## SCIENCE APPLICATIONS INTERNATIONAL CORPORATION
## Organic Data Review Checklist - Standard Validation

**Project:** Harley-Davidson



**SDG No:** 180-42445-1

**Analysis:** See attached

**Method:** See attached

**Laboratory:** TestAmerica Pittsburgh

**Matrix:** Water

The above data package has been reviewed and the analytical quality control/quality assurance performance data have been summarized. The general criteria used to assess the analytical integrityof the data were based on an examination of the following:

Case Narrative
Analytical Holding Times
Sample Preservation

Project Blanks

Project Specific QA/QC or contract requirements may take priority over validation criteria in this procedure.

Overall Remarks: No major issues

Definition of Qualifiers:

"U", not detected at the associated level
"UJ", not detected and associated value estimated
"J", associated value estimated
"R", associated value unusable or analyte identity unfounded
"=", compound properly identified and value positive

Reviewed by: [signature] 4/20/15 Date:

QA Reviewed by: [signature] Date: 5-15-15.

AG-1 4/20/15

## I. Case Narrative

Verify direct statements made within the Laboratory Case Narrative (note discrepancies).

Remarks: No major issues

## II. Re-analysis and Secondary Dilutions

Verify that re-analysis and secondary dilutions were performed and reported as necessary. Determine appropriate results to report.

Remarks:

## III. Holding Times

VOC - Waters - unpreserved: aromatic within 7 days, non-aromatic within 14 days of sample collection
VOC - Waters - preserved: aromatic and non-aromatic within 14 days of sample collection
VOC - Soils - preserve or analyze within 48 hours of sample collection; analyze within 14 days of preservation

SVOC, Pest., PCB - Waters - extract within 7 days of sample collection, analyze within 40 days of extraction
SVOC, Pest., PCB - Soils - extract within 14 days of sample collection, analyze within 40 days of extraction

**Deviations:**

| Sample # | VOC | | SVOC | | | Pest/PCB | | |
|---|---|---|---|---|---|---|---|---|
| | Date Collected | Date Analyzed | Date Collected | Date Extracted | Date Analyzed | Date Collected | Date Extracted | Date Analyzed |
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**Actions:**
1. If holding times are exceeded, all results are qualified as estimated (J/UJ)
2. If holding times are exceeded by more than 2X, reviewer may qualify non-detected results as unusable (R)

**Remarks:** No issues

## III. Holding Times

Metals - Waters - preserved to pH<2, 180 days from sample collection
Metals - Soils - 180 days from sample collection
Mercury - Waters - preserved to pH<2, 28 days from sample collection
Mercury - Soils - 28 days from sample collection

**Deviations:**

| Sample # | Metals | | | | Mercury | | | |
|---|---|---|---|---|---|---|---|---|
| | Date Collected | Date Analyzed | Days >HT | pH Check | Date Collected | Date Analyzed | Days >HT | pH Check |
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## Actions:

1. If preserved samples exceed holding time, qualifty all associated results as estimated (J/UJ).
2. If unpreserved samples exceed holding time, qualify all associated results as unusable (R).
3. If holding times are exceeded by more than 2X, reviewer may qualify non-detected results as unusable (R)
4. If water samples are not acidified, use professional judgement. Minimally, qualify data as estimated (J) and non-detects unusable (R).
5. If soil samples exceed holding time, use professional judgement to qualify data.

**Remarks:** No issues

## III. Holding Times

Sample should be preserved and analyzed according to the appropriate analytical method
In general the following preservations and holding times for waters can be applied:

Sulfate, 4 degress C, 28 days
Sulfide, 4 degrees C, pH ≥9 with zinc acetate/sodium hydroxide, 7 days
Bromide/Chloride/Fluoride, no preservative required, 28 days
Nitrate/Nitrite or Ammonia, 4 degrees C, pH ≤ 2 with sulfuric acid, 28 days
Nitrate or Nitrite, 4 degrees C, 48 hours
Alkalinity, 4 degrees C, 14 days
TDS/TSS, 4degrees C, 7 days
Phosphate (total), 4 degrees C, pH < 2 with sulfuric acid, 28 days
Hexavalent Chromium, Cool 4 degress C, water- 24 hours, soil - 30 days

**Deviations:**

| Sample # | Analyte | Date Collected | Date Extracted | Date Analyzed | Notes: |
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**Actions:**

1. If holding times are exceeded, all results are qualified as estimated (J/UJ)
2. If holding times are exceeded by more than 2X, reviewer may qualify non-detected results as unusable (R)
3. If samples were not properly preserved, use professional judgement to qualify the data

**Remarks:** No issues

## VI. Blanks

All blanks were reported per matrix per concentration level for each 12 hour period on each GC/MS system used to analyze VOCs and SVOCs Yes ☐ No ☐

Review associated laboratory and project blank samples. List documented contamination below:

**Laboratory Method Blanks:**

| Date: | Lab ID # | Fraction | Compound | Conc. (ppb) |
|---|---|---|---|---|
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| | NB180-132472/6 | VOA | MeCl | 0.132 J |
| | | | | |

**Associated Project Blanks (e.g., equipment rinsates, trip blanks, etc.)**

| Date | Lab ID # | Fraction | Compound | Conc. (ppb) |
|---|---|---|---|---|
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**Remarks:** See attached

## VI. Blanks (continued)

Calculate action levels based on 10X the highest blank concentration of "common laboratory solvents", VOCs (methylene chloride, acetone, toluene, 2-butanone, cyclohexane) or SVOCs (phthalates), and 5X the highest blank concentration for all other VOC, SVOC, Pesticides, and PCB compounds. Sample weights, volumes, and dilution factors must be taken into account when applying the 5X and 10X criteria. This allows the total amount of contaminant present to be considered.

**Deviations:**

| Compound | Maximum Conc. Detected, (ppb) | Action Level (ppb) | Samples Affected |
|---|---|---|---|
| Me Cl. | 0.132 | 1.32 | (2) 3, 4, 5 (6) 7 (8) (9) 11, 12 |
| | | | ↓ |
| | | | Sample # Result Dilution |
| | | | #2: 8.9 @ 25X $\frac{8.9}{25} = 0.35$ |
| | | | #3: 3.5 @ 10X $\frac{3.5}{10} = 0.35$ |
| | | | #6: 0.89 @ 3X $\frac{0.89}{3} = 0.30$ |
| | | | #8: 50 @ 125X $\frac{50}{137} = 0.40$ |
| | | | #9: 19 @ 50X $\frac{19}{50} = 0.38$. |
| | | | ↓ |
| | | | ↓ |
| | | | Systemic Me Cl contamination |

**Actions:**

1. If compound results exceed the action levels, the data are not qualified
2. If compound results are below the required reporting level, report results as non-detect (U) at the reporting level
3. If the compound is detected above the reporting level, but below the action level, qualify as not-detected (U)
4. If gross contamination exists in blanks (i.e.,, saturated peaks by GC/ MS), all affected compounds in the associated samles should be qualifed as unusable (R) due to interference.
5. If blanks were not analyzed per matrix per concentration level for each 12 hour period on each GC/MS system used to analyze VOCs and SVOCs use professional judgement to qualifty data. Data may be rejected (R).

**Remarks:** See attached. After further investigation #8, #9, and #3 have historically had detections of MC therefore we are not qualifying 8, 9, or 3. However due to MB detections 6 and 9 have been qualified with a U. This is based on dividing the Result by the Dilution. This indicates a dilution water contamination.

# Hold Time Summary

180-42445-1

| Sample Number | Method | Date Collected | Analysis Date | Date Extracted | Days to Analysis |
|---|---|---|---|---|---|
| 180-42445-10 | MCAWW 300.0 | 3/26/2015 | 3/27/2015 | | 1 |
| 180-42445-2 | MCAWW 300.0 | 3/26/2015 | 3/27/2015 | | 1 |
| 180-42445-3 | MCAWW 300.0 | 3/26/2015 | 3/27/2015 | | 1 |
| 180-42445-4 | MCAWW 300.0 | 3/26/2015 | 3/27/2015 | | 1 |
| 180-42445-5 | MCAWW 300.0 | 3/26/2015 | 3/27/2015 | | 1 |
| 180-42445-6 | MCAWW 300.0 | 3/26/2015 | 3/27/2015 | | 1 |
| 180-42445-7 | MCAWW 300.0 | 3/26/2015 | 3/27/2015 | | 1 |
| 180-42445-8 | MCAWW 300.0 | 3/26/2015 | 3/27/2015 | | 1 |
| 180-42445-9 | MCAWW 300.0 | 3/26/2015 | 3/27/2015 | | 1 |
| 180-42445-10 | SM SM 2320B | 3/26/2015 | 4/2/2015 | | 7 |
| 180-42445-2 | SM SM 2320B | 3/26/2015 | 4/2/2015 | | 7 |
| 180-42445-3 | SM SM 2320B | 3/26/2015 | 4/2/2015 | | 7 |
| 180-42445-4 | SM SM 2320B | 3/26/2015 | 4/2/2015 | | 7 |
| 180-42445-5 | SM SM 2320B | 3/26/2015 | 4/2/2015 | | 7 |
| 180-42445-6 | SM SM 2320B | 3/26/2015 | 4/2/2015 | | 7 |
| 180-42445-7 | SM SM 2320B | 3/26/2015 | 4/2/2015 | | 7 |
| 180-42445-8 | SM SM 2320B | 3/26/2015 | 4/2/2015 | | 7 |
| 180-42445-9 | SM SM 2320B | 3/26/2015 | 4/2/2015 | | 7 |
| 180-42445-10 | SW846 6020A | 3/26/2015 | 4/6/2015 | 4/2/2015 | 11 |
| 180-42445-2 | SW846 6020A | 3/26/2015 | 4/6/2015 | 4/2/2015 | 11 |
| 180-42445-3 | SW846 6020A | 3/26/2015 | 4/6/2015 | 4/2/2015 | 11 |
| 180-42445-4 | SW846 6020A | 3/26/2015 | 4/6/2015 | 4/2/2015 | 11 |
| 180-42445-5 | SW846 6020A | 3/26/2015 | 4/6/2015 | 4/2/2015 | 11 |
| 180-42445-6 | SW846 6020A | 3/26/2015 | 4/6/2015 | 4/2/2015 | 11 |
| 180-42445-7 | SW846 6020A | 3/26/2015 | 4/6/2015 | 4/2/2015 | 11 |
| 180-42445-8 | SW846 6020A | 3/26/2015 | 4/6/2015 | 4/2/2015 | 11 |
| 180-42445-9 | SW846 6020A | 3/26/2015 | 4/6/2015 | 4/2/2015 | 11 |
| 180-42445-1 | SW846 8260C | 3/26/2015 | 4/2/2015 | | 7 |
| 180-42445-10 | SW846 8260C | 3/26/2015 | 4/4/2015 | | 9 |
| 180-42445-11 | SW846 8260C | 3/26/2015 | 4/3/2015 | | 8 |
| 180-42445-12 | SW846 8260C | 3/26/2015 | 4/3/2015 | | 8 |
| 180-42445-2 | SW846 8260C | 3/26/2015 | 4/3/2015 | | 8 |
| 180-42445-2 | SW846 8260C | 3/26/2015 | 4/4/2015 | | 9 |
| 180-42445-3 | SW846 8260C | 3/26/2015 | 4/3/2015 | | 8 |
| 180-42445-4 | SW846 8260C | 3/26/2015 | 4/3/2015 | | 8 |
| 180-42445-5 | SW846 8260C | 3/26/2015 | 4/3/2015 | | 8 |
| 180-42445-6 | SW846 8260C | 3/26/2015 | 4/3/2015 | | 8 |
| 180-42445-7 | SW846 8260C | 3/26/2015 | 4/3/2015 | | 8 |
| 180-42445-8 | SW846 8260C | 3/26/2015 | 4/3/2015 | | 8 |
| 180-42445-9 | SW846 8260C | 3/26/2015 | 4/3/2015 | | 8 |

# Trip Blank Detections

| Sample ID | Sample | Analyte | Result | Method | Units | Qual |
|---|---|---|---|---|---|---|
| 180-42445-11 | HD-QC1-0/1-3 | Toluene | 0.69 | SW846 8260C | ug/L | J |
| 180-42445-12 | HD-QC1-0/1-4 | Toluene | 0.83 | SW846 8260C | ug/L | J |

Above detections are from rinse and equipment blanks, and are analytes that are typically found in the DI water we got from E+S.

4/20/15

AGM