

Data Validation Report

Project/Site Name: Omega Chemical OUI Feb 2004 Oversight Sampling

Sample Delivery Group (SDG): 04057E

Parameters: Semivolatiles

Method: EPA 8270C

Laboratory: EPA Region 9 Laboratory

Samples:

| <u>Sample ID</u> | <u>Lab Sample ID</u> | <u>Collection Date</u> | <u>Matrix</u> |
|------------------|----------------------|------------------------|---------------|
| OC1-OW1-W-0-3 | 0402048-01 | 02/24/04 | Water |
| OC1-OW2-W-0-1 | 0402048-02 | 02/24/04 | Water |
| OC1-OW2-W-5-2 | 0402048-03 | 02/24/04 | Water |
| OC1-OW3-W-0-4 | 0402048-04 | 02/24/04 | Water |

Introduction/Summary

This data review report covers the sample delivery group and associated samples listed on the cover sheet. The analyses were per USEPA Method 8270C. The quality assurance and quality control procedures (QA/QC) were per project specific sampling and analysis plan.

This review is based on the method and project approved QA/QC procedures and EPA data validation functional guidance; the following subsections correlate to these guidelines. The sections detail noted deviations if any. Tables summarizing all data qualification flags are provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols (P) or is of a technical advisory nature due to sample matrix (A).

Data qualifiers, if any, are summarized at the end of this report.

I. Holding Times

Samples were extracted within 7 days (water) or 14 days (soil) of collection as required. Analyses were performed within 40 days after extraction. All samples were within project specifications.

II. GC/MS Instrument Performance Check

Instrument performance was checked prior to initial calibration and calibration verification. All ion abundance requirements were met for DFTPP as listed below:

| <u>m/z</u> | <u>ION ABUNDANCE CRITERIA</u> |
|------------|------------------------------------|
| 51 | 30.0 - 60.0% of m/z 198 |
| 68 | Less than 2% of m/z 69 |
| 69 | 0.0 – 100% of m/z 198 |
| 70 | Less than 2% of m/z 69 |
| 127 | 40.0 - 60.0% of m/z 198 |
| 197 | Less than 1% of m/z 198 |
| 198 | Base peak, 100% relative abundance |
| 199 | 5.0 - 9.0% of m/z 198 |
| 275 | 10.0 -30.0% of m/z 198 |
| 365 | Greater than 1% of m/z 198 |
| 441 | Present, but less than m/z 443 |
| 442 | Greater than 40.0% of m/z 198 |
| 443 | 17.0 - 23.0% of m/z 442 |

III. Initial Calibration

An initial five-point calibration was performed using the required concentrations prior to sample analysis.

Percent relative standard deviations (%RSD) were less than 30% for CCCs and less than or equal to 15% for mean RSD for all analytes with no individual analyte %RSD greater than 30%.

| Calibration Date | Analyte | % RSD | Associated Samples | Flag | A or P |
|-------------------------|---------------------------|--------------|---------------------------|-------------|---------------|
| 03/01/04 | Hexachlorocyclopentadiene | 43.25 % | None | J | P |

No further action was recommended since this SDG was only analyzed for 1,4 Dioxane.

Average relative response factors (RRF) for volatile system performance check compounds (SPCC) were equal to or greater than 0.05.

Second-source calibration verification (SSCV) was carried out once per five-point initial calibration. All analytes were within $\pm 25\%$ of the expected values.

No further action was recommended since this SDG was only analyzed for 1,4 Dioxane.

IV. Continuing Calibration

Continuing calibration was verified daily before sample analysis and every 12-hours of analysis time using mid-level standards.

The relative response factor (RRF) percent drifts were less than 20% for all CCCs and all calibration analytes were within $\pm 20\%$, with the following exception:

| Calibration Date | Analyte | %D | Associated Samples | Flag | A or P |
|------------------|---------------------------|--------|--------------------|------|--------|
| 03/02/04 | Hexachlorocyclopentadiene | 21.3 % | None | J | A |
| | 4-Nitrophenol | 28.0 % | | | |
| | Pentachlorophenol | 32.5 % | | | |
| 03/03/04 | Pentachlorophenol | 25.0 % | None | J | A |
| | Di-n-octyl phthalate | 24.9 % | | | |

No further action was recommended since this SDG was only analyzed for 1,4 Dioxane.

The relative response factors (RRF) for system performance check compounds (SPCC) were greater than or equal to 0.05.

V. Blanks

Method blank analysis was performed at the frequency of once for every analytical batch.

The concentrations of analytes in the Method Blank were less than the reporting limits, with no detections.

VI. System Monitoring Compounds

Surrogate compounds were added to all laboratory blanks, LCS, MS/MSD and field samples per project specifications.

All surrogate recoveries were within project specified control limits for precision and accuracy with the following exceptions:

| Surrogate | %R | Associated Samples | Flag | A or P |
|----------------|------|--------------------|------|--------|
| 1,4-Dioxane-d8 | 16 % | OC1-OW1-W-0-3 | J | A |

This sample had very high levels of 1,4-dioxane so it was diluted and reanalyzed. The dilution masked the surrogate so the above value is for the undiluted analysis.

VII. Matrix Spike/Matrix Spike Duplicates

Sample OC1-OW2-W-5-2 was used for the matrix spike and matrix spike duplicate. The percent recovery (%R) and relative percent difference (RPD) were within the project specific control limits.

VIII. Laboratory Control Sample (LCS)

At least one laboratory control sample per analytical batch was analyzed.

All % recoveries (%R) were within project specified control limits for precision and accuracy.

IX. Internal Standards

Internal standards were added to all calibration standards, LCS, samples and blanks.

All internal standard retention times were within ± 30 seconds of the retention times of the latest daily calibration standard.

All internal standard area counts were within -50 percent to 100 percent of the midpoint of the calibration standard.

X. Compound Quantitation and Reporting Limits

Compound quantitation algorithm was verified to be correct.

The MDLs have been provided by the laboratory on the sample reports along with the reporting limits. The laboratory has established method detection limits (MDLs) per 40 CFR Part 136 Appendix B. The laboratory MDLs are found to be consistent with project needs.

XI. Tentatively Identified Compounds (TICs)

TICs reports were not required for this SDG.

XII. System Performance

The data at-large for target compounds indicate acceptable system performance

XIII. Overall Assessment of Data

All data were found to be acceptable per specifications as noted above under introduction/summary with the exceptions of the samples and analytes listed in the table at the end of this report, if any.

Omega Chemical OUI Semivolatiles - Data Qualification Summary - SDG #04057E

| SDG | Sample | Analyte | Flag | A or P* | Reason |
|------------|---------------|----------------|-------------|----------------|----------------------|
| 04057E | OC1-OW1-W-0-3 | 1,4-Dioxane | J | A | Surrogate Recoveries |

*P-Flag is due to deviation from criteria limits

A- Flag is expected to be due to sample matrix effects

Omega Chemical OUI Semivolatiles - Blanks Data Qualification Summary – #04057E

No blank detects were reported.

