-15

The sludge from these three equipment items will be accessed from existing openings using the same methods as the non-hazardous sludge described above. Prior to combining materials from equipment items into a vacuum box, a "bucket test" will be performed to check if undesirable reactions occur. For this test, the contractor will add a small sample of each vessel planned to be mixed in a vacuum box, in the order it is to be added to the vacuum box, into a metal pail. The bucket sample will be inspected for signs of reaction prior to materials represented by the samples being loaded into the vacuum box. If the bucket test does not indicate any potential compatibility issues, the sludge will be pumped to a vacuum box. The analytical results from EQ-13, EQ-14 and EQ-15 are sufficiently similar and complete such that profile acceptance will be pursued prior to the initiation of field work. If needed, the vacuum box(s) will be sampled and sent to the proposed disposal facility for acceptance testing. Upon acceptance by the disposal facility, the vacuum boxes will be shipped for disposal. If the bucket test shows signs of reactivity, non-compatible materials will not be bulked in the vacuum box with the incompatible materials from the other equipment items and a separate vacuum box will be used for the incompatible material.

The hazardous sludge from these two vessels will be accessed from existing openings, liquefied using an automated 3D nozzle and ≥5,000 psig high pressure water blaster and pumped to vacuum boxes.

Any sludge that is not removed by the method above will be accessed through existing openings, or an opening created using a non-sparking cutting method, using personnel wearing OSHA Level C PPE and following confined space entry procedures. PPE will be upgraded to OSHA Level B if pre-entry 4-gas meter and hydrogen sulfide meter monitoring of vapor within an equipment item indicates a need. The sludge will be broken up as needed using a >3,000 psig pressure washer and lance and then pumped to vacuum boxes. Some materials may be moved by shovel and placed into the vacuum boxes or roll-offs.

Upon acceptance by the disposal facility the sludge in vacuum boxes and roll-offs will be shipped to the Systech Fredonia facility, the Clean Harbors Deer Park Incinerator and/or the Clean Harbors LaPorte site.

*Equipment Pressure Washing and Equipment Removal*

Following the removal of liquids and sludge from the former process equipment, the contractor will pressure wash the equipment and set it aside for recycle.

The equipment will be accessed from existing openings, or the openings cut in the equipment as described above, and washed using at least two passes of an automated 3D nozzle and ≥5,000 psig high pressure

water blaster or with at least two passes using a >3,000 psig pressure washer and lance. Personnel performing the washing will wear OSHA Level C PPE. If needed based on 4-gas meter or personal hydrogen sulfide monitor readings, PPE will be upgraded to OSHA Level B. The wash water from these operations will be pumped to a vacuum truck and sent to the Intergulf facility or one of the waste disposal facilities identified above.

At the Respondents' discretion some or all of the pieces of cleaned equipment will be demolished and/or removed from the site by selling it to scrap metal company.

Any non-metal components encountered and used PPE generated by the project will be collected into roll-off boxes for shipment to the Seabreeze, Coastal Plains and/or Conroe Landfills.

**Spill Prevention/Containment Plan**

The work area will have spill supplies as PPE, shovels, brooms, drums, buckets, and absorbents. At the beginning of each shift there will be a tail-gate meeting where the hazards for each task will be discussed with all team members. Included in the discussion will be procedures to deal with emergency situations including spill response and prevention. Numbers for on-site and off-site responders to different types of emergencies will be listed in the HASP and will be posted in the project office. As soon as any spill scenario is detected, it will be reported to the Contractor Project Manager and the USOR Group's on-site representative. Spill response personnel will have training that prepares them for their job functions and responsibilities including 29 CFR 1910.120 (HAZWOPER) and DOT. In the event of a spill, the contractor(s) field crews will immediately contain the spill as necessary to prevent a release from the Site.

In the event of a spill, the Respondents and/or container removal Contractor(s) notify on-site oversight representatives. If not on-site, EPA's OSC Adam Adams will be notified immediately thereafter at (214) 665-2779. In the event of any spill which causes or threatens a release of waste material from the Site that constitutes an emergency situation or may present an immediate threat to public health or welfare or the environment, Respondents shall immediately notify the OSC or, in the event of his/her unavailability, the Regional Duty Officer, Emergency Planning and Response Branch, EPA Region 6, 214-665-3166, and the EPA Regional Emergency 24-hour telephone number, 1-866-372-7745. In addition, in the event of any release of a hazardous substance from the Site which, pursuant to Section 103 of CERCLA, requires reporting to the National Response Center, Respondents shall immediately notify the OSC and the National Response Center at (800) 424-8802. A written report will be submitted to EPA within 7 days after a release of a hazardous substance from the Site that requires reporting to the National Response Center pursuant to Section 103(a) of CERCLA, 42 U.S.C. § 9603(a), setting forth the events that occurred and the measures taken or to be taken to mitigate any release or endangerment caused or threatened by the release and to prevent the recurrence of such a release.

**Reporting**

A removal action report will be prepared upon completion of this project covering the former process equipment content removal activities described in this Work Plan. The report will include:

- Summary of activities performed to remove the equipment contents;
- Summary of activities performed to pressure wash and remove equipment;
- Photographs documenting removal activities; and
- Shipping/disposal records (manifests, etc.).

**Schedule**

The removal action will be implemented as described herein. At least ten (10) calendar days prior to initiating the removal action field work, Respondents will submit the HASP to EPA. It is anticipated that the removal action field activities will be completed within one hundred twenty (120) calendar days following initiation. Respondents will provide written notification of completion of the removal action to EPA.

**Table 1**
**Former Process Equipment Estimated**
**Residual Waste Volumes**
**US Oil Recovery Superfund Site**
**Pasadena, Texas**

| Equipment Name[1] | Description | Estimated Liquid Volume (gallons) | Estimated Liquid Weight[2] (tons) | Estimated Sludge Volume (Cubic Feet) | Estimated Sludge Volume (gallons) | Estimated Sludge Weight[3] (tons) |
|---|---|---|---|---|---|---|
| USOR-EQ-01(a) | Heated and Agitated Frac Tank | 2,290 | 9 | 398 | 2,977 | 15 |
| USOR-EQ-01(b) | Heated and Agitated Frac Tank | NP | NP | 361 | 2,702 | 14 |
| USOR-EQ-03 | Light Blue Horizontal Tank | 20,344 | 81 | NP | NP | NP |
| USOR-EQ-11 | Large Blue Hopper | NP | NP | 1,677 | 12,543 | 63 |
| USOR-EQ-12 | Rectangular Mix Tank | 151 | 1 | NP | NP | NP |
| USOR-EQ-13 | ICP Tank A | NP | NP | 1,168 | 8,739 | 44[5] |
| USOR-EQ-14 | ICP Tank B | 3,058 | 12 | 1,068 | 7,985 | 40[5] |
| USOR-EQ-15 | Rectangular Mix Tank | 1,044 | 4 | 63 | 475 | 2 [5] |
| Total ---> | | 26,887 | 108 | 4,735 | 35,421 | 177 |

Notes:
1. USOR-EQ-01 has more than one compartment. Compartments are designated with a letter at the end of the equipment name. Sludge samples from each compartment were composited to create a single sample sent for analysis (see Table 2). Measurable liquid was present in only one compartment and thus no sampling compositing was used.
2. Assumed weight for liquids was 8 pounds per gallon
3. Assumed weight for sludge was 10 pounds per gallon
4. NP = not present or not present in significant amounts
5. Hazardous material due to benzene TCLP concentration >0.5 mg/L. Total hazardous material = 86 tons (EQ-13, EQ-14, and EQ-15 solids). Total non-hazardous material = total liquid and sludge tons (108 + 177) - hazardous material tons (86) = 197 tons

# Table 2
# Equipment Waste Analytical Results
# US Oil Recovery Superfund Site
# Pasadena, Texas

| Sample Identification | | TCLP Regulatory Levels | USOR-EQ-01 | USOR-EQ-01 | USOR-EQ-03 | USOR-EQ-11 | USOR-EQ-12 | USOR-EQ-13 | USOR-EQ-14 | USOR-EQ-14 | USOR-EQ-15 | USOR-EQ-15 DUP | USOR-EQ-15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample Location** | | | **Heated & Agitated Frac Tank** | **Heated & Agitated Frac Tank** | **Lt. Blue Horizontal Cylinder** | **Large Blue Hopper** | **Rectangular Mix Tank** | **ICP Tank A** | **ICP Tank B** | **ICP Tank B** | **Rectangular Mix Tank** | **Rectangular Mix Tank** | **Rectangular Mix Tank** |
| **Media** | | | **Liquid** | **Sludge** | **Liquid** | **Sludge** | **Liquid** | **Sludge** | **Liquid** | **Sludge** | **Liquid** | **Liquid** | **Sludge** |
| **Date Sampled** | **Units** | | **3/4/2015** | **3/5/2015** | **3/3/2015** | **3/3/2015** | **3/4/2015** | **3/4/2015** | **3/4/2015** | **3/5/2015** | **3/4/2015** | **3/4/2015** | **3/4/2015** |
| **TCLP METALS** | | | | | | | | | | | | | |
| Arsenic | mg/L | **5** | <0.0100 | <0.0100 | <0.0100 | <0.0100 | <0.0100 | <0.0100 | **0.0163 J** | <0.0100 | **0.0212 J** | **0.0166 J** | <0.0100 |
| Barium | mg/L | **100** | **0.0684 J** | **2.59** | **0.166 J** | **0.552** | **0.329** | **0.264** | **0.0649 J** | **0.0893 J** | **0.140 J** | <0.0450 | **0.0901 J** |
| Cadmium | mg/L | **1** | <0.00800 | <0.00800 | <0.00800 | <0.0800 | <0.00800 | <0.0080 | <0.00800 | <0.00800 | <0.00800 | <0.0400 | <0.0080 |
| Chromium | mg/L | **5** | <0.0100 | <0.0100 | **0.0404 J** | <0.0100 | <0.0100 | <0.0100 | **1.77** | **0.126** | **0.285 J** | **1.88 J** | <0.0100 |
| Lead | mg/L | **5** | <0.00700 | **0.0147 J** | **0.0120 J** | <0.00700 | <0.00700 | <0.00700 | <0.0350 | **0.0194 J** | <0.00700 | <0.0350 | <0.0070 |
| Mercury | mg/L | **0.2** | <0.0000420 | <0.0000420 | **0.000585** | **0.0000640 J** | **0.000477** | **0.0000690 J** | **0.00203** | **0.0000960 J** | <0.000168 | **0.00224** | <0.0000420 |
| Selenium | mg/L | **1** | <0.0100 | <0.0100 | <0.0100 | <0.0100 | <0.0100 | <0.0100 | **0.0223 J** | <0.0100 | **0.0113 J** | **0.0236 J** | <0.0100 |
| Silver | mg/L | **5** | <0.00800 | <0.00800 | <0.00800 | <0.00800 | <0.00800 | <0.00800 | <0.00800 | <0.00800 | <0.00800 | <0.00800 | <0.00800 |
| **TCLP VOCs** | | | | | | | | | | | | | |
| 1,1-Dichloroethene | mg/L | **0.7** | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| 1,2-Dichloroethane | mg/L | **0.5** | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| 1,4-Dichlorobenzene | mg/L | **7.5** | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 |
| 2-Butanone | mg/L | **200** | **0.074 J** | **0.091 J** | **0.14 J** | <0.020 | <0.020 | **0.058 J** | **1.8** | **0.052 J** | **1.7** | **1.9** | **0.050 J** |
| Benzene | mg/L | **0.5** | <0.012 | **0.34** | **0.15** | <0.012 | <0.012 | **0.60** (7) | **0.049 J** | **0.73** (8) | **0.35 J** | **0.074 J** | **1.7** (9) |
| Carbon tetrachloride | mg/L | **0.5** | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 |
| Chlorobenzene | mg/L | **100** | <0.0080 | <0.0080 | <0.0080 | <0.0080 | <0.0080 | <0.0080 | <0.0080 | <0.0080 | <0.0080 | <0.0080 | <0.0080 |
| Chloroform | mg/L | **6** | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 |
| Tetrachloroethene | mg/L | **0.7** | <0.012 | <0.012 | **0.016 J** | <0.012 | <0.012 | **0.018 J** | <0.012 | <0.012 | <0.012 | <0.012 | **0.030 J** |
| Trichloroethene | mg/L | **0.5** | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | **0.022 J** | <0.010 | **0.018 J** | **0.026 J** | <0.010 | **0.17** |
| Vinyl chloride | mg/L | **0.2** | <0.0080 | <0.0080 | <0.0080 | <0.0080 | <0.0080 | <0.0080 | <0.0080 | <0.0080 | <0.0800 | <0.0080 | <0.0080 |
| **TCLP SVOCs** | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | mg/L | **400** | <0.0090 | <0.0090 | <0.045 | <0.014 | <0.0090 JL | <0.0090 | <0.049 | <0.0090 | <0.049 | <0.025 JL | <0.0090 |
| 2,4,6-Trichlorophenol | mg/L | **2** | <0.014 | <0.014 | <0.070 | <0.021 | <0.014 JL | <0.014 | <0.076 | <0.014 | <0.076 | <0.038 JL | <0.014 |
| 2,4-Dinitrotoluene | mg/L | **0.13** | <0.010 | <0.010 | <0.050 | <0.015 | <0.010 | <0.010 | <0.055 | <0.010 | <0.055 | <0.027 JL | <0.010 |
| Cresols, Total | mg/L | **200** | **0.18** | **0.54** | <0.10 | **0.16 J** | <0.020 JL | **0.22** | **3.8** | **0.54** | **3.9** | **2.8 JL** | **0.17** |
| Hexachlorobenzene | mg/L | **0.13** | <0.011 | <0.011 | <0.055 | <0.016 | <0.011 | <0.011 | <0.060 | <0.011 | <0.060 | <0.030 | <0.011 |
| Hexachlorobutadiene | mg/L | **0.5** | <0.011 | <0.011 | <0.055 | <0.016 | <0.011 | <0.011 | <0.060 | <0.011 | <0.060 | <0.030 | <0.011 |
| Hexachloroethane | mg/L | **3** | <0.010 | <0.010 | <0.050 | <0.015 | <0.010 | <0.010 | <0.055 | <0.010 | <0.055 | <0.027 | <0.010 |
| Nitrobenzene | mg/L | **2** | <0.0080 | <0.0080 | <0.040 | <0.012 | <0.0080 | <0.0080 | <0.044 | <0.0080 | <0.044 | <0.022 | <0.0080 |
| Pentachlorophenol | mg/L | **100** | <0.016 | <0.016 | <0.080 | <0.024 | <0.016 JL | <0.016 | <0.087 | <0.016 | <0.087 | <0.044 JL | <0.016 |
| Pyridine | mg/L | **5** | <0.020 | <0.020 | <0.10 | <0.030 | <0.020 | <0.020 | <0.11 | <0.020 | <0.11 | <0.055 | <0.020 |
| **IGNITABILITY** | °F | **<140** | >212 | -- | >212 | -- | >212 | -- | >212 | -- | >212 | >212 | -- |
| **IGNITABILITY, Solid** | mm/sec | Burn rate | -- | Negative | -- | Negative | -- | Negative | -- | Negative | -- | -- | Negative |
| **pH** | pH units | **<2, >12.5** | **5.45 J** | **6.01 J** | **9.35 J** | **8.40 J** | **8.03 J** | **7.76 J** | **7.45 J** | **7.01 J** | **7.69 J** | **7.89 J** | **8.83 J** |
| **REACTIVE CYANIDE** | mg/Kg | Reactive | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| **REACTIVE SULFIDE** | mg/Kg | Reactive | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |

**Notes:**

1) Samples collected by Effective Environmental.
2) < - Analyte reported as non-detect by laboratory at associated method detection limit (MDL)
3) Bolded values are concentrations detected above MDL
4) Shaded values in yellow denotes detections with exceedances of regulatory levels
5) J - Reported concentration is estimated
6) L - Bias potentially low

## APPENDIX D: EQUIPMENT WASTE REMOVAL WORK PHOTOGRAPHIC LOG

# PHOTOGRAPHIC LOG

| **Client Name:** | **Site Location:** | **Project No.** |
|---|---|---|
| USOR PRP Group | 400 N Richey Street, Pasadena, Harris County, TX | N/A |

| | |
|---|---|
| **Photo No.** **1.** | |
| **Direction Photo Taken:** N/A | |
| **Description:** Aerial looking southeast immediately west of the Site entrance. Several pieces of equipment are visible to the left (EQ-01, EQ-02 & EQ-03) and lower portion (EQ-04, EQ-05 & EQ-06) of the photo. | |

| | |
|---|---|
| **Photo No.** **2.** | |
| **Direction Photo Taken:** N/A | |
| **Description:** Looking west along the northern perimeter of the Site. Several pieces of equipment (EQ-20, EQ-21 & EQ-29, among others) are visible along the northern and western fenced perimeters of the Site. | |

| | |
|---|---|
| **Photo No.** **3.** | |
| **Direction Photo Taken:** N/A | |
| **Description:** Various pieces of equipment are visible stored in the northwestern corner of the Site. | |

| | |
|---|---|
| **Photo No.** **4.** | |
| **Direction Photo Taken:** N/A | |
| **Description:** Looking south along the southeastern perimeter of the warehouse. Equipment EQ-04 and EQ-05 are visible. | |

| | |
|---|---|
| **Photo No.** **5.** | |
| **Direction Photo Taken:**<br><br>N/A | |
| **Description:** In general, sludge was removed from equipment stored in various locations across the Site (USOR EQ-11 is shown). Sludge in EQ-11 was first removed from the upper portion before the manway at the bottom was removed in order to remove additional sludge and pressure wash the equipment. | |

| | |
|---|---|
| **Photo No.** **6.** | |
| **Direction Photo Taken:** N/A | |
| **Description:** EQ-11 was pressure washed through the manway located at the bottom portion of the equipment. The Triton vacuum system and vacuum boxes were used to remove sludge from the equipment. | |

| | |
|---|---|
| **Photo No.** **7.** | |
| **Direction Photo Taken:**<br><br>N/A | |
| **Description:** A final rinse was completed from the top of EQ-11. | |

| | |
|---|---|
| **Photo No.** **8.** | |
| **Direction Photo Taken:** N/A | |
| **Description:** Several pieces of equipment, EQ-01, EQ-02 (shown) and EQ-03, were stored near the Site entrance and were demolished using an excavator equipped with hydraulic sheers after they were pressure washed. | |

| | |
|---|---|
| **Photo No.** **9.** | |
| **Direction Photo Taken:**<br><br>N/A | |
| **Description:** Sludge was removed from EQ-01, EQ-02 and EQ-03 (shown) using pressure washers and the Triton vacuum system. | |

| | |
|---|---|
| **Photo No.** **10.** | |
| **Direction Photo Taken:** N/A | |
| **Description:** EQ-01 (shown), EQ-03 were pressure washed to remove residual sludge. Residual sludge and rinse water were removed from the pieces of equipment by the Triton vacuum system. | |

| | |
|---|---|
| **Photo No.** **11.** | |
| **Direction Photo Taken:** N/A | |
| **Description:** Other pieces of equipment, EQ-04 and EQ-05, contained no process material, but were demolished and placed in scrap metal roll-off boxes for off-site transport. | |

| | |
|---|---|
| **Photo No.** **12.** | |
| **Direction Photo Taken:** N/A | |
| **Description:** Demolished pieces of equipment (EQ-04 shown) were placed into the scrap metals roll-off box for off-site transport. | |

| | |
|---|---|
| **Photo No.** **13.** | |
| **Direction Photo Taken:** N/A | |
| **Description:** The chassis for the ball mills is visible (EQ-04 and EQ-05) after the ball mills were demolished and placed in the scrap metal roll-off box. EQ-06 is visible in the background. | |

| | |
|---|---|
| **Photo No.** **14.** | |
| **Direction Photo Taken:** N/A | |
| **Description:** Stockpiled scrap metal from demolished equipment pieces prior to being placed within the scrap metal roll-off box for off-site transport. | |

| | |
|---|---|
| **Photo No.** **15.** | |
| **Direction Photo Taken:** N/A | |
| **Description:** Looking southwest near the site entrance. Equipment (EQ-04 & EQ-05, among others) previously located in this area of the Site was demolished and removed from the Site. | |

| | |
|---|---|
| **Photo No.** **16.** | |
| **Direction Photo Taken:** N/A | |
| **Description:** Aerial looking southwest, toward the North and South Tank Farms. All equipment previously located along the northern and western perimeter of the Site (shown right) has been demolished and removed from the Site. | |

# APPENDIX E: MANIFESTS

Projects #: 0-0

Order #: 129636

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

**UNIFORM HAZARDOUS WASTE MANIFEST**

1. Generator ID Number: TXR000051540 / CESQG

2. Page 1 of 1

3. Emergency Response Phone: See Section 14

4. Manifest Tracking Number: 002830608 GBF

5. Generator's Name and Mailing Address
US Oil Recovery
ATTN: Hiren Shah, 9950 Chemical Road
Pasadena, TX 77507
Generator's Phone: 281-842-0804 ATTN: Hiren Shah

Generator's Site Address (if different than mailing address)
400 N. Richey St.
Pasadena, TX 77506

6. Transporter 1 Company Name
Effective Environmental, Inc.
Ph#: 972-329-1200
State ID#: TX-87158/AR-H-1361
U.S. EPA ID Number: TXR000025841

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Seabreeze Environmental Landfill
10310 FM 523
P.O. Box 567
Angleton, TX 77515
Facility's Phone: 979-864-4442
State ID#: H1539
U.S. EPA ID Number

| 9a. HM | 9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any)) | 10. Containers No. | 10. Containers Type | 11. Total Quantity | 12. Unit Wt./Vol. | 13. Waste Codes |
|---|---|---|---|---|---|---|
| ☐ | 1. Non-regulated material (sludge) | 001 | CM | 15 yds | T | CESQ6031 Non-RCRA |
| | 2. | | | | | |
| | 3. | | | | | |
| | 4. | | | | | |

14. Special Handling Instructions and Additional Information
01:Non-haz sludge stored in EQ-29 (PF:SRL-15-970) 4000G

* EMERGENCY RESPONSE PHONE: 214-635-1500 *
* ON CALL SUPERVISOR *

I hereby certify that the above described materials are non-hazardous wastes as defined by 40 CFR 261 or applicable state law. Further, the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: X Wade Steinfeld (Agent for USOR) | Signature: X [signature] X | Month 9 | Day 15 | Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: CHARLES JACKSON | Signature: [signature] | Month 9 | Day 15 | Year 15

Transporter 2 Printed/Typed Name: ~~Wade Steinfeld~~ WS 9/15/15 | Signature: [signature] WS 9/15/15 | Month ~~9~~ | Day ~~15~~ | Year ~~15~~

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1. 01: H132 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name Signature Month Day Year

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Projects #: 0-0

Order #: 129637

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Effective Environmental

Form Approved. OMB No. 2050-0039

**UNIFORM HAZARDOUS WASTE MANIFEST**

1. Generator ID Number: TXR000051540 / 52123

2. Page 1 of

3. Emergency Response Phone: See Section 14

4. Manifest Tracking Number: 002831807 GBF

**GENERATOR**

5. Generator's Name and Mailing Address
US Oil Recovery
ATTN: Hiren Shah, 9950 Chemical Road
Pasadena, TX 77507
Generator's Phone: 281-842-0804 ATTN: Hiren Shah

Generator's Site Address (if different than mailing address)
400 N. Richey St.
Pasadena, TX 77506

6. Transporter 1 Company Name
Dynamic Rental Systems
Ph#: 817-832-7115
State ID#:
U.S. EPA ID Number: TXR000079454

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Systech Environmental Corporation
1420 S. Cement Road
Fredonia, KS 66736
State ID#: D0020
U.S. EPA ID Number: KSD980633259
Facility's Phone: 800-778-7224

| 9a. HM | 9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any)) | 10. Containers No. | 10. Containers Type | 11. Total Quantity | 12. Unit Wt./Vol. | 13. Waste Codes |
|---|---|---|---|---|---|---|
| ☑ | 1. RQ, NA3082, Hazardous waste, liquid, n.o.s. (sludge with benzene), 9, PG III, ERG 171 | | CM | 20 | T | FZ59603H D018 |
| | 2. | | | | | |
| | 3. | | | | | |
| | 4. | | | | | |

14. Special Handling Instructions and Additional Information
01:FO-2 sludge Haz (PF:CG1413915) 4000G

* EMERGENCY RESPONSE PHONE: 214-635-1500 *
* ON CALL SUPERVISOR *

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: X HIREN SHAH

Signature: X Hiren Shah - Effective Environmental Inc Signatory Agent on behalf of U.S. Oil Recovery site PRP group

Month 10 Day 21 Year 15

**INT'L**

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

**TRANSPORTER**

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: H. HOUSE
Signature: H. House
Month 10 Day 21 Year 15
Transporter 2 Printed/Typed Name
Signature
Month Day Year

**DESIGNATED FACILITY**

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

| 1. | 2. | 3. | 4. |
|---|---|---|---|
| 01: H040 | | | |

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name
Signature
Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

**DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)**

**Projects #: 0-0** **Order #: 131381**

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

**UNIFORM HAZARDOUS WASTE MANIFEST**

1. Generator ID Number: TXR000051540 / 52123
2. Page 1 of
3. Emergency Response Phone: See Section 14
4. Manifest Tracking Number: 002831859 GBF

5. Generator's Name and Mailing Address
US Oil Recovery
ATTN: Hiren Shah, 9950 Chemical Road
Pasadena, TX 77507
Generator's Phone: 281-842-0804 ATTN: Hiren Shah

Generator's Site Address (if different than mailing address)
400 N. Richey St.
Pasadena, TX 77506

6. Transporter 1 Company Name
Dynamic Rental Systems
Ph#: 817-832-7115
State ID#:
U.S. EPA ID Number: TXR000079454

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Systech Environmental Corporation
1420 S. Cement Road
Fredonia, KS 66736
State ID#: D0020
U.S. EPA ID Number: KSD980633259
Facility's Phone: 800-778-7224

| 9a. HM | 9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any)) | 10. Containers No. | 10. Containers Type | 11. Total Quantity | 12. Unit Wt./Vol. | 13. Waste Codes |
|---|---|---|---|---|---|---|
| ☑ | 1. RQ, NA3082, Hazardous waste, liquid, n.o.s. (sludge with benzene), 9, PG III, ERG 171 | 1 | CM | 20 | T | FZ59603H ~~D018~~ |
| | 2. | | | | | |
| | 3. | | | | | |
| | 4. | | | | | |

14. Special Handling Instructions and Additional Information
01 ECI-2 sludge Haz (PF CG1413915) 4000G
* EMERGENCY RESPONSE PHONE: 214-635-1500 *
* ON CALL SUPERVISOR *

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: X HIREN SHAH
Signature: X Hiren Shah — Effective Environmental Inc Signatory Agent on behalf of US Oil Recovery site PRP group
Month 10 Day 27 Year 15

**INT'L**

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

**TRANSPORTER**

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: H. House
Signature:
Month 10 Day 27 Year 15
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

**DESIGNATED FACILITY**

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 01: H040 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name Signature Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

**DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)**

# LAND DISPOSAL RESTRICTION NOTIFICATION FORM

For Wastes Subject to the Treatment Standards Found in 40 CFR 268

**Order No: 131381**

**Generator Name: US Oil Recovery** **Manifest No: 002831859GBF**

| WMDS | WW / NWW | EPA Waste Codes / Underlying Hazardous Constituents | LDR Code |
|---|---|---|---|
| CG1413915 | [ ] / [X] | D018 / | E |

**LDR CODES**

**A. Restricted Waste Meets Treatment Standards (40 CFR 268.7(a) (3))**
The restricted waste identified above meets the treatment standards in 40 CFR 268.40 or Alternative LDR treatment standards for contaminated soil 40 CFR 268.49 and can be landfill disposed without further treatment. I have attached all supporting analytical data, where available.
I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR Part 268 Subpart D. I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment.

**B. Restricted Waste Treated To Treatment Standards (40 CFR 268.7(b) (I) and 268.7 (b) (2))**
The treatment residue, or extract of such residue, or the restricted waste identified above has been tested to assure that the treatment residues or extract meet all applicable treatment standards in 40 CFR 268.40 and/or performance standards in 40 CFR 268.45. I have attached all supporting analytical data, where available.
I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR Part 268 Subpart D. I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment.

**C. Restricted Waste With Technology Based Treatment Standards (40 CFR 268.7(b) (4))**
I certify under penalty of law that I personally have examined and am familiar with the treatment technology and operation of the treatment process used to support this certification and that based on my inquiry of those individuals immediately responsible for obtaining this information. I believe that the treatment process has been operated and maintained properly so as to comply with the treatment standards specified in 40 CFR 268.40, without impermissible dilution of the prohibited waste. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment.

**D. Restricted Waste Decharacterized But Requires Treatment For UHC (40 CFR 268.9)**
I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 to remove the hazardous characteristic. This decharacterized waste contains Underlying Hazardous Constituents (UHC) that require further treatment to meet the universal treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment.

**E. Restricted Waste Subject To Treatment (40 CFR 268.7(a) (2))**
The restricted waste identified above must be treated to the applicable treatment standards in 40 CFR 268.40, or treated to comply with applicable prohibitions set forth in Part 268.32 or RCRA Section 3004(d). I have attached all supporting analytical data, where available.

**F. Hazardous Debris Subject To Treatment (40 CFR 268.45)**
This hazardous debris identified above must be treated to the alternative treatment standards in 40 CFR 268.45.

**G. Restricted Waste Subject To A Variance or Extension (40 CFR 268.7(a) (4))**
This restricted waste identified above is subject to a case by case exemption under 40 CFR 268.5, an exemption under 40 CFR 268.6 or a nationwide capacity variance under Subpart C of 40 CFR 268, and is not prohibited from land disposal. LDR prohibitions become effective on _____(date) for this restricted waste. The corresponding treatment standard(s) are promulgated in 40 CFR 268.40. I have attached all supporting analytical data, where available.

**H. Restricted Waste Managed In A "Lab Pack" (40 CFR 268.7(a) (9))**
I certify under penalty of law that I personally have examined and am familiar with the waste and that the lab pack contains only waste that have been excluded under appendix IV to 40 CFR Part 268 and that this lab pack will be sent to a combustion facility in compliance with the alternative treatment standards for lab packs at 40 CFR 268.42(c). I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment.

**I certify and warrant that the information that appears on this form, and appended documents, is true and correct. I have correctly indicated how my waste is to be managed in accordance with 40 CFR 268. My certification is based on personal examination of the information submitted, or is based on my inquiries of those individuals responsible for obtaining the information.**

**Authorized Signature** X Hiren Shah **Title** Program Manager **Date** 10/27/15

Effective Environmental, Inc.
Signatory Agent on behalf of U.S. Oil Recovery Site PRP Group

Controlled Document

For Internal Use Only

7Z1503034486-004 SC PPW 9/11/2015

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

**UNIFORM HAZARDOUS WASTE MANIFEST**

1. Generator ID Number: TXR000051540
2. Page 1 of 1
3. Emergency Response Phone: (800) 483-3718
4. Manifest Tracking Number: 005597237 FLE

5. Generator's Name and Mailing Address
US Oil Recovery
400 North Richey Street
Pasadena, TX 77506
Generator's Phone: (704) 621-9475

Generator's Site Address (if different than mailing address)
SAME

Truck # 17

6. Transporter 1 Company Name: ~~Clean Harbors Environmental Service, Inc.~~ Prizm Enviormental
U.S. EPA ID Number: ~~MAD039322250~~ TXR000079136

7. Transporter 2 Company Name: Clean Harbors
U.S. EPA ID Number: MAD039322250

8. Designated Facility Name and Site Address
Clean Harbors Deer Park, LLC
2027 Independence Parkway South
La Porte, TX 77571
Facility's Phone: (281) 930-2300
U.S. EPA ID Number: TXD055141378

| 9a. HM | 9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any)) | 10. Containers No. | 10. Containers Type | 11. Total Quantity | 12. Unit Wt./Vol. | 13. Waste Codes |
|---|---|---|---|---|---|---|
| | 1. NON DOT REGULATED MATERIAL, (OIL FILTERS) CHRT- # 26475 | 01 | CM | 12 | T | FXKC4091 |
| | 2. | | | | | |
| | 3. | | | | | |
| | 4. | | | | | |

14. Special Handling Instructions and Additional Information
1.CH1039912

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Jay Avalos CHES agent of USOR PRP
Signature: [signature]
Month 11 Day 2 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Tarrance Davis
Signature: [signature]
Month 11 Day 2 Year 15
Transporter 2 Printed/Typed Name: T. Woods
Signature: T Woods
Month 11 Day 2 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Typa ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H040 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Evelyn Lee
Signature: [signature]
Month 11 Day 10 Year 15

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Clean Harbors has the appropriate permits for and will accept the waste the generator is shipping.

7Z 1503034488-004 SC PPW 9/11/2015

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

**UNIFORM HAZARDOUS WASTE MANIFEST**

1. Generator ID Number: TXR000051540
2. Page 1 of 1
3. Emergency Response Phone: (800) 483-3718
4. Manifest Tracking Number: 005597238 FLE

5. Generator's Name and Mailing Address
US Oil Recovery
400 North Richey Street
Pasadena, TX 77506
(704) 621-9475

Generator's Site Address (if different than mailing address): SAME

Generator's Phone:

6. Transporter 1 Company Name: ~~Clean Harbors Environmental Service, Inc~~ Prizm Environmental — U.S. EPA ID Number: ~~MAD039322250~~ TX000079136 Truck #17

7. Transporter 2 Company Name: Clean Harbors — U.S. EPA ID Number: MAD039322250

8. Designated Facility Name and Site Address
Clean Harbors Deer Park, LLC
2027 Independence Parkway South
La Porte, TX 77571
(281) 930-2300

Facility's Phone:

U.S. EPA ID Number: TXD055141378

| 9a. HM | 9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any)) | 10. Containers No. | 10. Containers Type | 11. Total Quantity | 12. Unit Wt./Vol. | 13. Waste Codes |
|---|---|---|---|---|---|---|
| | 1. NON DOT REGULATED MATERIAL, (OIL FILTERS) CHRT-27283 | ~~CHRT 27283~~ 01 | TD ~~25 yd tob~~ CM | ~~25 yards~~ TD 12 | ~~12 tons~~ TD T | FXKC4091 |
| | 2. | | | | | |
| | 3. | | | | | |
| | 4. | | | | | |

14. Special Handling Instructions and Additional Information
1.CH1039912

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Jay Avalos CHES — Signature: [signature] — Month 11 Day 2 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Tarrence Davis — Signature: [signature] — Month 11 Day 2 Year 15

Transporter 2 Printed/Typed Name: T. Woods — Signature: T. Woods — Month 11 Day 2 Year 15

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

| 1. | 2. | 3. | 4. |
|---|---|---|---|
| H040 | | | |

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Evelyn Lee — Signature: [signature] — Month 11 Day 10 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Clean Harbors has the appropriate permits for and will accept the waste the generator is shipping.

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 1501503034488-006 SC PPW 9/11/2015 Form Approved. OMB No. 2050-0039

**UNIFORM HAZARDOUS WASTE MANIFEST**

| 1. Generator ID Number | 2. Page 1 of | 3. Emergency Response Phone | 4. Manifest Tracking Number |
|---|---|---|---|
| TXR000051540 | 1 | (800) 483-3718 | 007786535 FLE |

5. Generator's Name and Mailing Address
US Oil Recovery
400 North Richey Street
Pasadena, TX 77506
Generator's Phone: (704) 621-9475

Generator's Site Address (if different than mailing address): SAME

6. Transporter 1 Company Name: Clean Harbors Environmental Service, Inc. — U.S. EPA ID Number: MAD039322250

7. Transporter 2 Company Name: SWS Environmental — U.S. EPA ID Number: FL0000936831

8. Designated Facility Name and Site Address
Clean Harbors Deer Park, LLC
2027 Independence Parkway South
La Porte, TX 77571
Facility's Phone: (281) 930-2300
U.S. EPA ID Number: TXD055141378

| 9a. HM | 9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any)) | 10. Containers No. | 10. Containers Type | 11. Total Quantity | 12. Unit Wt./Vol. | 13. Waste Codes |
|---|---|---|---|---|---|---|
| X | 1 UN3082, WASTE ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S., (TETRACHLOROETHENE, METHYLENE CHLORIDE), 9, PG III | 4 | CF | 7,800# | | D039 FXHC205H |
| | 2. | | | | | |
| | 3. | | | | | |
| | 4. | | | | | |

14. Special Handling Instructions and Additional Information
1.CH1093649 ERG#171

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Darren D. Cuoe "Agent For EHS" Signature: "Agent For EHS" Month 11 Day 20 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Miguel Saenz Signature: Miguel Saenz Month 11 Day 20 Year 15
Transporter 2 Printed/Typed Name: Signature: Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H040 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Kim Bravence Signature: Kim Bravence Month 11 Day 23 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

**Clean Harbors has the appropriate permits for and will accept the waste the generator is shipping.**

Projects #: 0-0 VTR-R125 50120 1049 Order #: 129636 WCK

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) EFFECTIVE ENVIRONMENTAL Form Approved, OMB No. 2050-0039

**UNIFORM HAZARDOUS WASTE MANIFEST**

1. Generator ID Number: TXR000051540 / CESQG
2. Page 1 of 1
3. Emergency Response Phone: See Section 14
4. Manifest Tracking Number: 002830608 GBF

5. Generator's Name and Mailing Address
US Oil Recovery
ATTN: Hiren Shah, 9950 Chemical Road
Pasadena, TX 77507
Generator's Phone: 281-842-0804 ATTN: Hiren Shah

Generator's Site Address (if different than mailing address)
400 N. Richey St.
Pasadena, TX 77506

6. Transporter 1 Company Name
Effective Environmental, Inc.
Ph#: 972-329-1200
State ID#: TX-87158/AR-H-1361
U.S. EPA ID Number: TXR000025841

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Seabreeze Environmental Landfill
10310 FM 523
P.O. Box 567
Angleton, TX 77515
Facility's Phone: 979-864-4442
State ID#: H1539
U.S. EPA ID Number

| 9a HM | 9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any)) | 10. Containers No. | Type | 11. Total Quantity | 12. Unit Wt./Vol. | 13. Waste Codes |
|---|---|---|---|---|---|---|
| | 1. Non-regulated material (sludge) | 001 | CM | 15 yds | T | CESQ6031 Non-RCRA |
| | 2. | | | | | |
| | 3. | | | | | |
| | 4. | | | | | |

14. Special Handling Instructions and Additional Information
01 Non-haz sludge stored in EQ-29 (PF:SBL-15-970) 4000G

* EMERGENCY RESPONSE PHONE: 214-635-1500 *
* ON CALL SUPERVISOR *

I hereby certify that the above described materials are non-hazardous wastes as defined by 40 CFR 261 or applicable state law. Further, the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: X Wade Steinfeld (Agent for USOR) Signature: X [signature] Month 9 Day 15 Year 15

16. International Shipments: ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: CHARLES JACKSON Signature: [signature] Month 9 Day 15 Year 15
Transporter 2 Printed/Typed Name: ~~Wade Steinfeld~~ WS 9/15/15 Signature: ~~[signature]~~ WS 9/15/15 ~~Month 9 Day 15 Year 15~~

18. Discrepancy
18a. Discrepancy Indication Space: ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 01: H132 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Cathy Cooper Signature: Cathy Cooper Month 9 Day 15 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

SeaBreeze Environmental LF
10310 FM-523
Angleton, TX 77515

019130 EFFECTIVE ENVIRONMENTAL
945 EAST PLEASANT RUN ROAD
LANCASTER TX 75146

| SITE | TICKET | GRID | WEIGHMASTER |
|---|---|---|---|
| 01 | 00386197 | LOOSE | CATHY C |

| DATE IN | DATE OUT | TIME IN | TIME OUT | VEHICLE | ROLL OFF |
|---|---|---|---|---|---|
| 09/15/15 | 09/15/15 | 12:21 | 13:46 | VTR-125 | 15-970 |

| REFERENCE | ORIGIN |
|---|---|
| 15-970TON | |

| | | | |
|---|---|---|---|
| Manual Gross Wt. | 50120 | LB | Inbound - Charge ticket |
| Scale 3 Tare Wt. | 38460 | LB | |
| Net Weight | 11660 | LB | |

| QTY. | UNIT | DESCRIPTION | RATE | EXTENSION | FEE | TOTAL |
|---|---|---|---|---|---|---|
| 5.83 | TONS | C1-NON-IND-SOLIDS-TN | | | | |
| 1.00 | EACH | CLEAN UP FEE | | | | |

PHONE: (979)864-4442

NET AMOUNT
TENDERED
CHANGE
CHECK NO.

Comment: US OIL RECOVERY
NOTES: C1-NON HAZ SLUDGE/EQ-29
PO #: 129636
Manifest: 002830608 GBF

SIGNATURE

C U F E E

Projects #: 0-0 VTR-R125 50120 1049 Order #: 129636 WCK

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) E² EFFECTIVE ENVIRONMENTAL Form Approved. OMB No. 2050-0039

**UNIFORM HAZARDOUS WASTE MANIFEST**

1. Generator ID Number: TXR000051540 / CESQG
2. Page 1 of 1
3. Emergency Response Phone: See Section 14
4. Manifest Tracking Number: 002830608 GBF

5. Generator's Name and Mailing Address
US Oil Recovery
ATTN: Hiren Shah, 9950 Chemical Road
Pasadena, TX 77507
Generator's Phone: 281-842-0804 ATTN: Hiren Shah

Generator's Site Address (if different than mailing address)
400 N. Richey St.
Pasadena, TX 77506

6. Transporter 1 Company Name
Effective Environmental, Inc.
Ph#: 972-329-1200
State ID#: TX-87158/AR-H-1361
U.S. EPA ID Number: TXR000025841

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Seabreeze Environmental Landfill
10310 FM 523
P.O. Box 567
Angleton, TX 77515
Facility's Phone: 979-864-4442
State ID#: H1539
U.S. EPA ID Number

| 9a. HM | 9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any)) | 10. Containers No. | 10. Containers Type | 11. Total Quantity | 12. Unit Wt./Vol. | 13. Waste Codes |
|---|---|---|---|---|---|---|
| ☐ | 1. Non-regulated material (sludge) | 001 | CM | est. 15 yds | T | CESQ6031 Non-RCRA |
| | 2. | | | | | |
| | 3. | | | | | |
| | 4. | | | | | |

14. Special Handling Instructions and Additional Information
01:Non-haz sludge stored in EQ-29 (PF:SRL-15-970) 4000G

* EMERGENCY RESPONSE PHONE: 214-635-1500 *
* ON CALL SUPERVISOR *

I hereby certify that the above described materials are non-hazardous wastes as defined by 40 CFR 261 or applicable state law. Further, the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

GENERATOR — Generator's/Offeror's Printed/Typed Name: X Wade Steinfeld (Agent for USOR) Signature: X [signature] X Month 9 Day 15 Year 15

INT'L — 16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER — 17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: CHARLES JACKSON Signature: [signature] Month 9 Day 15 Year 15
Transporter 2 Printed/Typed Name: ~~Wade Steinfeld~~ WS 9/15/15 Signature: [signature] WS 9/15/15 Month 9 Day 15 Year 15

DESIGNATED FACILITY — 18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 01: H132 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Cathy Cooper Signature: Cathy Cooper Month 9 Day 15 Year 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Projects #: 0-0

Order #: 131381

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

245111

Form Approved. OMB No. 2050-0039

**UNIFORM HAZARDOUS WASTE MANIFEST**

1. Generator ID Number: TXR000051540 / 52123
2. Page 1 of
3. Emergency Response Phone: See Section 14
4. Manifest Tracking Number: 002831859 GBF

5. Generator's Name and Mailing Address
US Oil Recovery
ATTN: Hiren Shah, 9950 Chemical Road
Pasadena, TX 77507
Generator's Phone: 281-842-0804 ATTN: Hiren Shah

Generator's Site Address (if different than mailing address)
400 N. Richey St.
Pasadena, TX 77506
Box #VB-1028

6. Transporter 1 Company Name
Dynamic Rental Systems
Ph#: 817-832-7115
State ID#:
U.S. EPA ID Number: TXR000079454

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Systech Environmental Corporation
1420 S. Cement Road
Fredonia, KS 66736
State ID#: D0020
U.S. EPA ID Number: KSD980633269
Facility's Phone: 800-778-7224

| 9a. HM | 9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any)) | 10. Containers No. | 10. Containers Type | 11. Total Quantity | 12. Unit Wt./Vol. | 13. Waste Codes |
|---|---|---|---|---|---|---|
| ☑ | 1. RQ, NA3082, Hazardous waste, liquid, n.o.s. (sludge with benzene), 9, PG III, ERG 171 | 1 | CM | 20 | 1 | H259603H ~~D018~~ |
| | 2. | | | | | |
| | 3. | | | | | |
| | 4. | | | | | |

14. Special Handling Instructions and Additional Information
01-FL-7 Sludge HAZ (PF 0.0141 0015) 4000G
' EMERGENCY RESPONSE PHONE: 214-635-1500 '
' ON CALL SUPERVISOR '

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: X HIREN SHAH
Signature: X Hiren Shah – Effective Environmental Inc. Signatory Agent on behalf of U.S. Oil Recovery Site PRP Group
Month 10 Day 27 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: H. House
Signature: H. House
Month 10 Day 27 Year 15
Transporter 2 Printed/Typed Name
Signature
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☒ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Offloaded 22180 lbs RCRA EMPty
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H040 Haul
2.
3.
4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Carl Babcock
Signature
Month 10 Day 28 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

**DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)**

Systech Environmental Corporation
3085 Woodman Dr. Suite 300
Dayton, OH 45420
Phone: (800) 888-8011 Fax: (937) 643-1203

Invoice No.: 541897310B
Invoice Date: 10/29/2015
Payment Terms: Net 30
Salesperson: Joe Durczynski
Shipped Via:
Dynamic Rental Systems

**Please remit payment to the above address**



RECEIVED
OCT 30 2015

Stericycle Environmental Solut
Accts Payable
945 E. Pleasant Run Road
Lancaster, TX 75146

131381

Co-processing of SOLVENTS at Systech Environmental in Fredonia, KS

| Ticket | Manifest | St. Manifest | Profile | P O Number: | Extended |
|---|---|---|---|---|---|
| VABO245111 | 002831859GBF | | CG1413915 | | |
| Date Prcsd: 10/29/2015 | | | Gallons | Pounds | |
| Box No: 1028 | | | 2,663 | 22,180 | |
| | Mercury | | 9.7 ppm | 200.000 / Ton | $2,218.00 |

29641 Generator: US Oil Recovery PRP Group Houston, TX

Projects #: 0-0

Order #: 129637

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

EFFECTIVE ENVIRONMENTAL 244756

Form Approved. OMB No. 2050-0039

**UNIFORM HAZARDOUS WASTE MANIFEST**

1. Generator ID Number: TXR000051540 / 52123
2. Page 1 of
3. Emergency Response Phone: See Section 14
4. Manifest Tracking Number: 002831807 GBF

5. Generator's Name and Mailing Address
US Oil Recovery
ATTN: Hiren Shah, 9950 Chemical Road
Pasadena, TX 77507
Generator's Phone: 281-842-0804 ATTN: Hiren Shah

Generator's Site Address (if different than mailing address)
400 N. Richey St.
Pasadena, TX 77506

6. Transporter 1 Company Name: Dynamic Rental Systems
Ph#: 817-832-7115
State ID#:
U.S. EPA ID Number: TXR000079454

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Systech Environmental Corporation
1420 S. Cement Road
Fredonia, KS 66736
State ID#: D0020
U.S. EPA ID Number: KSD980633259
Facility's Phone: 800-778-7224

| 9a. HM | 9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any)) | 10. Containers No. | 10. Containers Type | 11. Total Quantity | 12. Unit Wt./Vol. | 13. Waste Codes |
|---|---|---|---|---|---|---|
| ☑ | 1. RQ, NA3082, Hazardous waste, liquid, n.o.s. (sludge with benzene), 9, PG III, ERG 171 | 1 | CM | 20 | T | FZ59603H D018 |
| | 2. | | | | | |
| | 3. | | | | | |
| | 4. | | | | | |

14. Special Handling Instructions and Additional Information
01:EQ-2 sludge Haz (PF:CG1413915) 40000

* EMERGENCY RESPONSE PHONE: 214-635-1500 *
* ON CALL SUPERVISOR *

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: X HIREN SHAH
Signature: X Hiren Shah - Effective Environmental Inc Signatory Agent on behalf of U.S. Oil Recovery Site PRP group
Month 10 Day 21 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: H. House
Signature: H. House
Month 10 Day 21 Year 15

Transporter 2 Printed/Typed Name
Signature
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☒ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Offloaded 20,700 lbs RCRA Empty
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 01:H040 H141
2.
3.
4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Carl Richard
Signature:
Month 10 Day 22 Year 15

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

**DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)**

Systech Environmental Corporation
3085 Woodman Dr. Suite 300
Dayton, OH 45420
Phone: (800) 888-8011 Fax: (937) 643-1203

Invoice No.: 541895610B
Invoice Date: 10/26/2015
Payment Terms: Net 30
Salesperson: Joe Durczynski
Shipped Via:
Dynamic Rental Systems

Please remit payment to the above address



RECEIVED
OCT 28 2015

Stericycle Environmental Solut
Accts Payable
945 E. Pleasant Run Road
Lancaster, TX 75146

129637

Co-processing of SOLVENTS at Systech Environmental in Fredonia, KS

| Ticket | Manifest | St. Manifest | Profile | P O Number: | Extended |
|---|---|---|---|---|---|
| VABO244756 | 002831807GBF | | CG1413915 | | |

Date Prcsd: 10/26/2015
Box No: 575

| | Gallons | Pounds |
|---|---|---|
| | 2,485 | 20,700 |

Surcharges :

| | | | | |
|---|---|---|---|---|
| Btus / Lb | 4500 | | 50.000 / Ton | $517.50 |
| Mercury | 6.6 | ppm | 100.000 / Ton | $1,035.00 |

29641 Generator: US Oil Recovery PRP Group Houston, TX

TXR 000079454 • TWC 88801

R18/21

51480

Notice to Lessee:
This lease is subject to contract provisions printed on both sides of this Contract Agreement. Lessee is responsible for all damage to equipment, and must secure proper insurance as provided herein.

DYNAMIC RENTAL SYSTEMS

1801 Decker Dr
Baytown, TX 77520
ph: 281-842-RENT
fax: 281-842-7369
www.dynamicrentalsystems.com

**Manifest / BOL#** 002831803

## EQUIPMENT RENTAL CONTRACT

JOB DESCRIPTION: HAZ-MAT Shuttle

TRL/Box Number: VB 575

| START DATE | STOP DATE |
|---|---|
| 10-21-15 | |

### CUSTOMER INFORMATION

Customer: U.S. Oil Recovery

Ordered By: LMRI

☐ Delivery ☐ Respot ☐ Pickup ☐ Haul

PO Number: 2104616

Location Used:

Description of Work: Bobtail Dead Head To Effective Env. Plu Manifest, Enroute To U.S. Oil Recovery LLC 400 North Richey Rd. Pasadena Tx. Wait For New Manifest Plu Box From U.S. Oil Recovery This Box Takes A Lot of Work To Get Out And There is No E-Z Way Must Inch Out.

$7,775.10

10-22-15 After Check-in SYSTech Environmental Corp. Want Me To Drop Box on Their Yard + Let Their Yard Truck Plu Take To Scale + Empty, Bring Back Set On Yard + Reload On My Truck + Tie down.

10-23-15 Drop Box At T.I.B.M. For Wash + Return

**Delivery / Pick up**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Start Time | 06:00 am/pm | End Time | 17:45 am/pm | Date 10-21-15 | Arrive Loading | 06:30 | am/pm |
| Start Time | 07:15 am/pm | End Time | 22:15 am/pm | 10-22-15 | Depart Loading | 09:45 | am/pm |
| Start Time | 08:15 am/pm | End Time | 09:30 am/pm | 10-23-15 | Arrive Unload | 07:15 | am/pm |
| Driver | H. House | Truck Number | 7045 | | Depart Unload | 10:45 | am/pm |

| JOB SITE / SHIP TO | NOTED DELAYS |
|---|---|
| SHIPPER: U.S. Oil Recovery LLC | |
| RECEIVER: SYSTech Environmental | |
| Contact | |
| Phone | |
| Type of Application: 3 Axle ☐ 5 Axle ☑ 130 BBL ☐ 70 BBL ☐ TANKER ☐ VAN ☐ END DUMP ☐ | |

### RENTAL AGREEMENT

Hours exceeding above usage will be billed at an 10% per hour of the daily rental rate. These rates do not include applicable taxes, fuel, transportation, cleaning or disposal charges. Equipment must be returned full of fuel. Fuel replacement charges billed $5.00 per gallon if not returned full of fuel. Equipment must be returned in a condition to be rented to the next customer. Equipment / accessories not returned or ruined will be charged at listed rates. Equipment returned in a condition that prohibits us from renting to another customer will remain on rent until condition is remedied. Equipment that is returned in a condition that prohibits us from renting to another customer can be remedied by the the rental customer or Dynamic at the published rates included with this document.

### RENTAL CHECK OUT / CHECK IN ACKNOWLEDGEMENT

*This rental equipment is accepted in perfect condition except where noted. It is my responsibility to return in the same condition. Only authorized operators may use this equipment. Only properly licensed drivers may drive the vehicle.*

| Equipment Released to: | | | Equipment Returned by: | | |
|---|---|---|---|---|---|
| x Cond. Bobtail | x [signature] | x 10-22-15 | | | |
| Print Name | Signature | Date | Print Name | Signature | Date |
| H. House | 10-21-15 | | | | |
| Dynamic Rental Systems, LLC | Date | | Dynamic Rental Systems, LLC | Date | |

TXR 000079454 • TWC 88801

R18516

52019

tice to Lessee:
is lease is subject to contract
ovisions printed on both sides
this Contract Agreement.
ssee is responsible for all damage
equipment, and must secure proper
urance as provided herein.

DYNAMIC RENTAL SYSTEMS

1801 Decker Dr
Baytown, TX 77520
ph: 281-842-RENT
fax: 281-842-7369
www.dynamicrentalsystems.com

**Manifest / BOL#** 002 831859

## EQUIPMENT RENTAL CONTRACT

B DESCRIPTION P/U HAZ-MAT BOX

L/Box Number: VB - 1028

| START DATE | STOP DATE |
|---|---|
| 10-27-15 | |

**CUSTOMER INFORMATION**

U.S. Oil — Customer

LMCI — Ordered By

☑ Delivery ☑ Respot ☑ Pickup ☑ Haul

PO Number: 2105527

Location Used: U.S. oil

scription of Work do P.T.I. ENRoute TO EFFECTIVE ENVIRONMENTAL Chemical Dr. INSTRUCTED TO GO TO U.S. Oil PASADENA, TX, P/U BOX, ENRoute TO SYStech ENV. FREDONIA, KS. ARRIVE AT SAME
10-28-15 P.T.I. WAIT FOR OFF LOAD, Check-in, Check-out 11:00 ENRoute TO TANK WASH Houston, TX. ARRIVE Houston, TX. P.T.I.
10-29-15 P.T.I. Sign-in AT TANK WASH, DROP BOX, DEAD HEAD TO D.R.S. END TRIP

lvery / Pick up

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| rt Time | 06:00 am/pm | End Time | 19:45 am/pm | Date 10-27-15 | Arrive Loading | 08:00 | am/pm |
| rt Time | 06:00 am/pm | End Time | 22:45 am/pm | 10-28-15 | Depart Loading | 09:00 | am/pm |
| rt Time | 08:00 am/pm | End Time | 09:30 am/pm | 10-29-15 | Arrive Unload | 06:00 | am/pm |
| ver | H. House | Truck Number | 7045 | | Depart Unload | 11:00 | am/pm |

**JOB SITE / SHIP TO**

IPPER: U.S. Oil

CEIVER: SYStech ENV.

FREDONIA, KS

ntact

one

e of Application

3 Axle ☐ 5 Axle ☑ 130 BBL ☐ 70 BBL ☐

TANKER ☐ VAN ☐ END DUMP ☐

**NOTED DELAYS**

Herbert inside of plant in Fredonia from 6am - 1100AM

**RENTAL AGREEMENT**

exceeding above usage will be billed at an 10% per hour of the daily rental rate. These rates do not include applicable taxes, fuel, transporation, cleaning or disposal charges.
nent must be returned full of fuel. Fuel replacement charges billed $5.00 per gallon if not returned full of fuel. Equipment must be returned in a condition to be rented to the next ner. Equipment / accessories not returned or ruined will be charged at listed rates. Equipment returned in a condition that prohibits us from renting to another customer will remain on ntil condition is remedied. Equipment that is returned in a condition that prohibits us from renting to another customer can be remedied by the the rental customer or Dynamic at the ned rates included with this document.

**RENTAL CHECK OUT - CHECK IN ACKNOWLEDGEMENT**

*is rental equipment is accepted in perfect condition except where noted. It is my responsibility to return in the same condition. Only authorized operators may use this equipment. Only properly licensed drivers may drive the vehicle.*

| Equipment Released to: | | | Equipment Returned by:: | | |
|---|---|---|---|---|---|
| Jorsak | x [signature] | x 10-27-15 | Cand. Babcock | | 10-28-15 |
| Print Name | Signature | Date | Print Name | Signature | Date |
| H. House | 10-27-15 | | [signature] | | |
| Dynamic Rental Systems, LLC | Date | | Dynamic Rental Systems, LLC | | Date |

Anchor Printing • 281-428-2185

FORM DR-101

7Z 1603348684-017 SC PPW 8/28/2017 #1650

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

**UNIFORM HAZARDOUS WASTE MANIFEST**

1. Generator ID Number: [illegible] 0 5 1 5 4 0
2. Page 1 of 1
3. Emergency Response Phone: (800) [illegible]
4. Manifest Tracking Number: 010255098 FLE

5. Generator's Name and Mailing Address
400 North Richey Street
Pasadena, TX 77506
(704) 621-9475
Generator's Phone:

Generator's Site Address (if different than mailing address): SAME

6. Transporter 1 Company Name: Clean Harbors Environmental Services, Inc.
U.S. EPA ID Number: MAD039322250

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Waste Management Coastal Plains Recycling & Dis
21000 East Highway 6
Alvin, TX 77511
(281) 388-1708
Facility's Phone:
U.S. EPA ID Number: NA

DS Rec'd 10/6/17 SP

| 9a. HM | 9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any)) | 10. Containers No. | 10. Containers Type | 11. Total Quantity | 12. Unit Wt./Vol. | 13. Waste Codes |
|---|---|---|---|---|---|---|
| | 1. NON D.O.T. REGULATED | 4 | [illegible] | [illegible] | [illegible] | FX8R[illegible] |
| | 2. | | | | | |
| | 3. | | | | | |
| | 4. | | | | | |

14. Special Handling Instructions and Additional Information
[illegible]
CART 20814 LU170876933

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: [illegible]
Signature: [illegible]
Month 9 Day 10 Year 17

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Edward Ballantine
Signature: [illegible]
Month 9 Day 10 Year 17
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H132
2.
3.
4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [illegible]
Signature: [illegible]
Month 9 Day 10 Year 2017

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. TRANSPORTER'S COPY

7Z1603348664-017 SC PPW 8/28/2017

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

**UNIFORM HAZARDOUS WASTE MANIFEST**

1. Generator ID Number: TXR000051540
2. Page 1 of 1
3. Emergency Response Phone: (800) 483-3718
4. Manifest Tracking Number: 010255103 FLE

5. Generator's Name and Mailing Address
US Oil Recovery
400 North Richey Street
Pasadena, TX 77506
Generator's Phone: (704) 621-9475

Generator's Site Address (if different than mailing address): SAME

6. Transporter 1 Company Name: Clean Harbors Environmental Services, Inc.
U.S. EPA ID Number: MAD039322250

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Waste Management Coastal Plains Recycling & Dis
21000 East Highway 6
Alvin, TX 77511
Facility's Phone: (281) 388-1708
U.S. EPA ID Number: NA

DS Rec'd 10/6/17 SP

| 9a. HM | 9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any)) | 10. Containers No. | 10. Containers Type | 11. Total Quantity | 12. Unit Wt./Vol. | 13. Waste Codes |
|---|---|---|---|---|---|---|
| | 1. NON D.O.T. REGULATED | | | | | FX6R4891 |
| | 2. | | | | | |
| | 3. | | | | | |
| | 4. | | | | | |

14. Special Handling Instructions and Additional Information
1 877132TX
CHRT 24898 W170876938

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name | Signature | Month 9 | Day 12 | Year 17

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Edward Ballantyne | Signature | Month 9 | Day 12 | Year 17
Transporter 2 Printed/Typed Name | Signature | Month | Day | Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) | U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) | Month | Day | Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H132 | 2. | 3. | 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name | Signature | Month | Day | Year

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. TRANSPORTER'S COPY

7Z 1603348864-017 SC PPW 8/28/2017

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

**UNIFORM HAZARDOUS WASTE MANIFEST**

1. Generator ID Number: 0 0 0 0 5 1 5 4 0
2. Page 1 of
3. Emergency Response Phone: (800) 483-3718
4. Manifest Tracking Number: 010255102 FLE

5. Generator's Name and Mailing Address
400 North Richey Street
Pasadena TX 77506
(704) 621-9475
Generator's Phone:

Generator's Site Address (if different than mailing address): SAME

6. Transporter 1 Company Name: Clean Harbors Environmental Services, Inc.
U.S. EPA ID Number: MAD039322260

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Waste Management Coastal Plains Recycling & Dis
21000 East Highway 6
Alvin, TX 77511
(281) 388-1708
Facility's Phone:

U.S. EPA ID Number: N-A H1721

DS Rec'd 10/6/17 SP

| 9a. HM | 9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any)) | 10. Containers No. | 10. Containers Type | 11. Total Quantity | 12. Unit Wt./Vol. | 13. Waste Codes |
|---|---|---|---|---|---|---|
| | 1. NON D.O.T. REGULATED | | | | | FX8R4891 |
| | 2. | | | | | |
| | 3. | | | | | |
| | 4. | | | | | |

14. Special Handling Instructions and Additional Information
1 917738TX
CHRT 26237 W170876937

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: [illegible]
Signature: [signature]
Month 9 Day 12 Year 17

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Edward Ballantyne
Signature: Edward Ballantyne
Month 9 Day 12 Year 17
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

| 1. | 2. | 3. | 4. |
|---|---|---|---|
| | | | |

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name
Signature
Month Day Year

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

TRANSPORTER'S COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

| UNIFORM HAZARDOUS WASTE MANIFEST | 1. Generator ID Number | 2. Page 1 of | 3. Emergency Response Phone | 4. Manifest Tracking Number |
|---|---|---|---|---|
| | [illegible] | 1 | [illegible] | 010255147 FLE |

5. Generator's Name and Mailing Address

[illegible]
[illegible]
[illegible]

Generator's Phone: [illegible]

Generator's Site Address (if different than mailing address)

[illegible]

6. Transporter 1 Company Name: Clean Harbors Environmental Services, Inc. — U.S. EPA ID Number: [illegible]

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address: Waste Management Coastal Plains Recycling & Oil, 21030 East Highway 6, Alvin, TX 77511 — U.S. EPA ID Number: [illegible]

Facility's Phone: [illegible]

DS Rec'd 10/6/17

| 9a. HM | 9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any)) | 10. Containers No. | 10. Containers Type | 11. Total Quantity | 12. Unit Wt./Vol. | 13. Waste Codes |
|---|---|---|---|---|---|---|
| | 1. NON D.O.T. REGULATED | | | | | [illegible] |
| | 2. | | | | | |
| | 3. | | | | | |
| | 4. | | | | | |

14. Special Handling Instructions and Additional Information

[illegible]

CHRT 26462 [illegible]

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name — Signature — Month — Day — Year

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: [illegible] — Signature: [illegible] — Month: 9 — Day: 13 — Year: 17

Transporter 2 Printed/Typed Name — Signature — Month — Day — Year

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month — Day — Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

| 1. | 2. | 3. | 4. |
|---|---|---|---|
| [illegible] | | | |

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name — Signature — Month — Day — Year

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

TRANSPORTER'S COPY

CHRT 2 75 79

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

| UNIFORM HAZARDOUS WASTE MANIFEST | 1. Generator ID Number | 2. Page 1 of | 3. Emergency Response Phone | 4. Manifest Tracking Number |
|---|---|---|---|---|
| | [illegible] | 1 | [illegible] | 010255143 FLE |

5. Generator's Name and Mailing Address
[illegible] Recovery
400 North Richey Street
Pasadena TX 77506
Generator's Phone: (704) 821 9475

Generator's Site Address (if different than mailing address)
[illegible]

6. Transporter 1 Company Name
Clean Harbors Environmental Services Inc

U.S. EPA ID Number
MAD [illegible]

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
Waste Management Coastal Plains Recycling & Dis
[illegible] East Highway [illegible]
Alvin TX 77511
Facility's Phone: (281) 308-1700

U.S. EPA ID Number
[illegible]

DS Rec'd 10/6/17 SP

| 9a. HM | 9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any)) | 10. Containers No. | 10. Containers Type | 11. Total Quantity | 12. Unit Wt./Vol. | 13. Waste Codes |
|---|---|---|---|---|---|---|
| | 1. NON DOT REGULATED | 1 | | | 1 | [illegible] |
| | 2. | | | | | |
| | 3. | | | | | |
| | 4. | | | | | |

14. Special Handling Instructions and Additional Information
[illegible]
CHRT
W17C878667

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name | Signature | Month | Day | Year

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: [illegible] | Signature: [illegible] | Month 9 | Day 19 | Year 17
Transporter 2 Printed/Typed Name | Signature | Month | Day | Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) | U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) | Month | Day | Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

| 1. | 2. | 3. | 4. |
|---|---|---|---|
| H132 | | | |

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [illegible] | Signature: [illegible] | Month 09 | Day 19 | Year 17

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

TRANSPORTER'S COPY

CHKT 24116

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

**UNIFORM HAZARDOUS WASTE MANIFEST**

1. Generator ID Number
2. Page 1 of
3. Emergency Response Phone
4. Manifest Tracking Number: 010255144 FLE

5. Generator's Name and Mailing Address

Generator's Site Address (if different than mailing address)

Generator's Phone:

6. Transporter 1 Company Name

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address

U.S. EPA ID Number

Facility's Phone:

DS Rec'd 10/6/17

| 9a. HM | 9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any)) | 10. Containers No. | 10. Containers Type | 11. Total Quantity | 12. Unit Wt./Vol. | 13. Waste Codes |
|---|---|---|---|---|---|---|
| | 1. NON DOT REGULATED | | | | | |
| | 2. | | | | | |
| | 3. | | | | | |
| | 4. | | | | | |

14. Special Handling Instructions and Additional Information

CHRT 24116

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name | Signature | Month | Day | Year

GENERATOR

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter signature (for exports only): Date leaving U.S.:

INT'L

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name | Signature | Month | Day | Year

Transporter 2 Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)

U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) | Month | Day | Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

| 1. H-27 | 2. | 3. | 4. |
|---|---|---|---|

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

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Form Approved. OMB No. 2050-0039

**UNIFORM HAZARDOUS WASTE MANIFEST**

1. Generator ID Number | 2. Page 1 of | 3. Emergency Response Phone | 4. Manifest Tracking Number

FLE

5. Generator's Name and Mailing Address

Generator's Site Address (if different than mailing address)

Generator's Phone:

6. Transporter 1 Company Name | U.S. EPA ID Number

7. Transporter 2 Company Name | U.S. EPA ID Number

8. Designated Facility Name and Site Address | U.S. EPA ID Number

Facility's Phone:

DS Rec'd 10/6/17 SP

| 9a. HM | 9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any)) | 10. Containers No. | 10. Containers Type | 11. Total Quantity | 12. Unit Wt./Vol. | 13. Waste Codes |
|---|---|---|---|---|---|---|
| | 1. | | | | | |
| | 2. | | | | | |
| | 3. | | | | | |
| | 4. | | | | | |

14. Special Handling Instructions and Additional Information

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I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name | Signature | Month | Day | Year

GENERATOR

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name | Signature | Month | Day | Year

Transporter 2 Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) | U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) | Month | Day | Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1. | 2. | 3. | 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name | Signature | Month | Day | Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

TRANSPORTER'S COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

**UNIFORM HAZARDOUS WASTE MANIFEST**

1. Generator ID Number
2. Page 1 of
3. Emergency Response Phone
4. Manifest Tracking Number 010255146 FLE

GENERATOR

5. Generator's Name and Mailing Address

Generator's Site Address (if different than mailing address)

Generator's Phone:

6. Transporter 1 Company Name

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address

U.S. EPA ID Number

Facility's Phone:

DS Rec'd 10/01/18

| 9a. HM | 9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any)) | 10. Containers No. | 10. Containers Type | 11. Total Quantity | 12. Unit Wt./Vol. | 13. Waste Codes |
|---|---|---|---|---|---|---|
| | 1. NON DOT REGULATED | 1 | | 1 | 1 | EXEMPT |
| | 2. | | | | | |
| | 3. | | | | | |
| | 4. | | | | | |

14. Special Handling Instructions and Additional Information

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I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name | Signature | Month | Day | Year

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name | Signature | Month | Day | Year

Transporter 2 Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)

U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) | Month | Day | Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

| 1. | 2. | 3. | 4. |
|---|---|---|---|
| H152 | | | |

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name | Signature | Month | Day | Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

TRANSPORTER'S COPY

# APPENDIX F: LIST OF EQUIPMENT AND PHOTOGRAPHS

# Appendix F

# Equipment Pictures List

| USOR-EQ-01 | Heated and Agitated Frac Tank |
|---|---|

| Notes: |
|---|
| Two waste-containing compartments, southern compartment contains liquid and sludge, northern |
| compartment contains sludge only. Liquid and sludge sampled separately. Sludge had similar |
| appearance in both compartments. Sludge sample collected from both compartments and mixed |
| thoroughly. Equipment left in-place. |
| |
| Inspected and sampled for ACM, ACM results negative. |
| |
| |
| |

| USOR-EQ-02 | Dissolved Air Flotation Unit (DAF) |
|---|---|

| Notes: |
|---|
| Three waste-containing compartments. Northern compartment contained insignificant water. |
| Sludge present in all three compartments and had a similar appearance in the three compartments. |
| Sludge sampled collected from each compartment and mixed thoroughly; liquid from northern |
| compartment also mixed into sample. Equipment left in-place. |
| |
| Inspected and sampled for ACM, ACM results negative. |
| |
| |
| |

| USOR-EQ-03 | Light Blue horizontal cylinder tank |
|---|---|

| Notes: |
|---|
| Contained significant liquid and insignificant sludge. One mixed sample collected of both liquid and |
| sludge. Equipment left in-place. |
| |
| Inspected and sampled for ACM, ACM results negative. |
| |
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| |

| USOR-EQ-04 | Small Ball Mill |
|---|---|

| Notes: |
|---|
| No waste or residue present. Dirty (not with process material) mill balls present in cylinder. |
| Equipment left in-place. |
| |
| Inspected and sampled for ACM, ACM results negative. |
| |
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| |

| USOR-EQ-05 | Large Ball Mill |
|---|---|

| Notes: |
|---|
| No waste or residue present. Left in-place. |
| |
| Inspected and sampled for ACM, ACM results negative. |
| |
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| USOR-EQ-06 | Filter Belt with stainless top section |
|---|---|

| Notes: |
|---|
| No waste or residue present. Left in-place. |
| |
| Inspected and sampled for ACM, ACM results negative. |
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| USOR-EQ-07 thru 10 | Portable Storage Hopper |
|---|---|

| Notes: |
|---|
| All contain new to slightly used oil filters. All are covered. Left in-place. |
| |
| Inspected for ACM, no ACM suspected. |
| |
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| USOR-EQ-63 and 64 | Vibrating Sieves (north and south) |
|---|---|

| Notes: |
|---|
| Southern sieve has a residue crust over the filter. No waste present in northern sieve. Sieves welded |
| in place. Left in-place. |
| |
| Inspected and sampled for ACM, ACM results negative. |
| |
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| |

| USOR-EQ-11 | Large Blue Hopper |
|---|---|

| Notes: |
|---|
| Contains significant amount of sludge, no liquids. Extremely hard sludge. Left in-place. |
| |
| Inspected for ACM, no ACM suspected. |
| |
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| |

| USOR-EQ-12 | Rectangular Mix Tank |
|---|---|

| Notes: |
|---|
| Contains significant liquids and minor (1”) amount of sludge. Liquids and sludge collected into one |
| sample and mixed. |
| |
| Inspected and sampled for ACM, ACM results negative. |
| |
| |
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| |

| USOR-EQ-13 | ICP Tank A |
|---|---|

| Notes: |
|---|
| Contains significant sludge. J. Carillo (E2) stated he cleaned the tank when the site was still in |
| operation. He observed the tank contained baffles but was still interconnected. Equipment left |
| in-place. |
| |
| Inspected and sampled for ACM, ACM results negative. |
| |
| |
| |
| |

| USOR-EQ-14 | ICP Tank B |
|---|---|

| Notes: |
|---|
| Contains significant sludge and liquid. J. Carillo (E2) stated he cleaned the tank when the site was still in |
| operation. He observed that the tank contained baffles but was still interconnected. Liquid and sludge |
| sampled separately. Equipment left in-place. |
| |
| Inspected and sampled for ACM, ACM results negative. |
| |
| |
| |
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| |

| USOR-EQ-15 | Rectangular Mix Tank |
|---|---|

| Notes: |
|---|
| Contains significant liquids and sludge. Liquid and sludge sampled separately. Equipment left in-place. |
| |
| Inspected for ACM, none suspected. |
| |
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| USOR-EQ-16 | Filter Press (No action planned as part of this project – Will leave in place as is) |
|---|---|

| Notes: |
|---|
| Not inspected. |
| |
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| USOR-EQ-17 | Small Horizontal tank |
|---|---|

| Notes: |
|---|
| No openings present. Tank appears to be empty based on tapping. Left in-place. |
| |
| Inspected for ACM, none suspected. |
| |
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| USOR-EQ-18 | Filter housings (2) |
|---|---|

| Notes: |
|---|
| No waste or residue present, open at bottom. Left in-place. |
| |
| Inspected for ACM, contains green gasket already sampled. ACM results negative for green gasket. |
| |
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| USOR-EQ-19 | Portable Storage Hoppers (5) |
|---|---|

| Notes: |
|---|
| Contained rainwater. Rainwater pumped out and lids placed on containers. Left in-place. |
| |
| Inspected for ACM, none suspected. |
| |
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| USOR-EQ-20 | Blue hopper with inclined auger |
|---|---|

| Notes: |
|---|
| No waste or residue present. Left in-place. |
| |
| Inspected and sampled for ACM, ACM results negative. |
| |
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| USOR-EQ-21 | Blue hopper with yellow top and inclined auger |
|---|---|

| Notes: |
|---|
| Moved to ground level adjacent to USOR-EQ-20. No waste or residue present. Left in-place. |
| |
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| USOR-EQ-22 | Blue and rust V hopper with auger |
|---|---|

| Notes: |
|---|
| No waste or residue present, open at bottom. Left in-place. |
| |
| Inspected and sampled for ACM, ACM results negative. |
| |
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| USOR-EQ-23 | Blue V hopper with auger |
|---|---|

| Notes: |
|---|
| No waste or residue present, open at bottom. Left in-place. |
| |
| Inspected for ACM, none suspected. |
| |
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| |

| USOR-EQ-24 | Blue rectangular hopper with feed shute |
|---|---|

| Notes: |
|---|
| No waste or residue present, open at bottom. Left in-place. |
| |
| Inspected for ACM, none suspected. |
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| USOR-EQ-25 | Skid mounted cylindrical hopper with auger |
|---|---|

| Notes: |
|---|
| No waste or residue present. Reservoir contained rainwater. Rainwater removed and top covered |
| with poly sheeting secured with tape. Left in-place. |
| |
| Inspected for ACM, none suspected. |
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| USOR-EQ-26 | Skid mounted A/C evaporator and fan |
|---|---|

| Notes: |
|---|
| No process waste or residue present. Vessels that may have contained refrigerant not inspected due to |
| pressure release risk. Left in-place. |
| |
| Inspected and sampled for ACM, ACM results negative. |
| |
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| USOR-EQ-27 | Light Blue horizontal (insulated) |
|---|---|

| Notes: |
|---|
| No waste or residue present, open at bottom. Left in-place. |
| |
| Inspected and insulation sampled for ACM, ACM results negative. |
| |
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| |

| USOR-EQ-28 | Scrap Metal |
|---|---|

| Notes: |
|---|
| No waste or residue present. Various pieces moved to salvage rolloff as needed to access equipment. |
| |
| Sample for ACM analysis collected from black mesh in the pile. ACM results negative. |
| |
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| USOR-EQ-29 | Blue rectangular box (internal heat coil?) |
|---|---|

| Notes: |
|---|
| Contains significant liquids and an easily broken-up sludge (approx. 1 foot of each). Liquid and |
| sludge sampled together due to sludge being easily broken up. Left in-place. |
| |
| Inspected and sampled for ACM. Sample from gray gasket positive for ACM. |
| |
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| USOR-EQ-30 | Screw conveyer with blue frame and SS housing |
|---|---|

| Notes: |
|---|
| No waste or residue present. Mostly stainless steel. Left in-place. |
| |
| Inspected for ACM, none suspected. |
| |
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| USOR-EQ-31 | Small Vertical Tank |
|---|---|

| Notes: |
|---|
| No waste or residue present. Left in-place. |
| |
| Inspected and sampled for ACM, ACM results negative. |
| |
| |
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| USOR-EQ-32 | Small vertical tank with agitator |
|---|---|

| Notes: |
|---|
| No waste or residue present. Left in-place. |
| |
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| USOR-EQ-33 | Filter Press Plates |
|---|---|

| Notes: |
|---|
| No waste or residue present. Moved to southern portion of scrap pile to access other equipment. |
| |
| Inspected and sampled for ACM, ACM results negative. |
| |
| |
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| USOR-EQ-34 | Small vertical tank with agitator |
|---|---|

| Notes: |
|---|
| Duplicate name? |
| |
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| USOR-EQ-35 | Rusty Tank |
|---|---|

| Notes: |
|---|
| No waste or residue present. Left in-place. |
| |
| Inspected for ACM, none suspected. |
| |
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| |

| USOR-EQ-36 | Scrap Metal |
|---|---|

| Notes: |
|---|
| No process waste or residue present in the pile. A plastic blue drum with a dirty hose and rainwater was found and overpacked. |
| |
| Hopper with auger (in the pile near the fence) sampled for ACM. ACM positive in gasket. |
| |
| Insulated pipe within pile sampled for ACM, ACM results negative. |
| |
| |
| |
| |

| USOR-EQ-37 | Small blue vertical tank (on top of scrap metal) |
|---|---|

| Notes: |
|---|
| No waste or residue present. Washed and placed in salvage |
| rolloff. |
| |
| Inspected for ACM, none suspected. |
| |
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| |

| USOR-EQ-38 | Blue solids hopper bottom (on top of scrap metal) |
|---|---|

| Notes: |
|---|
| No waste or residue present. Washed and placed in salvage rolloff. |
| |
| Inspected for ACM, none suspected. |
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| USOR-EQ-39 | Blue Scrubber Manifold |
|---|---|

| Notes: |
|---|
| No waste or residue present. Washed and placed in salvage rolloff. |
| |
| Inspected for ACM, none suspected. |
| |
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| USOR-EQ-40 | Small thermal oxidizer (behind scrap metal) |
|---|---|

| Notes: |
|---|
| No waste or residue present. Left in-place. |
| |
| Lined with insulation. Insulation inspected and sampled for ACM. ACM results negative. Gasket also |
| sampled for ACM, negative for ACM. |
| |
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| |

| USOR-EQ-41 | Light blue rectangular hopper (on side on top of scrap metal) |
|---|---|

| Notes: |
|---|
| No waste or residue present. Washed and placed in salvage rolloff. |
| |
| Inspected for ACM, none suspected. White mesh under hopper sampled or ACM. Negative for ACM. |
| |
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| USOR-EQ-42 | Hopper bottom with cowboy legs |
|---|---|

| Notes: |
|---|
| No waste or residue present. Washed and placed in salvage rolloff. |
| |
| Inspected for ACM, none suspected. |
| |
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| |

| USOR-EQ-43 | Hopper Bottom |
|---|---|

| Notes: |
|---|
| (Photo looks like the same equipment pictured in USOR-EQ-41, black hopper bottom found nearby - |
| pictured in photo to the right) |
| Black hopper bottom inspected. No waste or residue present. Washed and placed in salvage rolloff. |
| |
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| USOR-EQ-44 | Screw flights - stainless (2) |
|---|---|

| Notes: |
|---|
| No waste or residue present. Moved to the front of the property and placed adjacent to the conveyor |
| belt. |
| |
| Inspected for ACM, none suspected. |
| |
| |
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| |

| USOR-EQ-45 | Electrical cabinets (3) |
|---|---|

| Notes: |
|---|
| No waste or residue present. Left in-place. |
| |
| Inspected for ACM, none suspected. |
| |
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| USOR-EQ-46 | Filter press plates |
|---|---|

| Notes: |
|---|
| No waste or residue present. |
| |
| Inspected for ACM, other filter press plates sampled. Negative for ACM. |
| |
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| USOR-EQ-47 | Blue Gear Box |
|---|---|

| Notes: |
|---|
| No waste or residue present. |
| |
| Inspected for ACM, none suspected. |
| |
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| |

| USOR-EQ-48 | Rusty horizontal tank (on side) |
|---|---|

| Notes: |
|---|
| No waste or residue present. Washed and placed in salvage rolloff. |
| |
| Inspected for ACM, none suspected. |
| |
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| |

| USOR-EQ-49 | Blue and rust hopper bottom |
|---|---|

| Notes: |
|---|
| No waste or residue present. |
| |
| Inspected for ACM, none suspected. |
| |
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| |

| USOR-EQ-50 | Yellow box (drum crusher?) |
|---|---|

| Notes: |
|---|
| No waste or residue present. E2 identified it as what appeared to an unsued toolbox. Placed in salvage |
| rolloff. |
| |
| Inspected for ACM. None suspected. |
| |
| |
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| |

| USOR-EQ-51 | Blue gear box housing |
|---|---|

| Notes: |
|---|
| No waste or residue present. Placed in salvage rolloff. |
| |
| Inspected for ACM. None suspected. |
| |
| |
| |
| |
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| |

| USOR-EQ-52 | Blue hopper bin bottom |
|---|---|

| Notes: |
|---|
| No waste or residue present. Washed and placed in a salvage rolloff. |
| |
| Inspected for ACM. None present. |
| |
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| |
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| |

| USOR-EQ-53 | Blue hopper bin bottom |
|---|---|

| Notes: |
|---|
| No waste or residue present. Washed and placed in salvage rolloff. |
| |
| Inspected for ACM. None suspected. |
| |
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| |
| |
| |

| USOR-EQ-54 | Blue hopper bin bottom |
|---|---|

| Notes: |
|---|
| No waste or residue present. Washed and placed in salvage rolloff. |
| |
| Inspected for ACM, none suspected. |
| |
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| |

| USOR-EQ-55 and 56 | Air blower and 100hp motor (East and West) |
|---|---|

| Notes: |
|---|
| No waste or residue present. Left in-place. |
| |
| Inspected and sampled for ACM. ACM results negative. |
| |
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| USOR-EQ-57 | Atlas Copco air handler |
|---|---|

| Notes: |
|---|
| Reservoir connected to pipe present in the back. Tapping indicated the reservoir was empty. |
| |
| Inspected for ACM. None suspected. |
| |
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| USOR-EQ-58 | Red steam boiler |
|---|---|

| Notes: |
|---|
| Tank appears to be empty based upon tapping (sounded empty) and empty pipes running through the |
| length of the tank. The empty pipes appeared to make up the majority of the volume of the tank. |
| |
| Inspected and sampled for ACM. ACM results negative. |
| |
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| |

| USOR-EQ-59 | Cone screw and housing |
|---|---|

| Notes: |
|---|
| No waste or residue present. |
| |
| Inspected for ACM, none suspected. |
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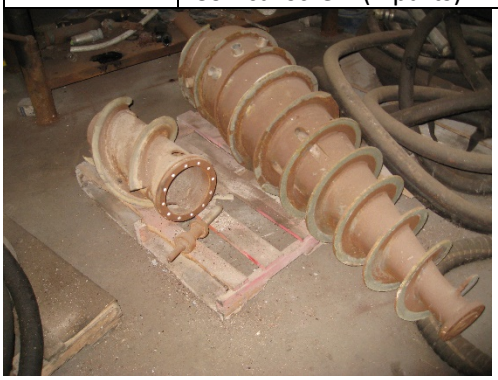
| USOR-EQ-60 | Conical screw (2 parts) |
|---|---|



| Notes: |
|---|
| No waste or residue present. |
| |
| Inspected and sampled for ACM. ACM results negative. |
| |
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| |

| USOR-EQ-61 | Lube oil resvoir and pump |
|---|---|

| Notes: |
|---|
| Contains approximately 10 gallons of oil in reservoir. Left in-place. |
| |
| Inspected for ACM. None suspected. |
| |
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| |

| USOR-EQ-62 | 55 gallon lube oil drum on stand |
|---|---|

| Notes: |
|---|
| Nearly full of liquid. Left in-place. |
| |
| Inspected for ACM, none suspected. |
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| |

Note that USOR-EQ-63 and 64 are listed between USOR-EQ-10 and USOR-EQ-11 to fit with walking tour.

| USOR-EQ-65 | Blue lube oil pump |
|---|---|

| Notes: |
|---|
| Reservoir contains approximately 4 inches of oil. |
| |
| Inspected for ACM, none suspected. |
| |
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| |

# APPENDIX G: FORMER PROCESS EQUIPMENT INVENTORY, SELECTIVE CLEANING AND SAMPLING WORK PLAN

# LIST OF EQUIPMENT AND PICTURES

| **Client Name:**<br>USOR PRP Group | **Site Location:**<br>400 N. Richey Street, Pasadena, Harris County, TX | **Project No.**<br>N/A |
|---|---|---|

| | |
|---|---|
| **USOR-EQ-01** | |
| Heated and Agitated Frac Tank | |
| **Notes:**<br><br>Two waste-containing compartments, southern compartment contains liquid and sludge, northern compartment contains sludge only. Liquid and sludge sampled separately. Sludge had similar appearance in both compartments. Sludge sample collected from both compartments and mixed thoroughly. Equipment left in-place.<br>Inspected and sampled for ACM, ACM results negative. | |

| | |
|---|---|
| **USOR-EQ-02** | |
| Dissolved Air Flotation Unit (DAF) | |
| **Notes:**<br>Three waste-containing compartments. Northern compartment contained insignificant water. Sludge present in all three compartments and had a similar appearance in the three compartments. Sludge sampled collected from each compartment and mixed thoroughly, liquid from northern compartment also mixed into sample. Equipment left in-place.<br>Inspected and sampled for ACM, ACM results negative. | |

| | |
|---|---|
| **USOR-EQ-03** | |
| Light blue horizontal cylinder tank | |
| **Notes:**<br>Contained significant liquid and insignificant sludge. One mixed sample collected of both liquid and sludge. Equipment left in-place.<br>Inspected and sampled for ACM, ACM results negative. | |

| | |
|---|---|
| **USOR-EQ-04** | |
| Small Ball Mill | |
| **Notes:**<br>No waste or residue present. Dirty (not with process material) mill balls present in cylinder. Equipment left in-place.<br>Inspected and sampled for ACM, ACM results negative. | |

| | |
|---|---|
| **USOR-EQ-05**<br><br>Large Ball Mill<br><br>**Notes:**<br>No waste or residue present. Left in-place.<br><br>Inspected and sampled for ACM, ACM results negative. | |
| **USOR-EQ-06**<br><br>Filter Belt with Stainless Top Section<br><br>**Notes:**<br>No waste or residue present. Left in-place.<br>Inspected and sampled for ACM, ACM results negative. | |

| | |
|---|---|
| **USOR-EQ-07 through -10** | |
| Portable Storage Hopper | |
| **Description:**<br>All contain new to slightly used oil filters. All are covered. Left in-place.<br>Inspected for ACM, no ACM suspected. | |

| | |
|---|---|
| **USOR-EQ-63 and -64** | |
| Vibrating Sieves (north and south) | |
| **Notes:**<br>Southern sieve has a residue crust over the filter. No waste present in northern sieve. Sieves welded in place. Left in-place.<br>Inspected and sampled for ACM, ACM results negative. | |

| | |
|---|---|
| **USOR-EQ-11** | |
| Large Blue Hopper | |
| **Notes:** Contains significant amount of sludge, no liquids. Extremely hard sludge. Left in-place. Inspected for ACM, no ACM suspected. | |

| | |
|---|---|
| **USOR-EQ-12** | |
| Rectangular Mix Tank | |
| **Notes:** Contains significant liquids and minor (1”) amount of sludge. Liquids and sludge collected into one sample and mixed. Inspected and sampled for ACM, ACM results negative. | |

| | |
|---|---|
| **USOR-EQ-13** | |
| ICP Tank A | |
| **Notes:** Contains significant sludge. J. Carillo (E2) stated he cleaned the tank when the site was still in operation. He observed the tank contained baffles but was still interconnected. Equipment left in-place. Inspected and sampled for ACM, ACM results negative. | |

| | |
|---|---|
| **USOR-EQ-14** | |
| ICP Tank B | |
| **Notes:** Contains significant sludge and liquid. J. Carillo (E2) states he cleaned the tank when the site was still in operation. He observed that the tank contained baffles but was still interconnected. Liquid and sludge sampled separately. Equipment left in-place. Inspected and sampled for ACM, ACM results negative. | |

| | |
|---|---|
| **USOR-EQ-15** | |
| Rectangular Mix Tank | |
| **Notes:**<br><br>Contains significant liquids and sludge. Liquid and sludge sampled separately. Equipment left in-place. Inspected for ACM, none suspected. | |

| | |
|---|---|
| **USOR-EQ-16** | |
| Filter Press (No action planned as part of this project – will leave in-place as-is) | |
| **Notes:** Not inspected. | |

| | |
|---|---|
| **USOR-EQ-17** | |
| Small Horizontal Tank | |
| **Notes:** No openings present. Tank appears to be empty based on tapping. Left in-place. Inspected for ACM, none suspected. | |

| | |
|---|---|
| **USOR-EQ-18** | |
| Filter Housings (2) | |
| **Notes:** No waste or residue present, open at bottom. Left in-place. Inspected for ACM, contains green gasket already sampled. ACM results negative for green gasket. | |

| | |
|---|---|
| **USOR-EQ-19** | |
| Portable Storage Hoppers (5) | |
| **Notes:** Contained rainwater. Rainwater pumped out and lids placed on containers. Left in-place. Inspected for ACM, none suspected. | |

| | |
|---|---|
| **USOR-EQ-20** | |
| Blue Hopper with Inclined Auger | |
| **Notes:** No waste or residue present. Left in-place. Inspected and sampled for ACM, ACM results negative. | |

| | |
|---|---|
| **USOR-EQ-21** | |
| Blue Hopper with Yellow Top and Inclined Auger | |
| **Notes:** Moved to ground level adjacent to USOR-EQ-20. No waste or residue present. Left in-place. | |

| | |
|---|---|
| **USOR-EQ-22** | |
| Blue and Rust V Hopper with Auger | |
| **Notes:** No waste or residue present, open at bottom. Left in-place. Inspected and sampled for ACM, ACM results negative. | |

| | |
|---|---|
| **USOR-EQ-23** | |
| Blue V Hopper with Auger | |
| **Notes:** No waste or residue present, open at bottom. Left in-place. Inspected for ACM, none suspected. | |

| | |
|---|---|
| **USOR-EQ-24** | |
| Blue Rectangular Hopper with Feed Chute | |
| **Notes:** No waste or residue present, open at bottom. Left in-place. Inspected for ACM, none suspected. | |

| | |
|---|---|
| **USOR-EQ-25** | |
| Skid Mounted Cylindrical Hopper with Auger | |
| **Notes:** No waste or residue present. Reservoir contained rainwater. Rainwater removed and top covered with poly sheeting secured with tape. Left in-place. Inspected for ACM, none suspected. | |

| | |
|---|---|
| **USOR-EQ-26** | |
| Skid Mounted A/C Evaporator and Fan | |
| **Notes:** No process waste or residue present. Vessels that may have contained refrigerant not inspected due to pressure release risk. Left in-place. Inspected and sampled for ACM, ACM results negative. | |

| | |
|---|---|
| **USOR-EQ-27** | |
| Light Blue Horizontal (insulated) | |
| **Notes:** No waste or residue present, open at bottom. Left in-place. Inspected and insulation sampled for ACM, ACM results negative. | |

| | |
|---|---|
| **USOR-EQ-28** | |
| Scrap Metal | |
| **Notes:**<br>No waste or residue present. Various pieces moved to salvage rolloff as needed to access equipment. Sample for ACM analysis collected from black mesh in the pile. ACM results negative. | |

| | |
|---|---|
| **USOR-EQ-29** | |
| Blue Rectangular Box (internal heat coil?) | |
| **Notes:** Contains significant liquids and an easily broken-up sludge (approx. 1 foot of each). Liquid and sludge sampled together due to sludge being easily broken up. Left in-place. Inspected and sampled for ACM. Sample from gray gasket positive for ACM. | |

| | |
|---|---|
| **USOR-EQ-30** | |
| Screw Conveyor with Blue Frame and SS Housing | |
| **Notes:** No waste or residue present. Mostly stainless steel. Left in-place. Inspected for ACM, none suspected. | |

| | |
|---|---|
| **USOR-EQ-31** | |
| Small Vertical Tank | |
| **Notes:** No waste or residue present. Left in-place. Inspected and sampled for ACM, ACM results negative. | |

| | |
|---|---|
| **USOR-EQ-32** | |
| Small Vertical Tank with Agitator | |
| **Notes:** No waste or residue present. Left in-place. | |

| | |
|---|---|
| **USOR-EQ-33** | |
| Filter Press Plates | |
| **Notes:** No waste or residue present. Moved to southern portion of scrap pile to access other equipment. Inspected and sampled for ACM, ACM results negative. | |

| | |
|---|---|
| **USOR-EQ-34** | |
| Small Vertical Tank with Agitator | |
| **Notes:** Duplicate name? | |

| | |
|---|---|
| **USOR-EQ-35** | |
| Rusty Tank | |
| **Notes:**<br>No waste or residue present. Left in-place. Inspected for ACM, none suspected. | |

| | |
|---|---|
| **USOR-EQ-36** | |
| Scrap Metal | |
| **Notes:** No process waste or residue present in the pile. A plastic blue drum with a dirty hose and rainwater was found and overpacked. Hopper with auger (in the pile near the fence) sampled for ACM. ACM positive in gasket. Insulated pipe within pile sampled for ACM, ACM results negative. | |

| | |
|---|---|
| **USOR-EQ-37** | |
| Small Blue Vertical Tank (on top of scrap metal) | |
| **Notes:** No waste or residue present. Washed and placed in salvage rolloff. Inspected for ACM, none suspected. | |

| | |
|---|---|
| **USOR-EQ-38** | |
| Blue Solids Hopper Bottom (on top of scrap metal) | |
| **Notes:** No waste or residue present. Washed and placed in salvage rolloff. Inspected for ACM, none suspected. | |

| | |
|---|---|
| **USOR-EQ-39** | |
| Blue Scrubber Manifold | |
| **Notes:** No waste or residue present. Washed and placed in salvage rolloff. Inspected for ACM, none suspected. | |

| | |
|---|---|
| **USOR-EQ-40** | |
| Small Thermal Oxidizer (behind scrap metal) | |
| **Notes:** No waste or residue present. Left in-place. Lined with insulation. Insulation inspected and sampled for ACM. ACM results negative. Gasket also sampled for ACM, negative for ACM. | |

| | |
|---|---|
| **USOR-EQ-41** | |
| Light Blue Rectangular Hopper (on side on top of scrap metal) | |
| **Notes:** No waste or residue present. Washed and placed in salvage rolloff. Inspected for ACM, none suspected. White mesh under hopper sampled or ACM. Negative for ACM. | |

| | |
|---|---|
| **USOR-EQ-42** | |
| Hopper Bottom with Cowboy Legs | |
| **Notes:** No waste or residue present. Washed and placed in salvage rolloff. Inspected for ACM, none suspected. | |

| | |
|---|---|
| **USOR-EQ-43** | |
| Hopper Bottom | |
| **Notes:** (Photo looks like the same equipment pictures in USOR-EQ-41, black hopper bottom found nearby – pictures in photo to the right.) Black hopper bottom inspected. No waste or residue present. Washed and placed in salvage rolloff. | |

| | |
|---|---|
| **USOR-EQ-44** | |
| Screw Flights – Stainless (2) | |
| **Notes:** No waste or residue present. Moved to the front of the property and placed adjacent to the conveyor belt. Inspected for ACM, none suspected. | |

| | |
|---|---|
| **USOR-EQ-45** | |
| Electrical Cabinets (3) | |
| **Notes:** No waste or residue present. Left in-place. Inspected for ACM, none suspected. | |

| | |
|---|---|
| **USOR-EQ-46** | |
| Filter Press Plates | |
| **Notes:** No waste or residue present. Inspected for ACM, other filter press plates sampled. Negative for ACM. | |

| | |
|---|---|
| **USOR-EQ-47** | |
| Blue Gear Box | |
| **Notes:** No waste or residue present. Inspected for ACM, none suspected. | |

| | |
|---|---|
| **USOR-EQ-48** | |
| Rusty Horizontal Tank (on side) | |
| **Notes:** No waste or residue present. Washed and placed in salvage rolloff. Inspected for ACM, none suspected. | |

| | |
|---|---|
| **USOR-EQ-49** | |
| Blue and Rust Hopper Bottom | |
| **Notes:** No waste or residue present. Inspected for ACM, none suspected. | |

| | |
|---|---|
| **USOR-EQ-50** | |
| Yellow Box (drum crusher?) | |
| **Notes:** No waste or residue present. E2 identified it as what appeared to an unused toolbox. Placed in salvage rolloff. Inspected for ACM. None suspected. | |

| | |
|---|---|
| **USOR-EQ-51** | |
| Blue Gear Box Housing | |
| **Notes:** No waste or residue present. Placed in salvage rolloff. Inspected for ACM. None suspected. | |

| | |
|---|---|
| **USOR-EQ-52** | |
| Blue Hopper Bin Bottom | |
| **Notes:** No waste or residue present. Washed and placed in a salvage rolloff. Inspected for ACM. None present. | |

| | |
|---|---|
| **USOR-EQ-53** | |
| Blue Hopper Bin Bottom | |
| **Notes:** No waste or residue present. Washed and placed in salvage rolloff. Inspected for ACM. None suspected. | |

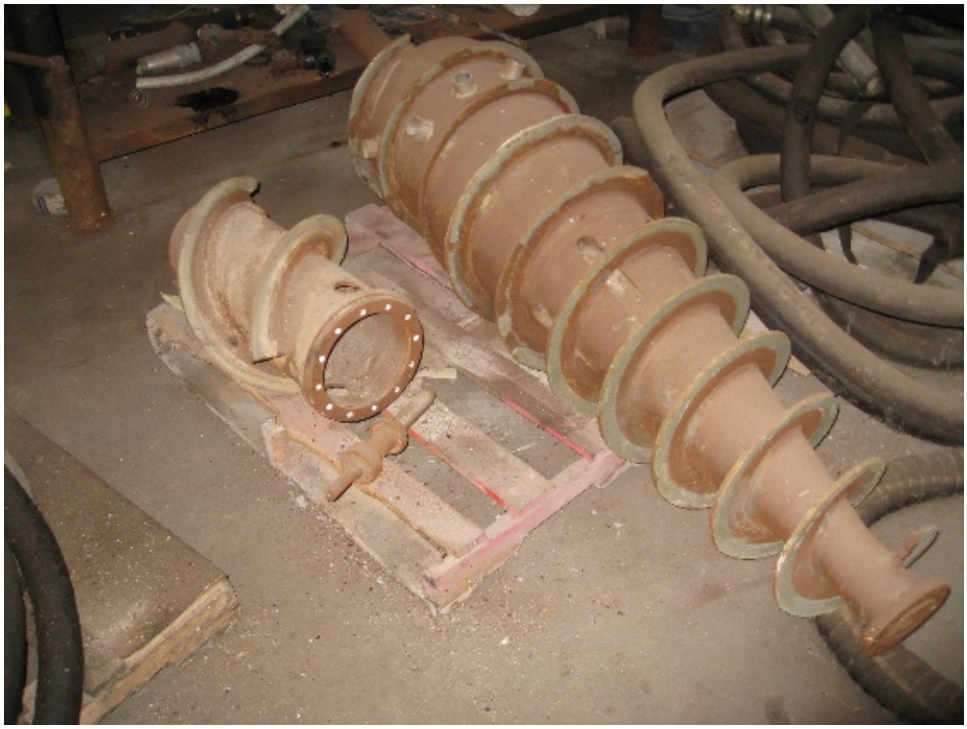
| | |
|---|---|
| **USOR-EQ-54** | |
| Blue Hopper Bin Bottom | |
| **Notes:** No waste or residue present. Washed and placed in salvage rolloff. Inspected for ACM, none suspected. | |

| | |
|---|---|
| **USOR-EQ-55 and 56** | |
| Air Blower and 100hp Motor (east and west) | |
| **Notes:** No waste or residue present. Left in-place. Inspected and sampled for ACM. ACM results negative. | |

| | |
|---|---|
| **USOR-EQ-57** | |
| Atlas Copco Air Handler | |
| **Notes:** Reservoir connected to pipe present in the back. Tapping indicated the reservoir was empty. Inspected for ACM. None suspected. | |

| | |
|---|---|
| **USOR-EQ-58** | |
| Red Steam Boiler | |
| **Notes:** Tank appears to be empty based upon tapping (sounded empty) and empty pipes running through the length of the tank. The empty pipes appeared to make up the majority of the volume of the tank. Inspected and sampled for ACM. ACM results negative. | |

| | |
|---|---|
| **USOR-EQ-59** | |
| Cone Screw and Housing | |
| **Notes:**<br>No waste or residue present. Inspected for ACM, none suspected. | |

| | |
|---|---|
| **USOR-EQ-60** |  |
| Conical Screw (2 parts) | |
| **Notes:** No waste or residue present. Inspected and sampled for ACM. ACM results negative. | |

| | |
|---|---|
| **USOR-EQ-61** | |
| Lube Oil Reservoir and Pump | |
| **Notes:** Contains approximately 10 gallons of oil in reservoir. Left in-place. Inspected for ACM. None suspected. | |

| | |
|---|---|
| **USOR-EQ-62** | |
| 55-gallon Lube Oil Drum on Stand | |
| **Notes:** Nearly full of liquid. Left in-place. Inspected for ACM, none suspected. | |

**Note that USOR-EQ-63 and 64 are listed between USOR-EQ-10 and USOR-EQ-11 to fit with walking tour.**

| | |
|---|---|
| **USOR-EQ-65** | |
| Blue Lube Oil Pump | |
| **Notes:** Reservoir contains approximately 4 inches of oil. Inspected for ACM, none suspected. | |

# APPENDIX H:PHOTOGRAPHIC LOG – MAY 2015 OIL SHEEN

# Equipment Waste Removal and Disposal Report

# Appendix H

## Photographic Log – May 2015 Oil Sheen

# Appendix H

## Photographic Log – May 2015 Oil Sheen

Upon reporting to work at ~6:40 AM on Tuesday, May 26, 2015, on-site personnel observed water running down the entrance drive of the USOR property at 400 North Richey Street. A light oily sheen was observed on sections of the areas where the water had pooled along the side of Richey Street.

An investigation quickly determined that the source of oily water was from EQ-07, a portable storage hopper containing used oil filters that was staged near the warehouse/maintenance area. Some of the rain water from the previous night ran off the roof of the warehouse and onto the top of the hopper where some entered through a gap in the lid and eventually filled the hopper and overflowed. This water ran down the entrance concrete towards Richey Street.

Booms were used to control the water runoff to the entrance gate. EPA and the National Response Center were notified. Additional booms were placed around the portable storage hopper and plastic sheeting was used to cover the top and sides of the hopper. The three other portable storage hoppers containing used oil filters in the same area (EQ-08, EQ-09 and EQ-10) were inspected and EQ-09 was similarly covered with plastic as a precaution.

The oil sheen observed on water contained by the booms and road gullies was collected by sorbent pads. Booms, pads and other materials used to contain the water and collect observable oil sheen were placed in a rolloff and sent to Seabreeze Environmental Landfill in Angleton, Texas for disposal.

---

Photograph 1 - Booms at gate to control Site runoff; looking south at Site entrance

Photograph 2 - Booms along drive to control runoff.  Looking east towards Site gate.

Photograph 3 - Absorbent pads and booms placed adjacent to EQ-07 to control oily water.  Looking southwest.

Photograph 4 - EQ-07 and EQ-09 wrapped to prevent further infiltration of rainwater.

Photograph 5 - Water on Richey Street looking north from entrance to Site.  Approximately 13:30, 5/26/2015