Data Validation Report

Project/Site Name: Omega Chemical OU1 Feb 2004 Oversight Sampling

Sample Delivery Group (SDG): 04057E

Parameters: Volatiles

Method: 524.2

Laboratory: USEPA Region 9 Laboratory

Samples:

Sample ID	Lab Sample ID	Collection Date	Matrix
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 524.2. 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 analyzed within 14 days (7 days if unpreserved) of collection as required.

II. GC/MS Instrument Performance Check

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

m/z	ION ABUNDANCE CRITERIA
50	15.0 - 40.0% of m/z 95
75	30.0 - 80.0% of m/z 95
95	Base peak, 100% relative abundance
96	5.0 - 9.0% of m/z 95
173	Less than 2.0% of m/z 174
174	50.0 – 120 % of m/z 95
175	5.0 - 9.0% of m/z 174
176	95.0 - 101.0% of m/z 174
177	5.0 - 9.0% of m/z 176

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%.

Average relative response factors (RRF) for volatile system performance check compounds (SPCC) were equal to or greater than 0.30 (> 0.10 for bromoform, chloromethane, and 1,1-dichloroethane) with the exception of the following:

Calibration Date	Analyte	RRF	Affected Samples	Flag	A or P
02/25/04	1,1,2,2-Tetrachloroethane	0.166	OC1-OW1-W-0-3 OC1-OW2-W-0-1 OC1-OW2-W-5-2 OC1-OW3-W-0-4	J	P

Second-source calibration verification was not carried out after five-point initial calibration.

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 deviations were less than 20% for all CCCs and all calibration analytes were within ±20% of the expected values.

The relative response factors (RRF) for system performance check compounds (SPCC) were greater than or equal to 0.30 (> 0.10 for bromoform, chloromethane and 1,1-dichloroethane). The following had RRFs< 0.30

Continuing Calibration Standard	Analyte	RRF	Affected Samples	Flag	A or P
02/27/04	1,1,2,2-Tetrachloroethane	0.151	OC1-OW1-W-0-3 OC1-OW2-W-0-1 OC1-OW2-W-5-2	J	P
03/03/04	1,1,2,2-Tetrachloroethane	0.156	OC1-OW3-W-0-4	J	P
03/04/04	1,1,2,2-Tetrachloroethane	0.161	none	J	P

V. Blanks

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

The concentrations of analytes in the method blanks were less than the reporting limits, with no detections reported.

There were no field blanks with this SDG.

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 with the following exceptions:

Sample ID	Surrogate	%R	Flag	A or P
OC1-OW1-W-0-3	Toluene-d8	39 %	J	A

VII. Matrix Spike/Matrix Spike Duplicates

The samples B4B0118-MS1 and B4B01180MSD1 were the matrix spike (MS) and matrix spike duplicate (MSD) for this SDG. All of the percent recoveries (%R) and relative percent differences (RPD) were within control limits for precision and accuracy with the following exceptions:

Analyte	%R MS	%R MSD	RPD	Affected Samples	Flag	A or P
1,1-Dichloroethene	400 %	NR	NR	none	none	A

The 1,1-dichloroethene should not have been reported in the MS as it was not in the MSD due to the high concentration of the analyte in the original result.

VIII. Laboratory Control Sample (LCS)

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

All percent recoveries 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 initial calibration standard.

All retention times and internal standard area counts were within project specifications for precision and accuracy.

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)

There were no tentatively identified compounds within this SDG.

XII. System Performance

QC data at large indicate acceptable performance.

XIII. Overall Assessment of Data

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

Omega Chemicals OU1 Volatiles - Data Qualification Summary - SDG 04057E

SDG	Sample ID	Analyte	Flag	A or P*	Reason
04057E	OC1-OW1-W-0-3 OC1-OW2-W-0-1 OC1-OW2-W-5-2 OC1-OW3-W-0-4	1,1,2,2-Tetrachloroethane	J	P	Initial Calibration RRF
04057E	OC1-OW1-W-0-3 OC1-OW2-W-0-1 OC1-OW2-W-5-2 OC1-OW3-W-0-4	1,1,2,2-Tetrachloroethane	J	P	Continuing Calibration RRF
04057E	OC1-OW1-W-0-3	All analytes	J	A	Surrogate %R

*P-Flag is due to deviation from criteria limits
A- Flag is expected to be due to sample matrix effects

Omega Chemicals OU1 Volatiles - Blanks Data Qualification Summary - SDG 04057E

There were no detects within the blanks for this SDG.

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:

Sample ID	Lab Sample ID	Collection Date	Matrix
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:

m/z	ION ABUNDANCE CRITERIA
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	Hexachlorocylcopentadiene	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 ±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 ±20%, with the following exception:

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

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.

Data Validation Report

Project/Site Name: Omega Chemical OU1 2004 Indoor Air Sampling

Sample Delivery Group (SDG): 04239A

Parameters: Volatiles

Method: 524.2

Laboratory: USEPA Region 9 Laboratory

Samples:

Sample ID	Lab Sample ID	Collection Date	Matrix
OC1-OW8B-W-0-24	0408044-01	08/24/04	Water
OC1-OW1B-W-5-22	0408048-01	08/27/04	Water
OC1-OW1-W-0-23	0408048-02	08/27/04	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 524.2. 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 analyzed within 14 days (7 days if unpreserved) of collection as required with the following exceptions:

Sample ID	Collection Date	Analysis Date	Flag	A or P
OC1-OW1-W-0-23	08/27/04	09/13/04	all analytes J	P

II. GC/MS Instrument Performance Check

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

m/z	ION ABUNDANCE CRITERIA
50	15.0 - 40.0% of m/z 95
75	30.0 - 60.0% of m/z 95
95	Base peak, 100% relative abundance
96	5.0 - 9.0% of m/z 95
173	Less than 2.0% of m/z 174
174	50.0 – 120 % of m/z 95
175	5.0 - 9.0% of m/z 174
176	95.0 - 101.0% of m/z 174
177	5.0 - 9.0% of m/z 176

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%.

Average relative response factors (RRF) for volatile system performance check compounds (SPCC) were equal to or greater than 0.30 (> 0.10 for bromoform, chloromethane, and 1,1-dichloroethane) with the exception of the following:

Calibration Date	Analyte	RRF	Affected Samples	Flag	A or P
08/27/04	1,1,2,2-Tetrachloroethane	0.177	OC1-OW8B-W-0-24	J	P

09/02/04	1,1,2,2-Tetrachloroethane	0.177	OC1-OW1-W-0-23 OC1-OW1B-W-5-22	Detects J	P
09/13/04	Bromoform 1,1,2,2-Tetrachloroethane	0.079 0.115	none	J	P

Second-source calibration verification was not carried out after five-point initial calibration.

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 deviations were less than 20% for all CCCs and all calibration analytes were within ±20% of the expected values.

The relative response factors (RRF) for system performance check compounds (SPCC) were greater than or equal to 0.30 (> 0.10 for bromoform, chloromethane and 1,1-dichloroethane). The following had RRFs< 0.30

Continuing Calibration Standard	Analyte	RRF	Affected Samples	Flag	A or P
08/27/04	1,1,2,2-Tetrachloroethane	0.158	OC1-OW8B-W-0-24	J	P
09/07/04	1,1,2,2-Tetrachloroethane	0.178	OC1-OW1-W-0-23	J	P
09/10/04	1,1,2,2-Tetrachloroethane	0.165	OC1-OW1B-W-5-22	J	P
09/13/04	1,1,2,2-Tetrachloroethane	0.118	none	J	P

V. Blanks

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

The concentrations of analytes in the method blanks were less than the reporting limits, with no detections reported, with the following exceptions:

Blank (date)	Analyte	Concentration	Affected Samples	Flag	A or P

B410034-BLK1 (09/10/04)	Tetrachloroethene	0.2	none	Deteccts BJ	A
B410043-BLK1 (09/13/04)	Acetone 1,2,4-Trichlorobenzene Hexachlorobutadiene Naphthalene 1,2,3-Trichlorobenzene	2.6 0.5 0.3 1.0 1.2	none	Detects BJ	A

There were no field blanks with this SDG.

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 with the following exceptions:

Sample ID	Surrogate	%R	Flag	A or P
OC1-OW1-W-0-23	Toluene-d8	30 %	J	P

VII. Matrix Spike/Matrix Spike Duplicates

The sample OC1-OW1B-W-5-22-MS1 and OC1-OW1B-W-5-22-MSD1 which were sample were the matrix spike (MS) and matrix spike duplicate (MSD) for this SDG. All of the percent recoveries (%R) and relative percent differences (RPD) were within control limits for precision and accuracy with the following exceptions:

Analyte	%R MS	%R MSD	RPD	Affected Samples	Flag	A or P
Trichlorofluoromethane	142 %	140 %	1 %	OC1-OW8B-W-0-24 OC1-OW1B-W-5-22 OC1-OW1-W-0-23	J	A
1,1-Dichloroethene	132 %	144%	6 %			
1,1,2-Trichloro-1,2,2-trifluoroethane	220 %	220 %	0 %			
tert-Butyl methyl ether	132 %	128 %	3 %			
2-Butanone	145 %	135 %	7 %			
1,1,1-Trichloroethane	68 %	82 %	15 %			
Carbon tetrachloride	68 %	70 %	3 %			
Trichloroethane	116 %	134 %	9 %			
Styrene	74 %	92 %	22 %			

VIII. Laboratory Control Sample (LCS)

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

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

Laboratory Control Sample ID	Analyte	%R	Affected Sample	Flag	A or P
B4H0078-BS1	Dichlorodifluoromethane	66 %	OC1-OW8B-W-0-24	Detects/ non detects J	P
B4I0014-BS1	Cis-1,2-Dichloroethene	134 %	OC1-OW1-W-0-23	Detects J	P
B4I0034-BS1	dichlorodifluoromethane	64 %	OC1-OW1B-W-5-22	Detects/ non detects J	P

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 initial calibration standard.

All retention times and internal standard area counts were within project specifications for precision and accuracy.

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)

Sample OC1-OW1-W-0-23 had cylcohexane, unknown and unknown alkane (peak 1) as tentatively identified compounds.

XII. System Performance

QC data at large indicate acceptable performance.

XIII. Overall Assessment of Data

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

Omega Chemicals OU1 Volatiles - Data Qualification Summary - SDG 04239A

SDG	Sample ID	Analyte	Flag	A or P*	Reason
04239A	OC1-OW1-W-0-23	All	J	P	Holding Times
04239A	OC1-OW8B-W-0-24 OC1-OW1-W-0-23 OC1-OW1B-W-5-22	1,1,2,2-Tetrachloroethane	J	P	Initial Calibration RRF
04239A	OC1-OW8B-W-0-24 OC1-OW1-W-0-23 OC1-OW1B-W-5-22	1,1,2,2-tetrachloroethane	J	P	Continuing Calibration RRF
04239A	OC1-OW1-W-0-23	all	J	P	Surrogate %R
04239A	OC1-OW8B-W-0-24 OC1-OW1-W-0-23 OC1-OW1B-W-5-22	Trichlorofluoromethane 1,1-Dichloroethene 1,1,2-Trichloro-1,2,2-trifluoroethane tert-Butyl methyl ether 2-Butanone 1,1,1-Trichloroethane Carbon tetrachloride Trichloroethane Styrene	J	A	Matrix spike/Matrix spike duplicate %R and/or RPD
04239A	OC1-OW8B-W-0-24 OC1-OW1B-W-5-22	Dichlorodifluoromethane	J	P	LCS low %R
04239A	OC1-OW1-W-0-23	Cis-1,2-Dichloroethene	Detects J	P	LCS high %R

*P-Flag is due to deviation from criteria limits
A- Flag is expected to be due to sample matrix effects

Omega Chemicals OU1 Volatiles - Blanks Data Qualification Summary - SDG 04239A

No data is qualified due to blank sample results.

Data Validation Report

Project/Site Name: Omega Chemical OU1 2004 Indoor Air Sampling

Sample Delivery Group (SDG): 05055B

Parameters: Volatiles

Method: 524.2

Laboratory: USEPA Region 9 Laboratory

Samples:

Sample ID	Lab Sample ID	Collection Date	Matrix
OC1-OW8A-W-0-40	0502034-01	02/23/05	Water
OC1-OW8B-W-0-41	0502034-02	02/23/05	Water
OC1-OW6-W-5-42	0502034-03	02/23/05	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 524.2. 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 analyzed within 14 days (7 days if unpreserved) of collection as required.

II. GC/MS Instrument Performance Check

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

m/z	ION ABUNDANCE CRITERIA
50	15.0 - 40.0% of m/z 95
75	30.0 – 60.0% of m/z 95
95	Base peak, 100% relative abundance
96	5.0 - 9.0% of m/z 95
173	Less than 2.0% of m/z 174
174	50.0 – 120 % of m/z 95
175	5.0 - 9.0% of m/z 174
176	95.0 - 101.0% of m/z 174
177	5.0 - 9.0% of m/z 176

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%.

Average relative response factors (RRF) for volatile system performance check compounds (SPCC) were equal to or greater than 0.30 (> 0.10 for bromoform, chloromethane, and 1,1-dichloroethane) with the exception of the following:

Calibration Date	Analyte	RRF	Affected Samples	Flag	A or P
03/05/05	Bromoform 1,1,2,2-Tetrachloroethane	0.092 0.126	none	J	P
02/26/05	1,1,2,2-Tetrachloroethane	0.178	OC1-OW8B-W-0-41 OC1-OW6-W-5-42	J	P
03/06/05	1,1,2,2-Tetrachloroethane	0.150	OC1-OW8A-W-0-40	J	P

Second-source calibration verification was not carried out after five-point initial calibration.

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 deviations were less than 20% for all CCCs and all calibration analytes were within ±20% of the expected values.

The relative response factors (RRF) for system performance check compounds (SPCC) were greater than or equal to 0.30 (> 0.10 for bromoform, chloromethane and 1,1-dichloroethane). The following had RRFs< 0.30

Continuing Calibration Standard	Analyte	RRF	Affected Samples	Flag	A or P
02/26/05	Bromoform 1,1,2,2-Tetrachloroethane	0.117 0.191	OC1-OW8B-W-0-41 OC1-OW6-W-5-42	J	P
03/04/05	Bromoform 1,1,2,2-Tetrachloroethane	0.095 0.129	none	J	P
03/05/05	1,1,2,2-Tetrachloroethane	0.152	OC1-OW8A-W-0-40	Detects J	P
03/08/05	Bromoform 1,1,2,2-Tetrachloroethane	0.094 0.128	none	J	P
03/09/05	Bromoform 1,1,2,2-Tetrachloroethane	0.088 0.127	none	J	P

V. Blanks

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

The concentrations of analytes in the method blanks were less than the reporting limits, with no detections reported, with the following exceptions:

Blank (date)	Analyte	Concentration	Affected Samples	Flag	A or P
B5B0131-BLK1 (03/04/05)	Naphthalene	0.4	none	Detects BJ	A

There were no field blanks with this SDG.

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 with the following exceptions:

Sample ID	Surrogate	%R	Flag	A or P
OC1-OW6-W-5-42	1,2-dichloroethane-d4	152 %	none	A

The above sample was also reported diluted. The diluted sample reported 1,2 dichloroethane and it had surrogate recoveries within the project specific control limits. So there is no flag.

VII. Matrix Spike/Matrix Spike Duplicates

The sample B5B0129-MS1 and B5B0129-MSD1 were the matrix spike (MS) and matrix spike duplicate (MSD) for this SDG. All of the percent recoveries and relative percent differences were within control limits for precision and accuracy with the following exceptions:

Analyte	%R MS	%R MSD	RPD	Affected Samples	Flag	A or P
Dichlorodifluoromethane	60 %	82 %	31 %	OC1-OW8A-W-0-40	J	A
Chloromethane	76 %	104 %	31 %	OC1-OW8B-W-0-41		
Vinyl Chloride	78 %	106 %	30 %	OC1-OW6-W-5-42		
Bromomethane	64 %	96 %	40 %			
Chloroethane	82 %	108 %	27 %			
Trichlorofluoromethane	70 %	130 %	26 %			
Acetone	72 %	92 %	24 %			
Dichloromethane	78 %	98 %	23 %			
Trans-1,2-dichloroethene	84 %	106 %	23 %			
Tert-Butyl methyl ether	100 %	124 %	21 %			
1,1-Dichloroethane	84 %	108 %	25 %			
2,2-Dichoropropane	80 %	106 %	28 %			
cis-1,2-Dichloroethene	80 %	110 %	32 %			
2-Butanone	72 %	105 %	37 %			
Bromochloromethane	84 %	108 %	25 %			
Chloroform	78 %	106 %	27 %			
1,1,1-Trichloroethane	144 %	100 %	36 %			
1,1-Dichloropropene	70 %	92 %	27 %			
Carbon Tetrachloride	56 %	102 %	54 %			
Trichloroethene	134 %	128 %	3 %			
1,2-Dichloropropane	144 %	100 %	36 %			
Dibromomethane	152 %	110 %	32 %			

Bromodichloromethane	166 %	114 %	36 %			
Cis-1,3-Dichloropropene	156 %	108 %	36 %			
Trans-1,3-dichloropropene	162 %	116 %	33 %			
1,1,2-Trichloroethane	142 %	100 %	35 %			
Toluene	76 %	96 %	23 %			
1,2-Dibromomethane	84 %	106 %	23 %			
Chlorobenzene	76 %	96 %	23 %			
Ethylbenzene	76 %	96 %	23 %			
M&p-Xylene	74 %	93 %	23 %			
o-Xylene	80 %	102 %	24 %			
Styrene	74 %	94 %	24 %			
Bromoform	78 %	96 %	21 %			
Bromobenzene	80 %	100 %	22 %			
1,1,2,2-Tetrachloroethane	78 %	100 %	25 %			
1,2,3-Trichloropropane	78 %	100 %	25 %			
Propylbenzene	76 %	94 %	21 %			
1,3,5-Trimethylbenzene	74 %	94 %	24 %			
tert-Butylbenzene	74 %	94 %	24 %			
1,2,4-Trimethylbenzene	72 %	94 %	27 %			
sec-Butylbenzene	68 %	88 %	26 %			
1,3-Dichlorobenzene	70 %	90 %	25 %			
1,4-Dichlorobenzene	58 %	88 %	41 %			
p-Isopropyltoluene	68 %	90 %	28 %			
1,2-Dichlorobenzene	72 %	92 %	24 %			
Butylbenzene	64 %	86 %	29 %			
1,2-Dibromo-3-chloropropane	58 %	92 %	45 %			
1,2,4-Trichlorobenzene	62 %	88 %	35 %			
Hexachlorobutadiene	60 %	78 %	26 %			
Naphthalene	58 %	86 %	39 %			
1,2,3-Trichlorobenzene	58 %	86 %	39 %			

VIII. Laboratory Control Sample (LCS)

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

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

Laboratory Control Sample ID	Analyte	%R	Affected Sample	Flag	A or P
B5B0131-BS1	Dichlorodifluoromethane Chloromethane Tert-Butyl methyl ether	68 % 64 % 26 %	none	J	P
B5C0002-BS1	Acetone	42 %	OC1-OW8A-W-0-40	J	P
B5C0049-BS1	Chloromethane Acetone Tert-Butyl methl ether	68 % 65 % 26 %	none	J	P

	1,2,3-Trichlorobenzene Naphthalene 1,2,3-Trichlorobenzene	62 % 32 % 62 %			
B5C0057-BS1	Tert-Butyl methl ether Naphthalene	28 % 68 %	none	J	P

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 initial calibration standard.

All retention times and internal standard area counts were within project specifications for precision and accuracy.

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)

Sample OC1-OW8A-W-0-40 had 1,4 dioxane, two types of benzene substituted as tentatively identified compounds. And sample OC1-OW6-W-5-42 had an unknown hydrocarbon as a tentatively identified compound.

XII. System Performance

QC data at large indicate acceptable performance.

XIII. Overall Assessment of Data

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

Omega Chemicals OU1 Volatiles - Data Qualification Summary - SDG 05055B

SDG	Sample ID	Analyte	Flag	A or P*	Reason
05055B	OC1-OW8A-W-0-40 OC1-OW8B-W-0-41 OC1-OW6-W-5-42	1,1,2,2-Tetrachloroethane	J	P	Initial Calibration RRF
05055B	OC1-OW8B-W-0-41 OC1-OW6-W-5-42	Bromoform 1,1,2,2-Tetrachloroethane	J	P	Continuing Calibration RRF
05055B	OC1-OW8A-W-0-40	1,1,2,2-Tetrachloroethane	J	P	Continuing Calibration RRF
05055B	OC1-OW8A-W-0-40 OC1-OW8B-W-0-41 OC1-OW6-W-5-42	Dichlorodifluoromethane Chloromethane Vinyl Chloride Bromomethane Chloroethane Trichlorofluoromethane Acetone Dichloromethane Trans-1,2-dichloroethene Tert-Butyl methyl ether 1,1-Dichloroethane 2,2-Dichoropropane cis-1,2-Dichloroethene 2-Butanone Bromochloromethane Chloroform 1,1,1-Trichloroethane 1,1-Dichloropropene Carbon Tetrachloride Trichloroethene 1,2-Dichloropropane Dibromomethane Bromodichloromethane Cis-1,3-Dichloropropene	J	A	Matrix spike/Matrix spike duplicate %R and/or RPD

		Trans-1,3-dichloropropene 1,1,2-Trichloroethane Toluene 1,2-Dibromomethane Chlorobenzene Ethylbenzene M&p-Xylene o-Xylene Styrene Bromoform Bromobenzene 1,1,2,2-Tetrachloroethane 1,2,3-Trichloropropane Propylbenzene 1,3,5-Trimethylbenzene tert-Butylbenzene 1,2,4-Trimethylbenzene sec-Butylbenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene p-Isopropyltoluene 1,2-Dichlorobenzene Butylbenzene 1,2-Dibromo-3-chloropropane 1,2,4-Trichlorobenzene Hexachlorobutadiene Naphthalene 1,2,3-Trichlorobenzene			
05055B	OC1-OW8A-W-0-40	Acetone	J	P	LCS low %R

*P-Flag is due to deviation from criteria limits
A- Flag is expected to be due to sample matrix effects

Omega Chemicals OU1 Volatiles - Blanks Data Qualification Summary - SDG 05055B

No data has been flagged due to blank sample results.

Data Validation Report

Project/Site Name: Omega Chemical OUI February 2005 Split

Sample Delivery Group (SDG): 05055B

Parameters: Semivolatiles

Method: EPA 8270C

Laboratory: EPA Region 9 Laboratory

Samples:

Sample ID	Lab Sample ID	Collection Date	Matrix
OC1-OW8A-W-0-40	0502034-01	02/23/05	Water
OC1-OW8B-W-0-41	0502034-02	02/23/05	Water
OC1-OW6-W-5-42	0502034-03	02/23/05	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:

m/z	ION ABUNDANCE CRITERIA
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

On March 1, 2005 the instrument performance check was done however criteria was not meet.

Date	M/z	% recovered	Associated Samples	Flag	A or P
03/01/2005	51	28.6% of m/z 198	OC1-OW8A-W-0-40 (200x)	J	P

The sample OC1-OW8A-W-0-40 had very high concentrations of the analyte and so it was diluted and reanalyzed. The date on which the sample was diluted and results reported had a slight deviation from the required GC/MS instrument performance check in that the 51 m/z was not 30-60% of m/z 198 but rather 28.6. The deviation is slight and the sample results are flagged J .. This is a deviation from protocol as the instrument performance check did not meet the required QC check.

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%.

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 ±25% of the expected values, with the following exception:

Calibration ID	Analyte	%D	Associated Samples	Flag	A or P
5020035-SCV1	2,4-Dimethylphenol Diphenyl amine 3,3'-Dichlorobenzidine	30.5 % 34.8 % 29.7 %	None	J	P

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 deviations were less than 20% for all CCCs and all calibration analytes were within ±20%.

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 2-Fluorophenol 2,4,6-Tribromopheonl	29% 5% 133%	OC1-OW8A-W-0-40	J	A

The above sample had very high concentrations of 1,4-dioxane suppressing the 1,4-dioxane-d8 recovery. It is flagged to reflect the lack of surrogate recovery since the dilution involved adding 1,4-dioxane.

VII. Matrix Spike/Matrix Spike Duplicates

Sample OC1-OW6-W-5-42 was used for the matrix spike and matrix spike duplicate. The percent recoveries (%R) and relative percent differences (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 #05055B

SDG	Sample	Analyte	Flag	A or P*	Reason
05055B	OC1-OW8A-W-0-40	1,4-Dioxane	J	P	Instrument Performance Check
05055B	OC1-OW8A-W-0-40	1,4-Dioxane-d8	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 – #05055B

No data is qualified due to blank results.

Data Validation Report

Project/Site Name: OMEGA CHEMICAL SUPERFUND SITE

Sample Delivery Group (SDG): 04C015

Parameters: Hexavalent Chromium

Method: EPA Method 218.6

Laboratory: EMAX Laboratories, Inc., Torrance, CA

Samples:

Sample_ID	Sample Description	Collection Date	Matrix
0C2-MW1A-W-0-1	Field Sample	3/2/04	Water
0C2-MW1B-W-0-2	Field Sample	3/2/04	Water
0C2-00-W-2-3	Field Sample	3/2/04	Water
0C2-MW2A-W-0-4	Field Sample	3/2/04	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 218.6. The quality assurance and quality control procedures (QA/QC) were per method and project specific criteria.

This review is based on project and method specific criteria.. The following sections summarize the criteria and 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.

The data qualifiers that are used those in the EPA Validation Functional Guidelines and are defined as follows:

U – The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J – The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

N – The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

NJ – The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ – The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantiation necessary to accurately and precisely measure the analyte in the sample.

R – The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

I. Holding Times

Hexavalent Chromium analyses were carried out within 24 hours of collection for water.

II. Calibration

For initial calibration, at a minimum three standards were analyzed prior to sample analysis with criteria of linear regression correlation coefficient $\geq$0 .995.

Continuing calibration was run at the beginning, after every 10 samples and at the end of analyses. The continuing calibration percent differences (%D) were less than 10 percent..

III. Blanks

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

The concentrations of analytes in the blanks were less than the reporting limit with no detects reported for any of the blanks.

IV. Accuracy and Precision Data

a. Laboratory Control Sample

An LCS/LCSD per analytical batch was analyzed.

All percent recoveries (%R) and RPD were within laboratory control limits.

b. Surrogate Spikes

Not applicable for this method

c. Matrix Spike/Matrix Spike Duplicates

An MS/MSD set was analyzed with this SDG. All percent recoveries (%R) and RPD were within criteria.

V. Laboratory Duplicates

Sample 0C2-MW1A-W-0-1was analyzed in duplicates. RPD was within QC limits.

VI. Compound Quantitation and Reporting Limits

Algorithms were verified to be correct.
Reporting limits were per project specifications.

VII. Overall Assessment

Data were found to be per laboratory specifications as noted above with the exception of samples and analytes listed in the table at the end of this report, if any.

Omega Chemical Superfund Site Hexavalent Chromium - Data Qualification Summary - SDG 04C015

No data have been qualified for this SDG.

Omega Chemical Superfund Site Hexavalent Chromium – Blanks Data Qualification Summary - SDG 04C015

No data have been qualified for this SDG.

Data Validation Report

Project/Site Name: OMEGA CHEMICAL SUPERFUND SITE

Sample Delivery Group (SDG): 04C027

Parameters: Hexavalent Chromium

Method: EPA Method 218.6

Laboratory: EMAX Laboratories, Inc., Torrance, CA

Samples:

Sample_ID	Sample Description	Collection Date	Matrix
0C2-MW4A-W-0-5	Field Sample	3/3/04	Water
0C2-MW4A-W-1-6	Field Sample	3/3/04	Water
0C2-MW4B-W-0-7	Field Sample	3/3/04	Water
0C2-MW4C-W-0-8	Field Sample	3/3/04	Water
0C2-MW5A-W-0-9	Field Sample	3/3/04	Water
0C2-MW6A-W-0-10	Field Sample	3/3/04	Water
0C2-MW6A-W-1-11	Field Sample	3/3/04	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 218.6. The quality assurance and quality control procedures (QA/QC) were per method and project specific criteria.

This review is based on project and method specific criteria.. The following sections summarize the criteria and 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.

The data qualifiers that are used those in the EPA Validation Functional Guidelines and are defined as follows:

U – The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J – The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

N – The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

NJ – The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ – The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantiation necessary to accurately and precisely measure the analyte in the sample.

R – The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

I. Holding Times

Hexavalent Chromium analyses were carried out within 24 hours of collection for water.

II. Calibration

For initial calibration, at a minimum three standards were analyzed prior to sample analysis with criteria of linear regression correlation coefficient $\geq$0 .995.

Continuing calibration was run at the beginning, after every 10 samples and at the end of analyses. The continuing calibration percent differences (%D) were less than 10 percent..

III. Blanks

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

The concentrations of analytes in the blanks were less than the reporting limit with no detects reported for any of the blanks.

IV. Accuracy and Precision Data

a. Laboratory Control Sample

An LCS/LCSD per analytical batch was analyzed.

All percent recoveries (%R) and RPD were within laboratory control limits.

b. Surrogate Spikes

Not applicable for this method**.**

c. Matrix Spike/Matrix Spike Duplicates

One matrix spike sample was analyzed with this SDG. All percent recoveries (%R) were within criteria.

V. Laboratory Duplicates

Sample 0C2-MW6A-W-1-11 was analyzed in duplicates. RPD was within QC limits.

VI. Compound Quantitation and Reporting Limits

Algorithms were verified to be correct.
Reporting limits were per project specifications.

VII. Overall Assessment

Data were found to be per laboratory specifications as noted above with the exception of samples and analytes listed in the table at the end of this report, if any.

Omega Chemical Superfund Site Hexavalent Chromium - Data Qualification Summary - SDG 04C027

No data have been qualified for this SDG.

Omega Chemical Superfund Site Hexavalent Chromium – Blanks Data Qualification Summary - SDG 04C027

No data have been qualified for this SDG.

Data Validation Report

Project/Site Name: OMEGA CHEMICAL SUPERFUND SITE

Sample Delivery Group (SDG): 04C043

Parameters: Hexavalent Chromium

Method: EPA Method 218.6

Laboratory: EMAX Laboratories, Inc., Torrance, CA

Samples:

Sample_ID	Sample Description	Collection Date	Matrix
0C2-MW8A-W-0-12	Field Sample	3/4/04	Water
0C2-MW8B-W-0-13	Field Sample	3/4/04	Water
0C2-MW8C-W-0-14	Field Sample	3/4/04	Water
0C2-MW8D-W-0-15	Field Sample	3/4/04	Water
0C2-00-W-2-16	Field Sample	3/4/04	Water
0C2-MW9B-W-0-17	Field Sample	3/4/04	Water
0C2-MW10A-W-0-18	Field Sample	3/4/04	Water
0C2-MW11A-W-0-19	Field Sample	3/4/04	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 218.6. The quality assurance and quality control procedures (QA/QC) were per method and project specific criteria.

This review is based on project and method specific criteria.. The following sections summarize the criteria and 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.

The data qualifiers that are used those in the EPA Validation Functional Guidelines and are defined as follows:

U – The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J – The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

N – The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

NJ – The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ – The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantiation necessary to accurately and precisely measure the analyte in the sample.

R – The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

I. Holding Times

Hexavalent Chromium analyses were carried out within 24 hours of collection for water.

II. Calibration

For initial calibration, at a minimum three standards were analyzed prior to sample analysis with criteria of linear regression correlation coefficient $\geq$0 .995.

Continuing calibration was run at the beginning, after every 10 samples and at the end of analyses. The continuing calibration percent differences (%D) were less than 10 percent..

III. Blanks

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

The concentrations of analytes in the blanks were less than the reporting limit with no detects reported for any of the blanks.

IV. Accuracy and Precision Data

a. Laboratory Control Sample

One laboratory control sample per analytical batch was analyzed.

All percent recoveries were within laboratory control limits.

b. Surrogate Spikes

Not applicable for this method**.**

c. Matrix Spike/Matrix Spike Duplicates

An MS/MSD set was analyzed with this SDG. All percent recoveries (%R) and RPD were within criteria.

V. Laboratory Duplicates

Sample 0C2-MW10A-W-0-18 was analyzed in duplicates. RPD was within QC limits.

VI. Compound Quantitation and Reporting Limits

Algorithms were verified to be correct.
Reporting limits were per project specifications.

VII. Overall Assessment

Data were found to be per laboratory specifications as noted above with the exception of samples and analytes listed in the table at the end of this report, if any.

Omega Chemical Superfund Site Hexavalent Chromium - Data Qualification Summary - SDG 04C043

No data have been qualified for this SDG.

Omega Chemical Superfund Site Hexavalent Chromium – Blanks Data Qualification Summary - SDG 04C043

No data have been qualified for this SDG.

Data Validation Report

Project/Site Name: OMEGA CHEMICAL SUPERFUND SITE

Sample Delivery Group (SDG): 04C055

Parameters: Hexavalent Chromium

Method: EPA Method 218.6

Laboratory: EMAX Laboratories, Inc., Torrance, CA

Samples:

Sample_ID	Sample Description	Collection Date	Matrix
0C2-MW7A-W-0-20	Field Sample	3/5/04	Water
0C2-MW3A-W-0-21	Field Sample	3/5/04	Water
0C2-IDW-W-0-22	Field Sample	3/5/04	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 218.6. The quality assurance and quality control procedures (QA/QC) were per method and project specific criteria.

This review is based on project and method specific criteria.. The following sections summarize the criteria and 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.

The data qualifiers that are used those in the EPA Validation Functional Guidelines and are defined as follows:

U – The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J – The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

N – The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

NJ – The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ – The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantiation necessary to accurately and precisely measure the analyte in the sample.

R – The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

I. Holding Times

Hexavalent Chromium analyses were carried out within 24 hours of collection for water.

II. Calibration

For initial calibration, at a minimum three standards were analyzed prior to sample analysis with criteria of linear regression correlation coefficient $\geq$0 .995.

Continuing calibration was run at the beginning, after every 10 samples and at the end of analyses. The continuing calibration percent differences (%D) were less than 10 percent..

III. Blanks

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

The concentrations of analytes in the blanks were less than the reporting limit with no detects reported for any of the blanks.

IV. Accuracy and Precision Data

a. Laboratory Control Sample

An LCS/LCSD per analytical batch was analyzed.

All percent recoveries (%R) and RPD were within laboratory control limits.

b. Surrogate Spikes

Not applicable for this method**.**

c. Matrix Spike/Matrix Spike Duplicates

An MS/MSD set was analyzed with this SDG. All percent recoveries (%R) and RPD were within criteria.

V. Laboratory Duplicates

Sample 0C2-MW3A-W-0-21 was analyzed in duplicates. RPD was within QC limits.

VI. Compound Quantitation and Reporting Limits

Algorithms were verified to be correct.
Reporting limits were per project specifications.

VII. Overall Assessment

Data were found to be per laboratory specifications as noted above with the exception of samples and analytes listed in the table at the end of this report, if any.

Omega Chemical Superfund Site Hexavalent Chromium - Data Qualification Summary - SDG 04C055

No data have been qualified for this SDG.

Omega Chemical Superfund Site Hexavalent Chromium – Blanks Data Qualification Summary - SDG 04C055

No data have been qualified for this SDG.

Data Validation Report

Project/Site Name: OMEGA CHEMICAL SUPERFUND SITE

Report Number: 123014

Parameters: Wet Chemistry (Chemical Oxygen Demand)

Method: EPA 410.4

Laboratory: MWH Laboratories, Monrovia, CA

Sample ID	Sample Description	Sampling Date	Matrix
OC2-MW1A-W-0-1	Field Sample	3/2/04	Water
OC2-MW1B-W-0-2	Field Sample	3/2/04	Water
OC2-MW2A-W-0-4	Field Sample	3/2/04	Water

Introduction/Summary

This data review report covers the sample delivery group and associated samples listed on the cover sheet. The analyses were per Standard Methods for the Examination of Water and Wastewater, 18th edition, Method EPA 410.4 (Chemical Oxygen Demand). The quality assurance and quality control procedures (QA/QC) were per the project requirements and the individual method requirements.

This review is based on the methods and project requirements. 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 project protocols or is of a technical advisory nature per sample matrix or method limitation.

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

The data qualifiers that are used those in the EPA Validation Functional Guidelines and are defined as follows:

U – The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J – The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

N – The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

NJ – The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ – The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantiation necessary to accurately and precisely measure the analyte in the sample.

R – The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

I. Technical Holding Times

Samples were analyzed within 28 days of collection as required for chemical oxygen demand analysis.

II. Blanks

Method blanks were prepared and analyzed for each analytical batch.

The concentrations of analytes in the method blanks were less than the reporting limits and no detects were reported.

III. Accuracy and Precision Data

a. Surrogate Recovery

Not applicable for these methods.

b. Laboratory Control Sample

Laboratory control spike/Laboratory control spike duplicate (LCS/LCSD) were analyzed with this batch. Percent recoveries (LCS 100.6% and LCSD 101.6%) and RPD (0.99%) were within the QC limit..

c. Matrix Spike/Matrix Spike Duplicates

No MS/MSD analysis is reported.

IV. Sample Result Verification

Sample quantitation algorithms and sample detection levels were per method requirements.

V. Overall Assessment

Data are found to be usable with the qualifications noted in the summary tables below, if any.

OMEGA CHEMICAL SUPERFUND SITE Chemical Oxygen Demand Data Qualification Summary – Report # 123014

No data have been qualified within this SDG.

OMEGA CHEMICAL SUPERFUND SITE Chemical Oxygen Demand Blanks Qualification Summary –Report # 123014

No data have been qualified due to blanks within this SDG.

Data Validation Report

Project/Site Name: OMEGA CHEMICAL SUPERFUND SITE

Report Number: 123014

Parameters: N-Nitrosodimethylamine (NDMA)

Method: 1625 MOD

Laboratory: MWH Laboratories, Monrovia, CA

Samples:

Sample ID	Sample Description	Sampling Date	Matrix
OC2-MW1A-W-0-1	Field Sample	3/2/04	Water
OC2-MW1B-W-0-2	Field Sample	3/2/04	Water
OC2-00-W-2-3	Field Sample	3/2/04	Water
OC2-MW2A-W-0-4	Field Sample	3/2/04	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 1625 modified for N-Nitrosodimethylamine (NDMA) to attain low detection levels. The quality assurance and quality control procedures (QA/QC) were per project quality assurance plan and laboratory standard operating procedures (SOP).

This review is based on EPA Validation Functional Guidelines (1994 and later revisions) the following subsections correlate to these guidelines. The specific criteria is per method 1625, QAPP and laboratory SOP as described below. The sections below detail noted deviations from these criteria 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 criteria/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 of collection and analyzed within 40 days of extraction as required.

II. GC/MS Instrument Performance Check

Per this method tuning is not implemented as for other GC/MS methods; the instrument is run in the CI mode with ammonia gas. Instrument performance was checked prior to initial calibration, daily and with calibration verification.

III. Initial Calibration

An initial calibration with a minimum of five calibration standards (8 standards, 1ppt to 150 ppt) was run.

The relative standard deviation (RSD) for each analyte was less than 20%, or r^2 (quadratic fit) was greater than 0.995.

Second source calibration check was run; percent deviation was less than 20% limit.

IV. Continuing Calibration

Continuing calibration was analyzed daily before sample analysis and after every 10 samples.

All calibration analytes had a relative percent deviation of less than 20%.

V. Blanks

Method blank analysis was performed at the frequency of once for every analytical batch (20 samples or less).

The concentrations of analytes in the method blanks were less than the reporting limits (2 ppt) and no detects were reported. The laboratory implements corrective action for detects above 0.5 ppt.

VI. System Monitoring Compounds/Internal standards

Internal standard compound d-14 NDPA (after extraction) and surrogate d6-NDMA (before extraction) were added to all laboratory blanks, LCS, MS/MSD and field samples. All recoveries for d6- NDMA were within laboratory limits (50-150 %). Recoveries for d-14 NDPA were within 70- 130%.

VII. Matrix Spike/Matrix Spike Duplicates

An MS/MSD was analyzed with these samples. All percent recoveries and RPDs were within criteria (70-130% recovery).

VIII. Laboratory Control Sample (LCS)

At least one laboratory control sample and a duplicate per analytical batch (20 samples or less) were analyzed.

All percent recoveries and RPDs were within criteria (70-130% recovery).

IX. Internal Standards

Internal standards were analyzed and monitored per the following criteria during data acquisition: for each sample: retention times were within 0.06 minutes relative to average of the initial calibration curve.

X. Compound Quantitation and Reporting Limits

The method d detection limits (MDLs) have been established by a MDL study by the laboratory and performed at least once every 12-month period.

Compound quantitation algorithms have been verified.

XI. System Performance

QC data at large indicate acceptable performance.

XII. Overall Assessment of Data

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

OMEGA CHEMICAL SUPERFUND SITE NDMA Data Qualification Summary – Report # 123014

No data has been qualified for this report.

OMEGA CHEMICAL SUPERFUND SITE NDMA Blanks Data Qualification Summary – Report # 123014

No data has been qualified for this report.

Data Validation Report

Project/Site Name: OMEGA CHEMICAL SUPERFUND SITE

Report Number: 123118

Parameters: Wet Chemistry (Chemical Oxygen Demand)

Method: EPA 410.4

Laboratory: MWH Laboratories, Monrovia, CA

Sample ID	Sample Description	Sampling Date	Matrix
OC2-MW4A-W-0-5	Field Sample	3/3/04	Water
OC2-MW4A-W-1-6	Field Sample	3/3/04	Water
OC2-MW4B-W-0-7	Field Sample	3/3/04	Water
OC2-MW4C-W-0-8	Field Sample	3/3/04	Water
OC2-MW5A-W-0-9	Field Sample	3/3/04	Water
OC2-MW6A-W-0-10	Field Sample	3/3/04	Water
OC2-MW6A-W-1-11	Field Sample	3/3/04	Water

Introduction/Summary

This data review report covers the sample delivery group and associated samples listed on the cover sheet. The analyses were per Standard Methods for the Examination of Water and Wastewater, 18th edition, Method EPA 410.4 (Chemical Oxygen Demand). The quality assurance and quality control procedures (QA/QC) were per the Project QAPP and the individual method requirements.

This review is based on the methods and Project QAPP. 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 project protocols or is of a technical advisory nature per sample matrix or method limitation.

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

The data qualifiers that are used those in the EPA Validation Functional Guidelines and are defined as follows:

U – The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J – The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

N – The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

NJ – The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ – The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantiation necessary to accurately and precisely measure the analyte in the sample.

R – The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

I. Technical Holding Times

Samples were analyzed within 28 days of collection as required for chemical oxygen demand analysis.

II. Blanks

Method blanks were prepared and analyzed for each analytical batch.

The concentrations of analytes in the method blanks were less than the reporting limits and no detects were reported.

III. Accuracy and Precision Data

a. Surrogate Recovery

Not applicable for these methods.

b. Laboratory Control Sample

Laboratory control spike/Laboratory control spike duplicate (LCS/LCSD) were analyzed with this batch. Percent recoveries (LCS 100.6% and LCSD 101.6%) and RPD (0.99%) were within the QC limit..

c. Matrix Spike/Matrix Spike Duplicates

No MS/MSD analysis is reported.

IV. Sample Result Verification

Sample quantitation algorithms and sample detection levels were per method requirements.

V. Overall Assessment

Data are found to be usable with the qualifications noted in the summary tables below, if any..

OMEGA CHEMICAL SUPERFUND SITE Chemical Oxygen Demand Data Qualification Summary – Report # 123118

No data have been qualified within this SDG.

OMEGA CHEMICAL SUPERFUND SITE Chemical Oxygen Demand Blanks Qualification Summary –Report # 123118

No data have been qualified due to blanks within this SDG.

Data Validation Report

Project/Site Name: OMEGA CHEMICAL SUPERFUND SITE

Report Number: 123118

Parameters: N-Nitrosodimethylamine (NDMA)

Method: 1625 MOD

Laboratory: MWH Laboratories, Monrovia, CA

Samples:

Sample ID	Sample Description	Sampling Date	Matrix
OC2-MW4A-W-0-5	Field Sample	3/3/04	Water
OC2-MW4A-W-1-6	Field Sample	3/3/04	Water
OC2-MW4B-W-0-7	Field Sample	3/3/04	Water
OC2-MW4C-W-0-8	Field Sample	3/3/04	Water
OC2-MW5A-W-0-9	Field Sample	3/3/04	Water
OC2-MW6A-W-0-10	Field Sample	3/3/04	Water
OC2-MW6A-W-1-11	Field Sample	3/3/04	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 1625 modified for N-Nitrosodimethylamine (NDMA) to attain low detection levels. The quality assurance and quality control procedures (QA/QC) were per project quality assurance plan and laboratory standard operating procedures (SOP).

This review is based on EPA Validation Functional Guidelines (1994 and later revisions) the following subsections correlate to these guidelines. The specific criteria is per method 1625, QAPP and laboratory SOP as described below. The sections below detail noted deviations from these criteria 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 criteria/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 of collection and analyzed within 40 days of extraction as required.

II. GC/MS Instrument Performance Check

Per this method tuning is not implemented as for other GC/MS methods; the instrument is run in the CI mode with ammonia gas. Instrument performance was checked prior to initial calibration, daily and with calibration verification.

III. Initial Calibration

An initial calibration with a minimum of five calibration standards (8 standards, 1ppt to 150 ppt) was run.

The relative standard deviation (RSD) for each analyte was less than 20%, or r^2 (quadratic fit) was greater than 0.995.

Second source calibration check was run; percent deviation was less than 20% limit.

IV. Continuing Calibration

Continuing calibration was analyzed daily before sample analysis and after every 10 samples.

All calibration analytes had a relative percent deviation of less than 20%.

V. Blanks

Method blank analysis was performed at the frequency of once for every analytical batch (20 samples or less).

The concentrations of analytes in the method blanks were less than the reporting limits (2 ppt) and no detects were reported. The laboratory implements corrective action for detects above 0.5 ppt.

VI. System Monitoring Compounds/Internal standards

Internal standard compound d-14 NDPA (after extraction) and surrogate d6-NDMA (before extraction) were added to all laboratory blanks, LCS, MS/MSD and field samples. All recoveries for d6- NDMA were within laboratory limits (50-150 %). Recoveries for d-14 NDPA were within 70- 130%.

VII. Matrix Spike/Matrix Spike Duplicates

An MS/MSD was analyzed with these samples. All percent recoveries and RPDs were within criteria (70-130% recovery).

VIII. Laboratory Control Sample (LCS)

At least one laboratory control sample and a duplicate per analytical batch (20 samples or less) were analyzed.

All percent recoveries and RPDs were within criteria (70-130% recovery).

IX. Internal Standards

Internal standards were analyzed and monitored per the following criteria during data acquisition: for each sample: retention times were within 0.06 minutes relative to average of the initial calibration curve.

X. Compound Quantitation and Reporting Limits

The method d detection limits (MDLs) have been established by a MDL study by the laboratory and performed at least once every 12-month period.

Compound quantitation algorithms have been verified.

XI. System Performance

QC data at large indicate acceptable performance.

XII. Overall Assessment of Data

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

OMEGA CHEMICAL SUPERFUND SITE NDMA Data Qualification Summary – Report # 123118

No data has been qualified for this report.

OMEGA CHEMICAL SUPERFUND SITE NDMA Blanks Data Qualification Summary – Report # 123118

No data has been qualified for this report.

Data Validation Report

Project/Site Name: OMEGA CHEMICAL SUPERFUND SITE

Report Number: 123191

Parameters: Wet Chemistry (Chemical Oxygen Demand)

Method: EPA 410.4

Laboratory: MWH Laboratories, Monrovia, CA

Sample ID	Sample Description	Sampling Date	Matrix
OC2-MW8A-W-0-12	Field Sample	3/4/04	Water
OC2-MW8B-W-0-13	Field Sample	3/4/04	Water
OC2-MW8C-W-0-14	Field Sample	3/4/04	Water
OC2-MW8D-W-0-15	Field Sample	3/4/04	Water
OC2-MW9B-W-0-17	Field Sample	3/4/04	Water
OC2-MW10A-W-0-18	Field Sample	3/4/04	Water
OC2-MW11A-W-0-19	Field Sample	3/4/04	Water

Introduction/Summary

This data review report covers the sample delivery group and associated samples listed on the cover sheet. The analyses were per Standard Methods for the Examination of Water and Wastewater, 18th edition, Method EPA 410.4 (Chemical Oxygen Demand). The quality assurance and quality control procedures (QA/QC) were per the Project QAPP and the individual method requirements.

This review is based on the methods and Project QAPP. 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 project protocols or is of a technical advisory nature per sample matrix or method limitation.

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

The data qualifiers that are used those in the EPA Validation Functional Guidelines and are defined as follows:

U – The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J – The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

N – The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

NJ – The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ – The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantiation necessary to accurately and precisely measure the analyte in the sample.

R – The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

I. Technical Holding Times

Samples were analyzed within 28 days of collection as required for chemical oxygen demand analysis.

II. Blanks

Method blanks were prepared and analyzed for each analytical batch.

The concentrations of analytes in the method blanks were less than the reporting limits and no detects were reported.

III. Accuracy and Precision Data

a. Surrogate Recovery

Not applicable for these methods.

b. Laboratory Control Sample

Laboratory control spike/Laboratory control spike duplicate (LCS/LCSD) were analyzed with this batch. Percent recoveries (LCS 100.6% and LCSD 101.6%) and RPD (0.99%) were within the QC limit.

c. Matrix Spike/Matrix Spike Duplicates

No MS/MSD analysis is reported.

IV. Sample Result Verification

Sample quantitation algorithms and sample detection levels were per method requirements.

V. Overall Assessment

Data are found to be usable with the qualifications noted in the summary tables below.

OMEGA CHEMICAL SUPERFUND SITE Chemical Oxygen Demand Data Qualification Summary – Report # 123191

No data have been qualified within this SDG.

OMEGA CHEMICAL SUPERFUND SITE Chemical Oxygen Demand Blanks Qualification Summary –Report # 123191

No data have been qualified due to blanks within this SDG.

Data Validation Report

Project/Site Name: OMEGA CHEMICAL SUPERFUND SITE

Report Number: 123191

Parameters: N-Nitrosodimethylamine (NDMA)

Method: 1625 MOD

Laboratory: MWH Laboratories, Monrovia, CA

Samples:

Sample ID	Sample Description	Sampling Date	Matrix
OC2-MW8A-W-0-12	Field Sample	3/4/04	Water
OC2-MW8B-W-0-13	Field Sample	3/4/04	Water
OC2-MW8C-W-0-14	Field Sample	3/4/04	Water
OC2-MW8D-W-0-15	Field Sample	3/4/04	Water
OC2-00-W-2-16	Field Sample	3/4/04	Water
OC2-MW9B-W-0-17	Field Sample	3/4/04	Water
OC2-MW10A-W-0-18	Field Sample	3/4/04	Water
OC2-MW11A-W-0-19	Field Sample	3/4/04	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 1625 modified for N-Nitrosodimethylamine (NDMA) to attain low detection levels. The quality assurance and quality control procedures (QA/QC) were per project quality assurance plan and laboratory standard operating procedures (SOP).

This review is based on EPA Validation Functional Guidelines (1994 and later revisions) the following subsections correlate to these guidelines. The specific criteria is per method 1625, QAPP and laboratory SOP as described below. The sections below detail noted deviations from these criteria 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 criteria/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 of collection and analyzed within 40 days of extraction as required.

II. GC/MS Instrument Performance Check

Per this method tuning is not implemented as for other GC/MS methods; the instrument is run in the CI mode with ammonia gas. Instrument performance was checked prior to initial calibration, daily and with calibration verification.

III. Initial Calibration

An initial calibration with a minimum of five calibration standards (8 standards, 1ppt to 150 ppt) was run.

The relative standard deviation (RSD) for each analyte was less than 20%, or r^2 (quadratic fit) was greater than 0.995.

Second source calibration check was run; percent deviation was less than 20% limit.

IV. Continuing Calibration

Continuing calibration was analyzed daily before sample analysis and after every 10 samples.

All calibration analytes had a relative percent deviation of less than 20%.

V. Blanks

Method blank analysis was performed at the frequency of once for every analytical batch (20 samples or less).

The concentrations of analytes in the method blanks were less than the reporting limits (2 ppt) and no detects were reported. The laboratory implements corrective action for detects above 0.5 ppt.

VI. System Monitoring Compounds/Internal standards

Internal standard compound d-14 NDPA (after extraction) and surrogate d6-NDMA (before extraction) were added to all laboratory blanks, LCS, MS/MSD and field samples. All recoveries for d6- NDMA were within laboratory limits (50-150 %). Recoveries for d-14 NDPA were within 70- 130%.

VII. Matrix Spike/Matrix Spike Duplicates

An MS/MSD was analyzed with these samples. All percent recoveries and RPDs were within criteria (70-130% recovery).

VIII. Laboratory Control Sample (LCS)

At least one laboratory control sample and a duplicate per analytical batch (20 samples or less) were analyzed.

All percent recoveries and RPDs were within criteria (70-130% recovery).

IX. Internal Standards

Internal standards were analyzed and monitored per the following criteria during data acquisition: for each sample: retention times were within 0.06 minutes relative to average of the initial calibration curve.

X. Compound Quantitation and Reporting Limits

The method d detection limits (MDLs) have been established by a MDL study by the laboratory and performed at least once every 12-month period.

Compound quantitation algorithms have been verified.

XI. System Performance

QC data at large indicate acceptable performance.

XII. Overall Assessment of Data

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

OMEGA CHEMICAL SUPERFUND SITE NDMA Data Qualification Summary – Report # 123191

No data has been qualified for this report.

OMEGA CHEMICAL SUPERFUND SITE NDMA Blanks Data Qualification Summary – Report # 123191

No data has been qualified for this report.

Data Validation Report

Project/Site Name: OMEGA CHEMICAL SUPERFUND SITE

Report Number: 123240

Parameters: Wet Chemistry (Chemical Oxygen Demand)

Method: EPA 410.4

Laboratory: MWH Laboratories, Monrovia, CA

Sample ID	Sample Description	Sampling Date	Matrix
OC2-MW7A-W-0-20	Field Sample	3/5/04	Water
OC2-MW3A-W-0-21	Field Sample	3/5/04	Water

Introduction/Summary

This data review report covers the sample delivery group and associated samples listed on the cover sheet. The analyses were per Standard Methods for the Examination of Water and Wastewater, 18th edition, Method EPA 410.4 (Chemical Oxygen Demand). The quality assurance and quality control procedures (QA/QC) were per the project and the individual method requirements.

This review is based on the method and project requirements. 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 project protocols or is of a technical advisory nature per sample matrix or method limitation.

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

The data qualifiers that are used those in the EPA Validation Functional Guidelines and are defined as follows:

U – The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J – The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

N – The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

NJ – The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ – The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantiation necessary to accurately and precisely measure the analyte in the sample.

R – The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

I. Technical Holding Times

Samples were analyzed within 28 days of collection as required for chemical oxygen demand analysis.

II. Blanks

Method blanks were prepared and analyzed for each analytical batch.

The concentrations of analytes in the method blanks were less than the reporting limits and no detects were reported.

III. Accuracy and Precision Data

a. Surrogate Recovery

Not applicable for these methods.

b. Laboratory Control Sample

Laboratory control spike/Laboratory control spike duplicate (LCS/LCSD) were analyzed with this batch. Percent recoveries (LCS 100.6% and LCSD 101.6%) and RPD (0.99%) were within the QC limit.

c. Matrix Spike/Matrix Spike Duplicates

No MS/MSD analysis is reported.

IV. Sample Result Verification

Sample quantitation algorithms and sample detection levels were per method requirements.

V. Overall Assessment

Data are found to be usable with the qualifications noted in the summary tables below, if any.

OMEGA CHEMICAL SUPERFUND SITE Chemical Oxygen Demand Data Qualification Summary – Report # 123240

No data have been qualified within this SDG.

OMEGA CHEMICAL SUPERFUND SITE Chemical Oxygen Demand Blanks Qualification Summary –Report # 123240

No data have been qualified due to blanks within this SDG.

Data Validation Report

Project/Site Name: OMEGA CHEMICAL SUPERFUND SITE

Report Number: 123240

Parameters: N-Nitrosodimethylamine (NDMA)

Method: 1625 MOD

Laboratory: MWH Laboratories, Monrovia, CA

Samples:

Sample ID	Sample Description	Sampling Date	Matrix
OC2-MW7A-W-0-20	Field Sample	3/5/04	Water
OC2-MW3A-W-0-21	Field Sample	3/5/04	Water
OC2-IDW-W-0-22	Field Sample	3/5/04	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 1625 modified for N-Nitrosodimethylamine (NDMA) to attain low detection levels. The quality assurance and quality control procedures (QA/QC) were per project quality assurance plan and laboratory standard operating procedures (SOP).

This review is based on EPA Validation Functional Guidelines (1994 and later revisions) the following subsections correlate to these guidelines. The specific criteria is per method 1625, QAPP and laboratory SOP as described below. The sections below detail noted deviations from these criteria 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 criteria/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 of collection and analyzed within 40 days of extraction as required.

II. GC/MS Instrument Performance Check

Per this method tuning is not implemented as for other GC/MS methods; the instrument is run in the CI mode with ammonia gas. Instrument performance was checked prior to initial calibration, daily and with calibration verification.

III. Initial Calibration

An initial calibration with a minimum of five calibration standards (8 standards, 1ppt to 150 ppt) was run.

The relative standard deviation (RSD) for each analyte was less than 20%, or r^2 (quadratic fit) was greater than 0.995.

Second source calibration check was run; percent deviation was less than 20% limit.

IV. Continuing Calibration

Continuing calibration was analyzed daily before sample analysis and after every 10 samples.

All calibration analytes had a relative percent deviation of less than 20%.

V. Blanks

Method blank analysis was performed at the frequency of once for every analytical batch (20 samples or less).

The concentrations of analytes in the method blanks were less than the reporting limits (2 ppt) and no detects were reported. The laboratory implements corrective action for detects above 0.5 ppt.

VI. System Monitoring Compounds/Internal standards

Internal standard compound d-14 NDPA (after extraction) and surrogate d6-NDMA (before extraction) were added to all laboratory blanks, LCS, MS/MSD and field samples. All recoveries for d6- NDMA were within laboratory limits (50-150 %). Recoveries for d-14 NDPA were within 70- 130%.

VII. Matrix Spike/Matrix Spike Duplicates

An MS/MSD was analyzed with these samples. All percent recoveries and RPDs were within criteria (70-130% recovery and 27%relative percent deviation).

VIII. Laboratory Control Sample (LCS)

At least one laboratory control sample and a duplicate per analytical batch (20 samples or less) were analyzed.

All percent recoveries and RPDs were within criteria (70-130% recovery and 27%relative percent deviation).

IX. Internal Standards

Internal standards were analyzed and monitored per the following criteria during data acquisition: for each sample: retention times were within 0.06 minutes relative to average of the initial calibration curve.

X. Compound Quantitation and Reporting Limits

The method d detection limits (MDLs) have been established by a MDL study by the laboratory and performed at least once every 12-month period.

Compound quantitation algorithms have been verified.

XI. System Performance

QC data at large indicate acceptable performance.

XII. Overall Assessment of Data

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

OMEGA CHEMICAL SUPERFUND SITE NDMA Data Qualification Summary – Report # 123240

No data has been qualified for this report.

OMEGA CHEMICAL SUPERFUND SITE NDMA Blanks Data Qualification Summary – Report # 123240

No data has been qualified for this report.

ICF Consulting / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
Phone: (510) 412-2300 Fax: (510) 412-2304

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Project Officer (TOPO)
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105001

DATE: June 28, 2006

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA01
CERCLIS ID No.:	CAD042245001
Case No.:	32648
SDG No.:	Y19J8
Laboratory:	Envirosystems (ENVSYS)
Analysis:	Semivolatiles
Samples:	2 Groundwater Samples (see Case Summary)
Collection Date:	March 5, 2004
Reviewer:	Calvin Tanaka, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOPO for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

cc: Dan Slizys, CLP PO USEPA Region 3
Steve Remaley, CLP PO USEPA Region 9

CLP PO: [X] Attention [ ] Action

SAMPLING ISSUES: [ ] Yes [X] No

Data Validation Report

Case No.: 32648
SDG No.: Y19J8
Site: Omega Chem OU2
Laboratory: Envirosystems (ENVSYS)
Reviewer: Calvin Tanaka, ESAT/LDC
Date: June 28, 2006

I. CASE SUMMARY

Sample Information

Samples:	Y19J8 and Y19J9
Concentration and Matrix:	Low Concentration Water
Analysis:	Semivolatiles
SOW:	OLC03.2
Collection Date:	March 5, 2004
Sample Receipt Date:	March 6, 2004
Extraction Date:	March 9, 2004
Analysis Date:	March 10, 2004

Field QC

Field Blanks (FB):	Not Provided
Equipment Blanks (EB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	Not Provided

Laboratory QC

Method Blanks & Associated Samples:

SBLK15:	Y19J8 and Y19J9

Tables

1A:	Analytical Results with Qualifications
1B:	Data Qualifier Definitions for Organic Data Review
2:	Calibration Summary

CLP PO Action

None.

CLP PO Attention

1. Detected result for acetophenone in sample Y19J9 is qualified as nondetected and estimated (U,J) due to method blank contamination (see Comment B).

2. Results for some analytes are qualified as estimated (J) due to calibration problems (see Comments C and D).

3. Results for some analytes are qualified as estimated (J) due to deuterated monitoring compound (DMC) recovery problems (see Comment E).

Sampling Issues

None.

Additional Comments

Other than a laboratory artifact (approximate retention time of 14.2 minutes), tentatively identified compounds (TICs) were found in the sample Y19J9 (see attached Form 1LCG).

The laboratory performed manual integrations on the method blank SBLK15 due to incorrect auto integration. Manual integrations were reviewed and found to be satisfactory and in compliance with proper integration techniques.

This report was prepared in accordance with the following documents:

- ESAT Region 9 Standard Operating Procedure 901, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Volatile and Semivolatile Data Packages*;

- *USEPA Contract Laboratory Program Statement of Work for Analysis for Organic Analysis*, OLM04.2, May 1999; and

- *USEPA Contract Laboratory Program National Functional Guidelines for Low Concentration Organic Data Review*, June 2001.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Holding Time/Preservation	Yes	
2.	GC/MS Tune/GC Performance	Yes	
3.	Initial Calibration	No	C
4.	Continuing Calibration	No	D
5.	Laboratory Blanks	No	B
6.	Field Blanks	N/A	
7.	Deuterated Monitoring Compounds	No	E
8.	Matrix Spike/Matrix Spike Duplicates	N/A	
9.	Laboratory Control Samples/Duplicates	N/A	
10.	Internal Standards	Yes	
11.	Compound Identification	Yes	
12.	Compound Quantitation	Yes	A
13.	System Performance	Yes	
14.	Field Duplicate Sample Analysis	N/A	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. The following results, denoted with an “L” qualifier, are estimated and flagged “J” in Table 1A.

- All detected results below the contract required quantitation limits

Results below the contract required quantitation limits (CRQLs) are considered to be qualitatively acceptable, but quantitatively unreliable, due to the uncertainty in analytical precision near the limit of detection.

B. The following result is qualified as nondetected and estimated due to method blank contamination and is flagged “U,J” in Table 1A.

- Acetophenone in sample Y19J9

Acetophenone was found in method blank SBLK15 (see Table 1A for concentrations). Results for the sample listed above are considered nondetected and estimated (U,J) and quantitation limits have been raised according to blank qualification rules presented below.

No positive results are reported unless the concentration of the compound in the sample exceeds 10 times the amount in any associated blank for common laboratory contaminants or 5 times the amount for other compounds. If the sample result is greater than the CRQL, the quantitation limit is raised to the sample result and reported as nondetected. If the sample result is less than the CRQL, the result is reported as nondetected at the CRQL.

A laboratory method blank is laboratory reagent water or baked sand analyzed with all reagents, deuterated monitoring compounds, and internal standards and carried through the same sample preparation and analytical procedures as the field samples. The laboratory method blank is used to determine the level of contamination introduced by the laboratory during analysis.

C. Results for the following analyte are qualified as estimated due to a large percent relative standard deviation (%RSD) in the initial calibration and are flagged "J" in Table 1A.

- Di-n-octylphthalate in all samples and method blank SBLK15

A %RSD of 30.6% was reported for di-n-octylphthalate in the initial calibration. This value exceeds the ≤30.0% validation criterion.

The initial calibration demonstrates that the instrument is capable of acceptable performance in the beginning of the analytical run and of producing a linear calibration curve.

D. Results for the following analytes are qualified as estimated due to large percent differences (%Ds) in the continuing calibration and are flagged "J" in Table 1A.

- 4-Nitroaniline and di-n-octylphthalate in all samples and method blank SBLK15

%Ds of 56.6% and 84.2% were reported for 4-nitroaniline and di-n-octylphthalate, respectively, in the continuing calibration. These values exceed the ±30.0% validation criterion.

The continuing calibration checks the instrument performance daily and produces the relative response factors (RRFs) for target analytes that are used for quantitation.

E. Results for the following analytes are qualified as estimated due to DMC recoveries outside QC limits and are flagged "J" in Table 1A.

{Dimethylphthalate-d6}
- Caprolactam, 1,1'-biphenyl, dimethylphthalate, diethylphthalate, di-n-butylphthalate, butylbenzylphthalate, bis(2-ethylhexyl)phthalate, and di-n-octylphthalate in samples Y19J8 and Y19J9

{4,6-Dinitro-2-methylphenol-d2}
- 4,6-Dinitro-2-methylphenol in samples Y19J8 and Y19J9

{Anthracene-d10}
- Hexachlorobenzene, atrazine, phenanthrene, and anthracene in sample Y19J9

{Benzo(a)pyrene-d12}
- Benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, dibenz(a,h)anthracene, and benzo(g,h,i)perylene in samples Y19J8 and Y19J9

The DMC recoveries outside QC limits are shown below.

Sample	DMC	% Recovery	QC Limits
Y19J8	Dimethylphthalate-d6	58%	62-102
Y19J9	Dimethylphthalate-d6	55%	62-102
Y19J8	4,6-Dinitro-2-methylphenol-d2	42%	53-153
Y19J9	4,6-Dinitro-2-methylphenol-d2	38%	53-153
Y19J9	Anthracene-d10	50%	55-116
Y19J8	Benzo(a)pyrene-d12	48%	54-120
Y19J9	Benzo(a)pyrene-d12	35%	54-120

Detected results for affected analytes where DMC recoveries fell below QC limits may be biased low; where results are nondetected, false negatives may exist.

Surrogates (e.g., deuterated monitoring compounds (DMCs)) are organic compounds which are similar to the target analytes in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. All samples are spiked with DMCs prior to purging. DMCs provide information about both the laboratory performance on individual samples and the possible effects of the sample matrix on the analytical results.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Low Concentration Organic Data Review," June 2001.

U The analyte was analyzed for, but was not detected above the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method.

L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was not detected above the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.

R The sample results are unusable. The analyte may or may not be present in the sample.

ICF Consulting / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
Phone: (510) 412-2300 Fax: (510) 412-2304

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Project Officer (TOPO)
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105001

DATE: June 26, 2006

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID NO.:	CAD042245001
Case No.:	32648
SDG No.:	Y19J8
Laboratory:	Envirosystems (ENVSYS)
Analysis:	Volatiles
Samples:	2 Groundwater Samples (see Case Summary)
Collection Date:	March 5, 2004
Reviewer:	Calvin Tanaka, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOPO for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

cc: Dan Slizys, CLP PO USEPA Region 3
Steve Remaley, CLP PO USEPA Region 9

CLP PO: [X] Attention [ ] Action

SAMPLING ISSUES: [X] Yes [ ] No

Data Validation Report

Case No.: 32648
SDG No.: Y19J8
Site: Omega Chem OU2
Laboratory: Envirosystems (ENVSYS)
Reviewer: Calvin Tanaka, ESAT/LDC
Date: June 26, 2006

I. CASE SUMMARY

Sample Information

Samples:	Y19J8 and Y19J9
Concentration and Matrix:	Low Concentration Water
Analysis:	Volatiles
SOW:	OLC03.2
Collection Date:	March 5, 2004
Sample Receipt Date:	March 6, 2004
Extraction Date:	Not Applicable
Analysis Date:	March 11, 2004

Field QC

Field Blanks (FB):	Not Provided
Equipment Blanks (EB):	Not Provided
Trip Blank (TB):	Not Provided
Background Samples (BG):	Not Provided
Water Blank (WB):	Not Provided
Field Duplicates (D1):	Not Provided

Laboratory QC

Method Blanks & Associated Samples:

VBLKFY:	Y19J8, Y19J9, and Y19J9DL; storage blank VHBLKFY

Tables

1A:	Analytical Results with Qualifications
1B:	Data Qualifier Definitions for Organic Data Review
2:	Calibration Summary

CLP PO Action

None.

CLP PO Attention

1. Results for some analytes are qualified as estimated (J) due to calibration problems (see Comments B, C, and D).

2. Results for 1,1,2,2-tetrachloroethane and 1,2-dibromo-3-chloropropane in sample Y19J9 are qualified as estimated (J) due to a deuterated monitoring compound (DMC) recovery problem (see Comment E).

Sampling Issues

None.

Additional Comments

Other than laboratory artifacts (approximate retention time of 7.7 and 11.1 minutes), tentatively identified compounds (TICs) were found in sample Y19J9 (see attached Form 1LCF).

The laboratory performed manual integrations on calibrations and samples due to incorrect auto integration. Manual integrations were reviewed and found to be satisfactory and in compliance with proper integration techniques.

This report was prepared in accordance with the following documents:

- ESAT Region 9 Standard Operating Procedure 901, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Volatile and Semivolatile Data Packages*;

- *USEPA Contract Laboratory Program Statement of Work for Analysis of Low Concentration Organic*, OLC03.2, December 2000; and

- USEPA Contract Laboratory Program National Functional Guidelines for Low Concentration Organic Data Review, June 2001.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Holding Time/Preservation	Yes	
2.	GC/MS Tune/GC Performance	Yes	
3.	Initial Calibration	No	B, C
4.	Continuing Calibration	No	B, D
5.	Laboratory Blanks	Yes	
6.	Field Blanks	N/A	
7.	Deuterated Monitoring Compounds	No	E
8.	Matrix Spike/Matrix Spike Duplicates	N/A	
9.	Laboratory Control Samples/Duplicates	N/A	
10.	Internal Standards	Yes	
11.	Compound Identification	Yes	
12.	Compound Quantitation	Yes	A, F
13.	System Performance	Yes	
14.	Field Duplicate Sample Analysis	N/A	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. The following results, denoted with an “L” qualifier, are estimated and flagged “J” in Table 1A.

- All detected results below the contract required quantitation limits

Results below the contract required quantitation limits (CRQLs) are considered to be qualitatively acceptable, but quantitatively unreliable, due to the uncertainty in analytical precision near the limit of detection.

B. Results for the following analytes are qualified as estimated due to low relative response factors (RRFs) in initial and continuing calibrations and are flagged "J" in Table 1A.

- Acetone, 2-butanone, 4-methyl-2-pentanone, 2-hexanone, and 1,2-dibromo-3-chloropropane in all samples, method blank VBLKFY, and storage blank VHBLKFY

Average RRFs were below the 0.05 validation criterion in the initial and continuing calibrations (see Table 2).

Detected results for the analytes listed above should be considered as the minimum concentrations at which these analytes are present in the samples. Where results are nondetected, false negatives may exist.

DMCs 2-butanone-d5, trans-1,3-dichloropropene-d4, and 2-hexanone-d5 also had RRFs below the 0.05 validation criterion in the initial and continuing calibrations (see Table 2). Quantitation of the analytes associated with these DMCs may have been affected by the low RRFs (see attached Table 9 from the Functional Guidelines).

The RRF evaluates instrument sensitivity and is used in the quantitation of target analytes.

C. Results for the following analytes are qualified as estimated due to large percent relative standard deviations (%RSDs) in the initial calibration and are flagged "J" in Table 1A.

- 1,1,2-Trichloro-1,2,2-trifluoroethane and methylene chloride in all samples, method blank VBLKFY, and storage blank VHBLKFY

Percent RSDs exceeded the ≤30.0% validation criterion for the analytes listed above in the initial calibration (see Table 2).

The initial calibration demonstrates that the instrument is capable of acceptable performance in the beginning of the analytical run and of producing a linear calibration curve.

D. Results for the following analytes are qualified as estimated due to large percent differences (%Ds) in the continuing calibration and are flagged "J" in Table 1A.

- Methylene chloride and isopropylbenzene in all samples, method blank VBLKFY, and storage blank VHBLKFY

%Ds exceeded the ±30.0% validation criterion for the analytes listed above in the continuing calibration (see Table 2).

The DMC vinyl chloride-d3 also had a %D that exceeded the ±30.0% validation criterion in the continuing calibration (see Table 2). Quantitation of the analytes associated with this DMC may have been affected by the high %D (see attached Table 9 from the Functional Guidelines).

The continuing calibration checks the instrument performance daily and produces the relative response factors (RRFs) for target analytes that are used for quantitation.

E. Results for the following analytes are qualified as estimated due to DMC recoveries outside QC limits and are flagged "J" in Table 1A.

{1,1,2,2-Tetrachloroethane-d2}
- 1,1,2,2-Tetrachloroethane and 1,2-dibromo-3-chloropropane in sample Y19J9

The DMC recoveries outside QC limits are shown below.

Sample	DMC	% Recovery	QC Limits
Y19J8	Benzene-d6	140	78-121
Y19J8	1,2-Dichloropropane-d6	132	84-123
Y19J8	Toluene-d8	122	77-120
Y19J9	1,1,2,2-Tetrachloroethane-d2	72	75-131

Detected results for affected analytes where DMC recoveries fell below QC limits may be biased low; where results are nondetected, false negatives may exist. For DMC recoveries that exceeded QC limits, only detected results for associated analytes are qualified. Recoveries for DMCs benzene-d6, 1,2-dichloropropane-d6, and toluene-d8 exceeded QC limits but results were not qualified because they were nondetects. The samples were not reanalyzed.

Surrogates (e.g., deuterated monitoring compounds (DMCs)) are organic compounds which are similar to the target analytes in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. All samples are spiked with DMCs prior to purging. DMCs

provide information about both the laboratory performance on individual samples and the possible effects of the sample matrix on the analytical results.

F. Sample Y19J9 was reanalyzed at a 10-fold dilution due to high levels of trichlorofluoromethane, 1,1-dichloroethene, 1,1,2-trichloro-1,2,2-trifluoroethane, trichloroethene, and tetrachloroethene that exceeded the calibration range. Results for these analytes are reported from the diluted analysis in Table 1A; results for all other analytes are reported from the undiluted analysis.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Low Concentration Organic Data Review," June 2001.

U The analyte was analyzed for, but was not detected above the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method.

L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was not detected above the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.

R The sample results are unusable. The analyte may or may not be present in the sample.

Table 2
Calibration Summary

Case No.: 32648
SDG No.: Y19J8
Site: Omega Chem OU2
Laboratory: Envirosystems (ENVSYS)
Reviewer: Calvin Tanaka, ESAT/LDC
Date: June 26, 2006

RELATIVE RESPONSE FACTORS (RRF)

	RRF	RRF
Analysis date:	1/14/04	3/11/04
Analysis time:	10:29-	09:50
GC/MS I.D.:	HP73F	HP73F
Analyte	Init.	Cont.
Acetone	0.039	0.025
2-Butanone	0.038	0.028
4-Methyl-2-pentanone	0.048	0.040
2-Hexanone	0.036	0.026
1,2-Dibromo-3-chloropropane	0.035	0.023
2-Butanone-d5	0.046	0.036
trans-1,3-Dichloropropene-d4	0.038	0.035
2-Hexanone-d5	0.015	0.010

PERCENT RELATIVE STANDARD DEVIATIONS (%RSD) AND PERCENT DIFFERENCES (%D)

	%RSD	%D
Analysis Date:	1/14/04	3/11/04
Analysis Time:	10:29-	09:50
GC/MS I.D.:	HP73F	HP73F
Analyte	Init.	Cont.
1,1,2-Trichloro-1,2,2-trifluoroethane	30.7	-----
Methylene chloride	36.9	+37.8
Isopropylbenzene	-----	-31.0
Vinyl chloride-d3	-----	-34.1

+ = RRF biased low; - = RRF biased high.

ASSOCIATED SAMPLES AND METHOD BLANKS

Initial, 1/14/04 and Continuing, 3/11/04:
Y19J8, Y19J9, and Y19J9DL; method blank VBLKFY; storage blank VHBLKFY

ICF Consulting / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
Phone: (510) 412-2300 Fax: (510) 412-2304

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM)
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105001

DATE: June 29, 2006

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	32989
SDG No.:	MY1C21
Laboratory:	Ceimic Corporation (CEIMIC)
Analysis:	CLP Dissolved Metals By ICP-AES
Samples:	16 Groundwater Samples (see Case Summary)
Collection Date:	June 22, 23, and 24, 2004
Reviewer:	Stan Kott, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

cc: Jennie Han-Liu, CLP PO USEPA Region 1
Steve Remaley, CLP PO USEPA Region 9

CLP PO: [ ] FYI [X] Action

SAMPLING ISSUES: [ ] Yes [X] No

Data Validation Report

Case No.: 32989
SDG No.: MY1C21
Site: Omega Chem OU2
Laboratory: Ceimic Corporation (CEIMIC)
Reviewer: Stan Kott, ESAT/LDC
Date: June 29, 2006

I. CASE SUMMARY

Sample Information

Samples:	MY1C21 through MY1C28 and MY1C30 through MY1C37
Concentration and Matrix:	Low Concentration Groundwater
Analysis:	CLP Dissolved Metals By ICP-AES
SOW:	ILM05.3 and Modification Reference Number AES060304.0
Collection Date:	June 22, 23, and 24, 2004
Sample Receipt Date:	June 24, 2004
Preparation Date:	July 8, 2004
Analysis Date:	July 8 and 9, 2004

Field QC

Field Blanks (FB):	Not Provided
Equipment Blanks (EB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	MY1C26 and MY1C27

Laboratory QC

Method Blanks & Associated Samples:	Preparation Blank-Water (PBW) and samples listed above
Matrix Spike:	MY1C34S
Duplicates:	MY1C34D
ICP Serial Dilution:	MY1C34L

Analysis: CLP Dissolved Metals By ICP-AES

Analyte	Sample Preparation and Digestion Date	Analysis Date
ICP-AES Metals	July 8, 2004	July 8 and 9, 2004
Percent Solids	Not Applicable	Not Applicable

CLP PO Action

The non-detected results for silver in all samples are rejected (R) since less than 50% of the silver in the aqueous laboratory control sample (LCS) was recovered.

Sampling Issues

None.

Additional Comments

Note that Ceimic Corporation laboratory is no longer in operation.

The samples in this SDG were analyzed for select metals (aluminum, calcium, iron, magnesium, potassium, and sodium) plus boron and silicon by ICP-AES under Modified Analysis Request (MAR), Modification Reference Number AES060304.0.

The laboratory was instructed by Region 9 to report elements scheduled for ICP-MS analysis in SDG MY1C22 in this SDG due to suspected matrix interferences and carryovers that occurred during ICP-MS analysis. The laboratory also notes that only the elements specified in Modification Reference Number AES060304.0 were included in the matrix spike sample. (See Comment E and attached SDG Narrative.)

All samples were analyzed at a 3-fold dilution due to silicon concentrations that exceeded the instrument's linear range. No adverse effect on data quality is expected.

All method requirements specified in the EPA Contract Laboratory Program (CLP) Inorganic Statement of Work (SOW), except as noted, have been met.

Analytical results are listed in Table 1A with qualifications. Definitions of data qualifiers used in Table 1A are listed in Table 1B.

This report was prepared in accordance with the following documents:

- Region 9 Standard Operating Procedure 906, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Inorganic Data Packages*;
- *Request for Quote for Modified Analysis* (SOW flexibility clause), Tracking Number: 1103.0, Modification Reference Number: AES060304.0, June 9, 2004;
- *USEPA Contract Laboratory Program Statement of Work For Inorganic Analysis Multi-Media, Multi-Concentration* ILM05.3, March 2004; and
- *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Data Completeness	Yes	
2.	Sample Preservation and Holding Times	Yes	
3.	Calibration	Yes	
	a. Initial		
	b. Initial and Continuing Calibration Verification		
	c. CRQL Check Standard (CRI)		
4.	Blanks	Yes	C
5.	ICP Interference Check Sample (ICS)	Yes	
6.	Laboratory Control Sample (LCS)	No	A
7.	Duplicate Sample Analysis	Yes	
8.	Matrix Spike Sample Analysis	No	E
9.	ICP Serial Dilution Analysis	No	D
10.	ICP-MS Internal Standards	N/A	
11.	Field Duplicate Sample Analysis	Yes	
12.	Sample Quantitation	Yes	B
13.	Overall Assessment	Yes	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. The following non-detected results are rejected and flagged "R" in Table 1A because an aqueous laboratory control sample (LCS) recovery result is outside method QC limits.

- Silver in all samples

The percent recovery for silver is presented below and is based on an ideal recovery of 100%.

Analyte	% Recovery
Silver	10

The results reported for silver in all samples are below the method detection limit (MDL) and are considered unacceptable because less than 50% of silver in the aqueous LCS was recovered. The low LCS recovery indicates an analytical deficiency and false negatives may exist.

The purpose of the LCS is to monitor the overall performance of all steps in the analysis under ideal conditions, including sample preparation.

B. Results above the MDL but below the contract required quantitation limit (CRQL) (denoted with an "L" qualifier) are estimated and flagged "J" in Table 1A.

Results above the MDL but below the CRQL are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of quantitation.

C. The following results are reported as non-detected (U) in Table 1A due to low level preparation blank (PBW) contamination.

- Aluminum in samples MY1C23, MY1C24, MY1C27, MY1C35, and MY1C37
- Manganese in samples MY1C24, MY1C25, and MY1C28

Aluminum (49.6 µg/L) and manganese (2.1 µg/L) were found in preparation blank PBW. These results are greater than their respective MDLs but less than the respective CRQLs. Sample results greater than or equal to the MDL but less than the CRQL are reported as non-detected (U) at the respective CRQL.

A preparation blank is an analytical control that contains distilled, deionized water, or baked sand for solid matrices, and reagents, which is carried through the entire analytical procedure. The preparation blank is used to determine the level of contamination introduced by the laboratory during preparation and analysis.

D. The following results are estimated and flagged "J" in Table 1A because an ICP serial dilution result is outside method QC limits.

- Potassium in all samples

The percent difference for the ICP serial dilution analysis of sample MY1C34L did not meet the 10% criterion for potassium as shown below.

Analyte	% Difference
Potassium	-32

Results reported for potassium in all samples are considered quantitatively uncertain. Chemical and physical interferences may exist due to sample matrix effects. The result for the diluted sample was lower than the original. Therefore, the reported potassium sample results may be biased high.

A five-fold dilution of the laboratory QC sample is performed in association with the ICP procedure to indicate whether interference exists due to sample matrix effects. If the analyte concentration is sufficiently high (minimally a factor of 50 above the MDL in the original sample), the five fold serial dilution must agree within 10% of the original results after correction for dilution.

E. Inadequate matrix-specific laboratory QC was performed for this SDG. The Inorganic SOW states that at least one matrix spike sample analysis shall be performed on each group of samples of a similar matrix type and concentration or for each SDG. The laboratory performed one matrix spike sample analysis. However, antimony, arsenic, barium, beryllium cadmium, chromium, cobalt, copper, lead, manganese, nickel, selenium, silver, thallium, vanadium, and zinc were not included in the matrix spike sample. The effect on data quality is not known.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR INORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared in accordance with the document *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004.

U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

SDG Narrative

Laboratory Name: Ceimic Corporation
Case No.: 32989
SDG No.: MY1C21
Contract: 68W02063 **Modification Tracking Number:** 1103.0
Ceimic Project No.: 040598

The following ILM05.3 (ICP-AES/MS) sixteen groundwater samples were received at CEIMIC Corporation on June 24 and 25, 2004:

EPA ID	Ceimic ID
MY1C26	040598-01
MY1C27	040598-02
MY1C28	040598-03
MY1C30	040598-04
MY1C31	040598-05
MY1C32	040598-06
MY1C33	040598-07
MY1C21	040598-08
MY1C22	040598-09
MY1C23	040598-10
MY1C24	040598-11
MY1C25	040598-12
MY1C34	040598-13
MY1C34	040598-13
MY1C34	040598-13
MY1C35	040598-14
MY1C36	040598-15
MY1C37	040598-16

Comments on Data Package

The samples in this SDG for Case 32989 were received for Total Metals analysis by ICP-MS; Total Aluminum, Calcium, Iron, Magnesium, Sodium, Potassium, Boron, and Silicon analysis by ICP-AES, Total Mercury analysis by CVAA, and Total Cyanide analysis by automated spectrophotometry. This SDG reports only the results of the ICP-AES analysis.

SDG MY1C22 reports the ICP-MS analysis of these samples; however, due to suspected matrix interferences and carryovers, many non-compliances exist. After consultation with Steve Remaley, the CLP Project Officer at EPA Region IX, the ICP-AES analysis in this SDG (MY1C21) will report all ICP-MS target analytes in addition to the eight requested analytes listed above. The ICP-MS analysis is still reported as scheduled for SDG MY1C22.

The above samples were digested in accordance with the Inorganic Statement of Work (SOW) ILM05.3, with modfications as listed in the Request for Quote for Modified Analysis with Tracking Number 1103.0. A copy of the modifications is included immediately after this SDG Narrative.

When ICP-AES raw data has been reprocessed in an SDG, the words "Reprocessed on" followed by the date and time of reprocessing will sometimes be printed in the header of each standard and sample raw data report. The word "Reprocessed" is used when the original sequence data is regenerated after it was collected and processed with incorrect information (such as sample information, standard nomenclature) or settings (such as background correction, internal standard, dilution factor, QC concentration, wrong IEC table, etc.)

QA/QC Samples:

Matrix spike and duplicate analysis – as well as ICP serial dilution – were performed on sample MY1C34 as indicated on the Traffic Report / Chain of Custody. A post-digestion spike was not required for this SDG. **Only those elements originally requested for ICP-AES analysis – Al, Ca, Fe, Mg, K, Na, B, Si – are included in the matrix spike analysis.**

Observations:

A "U" flag in the C column on the sample result forms (Form IA-IN) indicates that the concentration of that analyte in the sample is undetected at the experimentally-determined method detection limit (MDL). If analytes are detected at concentrations between the Contract Required Quantitation Limit (CRQL) and the MDL, a "J" flag is shown in the C column on the Form IA-IN.

The raw data for the MDL study of Boron and Silicon is located in SDG MY1C04.

The "N" and "*" qualifiers do not apply to this SDG. The "E" qualifier applies to Potassium for high concentration difference between sample MY1C34 and its serial dilution. Silicon is detected in all samples in this SDG at concentrations exceeding the experimentally-determined linear range concentration (10,000 ug/L) of the ICP-AES instrument. The sample digestates were reanalyzed at a dilution; these reanalyses are denoted by "D" qualifier on the Form IA-IN.

All target analytes for this SDG are monitored and reported on Form IIB-IN for the CRQL Check (CRI) standards, although seven elements (Al, Ba, Ca, Fe, Mg, Na, and K) do not require monitoring.

Due to limitations in the reporting software used for this SDG, a separate Form XIII-IN is included for the analytes Boron and Silicon.

Deviations from Contract:

None other than those described in the Modified Analysis and those prescribed by Mr. Remaley.

End of SDG Narrative.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Ryan Montalbano
Supervisor, Inorganic Laboratories

07/15/2004
Date

ANALYTICAL RESULTS
Table 1A

Case No. : 32989 SDG No. : MY1C21
Site : OMEGA RECOVERY SERV. OU2
Lab : CEIMIC CORPORATION (CEIMIC)
Reviewer : Stan Kott, ESAT/LDC
Date : June 29, 2006

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Low Concentration Groundwater Samples For Dissolved Metals By ICP-AES

Station Location :	18			19			20			21			22			23			24		
Sample ID :	MY1C21			MY1C22			MY1C23			MY1C24			MY1C25			MY1C26 D1			MY1C27 D1		
Collection Date :	6/22/2004			6/22/2004			6/22/2004			6/22/2004			6/22/2004			6/23/2004			6/23/2004		
PARAMETER	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
ALUMINUM	200U			200U			200U		C	200U		C	200U			200U			200U		C
ANTIMONY	60.0U	J	E	60.0U	J	E	60.0U	J	E	60.0U	J	E	60.0U	J	E	60.0U	J	E	60.0U	J	E
ARSENIC	9.7L	J	BE	8.5L	J	BE	10.1	J	E	8.6L	J	BE	8.8L	J	BE	5.2L	J	BE	8.0L	J	BE
BARIUM	56.4L	J	BE	61.5L	J	BE	40.6L	J	BE	30.4L	J	BE	27.8L	J	BE	82.1L	J	BE	80.3L	J	BE
BERYLLIUM	5.0U	J	E	5.0U	J	E	5.0U	J	E	5.0U	J	E	5.0U	J	E	5.0U	J	E	5.0U	J	E
BORON	314L	J	B	286L	J	B	267L	J	B	318L	J	B	339L	J	B	375L	J	B	378L	J	B
CADMIUM	5.0U	J	E	5.0U	J	E	5.0U	J	E	5.0U	J	E	5.0U	J	E	5.0U	J	E	5.0U	J	E
CALCIUM	167000			182000			176000			215000			187000			159000			154000		
CHROMIUM	3.5L	J	BE	7.9L	J	BE	84.1	J	E	6.6L	J	BE	9.4L	J	BE	53.0	J	E	51.1	J	E
COBALT	50.0U	J	E	50.0U	J	E	50.0U	J	E	50.0U	J	E	50.0U	J	E	50.0U	J	E	50.0U	J	E
COPPER	25.0U	J	E	25.0U	J	E	25.0U	J	E	25.0U	J	E	1.5L	J	BE	1.2L	J	BE	25.0U	J	E
IRON	100U			100U			100U			32.5L	J	B	100U			100U			39.0L	J	B
LEAD	10.0U	J	E	10.0U	J	E	10.0U	J	E	10.0U	J	E	10.0U	J	E	10.0U	J	E	10.0U	J	E
MAGNESIUM	48000			49900			43000			49700			48500			50500			49000		
MANGANESE	15.0U	J	E	15.0U	J	E	15.0U	J	E	15.0U	J	CE	15.0U	J	CE	15.0U			15.0U	J	E
NICKEL	40.0U	J	E	40.0U	J	E	40.0U	J	E	40.0U	J	E	40.0U	J	E	40.0U	J	E	40.0U	J	E
POTASSIUM	2450L	J	BD	2950L	J	BD	3450L	J	BD	5390	J	D	5010	J	D	2370L	J	BD	2250L	J	BD
SELENIUM	35.0U	J	E	9.7L	J	BE	15.0L	J	BE	35.0U	J	E	9.4L	J	BE	35.0U	J	BE	5.9L	J	BE
SILICON	17600			15200			12500			11600			12300			19900			19300		
SILVER	10.0U	R	AE	10.0U	R	AE	10.0U	R	AE	10.0U	R	AE	10.0U	R	AE	10.0U	R	AE	10.0U	R	AE
SODIUM	95000			90400			124000			111000			129000			88700			85400		
THALLIUM	11.9L	J	BE	25.0U	J	E	13.8L	J	BE	10.3L	J	BE	13.0L	J	BE	12.4L	J	BE	7.3L	J	BE
VANADIUM	1.7L	J	BE	1.8L	J	BE	50.0U	J	E	50.0U	J	E	50.0U	J	E	3.7L	J	BE	3.5L	J	BE
ZINC	60.0U	J	E	60.0U	J	E	60.0U	J	E	37.3L	J	BE	60.0U	J	E	60.0U	J	E	60.0U	J	E

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
MDL - Method Detection Limit, N/A - Not Applicable, NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank, TB - Trip Blank, BG - Background Sample
CRQL - Contract Required Quantitation Limit

ANALYTICAL RESULTS
Table 1A

Case No. : 32989 SDG No. : MY1C21
Site : OMEGA RECOVERY SERV. OU2
Lab : CEIMIC CORPORATION (CEIMIC)
Reviewer : Stan Kott, ESAT/LDC
Date : June 29, 2006

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Low Concentration Groundwater Samples For Dissolved Metals By ICP-AES

Station Location :	25			26			27			28			30			31			32		
Sample ID :	MY1C28			MY1C30			MY1C31			MY1C32			MY1C33			MY1C34			MY1C35		
Collection Date :	6/23/2004			6/23/2004			6/23/2004			6/23/2004			6/23/2004			6/24/2004			6/24/2004		
PARAMETER	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
ALUMINUM	200U			200U			200U			200U			200U			200U			200U		C
ANTIMONY	60.0U	J	E	60.0U	J	E	60.0U	J	E	60.0U	J	E	60.0U	J	E	60.0U	J	E	60.0U	J	E
ARSENIC	6.4L	J	BE	7.2L	J	BE	11.0	J	E	12.2	J	E	6.6L	J	BE	8.8L	J	BE	7.3L	J	BE
BARIUM	44.4L	J	BE	58.3L	J	BE	29.2L	J	BE	29.8L	J	BE	97.5L	J	BE	24.5L	J	BE	19.6L	J	BE
BERYLLIUM	5.0U	J	E	5.0U	J	E	5.0U	J	E	5.0U	J	E	5.0U	J	E	5.0U	J	E	5.0U	J	E
BORON	273L	J	B	394L	J	B	297L	J	B	295L	J	B	1000U			420L	J	B	597L	J	B
CADMIUM	5.0U	J	E	5.0U	J	E	5.0U	J	E	5.0U	J	E	5.0U	J	E	5.0U	J	E	5.0U	J	E
CALCIUM	126000			206000			210000			206000			132000			257000			233000		
CHROMIUM	78.8	J	E	174	J	E	8.5L	J	BE	6.0L	J	BE	2.0L	J	BE	2.2L	J	BE	5.5L	J	BE
COBALT	50.0U	J	E	50.0U	J	E	50.0U	J	E	50.0U	J	E	50.0U	J	E	50.0U	J	E	50.0U	J	E
COPPER	25.0U	J	E	1.9L	J	BE	25.0U	J	E	25.0U	J	E	25.0U	J	E	25.0U	J	E	25.0U	J	E
IRON	100U			100U			100U			67.0L	J	B	100U			100U			38.3L	J	B
LEAD	10.0U	J	E	10.0U	J	E	10.0U	J	E	10.0U	J	E	10.0U	J	E	10.0U	J	E	10.0U	J	E
MAGNESIUM	39900			51500			54600			52400			36500			69400			65200		
MANGANESE	15.0U	J	CE	15.0U	J	E	15.0U	J	E	145	J	E	44.0	J	E	15.0U	J	E	15.0U	J	E
NICKEL	40.0U	J	E	40.0U	J	E	40.0U	J	E	40.0U	J	E	40.0U	J	E	40.0U	J	E	40.0U	J	E
POTASSIUM	2820L	J	BD	4790L	J	BD	4920L	J	BD	4720L	J	BD	3600L	J	BD	5740	J	D	4430L	J	BD
SELENIUM	35.0U	J	E	63.2	J	E	10.8L	J	BE	10.1L	J	BE	20.9L	J	BE	17.8L	J	BE	12.7L	J	BE
SILICON	16800			12800			13900			13200			9790			12900			14800		
SILVER	10.0U	R	AE	10.0U	R	AE	10.0U	R	AE	10.0U	R	AE	10.0U	R	AE	10.0U	R	AE	10.0U	R	AE
SODIUM	72600			131000			109000			115000			59400			146000			165000		
THALLIUM	25.0U	J	E	10.2L	J	BE	4.9L	J	BE	8.0L	J	BE	7.7L	J	BE	13.2L	J	BE	13.7L	J	BE
VANADIUM	3.0L	J	BE	50.0U	J	E	50.0U	J	E	50.0U	J	E	1.7L	J	BE	50.0U	J	E	50.0U	J	E
ZINC	60.0U	J	E	60.0U	J	E	60.0U	J	E	60.0U	J	E	60.0U	J	E	60.0U	J	E	60.0U	J	E

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
MDL - Method Detection Limit, N/A - Not Applicable, NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank, TB - Trip Blank, BG - Background Sample
CRQL - Contract Required Quantitation Limit

ANALYTICAL RESULTS
Table 1A

Case No. : 32989 SDG No. : MY1C21
Site : OMEGA RECOVERY SERV. OU2
Lab : CEIMIC CORPORATION (CEIMIC)
Reviewer : Stan Kott, ESAT/LDC
Date : June 29, 2006

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Low Concentration Groundwater Samples For Dissolved Metals By ICP-AES

Station Location :	33			34																	
Sample ID :	MY1C36			MY1C37			MDL			CRQL											
Collection Date :	6/24/2004			6/24/2004																	
PARAMETER	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
ALUMINUM	200U			200U		C	44.2			200											
ANTIMONY	60.0U	J	E	60.0U	J	E	10.0			60.0											
ARSENIC	10.0U	J	E	8.8L	J	BE	2.6			10.0											
BARIUM	40.8L	J	BE	60.5L	J	BE	0.78			200											
BERYLLIUM	5.0U	J	E	5.0U	J	E	0.20			5.0											
BORON	439L	J	B	287L	J	B	52.8			1000											
CADMIUM	5.0U	J	E	5.0U	J	E	0.48			5.0											
CALCIUM	125000			170000			77.4			5000											
CHROMIUM	1.1L	J	BE	24.4	J	E	0.87			10.0											
COBALT	50.0U	J	E	50.0U	J	E	1.9			50.0											
COPPER	25.0U	J	E	6.0L	J	BE	1.1			25.0											
IRON	100U			7740			32.2			100											
LEAD	10.0U	J	E	10.0U	J	E	4.4			10.0											
MAGNESIUM	39200			49300			28.2			5000											
MANGANESE	26.3	J	E	422	J	E	2.0			15.0											
NICKEL	2.3L	J	BE	16.4L	J	BE	1.8			40.0											
POTASSIUM	2590L	J	BD	15500	J	D	54.8			5000											
SELENIUM	35.0U	J	E	35.0U	J	E	5.3			35.0											
SILICON	15900			15700			67.3			200											
SILVER	10.0U	R	AE	10.0U	R	AE	2.5			10.0											
SODIUM	153000			106000			60.9			5000											
THALLIUM	8.2L	J	BE	25.0U	J	E	3.5			25.0											
VANADIUM	5.3L	J	BE	50.0U	J	E	1.5			50.0											
ZINC	60.0U	J	E	35.6L	J	BE	15.6			60.0											

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
MDL - Method Detection Limit, N/A - Not Applicable, NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank, TB - Trip Blank, BG - Background Sample
CRQL - Contract Required Quantitation Limit

ICF Consulting / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
Phone: (510) 412-2300 Fax: (510) 412-2304

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM)
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105001

DATE: July 5, 2006

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	33335
SDG No.:	MY1FS0
Laboratory:	Ceimic Corporation (CEIMIC)
Analysis:	CLP Dissolved Metals By ICP-AES and Total Cyanide
Samples:	19 Groundwater Samples (see Case Summary)
Collection Date:	September 13, 14, 15, and 16, 2004
Reviewer:	Stan Kott, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

cc: Jennie Han-Liu, CLP PO USEPA Region 1
Steve Remaley, CLP PO USEPA Region 9

CLP PO: [X] FYI [ ] Action

SAMPLING ISSUES: [X] Yes [ ] No

Data Validation Report

Case No.: 33335
SDG No.: MY1FS0
Site: Omega Chem OU2
Laboratory: Ceimic Corporation (CEIMIC)
Reviewer: Stan Kott, ESAT/LDC
Date: July 5, 2006

I. CASE SUMMARY

Sample Information

Samples:	MY1FS0 through MY1FS9, and MY1FT1 through MY1FT9
Concentration and Matrix:	Low Concentration Groundwater
Analysis:	Select CLP Dissolved Metals By ICP-AES and Total Cyanide
SOW:	ILM05.3 and Modification Reference Number AES060304.0
Collection Date:	September 13, 14, 15, and 16, 2004
Sample Receipt Date:	September 15, 16, and 17, 2004
Preparation Date:	September 22 and 24, 2004
Analysis Date:	September 22, 27, and 28, 2004

Field QC

Field Blanks (FB):	Not Provided
Equipment Blanks (EB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	MY1FS1 and MY1FS2
Field Duplicates (D2):	MY1FT5 and MY1FT6

Laboratory QC

Method Blanks & Associated Samples:	Preparation Blank-Water (PBW) and samples listed above
Matrix Spike:	MY1FT1S
Duplicates:	MY1FT1D
ICP Serial Dilution:	MY1FT1L
Analysis:	Select CLP Dissolved Metals By ICP-AES and Total Cyanide

Analyte	Sample Preparation and Digestion Date	Analysis Date
ICP-AES Metals	September 24, 2004	September 27 and 28, 2004
Cyanide	September 22, 2004	September 22, 2004
Percent Solids	Not Applicable	Not Applicable

CLP PO Action

None.

Sampling Issues

The Traffic Report/Chain of Custody (TR/COC) record forms did not specify a sample to be used for laboratory quality control (QC). The laboratory selected sample MY1FT1 for QC analysis. No adverse effect on data quality is expected.

Additional Comments

Note that Ceimic Corporation laboratory is no longer in operation.

The samples in this SDG were analyzed for select CLP metals (aluminum, calcium, iron, magnesium, potassium, and sodium) plus boron and silicon by ICP-AES under Modified Analysis Request (MAR), Modification Reference Number AES060304.0.

Samples of this SDG were analyzed at a 3, 4, or 5-fold dilution due to silicon concentrations that exceeded the instrument's linear range. No adverse effect on data quality is expected.

All method requirements specified in the EPA Contract Laboratory Program (CLP) Inorganic Statement of Work (SOW), except as noted, have been met.

Analytical results are listed in Table 1A with qualifications. Definitions of data qualifiers used in Table 1A are listed in Table 1B.

This report was prepared in accordance with the following documents:

- Region 9 Standard Operating Procedure 906, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Inorganic Data Packages*;
- *Request for Quote for Modified Analysis* (SOW flexibility clause), Tracking Number: 1103.0, Modification Reference Number: AES060304.0, June 9, 2004;
- *USEPA Contract Laboratory Program Statement of Work For Inorganic Analysis Multi-Media, Multi-Concentration* ILM05.3, March 2004; and
- *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Data Completeness	Yes	
2.	Sample Preservation and Holding Times	Yes	
3.	Calibration	Yes	
	a. Initial		
	b. Initial and Continuing Calibration Verification		
	c. CRQL Check Standard (CRI)		
4.	Blanks	Yes	
5.	ICP Interference Check Sample (ICS)	Yes	
6.	Laboratory Control Sample (LCS)	Yes	
7.	Duplicate Sample Analysis	Yes	
8.	Matrix Spike Sample Analysis	Yes	
9.	ICP Serial Dilution Analysis	Yes	
10.	ICP-MS Internal Standards	N/A	
11.	Field Duplicate Sample Analysis	No	B
12.	Sample Quantitation	Yes	A
13.	Overall Assessment	Yes	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. Results above the method detection limit (MDL) but below the contract required quantitation limit (CRQL) (denoted with an "L" qualifier) are estimated and flagged "J" in Table 1A.

Results above the MDL but below the CRQL are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of quantitation.

B. A relative percent difference (RPD) of 29 was obtained for silicon in the analysis of field duplicate pair samples MY1FT5 and MY1FT6. Since sampling variability is included in the measurement, field duplicate results are expected to vary more than laboratory duplicates which have a ±20 RPD criterion for precision. The effect on data quality is not known.

The analysis of field duplicate samples is a measure of both field and analytical precision. The imprecision in the results of the analysis of the field duplicate pair may be due to the sample matrix, high levels of solids in the sample, or poor sampling or laboratory technique.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR INORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared in accordance with the document *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004.

U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

ICF Consulting / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
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MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM)
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105001

DATE: July 7, 2006

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	33335
SDG No.:	Y1FR9
Laboratory:	Shealy Environmental Services, Inc. (SHEALY)
Analysis:	Semivolatiles
Samples:	18 Groundwater Samples (see Case Summary)
Collection Date:	September 13 through 16, 2004
Reviewer:	April Martinez, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

cc: Cynthia Gurley, CLP PO USEPA Region 4
Steve Remaley, CLP PO USEPA Region 9

CLP PO: [X] Attention [ ] Action

SAMPLING ISSUES: [X] Yes [ ] No

Data Validation Report

Case No.: 33335
SDG No.: Y1FR9
Site: Omega Chem OU2
Laboratory: Shealy Environmental Services, Inc. (SHEALY)
Reviewer: April Martinez, ESAT/LDC
Date: July 7, 2006

I. CASE SUMMARY

Sample Information

Samples:	Y1FS0 through Y1FS9 and Y1FT1 through Y1FT8
Concentration and Matrix:	Low Concentration Water
Analysis:	Semivolatiles
SOW:	OLC03.2
Collection Date:	September 13 through 16, 2004
Sample Receipt Date:	September 15 through 17, 2004
Extraction Date:	September 16 and 22, 2004
Analysis Date:	September 22 and 28, 2004

Field QC

Field Blanks (FB):	Not Provided
Equipment Blanks (EB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	Y1FS1 and Y1FS2
Field Duplicates (D2):	Y1FT5 and Y1FT6

Laboratory QC

Method Blanks & Associated Samples:

SBLK71:	Y1FT5 through Y1FT8
SBLK89:	Y1FS0 through Y1FS9 and Y1FT1 through Y1FT4

Tables

1A: Analytical Results with Qualifications
1B: Data Qualifier Definitions for Organic Data Review

CLP PO Action

None.

CLP PO Attention

1. Detected results for di-n-butylphthalate are qualified as nondetected and estimated (U,J) due to method blank contamination (see Comment B).

2. Results for some analytes are qualified as estimated (J) due to calibration problems (see Comments C, D, and E).

3. Results for some analytes are qualified as estimated (J) due to deuterated monitoring compound (DMC) recovery problems (see Comment F).

Sampling Issues

Samples Y1FS9 and Y1FT1 through Y1FT3 were received by the laboratory with a cooler temperature of 6.8°C, which exceeds the 4±2°C sample preservation criterion. Since the cooler temperature is below 10°C, no adverse effect on data quality is expected.

Additional Comments

Other than laboratory artifacts (approximate retention times of 5.0, 8.7, and 12.9 minutes), tentatively identified compounds (TICs) were found in the samples Y1FS0 through Y1FS3, Y1FS5 through Y1FS8, Y1FT1, Y1FT2, Y1FT3, and Y1FT7 (see attached Form 1LCGs).

The laboratory performed manual integrations on calibrations and samples due to incorrect auto integration. Manual integrations were reviewed and found to be satisfactory and in compliance with proper integration techniques.

This report was prepared in accordance with the following documents:

- ESAT Region 9 Standard Operating Procedure 901, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Volatile and Semivolatile Data Packages*;

- *USEPA Contract Laboratory Program Statement of Work for Analysis for Organic Analysis*, OLC03.2, May 1999; and

- *USEPA Contract Laboratory Program National Functional Guidelines for Low Concentration Organic Data Review*, June 2001.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Holding Time/Preservation	Yes	
2.	GC/MS Tune/GC Performance	Yes	
3.	Initial Calibration	No	C, D
4.	Continuing Calibration	No	C, E
5.	Laboratory Blanks	No	B
6.	Field Blanks	N/A	
7.	Deuterated Monitoring Compounds	No	F
8.	Matrix Spike/Matrix Spike Duplicates	N/A	
9.	Laboratory Control Samples/Duplicates	N/A	
10.	Internal Standards	Yes	
11.	Compound Identification	No	H
12.	Compound Quantitation	No	A, H
13.	System Performance	Yes	
14.	Field Duplicate Sample Analysis	No	G

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. The following results, denoted with an "L" qualifier, are estimated and flagged "J" in Table 1A.

- All detected results below the contract required quantitation limits

Results below the contract required quantitation limits (CRQLs) are considered to be qualitatively acceptable, but quantitatively unreliable, due to the uncertainty in analytical precision near the limit of detection.

B. The following results are qualified as nondetected and estimated due to method blank contamination and are flagged "U,J" in Table 1A.

- Di-n-butylphthalate in samples Y1FS0 through Y1FS4, Y1FS6, Y1FS9, Y1FT2, Y1FT3, Y1FT4, and Y1FT7

Di-n-butylphthalate was found in method blank SBLK89 (see Table 1A for concentrations). Results for the samples listed above are considered nondetected and estimated (U,J) and quantitation limits have been raised according to blank qualification rules presented below.

No positive results are reported unless the concentration of the compound in the sample exceeds 10 times the amount in any associated blank for common laboratory contaminants or 5 times the amount for other compounds. If the sample result is greater than the CRQL, the quantitation limit is raised to the sample result and

reported as nondetected. If the sample result is less than the CRQL, the result is reported as nondetected at the CRQL.

Users should note that bis(2-ethylhexyl)phthalate found in samples may be an artifact because it is a common laboratory contaminant.

A laboratory method blank is laboratory reagent water or baked sand analyzed with all reagents, deuterated monitoring compounds, and internal standards and carried through the same sample preparation and analytical procedures as the field samples. The laboratory method blank is used to determine the level of contamination introduced by the laboratory during analysis.

C. Results for the following analyte are qualified as estimated due to low relative response factors (RRFs) in initial and continuing calibrations and are flagged "J" in Table 1A.

- Atrazine in samples Y1FS0 through Y1FS9 and Y1FT1 through Y1FT4 and method blank SBLK89

An average RRF of 0.022 was reported for atrazine in the 9/18/04 initial calibration. An RRF of 0.025 was reported for atrazine in the 9/22/04 continuing calibration. These values are below the 0.05 validation criterion.

Since atrazine results are nondetected, false negatives may exist.

The RRF evaluates instrument sensitivity and is used in the quantitation of target analytes.

D. Results for the following analytes are qualified as estimated due to large percent relative standard deviation (%RSD) in initial calibrations and are flagged "J" in Table 1A.

- Benzaldehyde, 2,4-dinitrophenol, and atrazine in samples Y1FS0 through Y1FS9 and Y1FT1 through Y1FT4 and method blank SBLK89

%RSDs of 88.3%, 51.8%, and 28.1% were reported for benzaldehyde, 2,4-dinitrophenol, and atrazine, respectively, in the 09/18/04 initial calibration. These values exceed the ≤20.5%/50.0% validation criterion.

The initial calibration demonstrates that the instrument is capable of acceptable performance in the beginning of the analytical run and of producing a linear calibration curve.

E. Results for the following analyte are qualified as estimated due to a large percent difference (%D) in the continuing calibration and are flagged “J” in Table 1A.

- Benzaldehyde in samples Y1FS0 through Y1FS9 and Y1FT1 through Y1FT4 and method blank SBLK89

%D of -59.0% was reported for benzaldehyde in the 09/22/04 continuing calibration. This value exceeds the ±50.0% validation criterion.

The continuing calibration checks the instrument performance daily and produces the relative response factors (RRFs) for target analytes that are used for quantitation.

F. Results for the following analytes are qualified as estimated due to DMC recoveries outside QC limits and are flagged "J" in Table 1A.

{Dimethylphthalate-d6}

- Caprolactam, 1,1'-biphenyl, dimethylphthalate, diethylphthalate, di-n-butylphthalate, butylbenzylphthalate, bis(2-ethylhexyl)phthalate, and di-n-octylphthalate in samples Y1FS9 and Y1FT5 through Y1FT8

{4,6-Dinitro-2-methylphenol-d2}

- 4,6-Dinitro-2-methylphenol in samples Y1FS0 through Y1FS9, Y1FT1 through Y1FT4, Y1FT7, and Y1FT8 and method blank SBLK89

{Acenaphthylene-d8}

- Naphthalene, 2-methylnaphthalene, 2-chloronaphthalene, acenaphthylene, and acenaphthene in sample Y1FT7

The DMC recoveries outside QC limits are shown below.

Sample	DMC	% Recovery	QC Limits
Y1FS9	Dimethylphthalate-d6	58%	62-102
Y1FT5	Dimethylphthalate-d6	50%	62-102
Y1FT6	Dimethylphthalate-d6	58%	62-102
Y1FT7	Dimethylphthalate-d6	48%	62-102
Y1FT8	Dimethylphthalate-d6	60%	62-102
Y1FT7	Acenaphthylene-d8	48%	49-98
Y1FS0	4,6-Dinitro-2-methylphenol-d2	45%	53-153
Y1FS1	4,6-Dinitro-2-methylphenol-d2	45%	53-153
Y1FS2	4,6-Dinitro-2-methylphenol-d2	40%	53-153
Y1FS3	4,6-Dinitro-2-methylphenol-d2	50%	53-153
Y1FS4	4,6-Dinitro-2-methylphenol-d2	48%	53-153
Y1FS5	4,6-Dinitro-2-methylphenol-d2	43%	53-153
Y1FS6	4,6-Dinitro-2-methylphenol-d2	45%	53-153
Y1FS7	4,6-Dinitro-2-methylphenol-d2	50%	53-153
Y1FS8	4,6-Dinitro-2-methylphenol-d2	43%	53-153
Y1FS9	4,6-Dinitro-2-methylphenol-d2	35%	53-153
Y1FT1	4,6-Dinitro-2-methylphenol-d2	48%	53-153
Y1FT2	4,6-Dinitro-2-methylphenol-d2	43%	53-153

Y1FT3	4,6-Dinitro-2-methylphenol-d2	43%	53-153
Y1FT4	4,6-Dinitro-2-methylphenol-d2	45%	53-153
Y1FT7	4,6-Dinitro-2-methylphenol-d2	48%	53-153
Y1FT8	4,6-Dinitro-2-methylphenol-d2	48%	53-153
SBLK89	4,6-Dinitro-2-methylphenol-d2	48%	53-153
SBLK89RE	4,6-Dinitro-2-methylphenol-d2	45%	53-153

Detected results for affected analytes may be biased low; where results are nondetected, false negatives may exist. The samples were not reanalyzed.

Surrogates (e.g., deuterated monitoring compounds (DMCs)) are organic compounds which are similar to the target analytes in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. All samples are spiked with DMCs prior to purging. DMCs provide information about both the laboratory performance on individual samples and the possible effects of the sample matrix on the analytical results.

G. In the analysis of the field duplicate pairs, the following outliers were reported.

Analyte	Y1FS1 (D1) Conc., µg/L	Y1FS2 (D1) Conc., µg/L	RPD (<25%)
bis(2-Ethylhexyl)phthalate	5.6	4.2	29

Analyte	Y1FT5 (D2) Conc., µg/L	Y1FT6 (D2) Conc., µg/L	RPD (<25%)
bis(2-Ethylhexyl)phthalate	32	17	61

The effect on data quality is not known.

The analysis of field duplicate samples is a measure of both field and analytical precision. The imprecision in the results of the analysis of the field duplicate pair may be due to the sample matrix or poor sampling or laboratory technique.

H. The laboratory reported detected results for 4-nitrophenol in samples Y1FS0 and Y1FS1 of 1.6 μg/L (below the CRQL of 5.0 μg/L). However, the mass spectra do not meet the specified National Functional Guidelines criteria. In the reviewer's professional judgment, 4-nitrophenol in samples Y1FS0 and Y1FS1should not be reported as detects because the ion m/z 139 is missing in the sample mass spectra (attached, p. 883 and 895 in data package). The peak at retention time of 11.4 minutes is the DMC 4,6-dinitro-2-methylphenol-d2. Results for 4-nitrophenol in samples Y1FS0 and Y1FS1 are reported in Table 1A as nondetected (5.0U).

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Low Concentration Organic Data Review," June 2001.

U The analyte was analyzed for, but was not detected above the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method.

L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was not detected above the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.

R The sample results are unusable. The analyte may or may not be present in the sample.

ICF International / Laboratory Data Consultants
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Phone: (510) 412-2300; Fax: (510) 412-2304

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM)
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105001

DATE: August 3, 2006

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID NO.:	CAD042245001
Case No.:	33335
SDG No.:	Y1FR9
Laboratory:	Shealy Environmental Services (SHEALY)
Analysis:	Volatiles
Samples:	20 Groundwater Samples (see Case Summary)
Collection Date:	September 13 through 16, 2004
Reviewer:	April Martinez, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

cc: Cynthia Gurley, CLP PO USEPA Region 4
Steve Remaley, CLP PO USEPA Region 9

CLP PO: [X] Attention [X] Action

SAMPLING ISSUES: [X] Yes [ ] No

Data Validation Report

Case No.: 33335
SDG No.: Y1FR9
Site: Omega Chem OU2
Laboratory: Shealy Environmental Services (SHEALY)
Reviewer: April Martinez, ESAT/LDC
Date: August 3, 2006

I. CASE SUMMARY

Sample Information

Samples:	Y1FR9 through Y1FT8
Concentration and Matrix:	Low Concentration Water
Analysis:	Volatiles
SOW:	OLC03.2
Collection Date:	September 13 through 16, 2004
Sample Receipt Date:	September 15 through 17, 2004
Extraction Date:	Not Applicable
Analysis Date:	September 18, 19, 20, 22, 23, and 24, 2004

Field QC

Field Blanks (FB):	Y1FR9 and Y1FT0
Equipment Blanks (EB):	Not Provided
Trip Blank (TB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	Y1FS1 and Y1FS2
Field Duplicates (D2):	Y1FT5 and Y1FT6

Laboratory QC

Method Blanks & Associated Samples:

VBLK18:	Y1FR9 and Y1FS0DL through Y1FS8DL
VBLK19:	Y1FS1
VBLK20:	Y1FS0, Y1FS2 through Y1FS8, Y1FT5, and Y1FT7
VBLK22:	Y1FS9, Y1FT0, and Y1FT2
VBLK23:	Y1FT1, Y1FT3DL, and Y1FT4DL
VBLK24:	Y1FT3, Y1FT4, Y1FT6, and Y1FT8
VBLK28:	Storage blank VHBLK97

Tables

1A:	Analytical Results with Qualifications
1B:	Data Qualifier Definitions for Organic Data Review
2:	Calibration Summary

CLP PO Action

Nondetected results for 4-methyl-2-pentanone in method blank VBLK28 and storage blank VHBLK97 are qualified as rejected (R) due to very low response factors (<0.01) in the continuing calibration (see Comment A).

CLP PO Attention

1. Detected results for some analytes are qualified as nondetected and estimated (U,J) due to method blank and field blank contamination (see Comment C).

2. Results for some analytes are qualified as estimated (J) due to calibration problems (see Comments D, E, and F).

3. Results for some analytes are qualified as estimated (J) due to deuterated monitoring compound (DMC) recovery problems (see Comment G).

4. Results for trichlorofluoromethane, 1,1-dichloroethene, 1,1,2-trichloro-1,2,2-trifluoroethane, trichloroethene, and tetrachloroethene in sample Y1FT8 are qualified as estimated (J) due to concentrations exceeding calibration ranges (see Comment H).

5. Results for all analytes in sample Y1FT6 are qualified as estimated (J) due to a holding time problem (see Comment I).

Sampling Issues

1. Detected results for chloroform in some samples are qualified as nondetected and estimated (U,J) due to field blank contamination (see Comment C).

2. One vial for sample Y1FT6 and two vials for sample Y1FT7 were broken when received by the laboratory. There was enough sample in the other vials for analysis.

3. The traffic report & chain of custody records (TR/COCs; attached, p. 4 through 6 in data package) incorrectly stated "(Ice Only)" for samples Y1FS0, Y1FS2, Y1FS6, Y1FT2 through Y1FT5, Y1FT7, and Y1FT8. The sampler indicated that "All VOAs were pre-preserved with HCL" (see attached electronic mail dated 07/27/06). The SDG Narrative (attached), however, indicated that the pH of sample Y1FT6 was 7. Results for sample Y1FT6 were qualified as estimated (J) since the analysis exceeded the 7-day holding time for unpreserved water sample (see Comment I).

4. Field blanks were not submitted "blind" to the laboratory since "Ambient Blank" was used as the "matrix" on the TR/COCs (attached, p. 4 through 6 in data package).

Additional Comments

Other than a laboratory artifact (approximate retention time of 4.4 minutes), tentatively identified compounds (TICs) were found in samples Y1FS1 and Y1FT8 (see attached Form 1LCFs).

The laboratory performed manual integrations on calibrations due to incorrect auto integration. Manual integrations were reviewed and found to be satisfactory and in compliance with proper integration techniques.

This report was prepared in accordance with the following documents:

- ESAT Region 9 Standard Operating Procedure 901, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Volatile and Semivolatile Data Packages*;

- *USEPA Contract Laboratory Program Statement of Work for Analysis of Low Concentration Organic*, OLC03.2, December 2000; and

- USEPA Contract Laboratory Program National Functional Guidelines for Low Concentration Organic Data Review, June 2001.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Holding Time/Preservation	No	I
2.	GC/MS Tune/GC Performance	Yes	
3.	Initial Calibration	No	D, E
4.	Continuing Calibration	No	A, D, F
5.	Laboratory Blanks	No	C
6.	Field Blanks	No	C
7.	Deuterated Monitoring Compounds	No	G
8.	Matrix Spike/Matrix Spike Duplicates	N/A	
9.	Laboratory Control Samples/Duplicates	N/A	
10.	Internal Standards	Yes	
11.	Compound Identification	No	M
12.	Compound Quantitation	No	B, H, K, L, M
13.	System Performance	Yes	
14.	Field Duplicate Sample Analysis	No	J

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. Nondetected results for the following analyte are qualified as rejected due to a very low relative response factor (RRF) in the continuing calibration and are flagged "R" in Table 1A.

- 4-Methyl-2-pentanone in method blank VBLK28 and storage blank VHBLK97

A relative response factor (RRF) of 0.004 was reported for 4-methyl-2-pentanone in the 09/28/04 continuing calibration. This value is well below the 0.05 validation criterion. Since results are nondetected, false negatives may exist.

The RRF evaluates instrument sensitivity and is used in the quantitation of target analytes.

B. The following results, denoted with an “L” qualifier, are estimated and flagged “J” in Table 1A.

- All detected results below the contract required quantitation limits

Results below the contract required quantitation limits (CRQLs) are considered to be qualitatively acceptable, but quantitatively unreliable, due to the uncertainty in analytical precision near the limit of detection.

C. The following results are qualified as nondetected and estimated due to method blank and field blank contamination and are flagged “U,J” in Table 1A.

- Bromomethane in samples Y1FS1, Y1FS2, and Y1FS5
- Methylene chloride in samples Y1FR9 through Y1FS8, Y1FT0, Y1FT3, and Y1FT6 and storage blank VHBLK97
- Chloroform in samples Y1FS0 through Y1FS3, Y1FS9, and Y1FT1 through Y1FT4
- Benzene in samples Y1FS0, Y1FS3 through Y1FS7, Y1FS9, and Y1FT2 through Y1FT5
- Tetrachloroethene in samples Y1FT0 and Y1FT7
- Chlorobenzene in sample Y2FS2

Bromomethane was found in method blanks VBLK19, VBLK20, VBLK23, and VBLK28; methylene chloride was found in all method blanks; tetrachloroethene was found in method blanks VBLK19, VBLK20, VBLK22, and VBLK24; benzene was found in field blank Y1FT0 and method blanks VBLK20, VBLK24, and VBLK28; chlorobenzene was found in method blanks VBLK19, VBLK20, and VBLK22; and chloroform was found in field blanks Y1FR9 and Y1FT0 (see Table 1A for concentrations). Results for the samples listed above are considered nondetected and estimated (U,J) and quantitation limits have been raised according to blank qualification rules presented below.

No positive results are reported unless the concentration of the compound in the sample exceeds 10 times the amount in any associated blank for common laboratory contaminants or 5 times the amount for other compounds. If the sample result is greater than the CRQL, the quantitation limit is raised to the sample result and reported as nondetected. If the sample result is less than the CRQL, the result is reported as nondetected at the CRQL.

Chloroform results for samples Y1FS4, Y1FS5, Y1FS7, Y1FT5, Y1FT6, and Y1FT8 are not qualified as nondetected and estimated because field blank were not

collected on 09/14/04 and 09/16/04. Users should note that chloroform may be an artifact because it was found in field blanks Y1FR9 and Y1FT0.

A laboratory method blank is laboratory reagent water or baked sand analyzed with all reagents, deuterated monitoring compounds, and internal standards and carried through the same sample preparation and analytical procedures as the field samples. The laboratory method blank is used to determine the level of contamination introduced by the laboratory during analysis.

A field blank is clean water prepared as a sample in the field by the sampler and shipped to the laboratory with the samples. A field blank is intended to detect contaminants that may have been introduced in the field, although any laboratory introduced contamination will be present. Contaminants that are found in the field blank which are absent in the laboratory method blank could be indicative of a field QC problem, a deficiency in the bottle preparation procedure, a difference in preparation of the laboratory and field blanks, or other indeterminate error.

D. Results for the following analytes are qualified as estimated due to low relative response factors (RRFs) in initial and continuing calibrations and are flagged "J" in Table 1A.

- Acetone, 2-butanone, 2-hexanone, and 1,2-dibromo-3-chloropropane in all samples, all method blanks, and storage blank VHBLK97

Average RRFs were below the 0.05 validation criterion in the initial and continuing calibrations (see Table 2).

Detected results for the analytes listed above should be considered as the minimum concentrations at which these analytes are present in the samples. Where results are nondetected, false negatives may exist.

DMCs 2-butanone-d5 and 2-hexanone-d5 also had RRFs below the 0.05 validation criterion in the initial and continuing calibrations (see Table 2). Quantitation of the analytes associated with these DMCs may have been affected by the low RRFs (see attached Table 9 from the Functional Guidelines).

The RRF evaluates instrument sensitivity and is used in the quantitation of target analytes.

E. Results for the following analytes are qualified as estimated due to large percent relative standard deviations (%RSDs) in initial calibrations and are flagged "J" in Table 1A.

- Methyl acetate in all samples; all method blanks; and storage blank VHBLK97

- Methylene chloride and 1,2-dibromo-3-chloropropane in samples Y1FT3, Y1FT4, Y1FT6, and Y1FT8 and method blank VBLK24

Percent RSDs exceeded the ±30.0%/50.0% validation criterion for the analytes listed above in the initial calibrations (see Table 2).

The initial calibration demonstrates that the instrument is capable of acceptable performance in the beginning of the analytical run and of producing a linear calibration curve.

F. Results for the following analytes are qualified as estimated due to large percent differences (%Ds) in continuing calibrations and are flagged "J" in Table 1A.

- Methyl acetate in sample Y1FS1 and method blank VBLK19
- Methylene chloride in samples Y1FS0, Y1FS2 through Y1FT0, Y1FT2, Y1FT5, and Y1FT7 and method blanks VBLK20 and VBLK22
- Methylcyclohexane, 1,2,3-trichlorobenzene, and 1,2-dibromoethane in samples Y1FT3, Y1FT4, Y1FT6, and Y1FT8 and method blank VBLK24
- Dichlorodifluoromethane in samples Y1FR9, Y1FT3, Y1FT4, Y1FT6, and Y1FT8 and method blanks VBLK18 and VBLK24
- Bromomethane in samples Y1FS0, Y1FS2 through Y1FS8, Y1FT5, and Y1FT7 and method blank VBLK20
- 1,1,2-Trichloro-1,2,2-trifluoroethane in samples Y1FS0, Y1FS2 through Y1FS8, and Y1FT3 through Y1FT8 and method blanks VBLK20 and VBLK24
- 4-Methyl-2-pentanone in method blank VBLK28 and storage blank VHBLK97

%Ds exceeded the ±30.0%/50.0% validation criterion for the analytes listed above in the continuing calibrations (see Table 2).

Users should note that results for 4-methyl-2-pentanone in method blank VBLK28 and storage blank VHBLK97 were previously qualified as rejected (see Comment A).

The continuing calibration checks the instrument performance daily and produces the relative response factors (RRFs) for target analytes that are used for quantitation.

G. Results for the following analytes are qualified as estimated due to DMC recoveries outside QC limits and are flagged “J” in Table 1A.

{1,1-Dichloroethene-d2}

- cis-1,2-Dichloroethene in samples Y1FS0 through Y1FS2, Y1FS4, Y1FS6, Y1FS8, and Y1FT8

{Chloroethane-d5}

- Chloromethane in samples Y1FS1, Y1FS2, Y1FS5, Y1FS7, and Y1FS8

The DMC recoveries outside QC limits are shown below.

Sample	DMC	% Recovery	QC Limits
Y1FS6DL	1,1-Dichloroethene-d2	136	65-130
Y1FS1	1,1-Dichloroethene-d2	360	65-130
Y1FS2	1,1-Dichloroethene-d2	320	65-130
Y1FS4	1,1-Dichloroethene-d2	180	65-130
Y1FS6	1,1-Dichloroethene-d2	540	65-130
Y1FS0	1,1-Dichloroethene-d2	360	65-130
Y1FS8	1,1-Dichloroethene-d2	420	65-130
Y1FT8	1,1-Dichloroethene-d2	240	65-130
Y1FS1	1,2-Dichloroethane-d4	134	78-129
Y1FS1	Chloroethane-d5	142	60-126
Y1FS2	Chloroethane-d5	132	60-126
Y1FS5	Chloroethane-d5	132	60-126
Y1FS7	Chloroethane-d5	136	60-126
Y1FS8	Chloroethane-d5	136	60-126
Y1FT4DL	Chloroethane-d5	130	60-126
Y1FT3DL	Benzene-d6	126	78-121
Y1FT3DL	Bromoform-d	138	76-135

Detected results for affected analytes where DMC recoveries fell below QC limits may be biased low; where results are nondetected, false negatives may exist. For DMC recoveries that exceeded QC limits, only detected results for associated analytes are qualified. Recoveries for DMCs 1,2-dichloroethane-d4, benzene-d6, and bromoform-d exceeded QC limits but results were not qualified because they were nondetects. The samples were not reanalyzed.

Surrogates (e.g., deuterated monitoring compounds (DMCs)) are organic compounds which are similar to the target analytes in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. All samples are spiked with DMCs prior to purging. DMCs provide information about both the laboratory performance on individual samples and the possible effects of the sample matrix on the analytical results.

H. Detected results for the following analytes are qualified as estimated due to concentrations exceeding the calibration range and are flagged "J" in Table 1A.

- Trichlorofluoromethane, 1,1-dichloroethene, 1,1,2-trichloro-1,2,2-trifluoroethane, trichloroethene, and tetrachloroethene in sample Y1FT8

Concentrations of trichlorofluoromethane, 1,1-dichloroethene, 1,1,2-trichloro-1,2,2-trifluoroethane, trichloroethene, and tetrachloroethene in the undiluted analysis of sample Y1FT8 were 25 μg/L, 31 μg/L, 71 μg/L, 270 μg/L, and 180 μg/L,

respectively. These values exceed the 0.5-25 μg/L calibration range. Due to a laboratory oversight, sample Y1FT8 was not analyzed at a dilution.

Results reported in Table 1A for these analytes are from the undiluted analysis. These concentrations are considered to be qualitatively acceptable but quantitatively questionable and should be considered as the minimum concentrations at which the analytes are present in the sample.

I. Results for the following analytes are qualified as estimated due to missed technical holding time and are flagged "J" in Table 1A.

- All analytes in sample Y1FT6

The analysis of sample Y1FT6 exceeded the 7-day 40 CFR 136 (Clean Water Act) technical holding time for unpreserved water samples as shown below.

Sample	Date Collected	Date Analyzed	# of Days Exceeded
Y1FT6	09/16/04	09/24/04	1

Detected results for sample Y1FT6 may be biased low. Where results are nondetected, false negatives may exist.

J. In the analysis of the field duplicate pairs, the following outliers were reported.

Analyte	Y1FS1 (D1) Conc., µg/L	Y1FS2 (D1) Conc., µg/L	RPD (<25%)
Methyl tert-butyl ether	9.2	6.6	33

Analyte	Y1FT5 (D2) Conc., µg/L	Y1FT6 (D2) Conc., µg/L	RPD (<25%)
Tetrachloroethene	8.2	6.1	29

The effect on data quality is not known.

The analysis of field duplicate samples is a measure of both field and analytical precision. The imprecision in the results of the analysis of the field duplicate pair may be due to the sample matrix or poor sampling or laboratory technique.

K. Due to high levels of target analytes, samples Y2FS0 through Y2FS2, Y2FS4 through Y2FS8, and Y2FT3 were analyzed at a 10-, 10-, 10-, 2-, 10-, 5-, 5-, 10-, and 2-fold dilutions, respectively. The CRQLs listed for these samples in Table 1A have been multiplied by the dilution factor.

L. Samples Y1FS0, Y1FS1, and Y1FS2 were reanalyzed at 100-fold dilutions due to high levels of 1,1-dichloroethene, 1,1,2-trichloro-1,2,2-trifluoroethane, and tetrachloroethene that exceeded the calibration range. Results for these analytes are

reported from the 100-fold diluted analyses in Table 1A; results for other analytes are reported from the 10-fold diluted analyses.

Samples Y1FS4 and Y1FS5 were reanalyzed at 25-fold and 100-fold dilutions, respectively, due to high levels of trichloroethene and tetrachloroethene that exceeded the calibration range. Results for these analytes are reported from the diluted analyses in Table 1A; results for other analytes are reported from the 2-fold and 10-fold diluted analyses, respectively.

Sample Y1FS8 was reanalyzed at a 100-fold dilution due to high levels of 1,1-dichloroethene, 1,1,2-trichloro-1,2,2-trifluoroethane, trichloroethene, and tetrachloroethene that exceeded the calibration range. Results for these analytes are reported from the 100-fold diluted analysis in Table 1A; results for other analytes are reported from the 10-fold diluted analysis.

Samples Y1FS7 and Y1FT3 were reanalyzed at 50-fold and 20-fold dilutions, respectively, due to high levels of tetrachloroethene that exceeded the calibration range. Results for tetrachloroethene are reported from the diluted analyses in Table 1A; results for other analytes are reported from the 5-fold and 2-fold diluted analyses, respectively.

Samples Y1FS3 and Y1FT4 were reanalyzed at 10-fold and 5-fold dilutions due to high level of trichloroethene that exceeded the calibration range. Results for trichloroethene are reported from the diluted analyses in Table 1A; results for other analytes are reported from the undiluted analyses.

Sample Y1FS6 was reanalyzed at a 50-fold dilution due to high levels of trichlorofluoromethane, 1,1-dichloroethene, 1,1,2-trichloro-1,2,2- trifluoroethane, trichloroethene, and tetrachloroethene that exceeded the calibration range. Results for these analytes are reported from the 50-fold diluted analysis in Table 1A; results for all other analytes are reported from the 5-fold diluted analysis.

M. The laboratory reported a detected result for 2-butanone in sample Y1FS2 of 7.6 μg/L (below the CRQL of 50 μg/L for a 10-fold dilution). However, the mass spectrum does not meet National Functional Guidelines criteria. In the reviewer's professional judgment, 2-butanone in sample Y1FS2 should not be reported as detected because the characteristic ions m/z 57 and m/z 72 are missing in the sample mass spectra (attached, p. 133 in data package). The result for 2-butanone in sample Y1FS2 is reported in Table 1A as nondetected (50U).

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Low Concentration Organic Data Review," June 2001.

U The analyte was analyzed for, but was not detected above the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method.

L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was not detected above the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.

R The sample results are unusable. The analyte may or may not be present in the sample.

Table 2
Calibration Summary

Case No.: 33335
SDG No.: Y1FR9
Site: Omega Chem OU2
Laboratory: Shealy Environmental Services (SHEALY)
Reviewer: April Martinez, ESAT/LDC
Date: August 2, 2006

RELATIVE RESPONSE FACTORS (RRF)

	RRF	RRF	RRF	RRF	RRF
Analysis date:	9/17/04	9/18/04	9/19/04	9/20/04	9/22/04
Analysis time:	14:54-	09:40	10:46	09:22	08:38
GC/MS I.D.:	MSD8	MSD8	MSD8	MSD8	MSD8
Analyte	Init.	Cont.	Cont.	Cont.	Cont.
Acetone	0.029	0.034	0.023	0.027	0.028
2-Butanone	0.025	0.025	0.020	0.025	0.028
2-Hexanone	0.047	-----	0.038	0.044	-----
1,2-Dibromo-3-chloropropane	0.031	0.030	0.025	0.032	0.032
2-Butanone-d5	0.026	0.024	0.019	0.022	0.024
2-Hexanone-d5	0.041	0.040	0.029	0.033	0.034

	RRF	RRF	RRF	RRF	RRF
Analysis date:	9/24/04	9/27/04	9/23/04	9/24/04	9/28/04
Analysis time:	12:46-	10:26 -	10:26	16:02	07:02
GC/MS I.D.:	MSD8	MSD8	MSD8	MSD8	MSD8
Analyte	Init.	Init.	Cont.	Cont.	Cont.
Acetone	0.029	0.024	0.023	0.030	0.023
2-Butanone	0.024	0.021	0.023	0.027	0.018
2-Hexanone	0.040	0.031	0.037	-----	0.031
1,2-Dibromo-3-chloropropane	0.025	0.021	0.028	0.035	0.023
2-Butanone-d5	0.022	0.019	0.021	0.026	0.019
2-Hexanone-d5	0.031	0.025	0.029	0.041	0.027
4-Methyl-2-pentanone	-----	-----	-----	-----	0.004

PERCENT RELATIVE STANDARD DEVIATIONS (%RSD)

	%RSD	%RSD	%RSD
Analysis Date:	9/17/04	9/24/04	9/27/04
Analysis Time:	14:54-	12:46-	10:26 -
GC/MS I.D.:	MSD8	MSD8	MSD8
Analyte	Init.	Init.	Init.
Methyl acetate	38.2	33.2	34.3
Methylene chloride	-----	47.2	-----
1,2-Dibromo-3-chloropropane	-----	52.0	-----

PERCENT DIFFERENCES (%D)

	%D	%D	%D	%D
Analysis Date:	9/18/04	9/19/04	9/20/04	9/22/04
Analysis Time:	09:40	10:46	09:22	08:38
GC/MS I.D.:	MSD8	MSD8	MSD8	MSD8
Analyte	Cont.	Cont.	Cont.	Cont.
Dichlorodifluoromethane	+37.2	-----	-----	-----
Methyl acetate	-----	-42.7	-----	-----
Bromomethane	-----	------	+37.6	-----
1,1,2-Trichloro-1,2,2-trifluoroethane	-----	-----	+36.2	-----
Methylene chloride	-----	-----	+41.6	+36.0

	%D	%D
Analysis Date:	9/24/04	9/28/04
Analysis Time:	16:02	07:02
GC/MS I.D.:	MSD8	MSD8
Analyte	Cont.	Cont.
Dichlorodifluoromethane	+36.2	-----
1,1,2-Trichloro-1,2,2-trifluoroethane	+32.8	-----
Methylcyclohexane	+37.9	-----
1,2-Dibromoethane	+30.8	-----
1,2,3-Trichlorobenzene	+33.6	-----
4-Methyl-2-pentanone	-----	-93.1

+ = RRF biased low; - = RRF biased high.

ASSOCIATED SAMPLES AND METHOD BLANKS

Initial, 9:17/04:	Y1FR9, Y1FS0 through Y1FS9, Y1FT0, Y1FT2, Y1FT5, Y1FT7, Y1FS0DL through Y1FS8DL, Y1FT3DL, Y1FT4DL; method blanks VBLK18, VBLK19, VBLK20, VBLK22, VBLK23
Cont., 9/18/04:	Y1FR9, Y1FS0DL through Y1FS8DL; method blank VBLK18
Cont., 9/19/04:	Y1FS1; method blank VBLK19
Cont., 9/20/04:	Y1FS0, Y1FS2 through Y1FS8, Y1FT5, Y1FT7; method blank VBLK20
Cont., 9/22/04:	Y1FS9, Y1FT0, Y1FT2; method blank VBLK22
Cont., 9/23/04:	Y1FT1, Y1FT3DL, Y1FT4DL; method blank VBLK23
Initial, 9/24/04:	Y1FT3, Y1FT4, Y1FT6, Y1FT8; method blank VBLK24
Cont., 9/24/04:	Y1FT3, Y1FT4, Y1FT6, Y1FT8; method blank VBLK24
Initial, 9/27/04:	Method blank VBLK28; storage blank VHBLK97
Cont., 9/28/04:	Method blank VBLK28; storage blank VHBLK97.

ICF Consulting / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
Phone: (510) 412-2300 Fax: (510) 412-2304

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Project Officer (TOPO)
Quality Assurance (QA) Program, PMD-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: 68-W-01-028
Technical Direction Form No.: 00905072

DATE: February 24, 2006

SUBJECT: Tier 1A Review of Analytical Data Cover Memo for Omega Chem OU2 ACE site, Case: None, SDGs: G4L010311, G4L020335, G4L040125, G4L040206, G4L070405, G4L080479, G4L090480, and G4L100385

Severn Trent Laboratories-Sacramento analyzed 29 groundwater samples for chemical oxygen demand (COD) by EPA Method 410.4.

A forms-only evaluation of the data packages was performed to identify any key analytical issues/deficiencies affecting data quality. This evaluation approach is employed when in-depth data review is not required as indicated by the data user. For areas of concern see lettered and additional comments.

The evaluation includes: a review of the data package for completeness, a review of the chain of custody (COC) forms (against laboratory reported information, for signatures, for sample condition upon laboratory receipt and for sample preservation), a review of holding times, a review of quality control (QC) summaries, a review of blanks for contamination, a random check of reported results against raw data, and a random check of raw data for interference problems or system control problems (e.g. baseline anomalies, baseline drifts, etc.).

The following data quality issue should be noted:

A. Results between the method detection limit (MDL) and the reporting limit (RL) are considered to be qualitatively acceptable, but quantitatively unreliable, due to the uncertainty in analytical precision near the limit of detection. COD results for the following samples are greater than the MDL but less than the RL and are estimated: OC2-OW6-W-0-82 and OC2-OW3-W-0-85 (SDG G4L020335); OC2-OW5-W-0-86 and OC2-OW2-W-0-89 (SDG G4L040125); OC2-MW4B-W-0-93, OC2-MW4B-W-1-94, and OC2-MW4C-W-0-95 (SDG G4L070405); OC2-MW1A-W-0-98,

OC2-MW1B-W-0-99, OC2-MW7A-W-0-102, and OC2-MW7A-W-1-103 (SDG G4L080479); OC2-MW10A-W-0-104, OC2-MW3A-W-0-105, and OC2-MW2A-W-0-106 (SDG G4L090480); and OC2-MW8A-W-0-107, OC2-MW8B-W-0-108, and OC2-MW8C-W-0-109 (SDG G4L100385).

Additional Comments:

1. The sampler specified OC2-MW6-W-0-100 (SDG G4L080479) as the laboratory QC sample on the COC record form. The laboratory did not use this sample for laboratory QC. The effect on data quality is not known.

2. The COC record forms for all SDGs, except G4L010311 and G4L080479, did not specify a sample to be used for laboratory QC. As a result, the laboratory selected a sample for QC analysis. The effect on data quality is not known.

A Tier 1A Table 1A was not requested.

This report has been reviewed by the EPA TOPO for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

ANALYTICAL RESULTS
Table 1A

Case No. : None SDG No. : 045674
Site : Omega Chemical OU2
Lab : Applied Physics & Chemistry Laboratories (APCL)
Reviewer : Stan Kott, ESAT/LDC
Date : February 22, 2006

Analysis Type : Hexavalent Chromium In Groundwater Samples By Method 218.6

Concentration in ug/L

Sample ID :	OC2-MW1A-W-0-98			OC2-MW1B-W-0-99			OC2-MW6-W-0-100			OC2-MW9B-W-0-101			OC2-MW7A-W-0-1D1			OC2-MW7A-W-1-1D1			PQL		
Collection Date :	12/07/04			12/07/04			12/07/04			12/07/04			12/07/04			12/07/04					
PARAMETER	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
HEXAVALENT CHROMIUM	29.2			82.1			76.6			5.6			4.4			4.3			1		

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
MDL - Method Detection Limit, N/A - Not Applicable, NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank, TB - Trip Blank, BG - Background Sample
PQL - Practical Quantitation Limit

ICF Consulting / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
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Phone: (510) 412-2300 Fax: (510) 412-2304

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Project Officer (TOPO)
Quality Assurance (QA) Program, PMD-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: 68-W-01-028
Technical Direction Form No.: 00905072

DATE: February 22, 2006

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2 ACE
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	None
SDG No.:	045674
Laboratory:	Applied Physics & Chemistry Laboratories (APCL)
Analysis:	Hexavalent Chromium
Samples:	6 Groundwater Samples (see Case Summary)
Collection Date:	December 7, 2004
Reviewer:	Stan Kott, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOPO for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

SAMPLING ISSUES: [ ] Yes [X] No

Data Validation Report

Case No.: None
SDG No.: 045674
Site: Omega Chem OU2 ACE
Laboratory: Applied Physics & Chemistry Laboratory (APCL)
Reviewer: Stan Kott, ESAT/LDC
Date: February 22, 2006

I. CASE SUMMARY

Sample Information

Samples:	OC2-MW1A-W-0-98, OC2-MW1B-W-0-99, OC2-MW6-W-0-100, OC2-MW9B-W-0-101, OC2-MW7A-W-0-102, and OC2-MW7A -W-1-103
Concentration and Matrix:	Low Concentration Groundwater
Analysis:	Hexavalent Chromium
SOW:	EPA Method 218.6
Collection Date:	December 7, 2004
Sample Receipt Date:	December 7, 2004
Preparation Date:	December 7, 2004
Analysis Date:	December 7, 2004

Field QC

Field Blanks (FB):	Not Provided
Equipment Blanks (EB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	OC2-MW7A-W-0-102 and OC2-MW7A-W-1-103

Laboratory QC

Method Blank (MB):	MB
Associated Samples:	Samples listed above
Matrix Spike (MS):	OC2-MW9B-W-0-101MS
Duplicates (D):	Laboratory Control Sample (LCS) and LCS Duplicate (LCSD)
Analysis:	Hexavalent Chromium

Analyte	Sample Preparation Date	Analysis Date
Hexavalent Chromium	December 7, 2004	December 7, 2004

Sampling Issues

None.

Additional Comments

The analytical method does not require analysis of a practical quantitation limit (PQL) standard to confirm linearity of the calibration curve at the 1 µg/L PQL. Since the laboratory analyzed a 0.2 µg/L standard that is near the PQL as part of the instrument calibration, this is not expected to have a significantly adverse effect on data quality for hexavalent chromium in OC2MW9B-W-0-101, OC2MW7A-W-0-102, and OC2MW7A-W-1-103.

Standards preparation data were not included in the data package and could not be reviewed. No adverse effect on data quality is expected.

Analytical results are listed in Table 1A. Definitions of data qualifiers are listed in Table 1B.

This report was prepared in accordance with the following documents:

- Region 9 Standard Operating Procedure 906, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Inorganic Data Packages*; and

- *USEPA Method 218.6, Determination of Dissolved Hexavalent Chromium in Drinking Water, Groundwater, and Industrial Wastewater Effluents by Ion Chromatography*, Revision 3.2, April 1991.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Data Completeness	Yes	
2.	Sample Preservation and Holding Times	Yes	
3.	Calibration	Yes	
	a. Initial		
	b. Initial and Continuing Calibration Verification		
4.	Blanks	Yes	
5.	Laboratory Control Sample (LCS)	Yes	
6.	Duplicate Sample Analysis	Yes	
7.	Matrix Spike Sample Analysis	Yes	
8.	Field Duplicate Sample Analysis	Yes	
9.	Sample Quantitation	Yes	
10.	Overall Assessment	Yes	

N/A = Not Applicable

III. OVERALL ASSESSMENT OF DATA

All of the method requirements specified in EPA Method 218.6 have been met. Reported results for hexavalent chromium in all of the samples of this SDG were correctly calculated.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR INORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared in accordance with the document *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004.

U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

ICF Consulting / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
Phone: (510) 412-2300 Fax: (510) 412-2304

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM)
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105001

DATE: June 30, 2006

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	33625
SDG No.:	MY1LN4
Laboratory:	Ceimic Corporation (CEIMIC)
Analysis:	CLP Dissolved Metals By ICP-AES
Samples:	9 Groundwater Samples (see Case Summary)
Collection Date:	December 7, 8, and 9, 2004
Reviewer:	Stan Kott, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

cc: Jennie Han-Liu, CLP PO USEPA Region 1
Steve Remaley, CLP PO USEPA Region 9

CLP PO: [X] FYI [ ] Action

SAMPLING ISSUES: [ ] Yes [X] No

Data Validation Report

Case No.: 33625
SDG No.: MY1LN4
Site: Omega Chem OU2
Laboratory: Ceimic Corporation (CEIMIC)
Reviewer: Stan Kott, ESAT/LDC
Date: June 30, 2006

I. CASE SUMMARY

Sample Information

Samples:	MY1LN4, MY1LN6 through MY1LN9, and MY1LP0 through MY1LP3
Concentration and Matrix:	Low Concentration Groundwater
Analysis:	CLP Dissolved Metals By ICP-AES
SOW:	ILM05.3 and Modification Reference Number AES060304.0
Collection Date:	December 7, 8, and 9, 2004
Sample Receipt Date:	December 8, 9, and 11, 2004
Preparation Date:	December 15, 2004
Analysis Date:	December 16, 2004

Field QC

Field Blanks (FB):	Not Provided
Equipment Blanks (EB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	Not Provided

Laboratory QC

Method Blanks & Associated Samples:	Preparation Blank-Water (PBW) and samples listed above
Matrix Spike:	MY1LN4S
Duplicates:	MY1LN4D
ICP Serial Dilution:	MY1LN4L

Analysis: Select CLP Dissolved Metals By ICP-AES

Analyte	Sample Preparation and Digestion Date	Analysis Date
ICP-AES Metals	December 15, 2004	December 16, 2004
Percent Solids	Not Applicable	Not Applicable

CLP PO Action

None.

Sampling Issues

None.

Additional Comments

Note that Ceimic Corporation laboratory is no longer in operation.

The samples in this SDG were analyzed for select metals (aluminum, calcium, iron, magnesium, potassium, and sodium) plus boron and silicon by ICP-AES under Modified Analysis Request (MAR), Modification Reference Number AES060304.0.

The laboratory indicates in the SDG Narrative that the original 100 µg/L contract required quantitation limit (CRQL) for silicon was increased to 200 µg/L after the Modified Analysis contract was awarded to the laboratory. No adverse effect on data quality is expected.

All method requirements specified in the EPA Contract Laboratory Program (CLP) Inorganic Statement of Work (SOW), except as noted, have been met.

Analytical results are listed in Table 1A with qualifications. Definitions of data qualifiers used in Table 1A are listed in Table 1B.

This report was prepared in accordance with the following documents:

- Region 9 Standard Operating Procedure 906, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Inorganic Data Packages*;
- *Request for Quote for Modified Analysis* (SOW flexibility clause), Tracking Number: 1103.0, Modification Reference Number: AES060304.0, June 9, 2004;
- *USEPA Contract Laboratory Program Statement of Work For Inorganic Analysis Multi-Media, Multi-Concentration* ILM05.3, March 2004; and
- *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Data Completeness	Yes	
2.	Sample Preservation and Holding Times	Yes	
3.	Calibration	Yes	
	a. Initial		
	b. Initial and Continuing Calibration Verification		
	c. CRQL Check Standard (CRI)		
4.	Blanks	Yes	
5.	ICP Interference Check Sample (ICS)	Yes	
6.	Laboratory Control Sample (LCS)	Yes	
7.	Duplicate Sample Analysis	Yes	
8.	Matrix Spike Sample Analysis	Yes	
9.	ICP Serial Dilution Analysis	Yes	
10.	ICP-MS Internal Standards	N/A	
11.	Field Duplicate Sample Analysis	Yes	
12.	Sample Quantitation	Yes	A
13.	Overall Assessment	Yes	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. Results above the MDL but below the CRQL (denoted with an "L" qualifier) are estimated and flagged "J" in Table 1A.

Results above the MDL but below the CRQL are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of quantitation.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR INORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared in accordance with the document *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004.

U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

ANALYTICAL RESULTS
Table 1A

Case No. : 33625 SDG No. : MY1LN4
Site : OMEGA CHEM OU2
Lab : CEIMIC CORPORATION (CEIMIC)
Reviewer : Stan Kott, ESAT/LDC
Date : June 30, 2006

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Low Concentration Groundwater Samples For Select Dissolved Metals By ICP-AES

Station Location :	24			26			27			28			29			30			31		
Sample ID :	MY1LN4			MY1LN6			MY1LN7			MY1LN8			MY1LN9			MY1LP0			MY1LP1		
Collection Date :	12/7/2004			12/7/2004			12/8/2004			12/8/2004			12/8/2004			12/9/2004			12/9/2004		
PARAMETER	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
ALUMINUM	200U			200U			55.4L	J	A	45.7L	J	A	200U			200U			200U		
BORON	408L	J	A	627L	J	A	425L	J	A	579L	J	A	436L	J	A	522L	J	A	398L	J	A
CALCIUM	225000			260000			147000			137000			193000			227000			226000		
IRON	58.1L	J	A	100U			100U			100U			100U			100U			100U		
MAGNESIUM	51600			73600			38200			42700			54900			54900			58700		
POTASSIUM	6480			5260			8140			4220L	J	A	4270L	J	A	6120			6180		
SILICON	12800			16700			13600			18100			19400			14700			15600		
SODIUM	125000			180000			121000			174000			110000			135000			111000		

Station Location :	32			33																	
Sample ID :	MY1LP2			MY1LP3			MDL			CRQL											
Collection Date :	12/9/2004			12/9/2004																	
PARAMETER	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
ALUMINUM	200U			51.2L	J	A	44.2			200											
BORON	437L	J	A	139L	J	A	52.5			1000											
CALCIUM	231000			140000			77.4			5000											
IRON	1570			100U			32.2			100											
MAGNESIUM	58300			38300			28.2			5000											
POTASSIUM	5990			5010			54.8			5000											
SILICON	14800			10800			67.3			200											
SODIUM	123000			61500			60.9			5000											

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
MDL - Method Detection Limit, N/A - Not Applicable, NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank, TB - Trip Blank, BG - Background Sample
CRQL - Contract Required Quantitation Limit

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MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Project Officer (TOPO)
Quality Assurance (QA) Program, PMD-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: 68-W-01-028
Technical Direction Form No.: 00905072

DATE: February 27, 2006

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2 ACE
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	Not Provided
SDG No.:	G4L100385
Laboratory:	STL Sacramento
Analysis:	N-Nitrosodimethylamine and 1,2,3-Trichloropropane
Samples:	5 Water Samples (see Case Summary)
Collection Date:	December 9, 2004
Reviewer:	Nanny Estrada, ESAT/Laboratory Data Consultants (LDC)

This report has been reviewed by the EPA TOPO for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

SAMPLING ISSUES: [ ] Yes [X] No

Data Validation Report

Case No.: Not Provided
SDG No.: G4L100385
Site: Omega Chem OU2 ACE
Laboratory: STL Sacramento
Reviewer: Nanny Estrada, ESAT/LDC
Date: February 27, 2006

I. CASE SUMMARY

Sample Information

Samples:	OC2-MW8A-W-0-107, OC2-MW8B-W-0-108, OC2-MW8C-W-0-109, OC2-MW8D-W-0-110, and OC2-00-W-2-111
Concentration and Matrix:	Low Concentration Water
Analysis:	N-Nitrosodimethylamine (NDMA) and 1,2,3-Trichloropropane
Method:	USEPA Method 1625, Semivolatile Organic Compounds by Isotope Dilution GCMS
Collection Date:	December 9, 2004
Sample Receipt Date:	December 10, 2004
Extraction Date:	December 15 and 22, 2004
Analysis Date:	December 17 and 29, 2004

Field QC

Field Blanks (FB):	Not Provided
Equipment Blanks (EB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	Not Provided

Laboratory QC

Method Blanks & Associated Samples:

G4L150000-473:	All samples
G4L220000-371:	NDMA for OC2-00-W-2-111

Tables

1A: Analytical Results with Qualifications
1B: Data Qualifier Definitions for Organic Data Review

Sampling Issues

None.

Additional Comments

Although NDMA was found in the laboratory method blanks (3.3 ng/L and 18 ng/L), no data are qualified since NDMA was not found in the samples. NDMA was detected above the reporting limit in the initial analysis of sample OC2-00-W-2-111. The sample was re-extracted outside of the 7-day extraction holding time specified in EPA Method 1625 (see Comment A). No NDMA was found above the reporting limit in the re-analysis of sample OC2-00-W-2-111RX.

Method specific quality control (QC) limits are used to evaluate the quality of data. For QC where the method does not specify limits, the laboratory QC limits are used.

This report was prepared in accordance with the following documents:

- USEPA Office of Water, *Method 1625C: Semivolatile Organic Compounds by Isotope Dilution GCMS*, June 1989;

- ESAT Region 9 Standard Operating Procedure 901, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Volatile and Semivolatile Data Packages*; and

- *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review*, October 1999.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Holding Time/Preservation	No	A
2.	GC/MS Tune/GC Performance	Yes	
3.	Initial Calibration	Yes	
4.	Continuing Calibration	Yes	
5.	Laboratory Blanks	Yes	
6.	Field Blanks	N/A	
7.	Matrix Spike/Matrix Spike Duplicates	N/A	
8.	Laboratory Control Samples/Duplicates	No	C
9.	Internal Standards/Surrogates	No	B
10.	Compound Identification	Yes	
11.	Compound Quantitation	Yes	
12.	System Performance	Yes	
13.	Field Duplicate Sample Analysis	N/A	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. The result for the following analyte is qualified as estimated due to a holding time problem and is flagged "J" in Table 1A.

- N-Nitrosodimethylamine (NDMA) in sample OC2-00-W-2-111

The sample was collected on December 9, 2004 and extracted on December 22, 2004, which exceeded the 7-day method-specific holding time by 6 days. Since the results are nondetected, false negatives may exist.

B. Results for the following analyte are qualified as estimated due to internal standard/surrogate recovery outside QC limits and are flagged "J" in Table 1A.

{NDMA-d6}

- NDMA in samples OC2-MW8A-W-0-107, OC2-MW8B-W-0-108, OC2-MW8C-W-0-109, and OC2-MW8D-W-0-110 and method blank G4L150000-473

Internal standard/surrogate recoveries fell below the QC limits as shown below.

Sample	Internal Standard	% Recovery	QC Limits
OC2-MW8A-W-0-107	NDMA-d6	21	25 - 150
OC2-MW8B-W-0-108	NDMA-d6	19	25 - 150
OC2-MW8C-W-0-109	NDMA-d6	16	25 - 150
OC2-MW8D-W-0-110	NDMA-d6	20	25 - 150
G4L150000-473	NDMA-d6	17	25 - 150

Since sample results are nondetected, false negatives may exist.

C. The laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) results for ongoing precision and recovery (OPR) samples G05QJ1AC-LCS and G05QJ1AD-LCSD did not meet the laboratory criteria for precision. Relative percent differences (RPDs) are presented below.

Analyte	RPD	QC Limits RPD
NDMA	28	0 - 20
1,2,3-TCP	23	0 - 20

Results obtained may indicate poor laboratory technique which may interfere with accurate analysis. The effect on the data quality is not known.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," October 1999.

U The analyte was analyzed for but was not detected above the reported sample quantitation limit.

L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

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Phone: (510) 412-2300 Fax: (510) 412-2304

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Project Officer (TOPO)
Quality Assurance (QA) Program, PMD-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: 68-W-01-028
Technical Direction Form No.: 00905072

DATE: February 22, 2006

SUBJECT: Review of Analytical Data, Tier 2

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2 ACE
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	None
SDG Nos.:	044466, 044485, 044539, 045575, 045594, 045611, 045621, 045657, 045709, and 045740
Laboratory:	Applied Physics & Chemistry Laboratory (APCL)
Analysis:	Hexavalent Chromium
Samples:	38 Groundwater Samples (see Case Summary)
Collection Dates:	September 13, 14, 16, November 30, December 1, 2, 3, 6, 8, and 9, 2004
Reviewer:	Stan Kott, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOPO for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

SAMPLING ISSUES: [X] Yes [ ] No

Data Validation Report

Case No.: None
SDG No.: 045674
Site: Omega Chem OU2 ACE
Laboratory: Applied Physics & Chemistry Laboratory (APCL)
Reviewer: Stan Kott, ESAT/LDC
Date: February 22, 2006

I. CASE SUMMARY

Sample Information

SDG 044466 Samples:	OC2-MW4A-W-0-58, OC2-MW4B-W-0-59, OC2-MW4B-W-1-60, and OC2-MW4C-W-0-61
SDG 044485 Samples:	OC2-MW1B-W-0-62, OC2-MW1A-W-0-63, OC2-MW2A-W-1-64, OC2-MW6A-W-0-65, and OC2-MW5A-W-0-66
SDG 044539 Samples:	OC2-MW7A-W-0-73, OC2-MW7A-W-1-74, OC2-MW3A-W-0-75, OC2-MW10A-W-0-76, and OC2-MW11A-W-0-77
SDG 045575 Samples:	OC2-OW7-W-5-79, OC2-OW4B-W-0-80, and OC2-OW4A-W-0-81
SDG 045594 Samples:	OC2-OW6-W-0-82, OC2-OW1B-W-0-83, and OC2-OW3-W-0-85
SDG 045611 Samples:	OC2-OW8B-W-0-88, OC2-OW5-W-0-86, OC2-OW5-W-1-87, and OC2-OW2-W-0-89
SDG 045621 Sample:	OC2- OW8-W-0-91
SDG 045657 Samples:	OC2-MW4A-W-0-92, OC2-MW4B-W-0-93, OC2-MW4B-W-1-94, OC2-MW4C-W-0-95, and OC2-MW5A-W-0-97
SDG 045709 Samples:	OC2-OW1A-W-0-90, OC2-MW10A-W-0-104, OC2-MW3A-W-0-105, and OC2-MW2A-W-0-106
SDG 045740 Samples:	OC2-MW8A-W-0-107, OC2-MW8B-W-0-108, OC2-MW8C-W-0-109, and OC2-MW8D-W-0-110
Concentration and Matrix:	Low Concentration Groundwater
Analysis:	Hexavalent Chromium
SOW:	EPA Method 218.6
Collection Date:	September 13, 14, 16, November 30, December 1, 2, 3, 6, 8, and 9, 2004
Sample Receipt Date:	September 13, 14, 16, November 30, December 1, 2, 3, 6, 8, and 9, 2004
Preparation Date:	September 13, 14, 16, November 30, December 1, 2, 3, 6, 8, and 9, 2004

Analysis Date: September 13, 14, 16, November 30, December 1, 2, 3, 6, 8, and 9, 2004

Field QC

Field Blanks (FB): Not Provided
Equipment Blanks (EB): Not Provided
Background Samples (BG): Not Provided
Field Duplicates (D1): OC2-MW4B-W-0-59 and OC2-MW4B-W-1-60
Field Duplicates (D2): OC2-MW7A-W-0-73 and OC2-MW7A-W-1-74
Field Duplicates (D3): OC2-OW5-W-0-86 and OC2-OW5-W-1-89
Field Duplicates (D4): OC2-MW4B-W-0-93 and OC2-MW4B-W-1-94

Laboratory QC

Method Blanks (MB): MB
Associated Samples: Samples listed above
Matrix Spike (MS): OC2-MW4B-W-1-60MS, OC2-MW2A-W-0-64MS, OC2-MW7A-W-0-73MS, OC2-OW7-W-5-79MS, OC2-OW6-W-0-82MS, OC2-OW5-W-1-87MS, OC2- OC2-MW4B-W-1-94MS, and OC2-MW8B-W-0-108MS
Duplicates (D): Laboratory Control Sample (LCS)/ LCS Duplicate (LCSD)

Analysis: Hexavalent Chromium

Analyte	Sample Preparation Date	Analysis Date
Hexavalent Chromium	September 13, 14, 16, 2004 November 30, 2004 December 1, 2, 3, 6, 8, 9, 2004	September 13, 14, 16, 2004 November 30, 2004 December 1, 2, 3, 6, 8, 9, 2004

Sampling Issues

The Chain of Custody (COC) record forms for all SDGs, except 045575, did not specify a sample to be used for laboratory quality control (QC). As a result, the laboratory selected a sample for QC analysis. The effect on data quality is not known.

Additional Comments

As directed by the EPA TOPO, a Tier 2 data review was performed (Tier 3-level review minus inspection of raw data and verification of results by independent calculation. Table 1A is not required).

The analytical method does not require analysis of a practical quantitation limit (PQL) standard to confirm linearity of the calibration curve at the 1 µg/L PQL. Since the laboratory analyzed a 0.2 µg/L standard that is near the PQL as part of the instrument calibration, this is not expected to have a significantly adverse effect on data quality for hexavalent chromium for samples less than or equal to two times the PQL.

This report was prepared in accordance with the following documents:

- Region 9 Standard Operating Procedure 906, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Inorganic Data Packages*; and

- *USEPA Method 218.6, Determination of Dissolved Hexavalent Chromium in Drinking Water, Groundwater, and Industrial Wastewater Effluents by Ion Chromatography*, Revision 3.2, April 1991.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Data Completeness	Yes	
2.	Sample Preservation and Holding Times	Yes	
3.	Calibration	No	A
	a. Initial		
	b. Initial and Continuing Calibration Verification		
4.	Blanks	Yes	
5.	Laboratory Control Sample (LCS)	Yes	
6.	Duplicate Sample Analysis	Yes	
7.	Matrix Spike Sample Analysis	Yes	
8.	Field Duplicate Sample Analysis	No	B
9.	Sample Quantitation	Yes	
10.	Overall Assessment	Yes	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. The following results are estimated because initial calibration verification (ICV) and continuing calibration verification (CCV) standard results are outside method QC limits.

- Hexavalent chromium in samples OC2-MW7A-W-0-73, OC2-MW7A-W-1-74, OC2-MW10A-W-0-76, and OC2-MW11A-W-0-77 (SDG 044539)

The ICV and CCV recovery results for hexavalent chromium do not meet the 95-105% criterion for accuracy. The recovery for hexavalent chromium is presented below and is based on an ideal recovery of 100%.

Analyte	% Recovery
Hexavalent Chromium (ICV)	108
Hexavalent Chromium (CCV)	108

Results greater than or equal to the practical quantitation limit (PQL) are considered quantitatively uncertain. The results reported for hexavalent chromium in the samples listed above may be biased high.

The inorganic method indicates that the laboratory verify that the instrument is properly calibrated on a continuing basis. Laboratory reagent blank (LRB) and laboratory performance check standards (LPC) are analyzed after every 10 analytical samples to determine the validity of the calibration.

B. A relative percent difference (RPD) of 51 was obtained for hexavalent chromium in the analysis of field duplicate pair samples OC2-OW5-W-0-86 and OC2-OW5-W-1-87 (SDG 045611). Since sampling variability is included in the measurement, field duplicate results are expected to vary more than laboratory duplicates which have a ±25 RPD criterion for precision. The effect on data quality is not known.

The analysis of field duplicate samples is a measure of both field and analytical precision. The imprecision in the results of the analysis of the field duplicate pair may be due to the sample matrix, high levels of solids in the sample, or poor sampling or laboratory technique.

ICF Consulting / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
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Phone: (510) 412-2300 Fax: (510) 412-2304

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Project Officer (TOPO)
Quality Assurance (QA) Program, PMD-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: 68-W-01-028
Technical Direction Form No.: 00905072

DATE: March 3, 2006

SUBJECT: Review of Analytical Data, **Tier 2**

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2 ACE
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	Not Provided
SDG Nos.:	G4L010311, G4L020335, G4L040125, G4L040206, G4L070405, G4L080479, and G4L090480
Laboratory:	STL Sacramento
Analysis:	N-Nitrosodimethylamine and 1,2,3-Trichloropropane
Samples:	25 Water Samples (see Case Summary)
Collection Date:	December 9, 2004
Reviewer:	Santiago Lee, ESAT/Laboratory Data Consultants (LDC)

This report has been reviewed by the EPA TOPO for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

SAMPLING ISSUES: [ ] Yes [X] No

Data Validation Report – **Tier 2**

Case No.: Not Provided
SDG Nos.: G4L010311, G4L020335, G4L040125, G4L040206, G4L070405, G4L080479, and G4L090480
Site: Omega Chem OU2 ACE
Laboratory: STL Sacramento
Reviewer: Santiago Lee, ESAT/LDC
Date: March 3, 2006

I. CASE SUMMARY

Sample Information

Samples:	SDG G4L010311 = OC2-00-W-2-78, OC2-0W7-W-5-79, OC2-MW4B-W-0-80, and OC2-MW4A-W-0-81 SDG G4L020335 = OC2-OW6-W-0-82, OC2-0W1A-W-0-83, OC2-MW1B-W-3-84, and OC2-MW3-W-0-85 SDG G4L040125 = OC2-0W5-W-0-86, OC2-0W5-W-1-87, OC2-MW8B-W-0-88, and OC2-MW2-W-0-89 SDG G4L040206 = OC2-0W8-W-0-91 SDG G4L070405 = OC2-MW4A-W-0-92, OC2-MW4B-W-0-93, OC2-MW4B-W-1-94, OC2-MW4C-W-0-95, OC2-00-W-2-96, and OC2-MW5A-W-0-97 SDG G4L080479 = OC2-MW4A-W-0-98, OC2-MW1B-W-0-99, OC2-MW6-W-0-100, OC2-MW9B-W-0-101, OC2-MW7A-W-0-102, and OC2-MW7A-W-1-103 SDG G4L090480 = OC2-MW10A-W-0-104, OC2-MW3A-W-0-105, and OC2-MW2A-W-1-106
Concentration and Matrix:	Low Concentration Water
Analysis:	N-Nitrosodimethylamine (NDMA) and 1,2,3-Trichloropropane (1,2,3-TCP)
Method:	USEPA Method 1625, Semivolatile Organic Compounds by Isotope Dilution GCMS
Collection Date:	November 30, 2004 through December 8, 2004
Sample Receipt Date:	December 1 through 9, 2004
Extraction Date:	December 3, 7, 9, 13, and 22, 2004
Analysis Date:	December 4, 8, 9, 16, 17, and 29, 2004

Field QC

Field Blanks (FB):	Not Provided
Equipment Blanks (EB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	Not Provided

Laboratory QC

Method Blanks & Associated Samples:

G4L030000-287:	OC2-00-W-2-78, OC2-OW7-W-5-79, OC2-OW4B-W-0-80, and OC2-OW4A-W-0-81; OC2-OW6-W-0-82, OC2-OW1A-W-0-83, OC2-OW1B-W-3-84, and OC2-OW3-W-0-85
G4L070000-381:	OC2-OW5-W-0-86, OC2-OW5-W-1-87, OC2-OW8B-W-0-88, and OC2-OW2-W-0-89; OC2-OW8-W-0-91
G4L090000-214:	OC2-MW4A-W-0-92, OC2-MW4B-W-0-93, OC2-MW4B-W-1-94, OC2-MW4C-W-0-95, OC2-00-W-2-

96, and OC2-MW5A-W-0-97

G4l130000-402: 1,2,3-TCP for OC2-MW4A-W-0-98, OC2-MW1B-W-0-99, OC2-MW6-W-0-100, OC2-MW9B-W-0-101, OC2-MW7A-W-0-102, and OC2-MW7A-W-1-103; OC2-MW10A-W-0-104, OC2-MW3A-W-0-105, and OC2-MW2A-W-1-106

G4l220000-371: NDMA for OC2-MW4A-W-0-98, OC2-MW1B-W-0-99, OC2-MW6-W-0-100, OC2-MW9B-W-0-101, OC2-MW7A-W-0-102, and OC2-MW7A-W-1-103; OC2-MW10A-W-0-104, OC2-MW3A-W-0-105, and OC2-MW2A-W-1-106

Tables

1B: Data Qualifier Definitions for Organic Data Review

Sampling Issues

None.

Additional Comments

As directed by the EPA TOPO, a Tier 2 review was performed (Tier 3-level review minus inspection of raw data and verification of results by independent calculation). Table 1A is not required.

Method specific quality control (QC) limits are used to evaluate the quality of data. For QC where the method does not specify limits, the laboratory QC limits are used.

This report was prepared in accordance with the following documents:

- USEPA Office of Water, *Method 1625C: Semivolatile Organic Compounds by Isotope Dilution GCMS*, June 1989;
- ESAT Region 9 Standard Operating Procedure 901, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Volatile and Semivolatile Data Packages*; and
- *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review*, October 1999.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Holding Time/Preservation	No	A
2.	GC/MS Tune/GC Performance	Yes	
3.	Initial Calibration	Yes	
4.	Continuing Calibration	Yes	
5.	Laboratory Blanks	No	B
6.	Field Blanks	N/A	
7.	Matrix Spike/Matrix Spike Duplicates	N/A	
8.	Laboratory Control Samples/Duplicates	Yes	
9.	Internal Standards/Surrogates	No	C
10.	Compound Identification	Yes	
11.	Compound Quantitation	Yes	
12.	System Performance	Yes	
13.	Field Duplicate Sample Analysis	N/A	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. Results for the following analyte are qualified as estimated (J) due to holding time problems.

- NDMA in samples OC2-MW4A-W-0-98, OC2-MW1B-W-0-99, OC2-MW6-W-0-100, OC2-MW9B-W-0-101, OC2-MW7A-W-0-102, OC2-MW7A-W-1-103, OC2-MW10A-W-0-104, OC2-MW3A-W-0-105, and OC2-MW2A-W-1-106

The samples listed above were collected on December 7 and 8, 2004 and extracted on December 22, 2004, which exceeded the 7-day method-specific holding time. Since the results are nondetected, false negatives may exist.

B. The following result is qualified as nondetected and estimated (U,J) due to a method blank contamination.

- NDMA in sample OC2-MW2A-W-0-106

NDMA was found in method blank G4L220000-371 at a concentration of 18 ng/L. The result for sample OC2-MW2A-W-0-106 (4.3 ug/L) is considered nondetected and estimated (U,J) and the quantitation limit has been raised according to blank qualification rules presented below.

No positive results are reported unless the concentration of the compound in the sample exceeds 5 times the amount in the associated blank. If the sample result is greater than the CRQL, the quantitation limit is raised to the sample result and

reported as nondetected. If the sample result is less than the CRQL, the result is reported as nondetected at the CRQL.

A laboratory method blank is laboratory reagent water or baked sand analyzed with all reagents, deuterated monitoring compounds, and internal standards and carried through the same sample preparation and analytical procedures as the field samples. The laboratory method blank is used to determine the level of contamination introduced by the laboratory during analysis.

C. Results for the following analyte are qualified as estimated (J) due to internal standard/surrogate recovery outside QC limits.

- NDMA in samples OC2-OW4B-W-0-80, OC2-OW4A-W-0-81, OC2-OW6-W-0-82, OC2-OW1A-W-0-83, OC2-OW1B-W-3-84, OC2-OW3-W-0-85, OC2-OW5-W-0-86, OC2-OW5-W-1-87, OC2-OW8B-W-0-88, OC2-OW2-W-0-89, OC2-OW8-W-0-91, OC2-MW4A-W-0-92, OC2-MW4B-W-0-93, OC2-MW4B-W-1-94, OC2-MW4C-W-0-95, OC2-00-W-2-96, OC2-MW5A-W-0-97, and OC2-MW3A-W-0-105 and method blanks G4L030000-287, G4L070000-381, and G4L090000-214

Internal standard/surrogate recoveries fell below the QC limits as shown below.

Sample	Internal Standard	% Recovery	QC Limits
OC2-OW4B-W-0-80	NDMA-d6	20	25 - 150
OC2-OW4A-W-0-81	NDMA-d6	7	25 - 150
OC2-OW6-W-0-82	NDMA-d6	18	25 - 150
OC2-OW1B-W-0-83	NDMA-d6	20	25 - 150
OC2-OW1B-W-3-84	NDMA-d6	17	25 - 150
OC2-OW3-W-0-85	NDMA-d6	16	25 - 150
OC2-OW5-W-0-86	NDMA-d6	22	25 - 150
OC2-OW5-W-1-87	NDMA-d6	18	25 – 150
OC2-OW8B-W-0-88	NDMA-d6	21	25 - 150
OC2-OW2-W-0-89	NDMA-d6	24	25 - 150
OC2-OW8-W-0-91	NDMA-d6	23	25 - 150
OC2-MW4A-W-0-92	NDMA-d6	15	25 - 150
OC2-MW4B-W-0-93	NDMA-d6	15	25 - 150
OC2-MW4B-W-1-94	NDMA-d6	14	25 - 150
OC2-MW4C-W-0-95	NDMA-d6	18	25 - 150
OC2-00-W-2-96	NDMA-d6	14	25 - 150
OC2-MW4A-W-0-97	NDMA-d6	20	25 - 150
OC2-MW3A-W-0-105	NDMA-d6	11	25 - 150
G4L030000-287	NDMA-d6	3.3	25 - 150
G4l070000-381	NDMA-d6	21	25 - 150
G4l090000-214	NDMA-d6	15	25 - 150

Results for the affected analytes are considered quantitatively questionable. Where sample results are nondetected, false negatives may exist.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," October 1999.

U The analyte was analyzed for but was not detected above the reported sample quantitation limit.

L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ICF Consulting / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
Phone: (510) 412-2300 Fax: (510) 412-2304

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM)
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105001

DATE: July 7, 2006

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	33335
SDG No.:	Y1FR9
Laboratory:	Shealy Environmental Services, Inc. (SHEALY)
Analysis:	Semivolatiles
Samples:	18 Groundwater Samples (see Case Summary)
Collection Date:	September 13 through 16, 2004
Reviewer:	April Martinez, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

cc: Cynthia Gurley, CLP PO USEPA Region 4
Steve Remaley, CLP PO USEPA Region 9

CLP PO: [X] Attention [ ] Action

SAMPLING ISSUES: [X] Yes [ ] No

Data Validation Report

Case No.: 33335
SDG No.: Y1FR9
Site: Omega Chem OU2
Laboratory: Shealy Environmental Services, Inc. (SHEALY)
Reviewer: April Martinez, ESAT/LDC
Date: July 7, 2006

I. CASE SUMMARY

Sample Information

Samples:	Y1FS0 through Y1FS9 and Y1FT1 through Y1FT8
Concentration and Matrix:	Low Concentration Water
Analysis:	Semivolatiles
SOW:	OLC03.2
Collection Date:	September 13 through 16, 2004
Sample Receipt Date:	September 15 through 17, 2004
Extraction Date:	September 16 and 22, 2004
Analysis Date:	September 22 and 28, 2004

Field QC

Field Blanks (FB):	Not Provided
Equipment Blanks (EB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	Y1FS1 and Y1FS2
Field Duplicates (D2):	Y1FT5 and Y1FT6

Laboratory QC

Method Blanks & Associated Samples:

SBLK71:	Y1FT5 through Y1FT8
SBLK89:	Y1FS0 through Y1FS9 and Y1FT1 through Y1FT4

Tables

1A: Analytical Results with Qualifications
1B: Data Qualifier Definitions for Organic Data Review

CLP PO Action

None.

CLP PO Attention

1. Detected results for di-n-butylphthalate are qualified as nondetected and estimated (U,J) due to method blank contamination (see Comment B).

2. Results for some analytes are qualified as estimated (J) due to calibration problems (see Comments C, D, and E).

3. Results for some analytes are qualified as estimated (J) due to deuterated monitoring compound (DMC) recovery problems (see Comment F).

Sampling Issues

Samples Y1FS9 and Y1FT1 through Y1FT3 were received by the laboratory with a cooler temperature of 6.8°C, which exceeds the 4±2°C sample preservation criterion. Since the cooler temperature is below 10°C, no adverse effect on data quality is expected.

Additional Comments

Other than laboratory artifacts (approximate retention times of 5.0, 8.7, and 12.9 minutes), tentatively identified compounds (TICs) were found in the samples Y1FS0 through Y1FS3, Y1FS5 through Y1FS8, Y1FT1, Y1FT2, Y1FT3, and Y1FT7 (see attached Form 1LCGs).

The laboratory performed manual integrations on calibrations and samples due to incorrect auto integration. Manual integrations were reviewed and found to be satisfactory and in compliance with proper integration techniques.

This report was prepared in accordance with the following documents:

- ESAT Region 9 Standard Operating Procedure 901, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Volatile and Semivolatile Data Packages*;

- *USEPA Contract Laboratory Program Statement of Work for Analysis for Organic Analysis*, OLC03.2, May 1999; and

- *USEPA Contract Laboratory Program National Functional Guidelines for Low Concentration Organic Data Review*, June 2001.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Holding Time/Preservation	Yes	
2.	GC/MS Tune/GC Performance	Yes	
3.	Initial Calibration	No	C, D
4.	Continuing Calibration	No	C, E
5.	Laboratory Blanks	No	B
6.	Field Blanks	N/A	
7.	Deuterated Monitoring Compounds	No	F
8.	Matrix Spike/Matrix Spike Duplicates	N/A	
9.	Laboratory Control Samples/Duplicates	N/A	
10.	Internal Standards	Yes	
11.	Compound Identification	No	H
12.	Compound Quantitation	No	A, H
13.	System Performance	Yes	
14.	Field Duplicate Sample Analysis	No	G

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. The following results, denoted with an "L" qualifier, are estimated and flagged "J" in Table 1A.

- All detected results below the contract required quantitation limits

Results below the contract required quantitation limits (CRQLs) are considered to be qualitatively acceptable, but quantitatively unreliable, due to the uncertainty in analytical precision near the limit of detection.

B. The following results are qualified as nondetected and estimated due to method blank contamination and are flagged "U,J" in Table 1A.

- Di-n-butylphthalate in samples Y1FS0 through Y1FS4, Y1FS6, Y1FS9, Y1FT2, Y1FT3, Y1FT4, and Y1FT7

Di-n-butylphthalate was found in method blank SBLK89 (see Table 1A for concentrations). Results for the samples listed above are considered nondetected and estimated (U,J) and quantitation limits have been raised according to blank qualification rules presented below.

No positive results are reported unless the concentration of the compound in the sample exceeds 10 times the amount in any associated blank for common laboratory contaminants or 5 times the amount for other compounds. If the sample result is greater than the CRQL, the quantitation limit is raised to the sample result and

reported as nondetected. If the sample result is less than the CRQL, the result is reported as nondetected at the CRQL.

Users should note that bis(2-ethylhexyl)phthalate found in samples may be an artifact because it is a common laboratory contaminant.

A laboratory method blank is laboratory reagent water or baked sand analyzed with all reagents, deuterated monitoring compounds, and internal standards and carried through the same sample preparation and analytical procedures as the field samples. The laboratory method blank is used to determine the level of contamination introduced by the laboratory during analysis.

C. Results for the following analyte are qualified as estimated due to low relative response factors (RRFs) in initial and continuing calibrations and are flagged "J" in Table 1A.

- Atrazine in samples Y1FS0 through Y1FS9 and Y1FT1 through Y1FT4 and method blank SBLK89

An average RRF of 0.022 was reported for atrazine in the 9/18/04 initial calibration. An RRF of 0.025 was reported for atrazine in the 9/22/04 continuing calibration. These values are below the 0.05 validation criterion.

Since atrazine results are nondetected, false negatives may exist.

The RRF evaluates instrument sensitivity and is used in the quantitation of target analytes.

D. Results for the following analytes are qualified as estimated due to large percent relative standard deviation (%RSD) in initial calibrations and are flagged "J" in Table 1A.

- Benzaldehyde, 2,4-dinitrophenol, and atrazine in samples Y1FS0 through Y1FS9 and Y1FT1 through Y1FT4 and method blank SBLK89

%RSDs of 88.3%, 51.8%, and 28.1% were reported for benzaldehyde, 2,4-dinitrophenol, and atrazine, respectively, in the 09/18/04 initial calibration. These values exceed the ≤20.5%/50.0% validation criterion.

The initial calibration demonstrates that the instrument is capable of acceptable performance in the beginning of the analytical run and of producing a linear calibration curve.

E. Results for the following analyte are qualified as estimated due to a large percent difference (%D) in the continuing calibration and are flagged “J” in Table 1A.

- Benzaldehyde in samples Y1FS0 through Y1FS9 and Y1FT1 through Y1FT4 and method blank SBLK89

%D of -59.0% was reported for benzaldehyde in the 09/22/04 continuing calibration. This value exceeds the ±50.0% validation criterion.

The continuing calibration checks the instrument performance daily and produces the relative response factors (RRFs) for target analytes that are used for quantitation.

F. Results for the following analytes are qualified as estimated due to DMC recoveries outside QC limits and are flagged "J" in Table 1A.

{Dimethylphthalate-d6}

- Caprolactam, 1,1'-biphenyl, dimethylphthalate, diethylphthalate, di-n-butylphthalate, butylbenzylphthalate, bis(2-ethylhexyl)phthalate, and di-n-octylphthalate in samples Y1FS9 and Y1FT5 through Y1FT8

{4,6-Dinitro-2-methylphenol-d2}

- 4,6-Dinitro-2-methylphenol in samples Y1FS0 through Y1FS9, Y1FT1 through Y1FT4, Y1FT7, and Y1FT8 and method blank SBLK89

{Acenaphthylene-d8}

- Naphthalene, 2-methylnaphthalene, 2-chloronaphthalene, acenaphthylene, and acenaphthene in sample Y1FT7

The DMC recoveries outside QC limits are shown below.

Sample	DMC	% Recovery	QC Limits
Y1FS9	Dimethylphthalate-d6	58%	62-102
Y1FT5	Dimethylphthalate-d6	50%	62-102
Y1FT6	Dimethylphthalate-d6	58%	62-102
Y1FT7	Dimethylphthalate-d6	48%	62-102
Y1FT8	Dimethylphthalate-d6	60%	62-102
Y1FT7	Acenaphthylene-d8	48%	49-98
Y1FS0	4,6-Dinitro-2-methylphenol-d2	45%	53-153
Y1FS1	4,6-Dinitro-2-methylphenol-d2	45%	53-153
Y1FS2	4,6-Dinitro-2-methylphenol-d2	40%	53-153
Y1FS3	4,6-Dinitro-2-methylphenol-d2	50%	53-153
Y1FS4	4,6-Dinitro-2-methylphenol-d2	48%	53-153
Y1FS5	4,6-Dinitro-2-methylphenol-d2	43%	53-153
Y1FS6	4,6-Dinitro-2-methylphenol-d2	45%	53-153
Y1FS7	4,6-Dinitro-2-methylphenol-d2	50%	53-153
Y1FS8	4,6-Dinitro-2-methylphenol-d2	43%	53-153
Y1FS9	4,6-Dinitro-2-methylphenol-d2	35%	53-153
Y1FT1	4,6-Dinitro-2-methylphenol-d2	48%	53-153
Y1FT2	4,6-Dinitro-2-methylphenol-d2	43%	53-153

Y1FT3	4,6-Dinitro-2-methylphenol-d2	43%	53-153
Y1FT4	4,6-Dinitro-2-methylphenol-d2	45%	53-153
Y1FT7	4,6-Dinitro-2-methylphenol-d2	48%	53-153
Y1FT8	4,6-Dinitro-2-methylphenol-d2	48%	53-153
SBLK89	4,6-Dinitro-2-methylphenol-d2	48%	53-153
SBLK89RE	4,6-Dinitro-2-methylphenol-d2	45%	53-153

Detected results for affected analytes may be biased low; where results are nondetected, false negatives may exist. The samples were not reanalyzed.

Surrogates (e.g., deuterated monitoring compounds (DMCs)) are organic compounds which are similar to the target analytes in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. All samples are spiked with DMCs prior to purging. DMCs provide information about both the laboratory performance on individual samples and the possible effects of the sample matrix on the analytical results.

G. In the analysis of the field duplicate pairs, the following outliers were reported.

Analyte	Y1FS1 (D1) Conc., µg/L	Y1FS2 (D1) Conc., µg/L	RPD (<25%)
bis(2-Ethylhexyl)phthalate	5.6	4.2	29

Analyte	Y1FT5 (D2) Conc., µg/L	Y1FT6 (D2) Conc., µg/L	RPD (<25%)
bis(2-Ethylhexyl)phthalate	32	17	61

The effect on data quality is not known.

The analysis of field duplicate samples is a measure of both field and analytical precision. The imprecision in the results of the analysis of the field duplicate pair may be due to the sample matrix or poor sampling or laboratory technique.

H. The laboratory reported detected results for 4-nitrophenol in samples Y1FS0 and Y1FS1 of 1.6 μg/L (below the CRQL of 5.0 μg/L). However, the mass spectra do not meet the specified National Functional Guidelines criteria. In the reviewer's professional judgment, 4-nitrophenol in samples Y1FS0 and Y1FS1should not be reported as detects because the ion m/z 139 is missing in the sample mass spectra (attached, p. 883 and 895 in data package). The peak at retention time of 11.4 minutes is the DMC 4,6-dinitro-2-methylphenol-d2. Results for 4-nitrophenol in samples Y1FS0 and Y1FS1 are reported in Table 1A as nondetected (5.0U).

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Low Concentration Organic Data Review," June 2001.

U The analyte was analyzed for, but was not detected above the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method.

L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was not detected above the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.

R The sample results are unusable. The analyte may or may not be present in the sample.

ICF International / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
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Phone: (510) 412-2300; Fax: (510) 412-2304

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM)
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105001

DATE: August 3, 2006

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID NO.:	CAD042245001
Case No.:	33335
SDG No.:	Y1FR9
Laboratory:	Shealy Environmental Services (SHEALY)
Analysis:	Volatiles
Samples:	20 Groundwater Samples (see Case Summary)
Collection Date:	September 13 through 16, 2004
Reviewer:	April Martinez, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

cc: Cynthia Gurley, CLP PO USEPA Region 4
Steve Remaley, CLP PO USEPA Region 9

CLP PO: [X] Attention [X] Action

SAMPLING ISSUES: [X] Yes [ ] No

Data Validation Report

Case No.: 33335
SDG No.: Y1FR9
Site: Omega Chem OU2
Laboratory: Shealy Environmental Services (SHEALY)
Reviewer: April Martinez, ESAT/LDC
Date: August 3, 2006

I. CASE SUMMARY

Sample Information

Samples:	Y1FR9 through Y1FT8
Concentration and Matrix:	Low Concentration Water
Analysis:	Volatiles
SOW:	OLC03.2
Collection Date:	September 13 through 16, 2004
Sample Receipt Date:	September 15 through 17, 2004
Extraction Date:	Not Applicable
Analysis Date:	September 18, 19, 20, 22, 23, and 24, 2004

Field QC

Field Blanks (FB):	Y1FR9 and Y1FT0
Equipment Blanks (EB):	Not Provided
Trip Blank (TB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	Y1FS1 and Y1FS2
Field Duplicates (D2):	Y1FT5 and Y1FT6

Laboratory QC

Method Blanks & Associated Samples:

VBLK18:	Y1FR9 and Y1FS0DL through Y1FS8DL
VBLK19:	Y1FS1
VBLK20:	Y1FS0, Y1FS2 through Y1FS8, Y1FT5, and Y1FT7
VBLK22:	Y1FS9, Y1FT0, and Y1FT2
VBLK23:	Y1FT1, Y1FT3DL, and Y1FT4DL
VBLK24:	Y1FT3, Y1FT4, Y1FT6, and Y1FT8
VBLK28:	Storage blank VHBLK97

Tables

1A:	Analytical Results with Qualifications
1B:	Data Qualifier Definitions for Organic Data Review
2:	Calibration Summary

CLP PO Action

Nondetected results for 4-methyl-2-pentanone in method blank VBLK28 and storage blank VHBLK97 are qualified as rejected (R) due to very low response factors (<0.01) in the continuing calibration (see Comment A).

CLP PO Attention

1. Detected results for some analytes are qualified as nondetected and estimated (U,J) due to method blank and field blank contamination (see Comment C).

2. Results for some analytes are qualified as estimated (J) due to calibration problems (see Comments D, E, and F).

3. Results for some analytes are qualified as estimated (J) due to deuterated monitoring compound (DMC) recovery problems (see Comment G).

4. Results for trichlorofluoromethane, 1,1-dichloroethene, 1,1,2-trichloro-1,2,2-trifluoroethane, trichloroethene, and tetrachloroethene in sample Y1FT8 are qualified as estimated (J) due to concentrations exceeding calibration ranges (see Comment H).

5. Results for all analytes in sample Y1FT6 are qualified as estimated (J) due to a holding time problem (see Comment I).

Sampling Issues

1. Detected results for chloroform in some samples are qualified as nondetected and estimated (U,J) due to field blank contamination (see Comment C).

2. One vial for sample Y1FT6 and two vials for sample Y1FT7 were broken when received by the laboratory. There was enough sample in the other vials for analysis.

3. The traffic report & chain of custody records (TR/COCs; attached, p. 4 through 6 in data package) incorrectly stated "(Ice Only)" for samples Y1FS0, Y1FS2, Y1FS6, Y1FT2 through Y1FT5, Y1FT7, and Y1FT8. The sampler indicated that "All VOAs were pre-preserved with HCL" (see attached electronic mail dated 07/27/06). The SDG Narrative (attached), however, indicated that the pH of sample Y1FT6 was 7. Results for sample Y1FT6 were qualified as estimated (J) since the analysis exceeded the 7-day holding time for unpreserved water sample (see Comment I).

4. Field blanks were not submitted "blind" to the laboratory since "Ambient Blank" was used as the "matrix" on the TR/COCs (attached, p. 4 through 6 in data package).

Additional Comments

Other than a laboratory artifact (approximate retention time of 4.4 minutes), tentatively identified compounds (TICs) were found in samples Y1FS1 and Y1FT8 (see attached Form 1LCFs).

The laboratory performed manual integrations on calibrations due to incorrect auto integration. Manual integrations were reviewed and found to be satisfactory and in compliance with proper integration techniques.

This report was prepared in accordance with the following documents:

- ESAT Region 9 Standard Operating Procedure 901, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Volatile and Semivolatile Data Packages*;

- *USEPA Contract Laboratory Program Statement of Work for Analysis of Low Concentration Organic*, OLC03.2, December 2000; and

- USEPA Contract Laboratory Program National Functional Guidelines for Low Concentration Organic Data Review, June 2001.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Holding Time/Preservation	No	I
2.	GC/MS Tune/GC Performance	Yes	
3.	Initial Calibration	No	D, E
4.	Continuing Calibration	No	A, D, F
5.	Laboratory Blanks	No	C
6.	Field Blanks	No	C
7.	Deuterated Monitoring Compounds	No	G
8.	Matrix Spike/Matrix Spike Duplicates	N/A	
9.	Laboratory Control Samples/Duplicates	N/A	
10.	Internal Standards	Yes	
11.	Compound Identification	No	M
12.	Compound Quantitation	No	B, H, K, L, M
13.	System Performance	Yes	
14.	Field Duplicate Sample Analysis	No	J

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. Nondetected results for the following analyte are qualified as rejected due to a very low relative response factor (RRF) in the continuing calibration and are flagged "R" in Table 1A.

- 4-Methyl-2-pentanone in method blank VBLK28 and storage blank VHBLK97

A relative response factor (RRF) of 0.004 was reported for 4-methyl-2-pentanone in the 09/28/04 continuing calibration. This value is well below the 0.05 validation criterion. Since results are nondetected, false negatives may exist.

The RRF evaluates instrument sensitivity and is used in the quantitation of target analytes.

B. The following results, denoted with an “L” qualifier, are estimated and flagged “J” in Table 1A.

- All detected results below the contract required quantitation limits

Results below the contract required quantitation limits (CRQLs) are considered to be qualitatively acceptable, but quantitatively unreliable, due to the uncertainty in analytical precision near the limit of detection.

C. The following results are qualified as nondetected and estimated due to method blank and field blank contamination and are flagged “U,J” in Table 1A.

- Bromomethane in samples Y1FS1, Y1FS2, and Y1FS5
- Methylene chloride in samples Y1FR9 through Y1FS8, Y1FT0, Y1FT3, and Y1FT6 and storage blank VHBLK97
- Chloroform in samples Y1FS0 through Y1FS3, Y1FS9, and Y1FT1 through Y1FT4
- Benzene in samples Y1FS0, Y1FS3 through Y1FS7, Y1FS9, and Y1FT2 through Y1FT5
- Tetrachloroethene in samples Y1FT0 and Y1FT7
- Chlorobenzene in sample Y2FS2

Bromomethane was found in method blanks VBLK19, VBLK20, VBLK23, and VBLK28; methylene chloride was found in all method blanks; tetrachloroethene was found in method blanks VBLK19, VBLK20, VBLK22, and VBLK24; benzene was found in field blank Y1FT0 and method blanks VBLK20, VBLK24, and VBLK28; chlorobenzene was found in method blanks VBLK19, VBLK20, and VBLK22; and chloroform was found in field blanks Y1FR9 and Y1FT0 (see Table 1A for concentrations). Results for the samples listed above are considered nondetected and estimated (U,J) and quantitation limits have been raised according to blank qualification rules presented below.

No positive results are reported unless the concentration of the compound in the sample exceeds 10 times the amount in any associated blank for common laboratory contaminants or 5 times the amount for other compounds. If the sample result is greater than the CRQL, the quantitation limit is raised to the sample result and reported as nondetected. If the sample result is less than the CRQL, the result is reported as nondetected at the CRQL.

Chloroform results for samples Y1FS4, Y1FS5, Y1FS7, Y1FT5, Y1FT6, and Y1FT8 are not qualified as nondetected and estimated because field blank were not

collected on 09/14/04 and 09/16/04. Users should note that chloroform may be an artifact because it was found in field blanks Y1FR9 and Y1FT0.

A laboratory method blank is laboratory reagent water or baked sand analyzed with all reagents, deuterated monitoring compounds, and internal standards and carried through the same sample preparation and analytical procedures as the field samples. The laboratory method blank is used to determine the level of contamination introduced by the laboratory during analysis.

A field blank is clean water prepared as a sample in the field by the sampler and shipped to the laboratory with the samples. A field blank is intended to detect contaminants that may have been introduced in the field, although any laboratory introduced contamination will be present. Contaminants that are found in the field blank which are absent in the laboratory method blank could be indicative of a field QC problem, a deficiency in the bottle preparation procedure, a difference in preparation of the laboratory and field blanks, or other indeterminate error.

D. Results for the following analytes are qualified as estimated due to low relative response factors (RRFs) in initial and continuing calibrations and are flagged "J" in Table 1A.

- Acetone, 2-butanone, 2-hexanone, and 1,2-dibromo-3-chloropropane in all samples, all method blanks, and storage blank VHBLK97

Average RRFs were below the 0.05 validation criterion in the initial and continuing calibrations (see Table 2).

Detected results for the analytes listed above should be considered as the minimum concentrations at which these analytes are present in the samples. Where results are nondetected, false negatives may exist.

DMCs 2-butanone-d5 and 2-hexanone-d5 also had RRFs below the 0.05 validation criterion in the initial and continuing calibrations (see Table 2). Quantitation of the analytes associated with these DMCs may have been affected by the low RRFs (see attached Table 9 from the Functional Guidelines).

The RRF evaluates instrument sensitivity and is used in the quantitation of target analytes.

E. Results for the following analytes are qualified as estimated due to large percent relative standard deviations (%RSDs) in initial calibrations and are flagged "J" in Table 1A.

- Methyl acetate in all samples; all method blanks; and storage blank VHBLK97

- Methylene chloride and 1,2-dibromo-3-chloropropane in samples Y1FT3, Y1FT4, Y1FT6, and Y1FT8 and method blank VBLK24

Percent RSDs exceeded the ±30.0%/50.0% validation criterion for the analytes listed above in the initial calibrations (see Table 2).

The initial calibration demonstrates that the instrument is capable of acceptable performance in the beginning of the analytical run and of producing a linear calibration curve.

F. Results for the following analytes are qualified as estimated due to large percent differences (%Ds) in continuing calibrations and are flagged "J" in Table 1A.

- Methyl acetate in sample Y1FS1 and method blank VBLK19
- Methylene chloride in samples Y1FS0, Y1FS2 through Y1FT0, Y1FT2, Y1FT5, and Y1FT7 and method blanks VBLK20 and VBLK22
- Methylcyclohexane, 1,2,3-trichlorobenzene, and 1,2-dibromoethane in samples Y1FT3, Y1FT4, Y1FT6, and Y1FT8 and method blank VBLK24
- Dichlorodifluoromethane in samples Y1FR9, Y1FT3, Y1FT4, Y1FT6, and Y1FT8 and method blanks VBLK18 and VBLK24
- Bromomethane in samples Y1FS0, Y1FS2 through Y1FS8, Y1FT5, and Y1FT7 and method blank VBLK20
- 1,1,2-Trichloro-1,2,2-trifluoroethane in samples Y1FS0, Y1FS2 through Y1FS8, and Y1FT3 through Y1FT8 and method blanks VBLK20 and VBLK24
- 4-Methyl-2-pentanone in method blank VBLK28 and storage blank VHBLK97

%Ds exceeded the ±30.0%/50.0% validation criterion for the analytes listed above in the continuing calibrations (see Table 2).

Users should note that results for 4-methyl-2-pentanone in method blank VBLK28 and storage blank VHBLK97 were previously qualified as rejected (see Comment A).

The continuing calibration checks the instrument performance daily and produces the relative response factors (RRFs) for target analytes that are used for quantitation.

G. Results for the following analytes are qualified as estimated due to DMC recoveries outside QC limits and are flagged “J” in Table 1A.

{1,1-Dichloroethene-d2}

- cis-1,2-Dichloroethene in samples Y1FS0 through Y1FS2, Y1FS4, Y1FS6, Y1FS8, and Y1FT8

{Chloroethane-d5}

- Chloromethane in samples Y1FS1, Y1FS2, Y1FS5, Y1FS7, and Y1FS8

The DMC recoveries outside QC limits are shown below.

Sample	DMC	% Recovery	QC Limits
Y1FS6DL	1,1-Dichloroethene-d2	136	65-130
Y1FS1	1,1-Dichloroethene-d2	360	65-130
Y1FS2	1,1-Dichloroethene-d2	320	65-130
Y1FS4	1,1-Dichloroethene-d2	180	65-130
Y1FS6	1,1-Dichloroethene-d2	540	65-130
Y1FS0	1,1-Dichloroethene-d2	360	65-130
Y1FS8	1,1-Dichloroethene-d2	420	65-130
Y1FT8	1,1-Dichloroethene-d2	240	65-130
Y1FS1	1,2-Dichloroethane-d4	134	78-129
Y1FS1	Chloroethane-d5	142	60-126
Y1FS2	Chloroethane-d5	132	60-126
Y1FS5	Chloroethane-d5	132	60-126
Y1FS7	Chloroethane-d5	136	60-126
Y1FS8	Chloroethane-d5	136	60-126
Y1FT4DL	Chloroethane-d5	130	60-126
Y1FT3DL	Benzene-d6	126	78-121
Y1FT3DL	Bromoform-d	138	76-135

Detected results for affected analytes where DMC recoveries fell below QC limits may be biased low; where results are nondetected, false negatives may exist. For DMC recoveries that exceeded QC limits, only detected results for associated analytes are qualified. Recoveries for DMCs 1,2-dichloroethane-d4, benzene-d6, and bromoform-d exceeded QC limits but results were not qualified because they were nondetects. The samples were not reanalyzed.

Surrogates (e.g., deuterated monitoring compounds (DMCs)) are organic compounds which are similar to the target analytes in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. All samples are spiked with DMCs prior to purging. DMCs provide information about both the laboratory performance on individual samples and the possible effects of the sample matrix on the analytical results.

H. Detected results for the following analytes are qualified as estimated due to concentrations exceeding the calibration range and are flagged "J" in Table 1A.

- Trichlorofluoromethane, 1,1-dichloroethene, 1,1,2-trichloro-1,2,2-trifluoroethane, trichloroethene, and tetrachloroethene in sample Y1FT8

Concentrations of trichlorofluoromethane, 1,1-dichloroethene, 1,1,2-trichloro-1,2,2-trifluoroethane, trichloroethene, and tetrachloroethene in the undiluted analysis of sample Y1FT8 were 25 μg/L, 31 μg/L, 71 μg/L, 270 μg/L, and 180 μg/L,

respectively. These values exceed the 0.5-25 μg/L calibration range. Due to a laboratory oversight, sample Y1FT8 was not analyzed at a dilution.

Results reported in Table 1A for these analytes are from the undiluted analysis. These concentrations are considered to be qualitatively acceptable but quantitatively questionable and should be considered as the minimum concentrations at which the analytes are present in the sample.

I. Results for the following analytes are qualified as estimated due to missed technical holding time and are flagged "J" in Table 1A.

- All analytes in sample Y1FT6

The analysis of sample Y1FT6 exceeded the 7-day 40 CFR 136 (Clean Water Act) technical holding time for unpreserved water samples as shown below.

Sample	Date Collected	Date Analyzed	# of Days Exceeded
Y1FT6	09/16/04	09/24/04	1

Detected results for sample Y1FT6 may be biased low. Where results are nondetected, false negatives may exist.

J. In the analysis of the field duplicate pairs, the following outliers were reported.

Analyte	Y1FS1 (D1) Conc., µg/L	Y1FS2 (D1) Conc., µg/L	RPD (<25%)
Methyl tert-butyl ether	9.2	6.6	33

Analyte	Y1FT5 (D2) Conc., µg/L	Y1FT6 (D2) Conc., µg/L	RPD (<25%)
Tetrachloroethene	8.2	6.1	29

The effect on data quality is not known.

The analysis of field duplicate samples is a measure of both field and analytical precision. The imprecision in the results of the analysis of the field duplicate pair may be due to the sample matrix or poor sampling or laboratory technique.

K. Due to high levels of target analytes, samples Y2FS0 through Y2FS2, Y2FS4 through Y2FS8, and Y2FT3 were analyzed at a 10-, 10-, 10-, 2-, 10-, 5-, 5-, 10-, and 2-fold dilutions, respectively. The CRQLs listed for these samples in Table 1A have been multiplied by the dilution factor.

L. Samples Y1FS0, Y1FS1, and Y1FS2 were reanalyzed at 100-fold dilutions due to high levels of 1,1-dichloroethene, 1,1,2-trichloro-1,2,2-trifluoroethane, and tetrachloroethene that exceeded the calibration range. Results for these analytes are

reported from the 100-fold diluted analyses in Table 1A; results for other analytes are reported from the 10-fold diluted analyses.

Samples Y1FS4 and Y1FS5 were reanalyzed at 25-fold and 100-fold dilutions, respectively, due to high levels of trichloroethene and tetrachloroethene that exceeded the calibration range. Results for these analytes are reported from the diluted analyses in Table 1A; results for other analytes are reported from the 2-fold and 10-fold diluted analyses, respectively.

Sample Y1FS8 was reanalyzed at a 100-fold dilution due to high levels of 1,1-dichloroethene, 1,1,2-trichloro-1,2,2-trifluoroethane, trichloroethene, and tetrachloroethene that exceeded the calibration range. Results for these analytes are reported from the 100-fold diluted analysis in Table 1A; results for other analytes are reported from the 10-fold diluted analysis.

Samples Y1FS7 and Y1FT3 were reanalyzed at 50-fold and 20-fold dilutions, respectively, due to high levels of tetrachloroethene that exceeded the calibration range. Results for tetrachloroethene are reported from the diluted analyses in Table 1A; results for other analytes are reported from the 5-fold and 2-fold diluted analyses, respectively.

Samples Y1FS3 and Y1FT4 were reanalyzed at 10-fold and 5-fold dilutions due to high level of trichloroethene that exceeded the calibration range. Results for trichloroethene are reported from the diluted analyses in Table 1A; results for other analytes are reported from the undiluted analyses.

Sample Y1FS6 was reanalyzed at a 50-fold dilution due to high levels of trichlorofluoromethane, 1,1-dichloroethene, 1,1,2-trichloro-1,2,2- trifluoroethane, trichloroethene, and tetrachloroethene that exceeded the calibration range. Results for these analytes are reported from the 50-fold diluted analysis in Table 1A; results for all other analytes are reported from the 5-fold diluted analysis.

M. The laboratory reported a detected result for 2-butanone in sample Y1FS2 of 7.6 μg/L (below the CRQL of 50 μg/L for a 10-fold dilution). However, the mass spectrum does not meet National Functional Guidelines criteria. In the reviewer's professional judgment, 2-butanone in sample Y1FS2 should not be reported as detected because the characteristic ions m/z 57 and m/z 72 are missing in the sample mass spectra (attached, p. 133 in data package). The result for 2-butanone in sample Y1FS2 is reported in Table 1A as nondetected (50U).

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Low Concentration Organic Data Review," June 2001.

U The analyte was analyzed for, but was not detected above the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method.

L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was not detected above the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.

R The sample results are unusable. The analyte may or may not be present in the sample.

Table 2
Calibration Summary

Case No.: 33335
SDG No.: Y1FR9
Site: Omega Chem OU2
Laboratory: Shealy Environmental Services (SHEALY)
Reviewer: April Martinez, ESAT/LDC
Date: August 2, 2006

RELATIVE RESPONSE FACTORS (RRF)

	RRF	RRF	RRF	RRF	RRF
Analysis date:	9/17/04	9/18/04	9/19/04	9/20/04	9/22/04
Analysis time:	14:54-	09:40	10:46	09:22	08:38
GC/MS I.D.:	MSD8	MSD8	MSD8	MSD8	MSD8
Analyte	Init.	Cont.	Cont.	Cont.	Cont.
Acetone	0.029	0.034	0.023	0.027	0.028
2-Butanone	0.025	0.025	0.020	0.025	0.028
2-Hexanone	0.047	-----	0.038	0.044	-----
1,2-Dibromo-3-chloropropane	0.031	0.030	0.025	0.032	0.032
2-Butanone-d5	0.026	0.024	0.019	0.022	0.024
2-Hexanone-d5	0.041	0.040	0.029	0.033	0.034

	RRF	RRF	RRF	RRF	RRF
Analysis date:	9/24/04	9/27/04	9/23/04	9/24/04	9/28/04
Analysis time:	12:46-	10:26 -	10:26	16:02	07:02
GC/MS I.D.:	MSD8	MSD8	MSD8	MSD8	MSD8
Analyte	Init.	Init.	Cont.	Cont.	Cont.
Acetone	0.029	0.024	0.023	0.030	0.023
2-Butanone	0.024	0.021	0.023	0.027	0.018
2-Hexanone	0.040	0.031	0.037	-----	0.031
1,2-Dibromo-3-chloropropane	0.025	0.021	0.028	0.035	0.023
2-Butanone-d5	0.022	0.019	0.021	0.026	0.019
2-Hexanone-d5	0.031	0.025	0.029	0.041	0.027
4-Methyl-2-pentanone	-----	-----	-----	-----	0.004

PERCENT RELATIVE STANDARD DEVIATIONS (%RSD)

	%RSD	%RSD	%RSD
Analysis Date:	9/17/04	9/24/04	9/27/04
Analysis Time:	14:54-	12:46-	10:26 -
GC/MS I.D.:	MSD8	MSD8	MSD8
Analyte	Init.	Init.	Init.
Methyl acetate	38.2	33.2	34.3
Methylene chloride	-----	47.2	-----
1,2-Dibromo-3-chloropropane	-----	52.0	-----

PERCENT DIFFERENCES (%D)

	%D	%D	%D	%D
Analysis Date:	9/18/04	9/19/04	9/20/04	9/22/04
Analysis Time:	09:40	10:46	09:22	08:38
GC/MS I.D.:	MSD8	MSD8	MSD8	MSD8
Analyte	Cont.	Cont.	Cont.	Cont.
Dichlorodifluoromethane	+37.2	-----	-----	-----
Methyl acetate	-----	-42.7	-----	-----
Bromomethane	-----	------	+37.6	-----
1,1,2-Trichloro-1,2,2-trifluoroethane	-----	-----	+36.2	-----
Methylene chloride	-----	-----	+41.6	+36.0

	%D	%D
Analysis Date:	9/24/04	9/28/04
Analysis Time:	16:02	07:02
GC/MS I.D.:	MSD8	MSD8
Analyte	Cont.	Cont.
Dichlorodifluoromethane	+36.2	-----
1,1,2-Trichloro-1,2,2-trifluoroethane	+32.8	-----
Methylcyclohexane	+37.9	-----
1,2-Dibromoethane	+30.8	-----
1,2,3-Trichlorobenzene	+33.6	-----
4-Methyl-2-pentanone	-----	-93.1

+ = RRF biased low; - = RRF biased high.

ASSOCIATED SAMPLES AND METHOD BLANKS

Initial, 9:17/04:	Y1FR9, Y1FS0 through Y1FS9, Y1FT0, Y1FT2, Y1FT5, Y1FT7, Y1FS0DL through Y1FS8DL, Y1FT3DL, Y1FT4DL; method blanks VBLK18, VBLK19, VBLK20, VBLK22, VBLK23
Cont., 9/18/04:	Y1FR9, Y1FS0DL through Y1FS8DL; method blank VBLK18
Cont., 9/19/04:	Y1FS1; method blank VBLK19
Cont., 9/20/04:	Y1FS0, Y1FS2 through Y1FS8, Y1FT5, Y1FT7; method blank VBLK20
Cont., 9/22/04:	Y1FS9, Y1FT0, Y1FT2; method blank VBLK22
Cont., 9/23/04:	Y1FT1, Y1FT3DL, Y1FT4DL; method blank VBLK23
Initial, 9/24/04:	Y1FT3, Y1FT4, Y1FT6, Y1FT8; method blank VBLK24
Cont., 9/24/04:	Y1FT3, Y1FT4, Y1FT6, Y1FT8; method blank VBLK24
Initial, 9/27/04:	Method blank VBLK28; storage blank VHBLK97
Cont., 9/28/04:	Method blank VBLK28; storage blank VHBLK97.

ICF International / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
Phone: (510) 412-2300 Fax: (510) 412-2304

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM)
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105041 Amendment 7

DATE: November 13, 2007

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	None
SDG No.:	05-1781
Laboratory:	Applied Physics & Chemistry Laboratory
Analysis:	Hexavalent Chromium
Samples:	2 Groundwater Samples (see Case Summary)
Collection Dates:	March 3, 2005
Reviewer:	Stan Kott, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOPO for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

SAMPLING ISSUES: [X] Yes [ ] No

Data Validation Report

Case No.: None
SDG No.: 05-1781
Site: Omega Chem OU2
Laboratory: Applied Physics & Chemistry Laboratory
Reviewer: Stan Kott, ESAT/LDC
Date: November 13, 2007

I. CASE SUMMARY

Sample Information

Samples: OC2-MW10-W-0-130, and OC2-MW7-W-0-131

Concentration and Matrix: Low Concentration Groundwater
Analysis: Hexavalent Chromium
SOW: EPA Method 218.6
Collection Date: March 3, 2005
Sample Receipt Date: March 3, 2005
Preparation Date: March 3, 2005
Analysis Date: March 3, 2005

Field QC

Field Blanks (FB): Not Provided
Equipment Blanks (EB): Not Provided
Background Samples (BG): Not Provided
Field Duplicates (D1): Not Provided

Laboratory QC

Method Blanks (MB): MB
Associated Samples: Samples listed above
Matrix Spike (MS)/MS Duplicate (MSD): OC2-MW3-W-0-150MS/MSD (See Additional Comments)
Duplicate: MSD listed above and LCSD

Analysis: Hexavalent Chromium

Analyte	Sample Preparation Date	Analysis Date
Hexavalent Chromium	March 3, 2005	March 3, 2005

Sampling Issues

The Chain of Custody (COC) record form did not specify a sample to be used for laboratory quality control (QC). As a result, the laboratory selected sample OC2-MW3-W-0-128 from SDG 05-1769 for QC analysis. The effect on data quality is not known.

Additional Comments

As directed by the EPA TOPO, a Tier 3 data review was performed. A Table 1A is not requested.

The laboratory selected sample OC2-MW3-W-0-128 for laboratory QC analysis. Although MS/MSD results met criteria, this sample is from SDG 05-1769 and may not reflect the matrix characteristics of the samples in SDG 05-1781. The effect on data quality is not known.

This report was prepared in accordance with the following documents:

- Region 9 Standard Operating Procedure 906, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Inorganic Data Packages*;
- *Methods For The Determination Of Metals In Environmental Samples*, EPA-600/4-91-010, June 1991; and
- *USEPA Method 218.6, Determination of Dissolved Hexavalent Chromium in Drinking Water, Groundwater, and Industrial Wastewater Effluents by Ion Chromatography*, Revision 3.3, May 1994.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Data Completeness	Yes	
2.	Sample Preservation and Holding Times	Yes	
3.	Calibration	Yes	
	a. Initial		
	b. Initial and Continuing Calibration Verification		
4.	Blanks	Yes	
5.	Laboratory Control Sample (LCS)	Yes	
6.	Duplicate Sample Analysis	Yes	
7.	Matrix Spike Sample Analysis	Yes	
8.	Field Duplicate Sample Analysis	N/A	
9.	Sample Quantitation	Yes	
10.	Overall Assessment	Yes	

N/A = Not Applicable

III. OVERALL ASSESSMENT OF DATA

All of the method requirements specified in Method 218.6 have been met. Reported results for hexavalent chromium in all of the samples were appropriately and correctly calculated.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR INORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared in accordance with the document *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004.

U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

ICF International / Laboratory Data Consultants
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Phone: (510) 412-2300 Fax: (510) 412-2304

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM) RF
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105041 Amendment 7

DATE: January 7, 2008

SUBJECT: Review of Analytical Data, Tier 2

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	None
SDG Nos.:	05-1730, 05-1751, and 05-1769
Laboratory:	Applied Physics & Chemistry Laboratory
Analysis:	Hexavalent Chromium
Samples:	16 Groundwater Samples (see Case Summary)
Collection Dates:	February 28, March 1 and 2, 2005
Reviewer:	Stan Kott, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

SAMPLING ISSUES: [X] Yes [ ] No

Data Validation Report

Case No.: None
SDG Nos.: 05-1730, 05-1751, and 05-1769
Site: Omega Chem OU2
Laboratory: Applied Physics & Chemistry Laboratory
Reviewer: Stan Kott, ESAT/LDC
Date: January 7, 2008

I. CASE SUMMARY

Sample Information

SDG 05-1730 Samples:	OC2-MW4A-W-1-112, OC2-MW4B-W-5-113, C2-MW4C-W-0-114, OC2-MW4A-W-0-116, and OC2-MW5-W-0-117
SDG 05-1751 Samples:	OC2-MW8A-W-0-118, OC2-MW8B-W-0-119, C2-MW8C-W-0-120, OC2-MW8D-W-0-121, and OC2-MW9B-W-0-122
SDG 05-1769 Samples:	OC2-MW1A-W-0-123, OC2-MW1B-W-0-124, OC2-MW1B-W-1-125, OC2-MW2-W-0-126, OC2-MW6-W-0-127, and OC2-MW3-W-0-128
Concentration and Matrix:	Low Concentration Groundwater
Analysis:	Hexavalent Chromium
SOW:	EPA Method 218.6
Collection Date:	February 28, March 1 and 2, 2005
Sample Receipt Date:	February 28, March 1 and 2, 2005
Preparation Date:	February 28, March 1 and 3, 2005
Analysis Date:	February 28, March 1 and 3, 2005

Field QC

Field Blanks (FB):	Not Provided
Equipment Blanks (EB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	OC2-MW4A-W-1-112 and OC2-MW4A-W-0-116
Field Duplicates (D2):	OC2-MW1B-W-0-124 and OC2-MW1B-W-1-125

Laboratory QC

Method Blanks (MB):	MB
Associated Samples:	Samples listed above
Matrix Spike (MS)/MS Duplicate (MSD):	OC2-MW4B-W-5-113MS/MSD, OC2-MW8C-W-0-120MS/MSD, and OC2-MW3-W-0-128MS/MSD (See Additional Comments)
Duplicate:	MSDs listed above and Laboratory Control Sample Duplicate (LCSD)
Analysis:	Hexavalent Chromium

Analyte	Sample Preparation Date	Analysis Date
Hexavalent Chromium	February 28, March 1 and 3, 2005	February 28, March 1 and 3, 2005

Sampling Issues

The Chain of Custody (COC) record forms for SDGs 05-1751 and 05-1769 did not specify a sample to be used for laboratory quality control (QC). As a result, the laboratory selected sample OC2-MW8C-W-0-120 from SDG 05-1751 and sample OC2-MW3-W-0-128 from SDG 05-1769 for QC analysis. No adverse effect on data quality is expected.

Additional Comments

As directed by the EPA TOM, a Tier 2 data review of all QC results and calibrations, minus calculation check, was performed. Table 1As are not requested.

For SDG 05-1751, raw data chromatograms for field samples and laboratory QC samples were not provided in the data package. The data for SDG 05-1751 was evaluated using the laboratory summary forms provided. The chromatogram results and analysis times could not be evaluated. The effect on data quality is not known.

This report was prepared in accordance with the following documents:

- Region 9 Standard Operating Procedure 906, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Inorganic Data Packages*;
- *Methods For The Determination Of Metals In Environmental Samples*, EPA-600/4-91-010, June 1991; and
- *USEPA Method 218.6, Determination of Dissolved Hexavalent Chromium in Drinking Water, Groundwater, and Industrial Wastewater Effluents by Ion Chromatography*, Revision 3.3, May 1994.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Data Completeness	Yes	
2.	Sample Preservation and Holding Times	No	A
3.	Calibration	Yes	
	a. Initial		
	b. Initial and Continuing Calibration Verification		
4.	Blanks	Yes	
5.	Laboratory Control Sample (LCS)	Yes	
6.	Duplicate Sample Analysis	Yes	
7.	Matrix Spike Sample Analysis	Yes	
8.	Field Duplicate Sample Analysis	Yes	
9.	Sample Quantitation	Yes	
10.	Overall Assessment	Yes	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. The following result is estimated and should be flagged "J" because the technical holding time was exceeded.

- Hexavalent chromium in sample OC2-MW1A-W-0-123

The method 24 hour technical holding time for water was exceeded as shown below.

Sample Number	Date Collected	Time Collected	Date Analyzed	Time Analyzed	Exceeded (HH:MM)
OC2-MW1A-W-0-123	3/2/2005	09:21 AM	3/3/2005	09:53AM	00:33

The 0.023 mg/L result for sample OC2-MW1A-W-0-123 may be biased low.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR INORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared in accordance with the document *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004.

U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

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MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM)
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105041 Amendment 3

DATE: March 9, 2007

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	Not Provided
SDG No.:	G5C040300
Laboratory:	STL Sacramento
Analysis:	N-Nitrosodimethylamine and 1,2,3-Trichloropropane
Samples:	3 Water Samples (see Case Summary)
Collection Date:	March 3, 2005
Reviewer:	Nanny Estrada, ESAT/Laboratory Data Consultants (LDC)

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

SAMPLING ISSUES: [ ] Yes [X] No

Data Validation Report – Tier 3

Case No.: Not Provided
SDG No.: G5C040300
Site: Omega Chem OU2
Laboratory: STL Sacramento
Reviewer: Nanny Estrada, ESAT/LDC
Date: March 9, 2007

I. CASE SUMMARY

Sample Information

Samples:	OC2-MW10-W-0-130, OC2-MW7-W-0-131, and OC2-00-W-2-132
Concentration and Matrix:	Low Concentration Water
Analysis:	N-Nitrosodimethylamine (NDMA) and 1,2,3-Trichloropropane (1,2,3-TCP)
Method:	USEPA Method 1625, Semivolatile Organic Compounds by Isotope Dilution GC/MS
Collection Date:	March 3, 2005
Sample Receipt Date:	March 4, 2005
Extraction Date:	March 8, 2005
Analysis Date:	March 11, 2005

Field QC

Field Blanks (FB):	OC2-00-W-2-132 (1,2,3-TCP only)
Equipment Blanks (EB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	Not Provided

Laboratory QC

Method Blanks & Associated Samples:

G5Q4J1AA:	All samples

Tables

1B:	Data Qualifier Definitions for Organic Data Review

Sampling Issues

None.

Additional Comments

Method specific quality control (QC) limits are used to evaluate the quality of data. For QC where the method does not specify limits, laboratory QC limits are used.

The raw data for the 03/10/05 initial calibration is not provided in the data package; it can be found in the G5C030251 data package.

This report was prepared in accordance with the following documents:

- USEPA Office of Water, *Method 1625C: Semivolatile Organic Compounds by Isotope Dilution GCMS*, June 1989;

- ESAT Region 9 Standard Operating Procedure 901, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Volatile and Semivolatile Data Packages*; and

- *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review*, October 1999.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Holding Time/Preservation	Yes	
2.	GC/MS Tune/GC Performance	Yes	
3.	Initial Calibration	Yes	
4.	Continuing Calibration	Yes	
5.	Laboratory Blanks	Yes	
6.	Field Blanks	Yes	
7.	Matrix Spike/Matrix Spike Duplicates	N/A	
8.	Laboratory Control Samples	Yes	
9.	Internal Standards/Surrogates	No	A
10.	Compound Identification	Yes	
11.	Compound Quantitation	Yes	
12.	System Performance	Yes	
13.	Field Duplicate Sample Analysis	N/A	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. Results for the following analytes are qualified as estimated due to internal standard/surrogate recoveries outside QC limits and should be flagged "J".

- NDMA in samples OC2-MW10-W-0-130 and OC2-MW7-W-0-131, method blank G5Q4J1AA-MB, and laboratory control sample (LCS) G5Q4J1AC-LCS

- 1,2,3-TCP in field blank OC2-00-W-2-132

Internal standard/surrogate recoveries fell below the QC limits as shown below.

Sample	Internal Standard	% Recovery	QC Limits
OC2-MW10-W-0-130	NDMA-d6	21	25 - 150
OC2-MW7-W-0-131	NDMA-d6	21	25 - 150
OC2-00-W-2-132	1,2,3-TCP-d5	21	25 - 150

Sample	Internal Standard	% Recovery	QC Limits
G5Q4J1AA-MB	NDMA-d6	21	25 - 150
G5Q4J1AC-LCS	NDMA-d6	20	25 - 150

Results for NDMA and 1,2,3,-TCP are considered quantitatively questionable. Where sample results are nondetected, false negatives may exist.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," October 1999.

U The analyte was analyzed for but was not detected above the reported sample quantitation limit.

L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ICF Consulting / Laboratory Data Consultants
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Phone: (510) 412-2300 Fax: (510) 412-2304

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM)
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105001

DATE: July 6, 2006

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	33916
SDG No.:	Y1QZ5
Laboratory:	Liberty Analytical Corp. (LIBRTY)
Analysis:	Volatiles
Samples:	20 Groundwater Samples (see Case Summary)
Collection Date:	February 28, 2005 through March 3, 2005
Reviewer:	Kendra DeSantolo, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOPO for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

cc: Cynthia Gurley, CLP PO USEPA Region 4
Steve Remaley, CLP PO USEPA Region 9

CLP PO: [X] Attention [ ] Action

SAMPLING ISSUES: [X] Yes [ ] No

Data Validation Report

Case No.: 33916
SDG No.: Y1QZ5
Site: Omega Chem OU2
Laboratory: Liberty Analytical Corp. (LIBRTY)
Reviewer: Kendra DeSantolo, ESAT/LDC
Date: July 6, 2006

I. CASE SUMMARY

Sample Information

Samples:	Y1QZ5 through Y1QZ9, Y1R00 through Y1R11, Y1R13 through Y1R15
Concentration and Matrix:	Low Concentration Water
Analysis:	Volatiles
SOW:	OLC03.2
Collection Date:	February 28, 2005 through March 3, 2005
Sample Receipt Date:	March 2, 3, and 4, 2005
Extraction Date:	Not Applicable
Analysis Date:	March 3, 4 and 5, 2005

Field QC

Field Blanks (FB):	Y1QZ8 and Y1R15
Equipment Blanks (EB):	Not Provided
Trip Blanks (TB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	Y1QZ5 and Y1QZ9
Field Duplicates (D2):	Y1R07 and Y1R08

Laboratory QC

Method Blanks & Associated Samples:

VBLKYA:	Y1QZ6DL, Y1QZ7, Y1QZ8, Y1QZ9DL, and Y1R01 through Y1R06
VBLKYG:	Y1QZ5, Y1QZ6, Y1QZ9, and Y1R00
VBLKYL:	Y1QZ5DL, Y1R00DL, Y1R11, Y1R06DL, Y1R07, Y1R07DL, Y1R08, Y1R08DL, Y1R09, Y1R10, and Y1R13 through Y1R15
VBLKZK:	Storage blank VHBLKZN

Tables

1A:	Analytical Results with Qualifications
1B:	Data Qualifier Definitions for Organic Data Review
2:	Calibration Summary

CLP PO Action

None.

CLP PO Attention

1. Detected results for some analytes are qualified as nondetected and estimated (U,J) due to method blank and field blank contamination (see Comment B).

2. Results for some analytes are qualified as estimated (J) due to calibration problems (see Comments C and D).

3. Results for some analytes are qualified as estimated (J) due to deuterated monitoring compound (DMC) recovery problems (see Comment E).

Sampling Issues

1. Detected results for chloroform in samples Y1QZ7, Y1R01 through Y1R05, Y1R10, and Y1R14 are qualified as nondetected and estimated (U,J) due to field blank contamination (see Comment B).

2. The laboratory indicated in sample log-in sheets that the cooler temperature indicator bottle was absent in coolers received on March 3 and 4, 2005 (see p. 742 and 743 in data package). The cooler temperatures were recorded using an IR gun (see p. 28 and 30 in data package).

Additional Comments

Other than laboratory artifacts (approximate retention times of 4.1, 7.5, 12.0, and 14.6 minutes), tentatively identified compounds (TICs) were found in samples Y1QZ5, Y1QZ6, Y1ZQ9, and Y1R00 (see attached Alkane Narrative Report).

The laboratory performed manual integrations on calibrations and samples due to incorrect auto integration. Manual integrations were reviewed and found to be satisfactory and in compliance with proper integration techniques.

Standard preparation logs are not included in the data package and cannot be evaluated. This information was requested from the laboratory but has not been received to date. Data are not qualified in this report due to missing standard preparation logs. Refer to the attached telephone record log for details.

This report was prepared in accordance with the following documents:

- ESAT Region 9 Standard Operating Procedure 901, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Volatile and Semivolatile Data Packages*;

- *USEPA Contract Laboratory Program Statement of Work for Analysis of Low Concentration Organic*, OLC03.2, December 2000; and

- *USEPA Contract Laboratory Program National Functional Guidelines for Low Concentration Organic Data Review*, June 2001.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Holding Time/Preservation	Yes	
2.	GC/MS Tune/GC Performance	Yes	
3.	Initial Calibration	Yes	
4.	Continuing Calibration	No	C, D
5.	Laboratory Blanks	No	B
6.	Field Blanks	No	B
7.	Deuterated Monitoring Compounds	No	E
8.	Matrix Spike/Matrix Spike Duplicates	N/A	
9.	Laboratory Control Samples/Duplicates	N/A	
10.	Internal Standards	Yes	
11.	Compound Identification	Yes	
12.	Compound Quantitation	Yes	A, G, H
13.	System Performance	Yes	
14.	Field Duplicate Sample Analysis	No	F

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. The following results, denoted with an "L" qualifier, are estimated and flagged "J" in Table 1A.

- All detected results below the contract required quantitation limits

Results below the contract required quantitation limits (CRQLs) are considered to be qualitatively acceptable, but quantitatively unreliable, due to the uncertainty in analytical precision near the limit of detection.

B. The following results are qualified as nondetected and estimated due to method blank and field blank contamination and are flagged "U,J" in Table 1A.

- Chloroform in sample Y1QZ7, Y1R01 through Y1R05, and Y1R14

- cis-1,3-Dichloropropene in samples Y1R07, Y1R09 through Y1R11, and Y1R13 through Y1R15

- Methylene chloride in samples Y1QZ5, Y1QZ6, Y1QZ9, Y1R00, Y1R08 through Y1R11, and Y1R13 through Y1R15

Methylene chloride was found in method blanks VBLKYG and VBLKYL and field blank Y1QZ8, cis-1,3-dichloropropene was found in method blank VBLKYL, and chloroform was found in field blanks Y1QZ8 and Y1R15 (see Table 1A for concentrations). Results for the samples listed above are considered nondetected

and estimated (U,J) and quantitation limits have been raised according to blank qualification rules presented below.

No positive results are reported unless the concentration of the compound in the sample exceeds 10 times the amount in any associated blank for common laboratory contaminants or 5 times the amount for other compounds. If the sample result is greater than the CRQL, the quantitation limit is raised to the sample result and reported as nondetected. If the sample result is less than the CRQL, the result is reported as nondetected at the CRQL.

Chloroform results for samples Y1QZ5, Y1QZ6, Y1QZ9, and Y1R00 are not qualified as nondetected and estimated since their concentrations exceed 5 times the amount in the associated field blanks Y1QZ8 and Y1R15. Trichloroethene results for samples Y1R07 through Y1R10, Y1R13, and Y1R14 are not qualified as nondetected and estimated since their concentrations exceed 5 times the amount in the associated method blank VBLKYL.

The chloroform result for sample Y1R10 (4.2 μg/L) is not qualified as nondetected and estimated because a field blank was not collected on 3/2/05. Users should note that chloroform may be an artifact because it was found in field blanks Y1QZ8 and Y1R15.

A laboratory method blank is laboratory reagent water or baked sand analyzed with all reagents, deuterated monitoring compounds, and internal standards and carried through the same sample preparation and analytical procedures as the field samples. The laboratory method blank is used to determine the level of contamination introduced by the laboratory during analysis.

A field blank is clean water prepared as a sample in the field by the sampler and shipped to the laboratory with the samples. A field blank is intended to detect contaminants that may have been introduced in the field, although any laboratory introduced contamination will be present. Contaminants that are found in the field blank which are absent in the laboratory method blank could be indicative of a field QC problem, a deficiency in the bottle preparation procedure, a difference in preparation of the laboratory and field blanks, or other indeterminate error.

C. Results for the following analyte are qualified as estimated due to low relative response factors (RRFs) in continuing calibrations and are flagged "J" in Table 1A.

- Acetone in samples Y1QZ5 through Y1QZ9, and Y1R00 through Y1R06 and method blanks VBLKYA and VBLKYG

RRFs were below the 0.05 validation criterion for acetone in continuing calibrations (see Table 2). Since results are nondetected, false negatives may exist.

The RRF evaluates instrument sensitivity and is used in the quantitation of target analytes.

D. Results for the following analytes are qualified as estimated due to large percent differences (%Ds) in continuing calibrations and are flagged "J" in Table 1A.

- Methyl acetate in samples Y1QZ5, Y1QZ6, Y1QZ9, Y1R00, Y1R07 through Y1R11, and Y1R13 through Y1R15 and method blanks VBLKYG and VBLKYL

- Tetrachloroethene in samples Y1QZ6 through Y1QZ9 and Y1R01 through Y1R06 and method blank VBLKYA

- Carbon disulfide, methyl tert-butyl ether, and 1,1-dichloroethane in samples Y1R07 through Y1R11, and Y1R13 through Y1R15 and method blank VBLKYL

%Ds exceeded the ±30.0% validation criterion for the analytes listed above in the March 2, 3, and 4, 2005 continuing calibrations (see Table 2).

The DMC vinyl chloride-d3 also had a %D that exceeded the ±30.0% validation criterion in the 3/2/05 continuing calibration (see Table 2). Quantitation of the analytes associated with this DMC may have been affected by the high %D (see attached Table 9 from the Functional Guidelines).

The continuing calibration checks the instrument performance daily and produces the relative response factors (RRFs) for target analytes that are used for quantitation.

E. Results for the following analytes are qualified as estimated due to DMC recoveries outside QC limits and are flagged "J" in Table 1A.

{Chloroethane-d5}
- Dichlorodifluoromethane in sample Y1QZ9

{1,1-Dichloroethene-d2}
- trans-1,2-Dichloroethene and cis-1,2-dichloroethene in sample Y1QZ5, Y1QZ6, Y1QZ7, Y1QZ9, Y1R00, and Y1R06

{Chloroform-d}
- 1,1-Dichloroethane in samples Y1QZ5, Y1QZ6, Y1QZ9, and Y1R00
- Chloroform in sample Y1R15

{1,2-Dichloroethane-d4}
- 1,1-Dichloroethene, 1,1,2-trichloro-1,2,2-trifluoroethane, methyl tert-butyl ether, and carbon tetrachloride in sample Y1R14

The DMC recoveries outside QC limits are shown below.

Sample	DMC	% Recovery	QC Limits
Y1QZ9	Chloroethane-d5	136	60-126
Y1QZ5	1,1-Dichloroethene-d2	2200	65-130
Y1QZ5DL	1,1-Dichloroethene-d2	160	65-130
Y1QZ6	1,1-Dichloroethene-d2	1480	65-130
Y1QZ7	1,1-Dichloroethene-d2	63	65-130
Y1QZ9	1,1-Dichloroethene-d2	2600	65-130
Y1QZ9DL	1,1-Dichloroethene-d2	162	65-130
Y1R00	1,1-Dichloroethene-d2	3400	65-130
Y1R00DL	1,1-Dichloroethene-d2	135	65-130
Y1R06	1,1-Dichloroethene-d2	177	65-130
Y1R09	1,1-Dichloroethene-d2	138	65-130
Y1R05	2-Butanone-d5	186	42-171
Y1QZ5	Chloroform-d	124	80-123
Y1QZ6	Chloroform-d	134	80-123
Y1QZ9	Chloroform-d	148	80-123
Y1R00	Chloroform-d	220	80-123
Y1R15	Chloroform-d	124	80-123
Y1R14	1,2-Dichloroethane-d4	136	78-129
Y1R15	1,2-Dichloroethane-d4	132	78-129
Y1QZ6DL	1,2-Dichloropropane-d6	77	84-123

Detected results for affected analytes where DMC recoveries fell below QC limits may be biased low; where results are nondetected, false negatives may exist. Detected results for affected analytes where DMC recoveries exceeded QC limits may be biased high. For DMC recoveries that exceeded QC limits, only detected results for associated analytes are qualified. Recoveries for DMCs 2-butanone-d5 in sample Y1R05 and 1,2-dichloroethane-d4 in sample Y1R15 exceeded QC limits but results were not qualified because they were nondetects. The samples were not reanalyzed.

Surrogates (e.g., deuterated monitoring compounds (DMCs)) are organic compounds which are similar to the target analytes in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. All samples are spiked with DMCs prior to purging. DMCs provide information about both the laboratory performance on individual samples and the possible effects of the sample matrix on the analytical results.

F. In the analysis of the field duplicate pairs, the following outliers were reported.

Analyte	Y1QZ5 (D1) Conc., µg/L	Y1QZ9 (D1) Conc., µg/L	RPD (<25%)
Trichlorofluoromethane	350	190	60
1,1-Dichloroethene	780	460	52
1,1,2-Trichloro-1,2,2-trifluoroethane	820	450	58
Chloroform	51	34	40

Analyte	Y1QZ5 (D1) Conc., µg/L	Y1QZ9 (D1) Conc., µg/L	RPD (<25%)
Trichloroethene	190	130	38
Tetrachloroethene	620	400	43

Analyte	Y1R07 (D2) Conc., µg/L	Y1R08 (D2) Conc., µg/L	RPD (<25%)
cis-1,2-Dichloroethene	43	31	32

The effect on data quality is not known.

The analysis of field duplicate samples is a measure of both field and analytical precision. The imprecision in the results of the analysis of the field duplicate pair may be due to the sample matrix or poor sampling or laboratory technique.

G. Due to high levels of target analytes, samples Y1QZ7, Y1R01, Y1R02, Y1R04, and Y1R09 were analyzed at 12.5-, 16.7-, 2.5-, 12.5-, and 41.6- dilutions, respectively, and samples Y1R06 through Y1R08, Y1R10, and Y1R13 were analyzed at 25-fold dilutions. The CRQLs listed for these samples in Table 1A have been multiplied by the dilution factor.

H. Samples Y1QZ5, Y1QZ6, Y1QZ9, and Y1R00 were reanalyzed at 50-, 25-, 25-, and 125-fold dilutions, respectively, due to high levels of chloroform, trichlorofluoromethane, 1,1-dichloroethene, 1, 1, 2-trichloro-1, 2, 2-trifluoroethane, trichloroethene, and tetrachloroethene that exceeded the calibration range. Results for these analytes are reported from the diluted analyses in Table 1A; results for other analytes are reported from the undiluted analyses.

Sample Y1R06 was reanalyzed at a 125-fold dilution due to high levels of 1, 1, 2-trichloro-1, 2, 2-trifluoroethane, trichloroethene, and tetrachloroethene that exceeded the calibration range. Results for these analytes are reported from the 125-fold diluted analysis in Table 1A; results for other analytes are reported from the 25-fold diluted analysis.

Samples Y1R07 and Y1R08 were reanalyzed at 41.6-fold dilution due to high levels of trichloroethene that exceeded the calibration range. Results for reichloroethene are reported from the 41.6-fold diluted analyses in Table 1A; results for other analytes are reported from the 25-fold diluted analyses.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review," January 2005.

U The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method.

L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

J The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the CRQL).

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.

R The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.

Table 2
Calibration Summary

Case No.: 33916
SDG No.: Y1QZ5
Site: Omega Chem OU2
Laboratory: Liberty Analytical Corp. (LIBRTY)
Reviewer: Kendra DeSantolo, ESAT/LDC
Date: July 6, 2006

RELATIVE RESPONSE FACTORS (RRF)

	RRF	RRF
Analysis date:	3/02/05	3/03/05
Analysis time:	23:09	22:28
GC/MS I.D.:	5972HP71	5972HP71
Analyte	Cont.	Cont.
Acetone	0.039	0.048

PERCENT DIFFERENCES (%D)

	%D	%D	%D
Analysis Date:	3/02/05	3/03/05	3/04/05
Analysis Time:	23:09	22:28	15:34
GC/MS I.D.:	5972HP71	5972HP71	5972HP71
Analyte	Cont.	Cont.	Cont.
Carbon disulfide	------	------	-35.0
1,1-Dichloroethane	------	------	-32.0
Methyl acetate	-32.3	------	-38.6
Methyl tert-butyl ether	------	------	-34.1
Tetrachloroethene	------	+33.0	------
Vinyl chloride-d3	-36.4	------	------

- = RRF biased low; + = RRF biased high.

ASSOCIATED SAMPLES AND METHOD BLANKS

Initial 2/23/05:	All samples, all method blanks, storage blank VBLKZN
Cont., 3/02/05 (23:09):	Samples Y1QZ5, Y1QZ6, Y1QZ9, Y1R00, method blank VBLKYG
Cont., 3/03/05 (22:28):	Samples Y1QZ6DL, Y1QZ7, Y1QZ8, Y1QZ9DL, Y1R01 through Y1R06, method blank VBLKYA
Cont., 3/04/05 (15:34):	Samples Y1QZ5DL, Y1R00DL, Y1R06DL, Y1R07, Y1R07DL, Y1R08, Y1R08DL, Y1R09, Y1R10, Y1R11, Y1R13 through Y1R15, method blank VBLKYL
Cont., 3/05/05 (22:16):	Storage blank VHBLKZN, method blank VBLKZK.

ICF International / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
Phone: (510) 412-2300 Fax: (510) 412-2304

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM) RF
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager DL
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105041 Amendment 7

DATE: November 13, 2007

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	None
SDG No.:	05-3891
Laboratory:	Applied Physics & Chemistry Laboratory
Analysis:	Hexavalent Chromium
Samples:	3 Groundwater Samples (see Case Summary)
Collection Dates:	September 2, 2005
Reviewer:	Stan Kott, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOPO for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

SAMPLING ISSUES: [X] Yes [ ] No

Data Validation Report

Case No.: None
SDG No.: 05-3891
Site: Omega Chem OU2
Laboratory: Applied Physics & Chemistry Laboratory
Reviewer: Stan Kott, ESAT/LDC
Date: November 13, 2007

I. CASE SUMMARY

Sample Information

Samples: OC2-MW2-W-0-149, OC2-MW11-W-0-152, and OC2-MW11-W-1-153

Concentration and Matrix: Low Concentration Groundwater
Analysis: Hexavalent Chromium
SOW: EPA Method 218.6
Collection Date: September 2, 2005
Sample Receipt Date: September 2, 2005
Preparation Date: September 2, 2005
Analysis Date: September 2, 2005

Field QC

Field Blanks (FB): Not Provided
Equipment Blanks (EB): Not Provided
Background Samples (BG): Not Provided
Field Duplicates (D1): OC2-MW11-W-0-152 and OC2-MW11-W-1-153

Laboratory QC

Method Blanks (MB): MB
Associated Samples: Samples listed above
Matrix Spike (MS)/MS Duplicate (MSD): OC2-MW3-W-0-150MS/MSD (See Additional Comments)
Duplicate: MSD listed above and LCSD

Analysis: Hexavalent Chromium

Analyte	Sample Preparation Date	Analysis Date
Hexavalent Chromium	September 2, 2005	September 2, 2005

Sampling Issues

The Chain of Custody (COC) record form did not specify a sample to be used for laboratory quality control (QC). As a result, the laboratory selected sample OC2-MW3-W-0-150 from SDG 05-3884 for QC analysis. The effect on data quality is not known.

Additional Comments

As directed by the EPA TOPO, a Tier 3 data review was performed. A Table 1A is not requested.

The laboratory selected sample OC2-MW3-W-0-150 for laboratory QC analysis. Although MS/MSD results met criteria, this sample is from SDG 05-3884 and may not reflect the matrix characteristics of the samples in SDG 05-3891. The effect on data quality is not known.

This report was prepared in accordance with the following documents:

- Region 9 Standard Operating Procedure 906, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Inorganic Data Packages*;
- *Methods For The Determination Of Metals In Environmental Samples*, EPA-600/4-91-010, June 1991; and
- *USEPA Method 218.6, Determination of Dissolved Hexavalent Chromium in Drinking Water, Groundwater, and Industrial Wastewater Effluents by Ion Chromatography*, Revision 3.3, May 1994.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Data Completeness	Yes	
2.	Sample Preservation and Holding Times	Yes	
3.	Calibration	Yes	
	a. Initial		
	b. Initial and Continuing Calibration Verification		
4.	Blanks	Yes	
5.	Laboratory Control Sample (LCS)	Yes	
6.	Duplicate Sample Analysis	Yes	
7.	Matrix Spike Sample Analysis	Yes	
8.	Field Duplicate Sample Analysis	Yes	
9.	Sample Quantitation	Yes	
10.	Overall Assessment	Yes	

N/A = Not Applicable

III. OVERALL ASSESSMENT OF DATA

All of the method requirements specified in Method 218.6 have been met. Reported results for hexavalent chromium in all of the samples were appropriately and correctly calculated.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR INORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared in accordance with the document *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004.

U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

ICF International / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
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MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM) RF
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105041 Amendment 7

DATE: January 8, 2008

SUBJECT: Review of Analytical Data, Tier 2

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	None
SDG Nos.:	05-3862, 05-3874, and 05-3884
Laboratory:	Applied Physics & Chemistry Laboratory
Analysis:	Hexavalent Chromium
Samples:	17 Groundwater Samples (see Case Summary)
Collection Dates:	August 30, 31, and September 1, 2005
Reviewer:	Stan Kott, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

SAMPLING ISSUES: [X] Yes [ ] No

Data Validation Report

Case No.: None
SDG Nos.: 05-3862, 05-3874, and 05-3884
Site: Omega Chem OU2
Laboratory: Applied Physics & Chemistry Laboratory
Reviewer: Stan Kott, ESAT/LDC
Date: January 8, 2008

I. CASE SUMMARY

Sample Information

SDG 05-3862 Samples:	OC2-MW4C-W-0-133, OC2-MW4B-W-0-134, OC2-MW4A-W-0-135, OC2-MW6-W-0-137, OC2-MW6-W-1-138, OC2-MW5-W-5-139, and OC2-MW7-W-0-140
SDG 05-3874 Samples:	OC2-MW8D-W-0-141, OC2-MW8C-W-0-142, OC2-MW8B-W-0-143, OC2-MW8A-W-0-144, OC2-MW9B-W-0-145, and OC2-MW9A-W-0-146
SDG 05-3884 Samples:	OC2-MW1A-W-0-147, OC2-MW1B-W-0-148, OC2-MW3-W-0-150, and OC2-MW10-W-0-151
Concentration and Matrix:	Low Concentration Groundwater
Analysis:	Hexavalent Chromium
SOW:	EPA Method 218.6
Collection Date:	August 30, 31, and September 1, 2005
Sample Receipt Date:	August 30, 31, and September 1, 2005
Preparation Date:	August 30, 31, and September 1, 2005
Analysis Date:	August 30, 31, and September 1, 2005

Field QC

Field Blanks (FB):	Not Provided
Equipment Blanks (EB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	OC2-MW6-W-0-137 and OC2-MW6-W-1-138

Laboratory QC

Method Blanks (MB):	MB
Associated Samples:	Samples listed above
Matrix Spike (MS)/MS Duplicate (MSD):	OC2-MW5-W-5-139MS/MSD, OC2-MW8A-W-0-144MS/MSD, and OC2-MW3-W-0-150MS/MSD (See Additional Comments)
Duplicate:	MSDs listed above and Laboratory Control Sample Duplicate (LCSD)
Analysis:	Hexavalent Chromium

Analyte	Sample Preparation Date	Analysis Date
Hexavalent Chromium	August 30, 31, and September 1, 2005	August 30, 31, and September 1, 2005

Sampling Issues

The Chain of Custody (COC) record form did not specify a sample to be used for laboratory quality control (QC) for SDGs 05-3874 and 05-3884. As a result, the laboratory selected sample OC2-MW8A-W-0-144 from SDG 05-3874 and sample OC2-MW3-W-0-150 from SDG 05-3884 for QC analysis. No adverse effect on data quality is expected.

Additional Comments

As directed by the EPA TOM, a Tier 2 data review of all QC results and calibrations, minus calculation check, was performed. Table 1As are not requested.

For SDGs 05-3862, 05-3874, and 05-3884, raw data chromatograms for field samples and laboratory QC samples were not provided in the data package. For SDG 05-3884, only the raw data for sample OC2-MW3-W-0-150 and associated laboratory QC were found in SDG 05-3891. The data for all samples in all the SDGs, except sample OC2-MW3-W-0-150, were evaluated using the laboratory summary forms provided. The chromatogram results and analysis times could not be evaluated. The effect on data quality is not known.

This report was prepared in accordance with the following documents:

- Region 9 Standard Operating Procedure 906, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Inorganic Data Packages*;
- *Methods For The Determination Of Metals In Environmental Samples*, EPA-600/4-91-010, June 1991; and
- *USEPA Method 218.6, Determination of Dissolved Hexavalent Chromium in Drinking Water, Groundwater, and Industrial Wastewater Effluents by Ion Chromatography*, Revision 3.3, May 1994.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Data Completeness	Yes	
2.	Sample Preservation and Holding Times	Yes	
3.	Calibration	Yes	
	a. Initial		
	b. Initial and Continuing Calibration Verification		
4.	Blanks	Yes	
5.	Laboratory Control Sample (LCS)	Yes	
6.	Duplicate Sample Analysis	Yes	
7.	Matrix Spike Sample Analysis	Yes	
8.	Field Duplicate Sample Analysis	Yes	
9.	Sample Quantitation	Yes	
10.	Overall Assessment	Yes	

N/A = Not Applicable

III. OVERALL ASSESSMENT OF DATA

All of the method requirements specified in Method 218.6 have been met.
Reported results for hexavalent chromium in all of the samples were appropriately and correctly calculated.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR INORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared in accordance with the document *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004.

U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

ICF International / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
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Phone: (510) 412-2300; Fax: (510) 412-2304.

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM)
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105041 Amendment 3

DATE: March 6, 2007

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	Not Provided
SDG No.:	G5I030191
Laboratory:	STL Sacramento
Analysis:	N-Nitrosodimethylamine and 1,2,3-Trichloropropane
Samples:	4 Water Samples (see Case Summary)
Collection Date:	September 2, 2005
Reviewer:	Nanny Estrada, ESAT/Laboratory Data Consultants (LDC)

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

SAMPLING ISSUES: [ ] Yes [X] No

Data Validation Report – Tier 3

Case No.: Not Provided
SDG No.: G5I030191
Site: Omega Chem OU2
Laboratory: STL Sacramento
Reviewer: Nanny Estrada, ESAT/LDC
Date: March 6, 2007

I. CASE SUMMARY

Sample Information

Samples:	OC2-MW2-W-0-149, OC2-MW11-W-0-152, OC2-MW11-W-1-153, and OC2-MW11-W-2-154
Concentration and Matrix:	Low Concentration Water
Analysis:	N-Nitrosodimethylamine (NDMA) and 1,2,3-Trichloropropane (1,2,3-TCP)
Method:	USEPA Method 1625, Semivolatile Organic Compounds by Isotope Dilution GC/MS
Collection Date:	September 2, 2005
Sample Receipt Date:	September 3, 2005
Extraction Date:	September 9, 2005
Analysis Date:	September 10, 2005

Field QC

Field Blanks (FB):	OC2-MW11-W-2-154
Equipment Blanks (EB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	OC2-MW11-W-0-152 and OC2-MW11-W-1-153

Laboratory QC

Method Blanks & Associated Samples:

HJ8CX1AA:	All samples

Tables

1B:	Data Qualifier Definitions for Organic Data Review

Sampling Issues

None.

Additional Comments

Method specific quality control (QC) limits are used to evaluate the quality of data. For QC where method does not specify limits, the laboratory QC limits are used.

Although NDMA was found in the field blank OC2-MW11-W-2-154 (2.4 ng/L), no data are qualified since NDMA was not found in the samples.

This report was prepared in accordance with the following documents:

- USEPA Office of Water, *Method 1625C: Semivolatile Organic Compounds by Isotope Dilution GCMS*, June 1989;

- ESAT Region 9 Standard Operating Procedure 901, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Volatile and Semivolatile Data Packages*; and

- *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review*, October 1999.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Holding Time/Preservation	Yes	
2.	GC/MS Tune/GC Performance	Yes	
3.	Initial Calibration	Yes	
4.	Continuing Calibration	Yes	
5.	Laboratory Blanks	Yes	
6.	Field Blanks	Yes	
7.	Matrix Spike/Matrix Spike Duplicates	N/A	
8.	Laboratory Control Samples/Duplicates	Yes	
9.	Internal Standards/Surrogates	No	A
10.	Compound Identification	Yes	
11.	Compound Quantitation	Yes	
12.	System Performance	Yes	
13.	Field Duplicate Sample Analysis	Yes	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. Results for the following analyte are qualified as estimated due to internal standard/surrogate recoveries outside the QC limit and should be flagged “J”.

- NDMA in all samples, method blank HJ8CX1AA, laboratory control sample (LCS) HJ8CX1AC-LCS, and laboratory control sample duplicate (LCSD) HJ8CX1AD-LCSD

Internal standard/surrogate recoveries fell below the QC limit as shown below.

Sample	Internal Standard	% Recovery	QC Limits
OC2-MW2-W-0-149	NDMA-d6	22	25 - 150
OC2-MW11-W-0-152	NDMA-d6	24	25 - 150
OC2-MW11-W-1-153	NDMA-d6	24	25 - 150
OC2-MW11-W-2-154	NDMA-d6	24	25 - 150

Sample	Internal Standard	% Recovery	QC Limits
HJ8CX1AA	NDMA-d6	22	25 - 150
HJ8CX1AC-LCS	NDMA-d6	22	25 - 150
HJ8CX1AD-LCSD	NDMA-d6	22	25 - 150

Results for NDMA are considered quantitatively questionable. Where results are nondetected, false negatives may exist.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," October 1999.

U The analyte was analyzed for but was not detected above the reported sample quantitation limit.

L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ICF Consulting / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
Phone: (510) 412-2300 Fax: (510) 412-2304

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Project Officer (TOPO)
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: 68-W-01-028
Technical Direction Form No.: 00905082 Amendment 2

DATE: June 23, 2006

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID NO.:	CAD042245001
Case No.:	34569
SDG No.:	Y2312
Laboratory:	A4 Scientific, Inc. (A4)
Analysis:	Volatiles
Samples:	4 Groundwater Samples (see Case Summary)
Collection Date:	September 2, 2005
Reviewer:	Calvin Tanaka, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOPO for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

cc: Ray Flores, CLP PO USEPA Region 6
Steve Remaley, CLP PO USEPA Region 9

CLP PO: [X] Attention [ ] Action

SAMPLING ISSUES: [X] Yes [ ] No

Data Validation Report

Case No.: 34569
SDG No.: Y2312
Site: Omega Chem OU2
Laboratory: A4 Scientific, Inc. (A4)
Reviewer: Calvin Tanaka, ESAT/LDC
Date: June 23, 2006

I. CASE SUMMARY

Sample Information

Samples:	Y2312, Y2315, Y2316, and Y2317
Concentration and Matrix:	Low Concentration Water
Analysis:	Volatiles
SOW:	OLC03.2
Collection Date:	September 2, 2005
Sample Receipt Date:	September 3, 2005
Extraction Date:	Not Applicable
Analysis Date:	September 7 and 8, 2005

Field QC

Field Blanks (FB):	Y2317
Equipment Blanks (EB):	Not Provided
Trip Blank (TB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	Y2315 and Y2316

Laboratory QC

Method Blanks & Associated Samples:

VBLK82:	Y2312, Y2312DL, Y2315, Y2316, Y2317, Y2317MS, and Y2317MSD
VBLK83:	Storage blank VHBLK01

Tables

1A: Analytical Results with Qualifications
1B: Data Qualifier Definitions for Organic Data Review
2: Calibration Summary

CLP PO Action

None.

CLP PO Attention

1. Detected results for some analytes are qualified as nondetected and estimated (U,J) due to method blank, storage blank, and field blank contamination (see Comment B).

2. Results for methylene chloride in all samples are qualified as estimated (J) due to a calibration problem (see Comment C).

3. Results for some analytes in samples Y2312 and Y2315 are qualified as estimated (J) due to deuterated monitoring compound (DMC) recovery problems (see Comment D).

Sampling Issues

1. Detected results for acetone and benzene are qualified as nondetected and estimated (U,J) due to field blank contamination (see Comment B).

2. No sample was designated for "laboratory QC" on the traffic report & chain of custody record (TR/COC). The laboratory performed matrix spike/matrix spike duplicate (MS/MSD) analysis on Y2317. However, Y2317 is a field blank; consequently, spike recovery and relative percent difference data are not meaningful.

Additional Comments

The DMC trans-1,3-dichloropropene-d4 had RRFs below the 0.05 validation criterion in the initial and continuing calibrations (see Table 2). Quantitation of the analytes associated with this DMC may have been affected by the low RRFs (see attached Table 9 from the Functional Guidelines).

Other than a laboratory artifact (approximate retention time of 8.2 minutes), tentatively identified compounds (TICs) were found in sample Y2312 (see attached Form 1LCF).

The laboratory performed manual integrations on samples due to incorrect auto integration. Manual integrations were reviewed and found to be satisfactory and in compliance with proper integration techniques.

This report was prepared in accordance with the following documents:

- ESAT Region 9 Standard Operating Procedure 901, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Volatile and Semivolatile Data Packages*;

- *USEPA Contract Laboratory Program Statement of Work for Analysis of Low Concentration Organic,* OLC03.2, December 2000; and

- USEPA Contract Laboratory Program National Functional Guidelines for Low Concentration Organic Data Review, June 2001.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Holding Time/Preservation	Yes	
2.	GC/MS Tune/GC Performance	Yes	
3.	Initial Calibration	No	C
4.	Continuing Calibration	Yes	
5.	Laboratory Blanks	No	B
6.	Field Blanks	No	B
7.	Deuterated Monitoring Compounds	No	D
8.	Matrix Spike/Matrix Spike Duplicates	N/A	
9.	Laboratory Control Samples/Duplicates	N/A	
10.	Internal Standards	Yes	
11.	Compound Identification	Yes	
12.	Compound Quantitation	Yes	A, E
13.	System Performance	Yes	
14.	Field Duplicate Sample Analysis	Yes	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. The following results, denoted with an "L" qualifier, are estimated and flagged "J" in Table 1A.

- All detected results below the contract required quantitation limits

Results below the contract required quantitation limits (CRQLs) are considered to be qualitatively acceptable, but quantitatively unreliable, due to the uncertainty in analytical precision near the limit of detection.

B. The following results are qualified as nondetected and estimated due to method blank, storage blank, and field blank contamination and are flagged "U,J" in Table 1A.

- Acetone in samples Y2315 and Y2316
- Methylene chloride in samples Y2312, Y2315, and Y2317
- Benzene in sample Y2312

Acetone was found in method blank VBLK83 and field blank Y2317, methylene chloride was found in storage blank VHBLK01, and benzene was found in field blank Y2317 (see Table 1A for concentrations). Results for the samples listed above are considered nondetected and estimated (U,J) and quantitation limits have been raised according to blank qualification rules presented below.

No positive results are reported unless the concentration of the compound in the sample exceeds 10 times the amount in any associated blank for common laboratory contaminants or 5 times the amount for other compounds. If the sample result is greater than the CRQL, the quantitation limit is raised to the sample result and reported as nondetected. If the sample result is less than the CRQL, the result is reported as nondetected at the CRQL.

The acetone result for sample Y2312 (29 μg/L) is not qualified as nondetected and estimated since the concentration exceeds 10 times the amount in field blank Y2317 (1.7 μg/L). The chloroform result for sample Y2312 (86 μg/L) is not qualified as nondetected and estimated since the concentration exceeds 5 times the amount in storage blank VHBLK01 (0.21 μg/L).

A storage blank is laboratory reagent water stored in a vial in the same area as the field samples. The storage blank is used to determine the level of contamination introduced by the laboratory during sample storage prior to analysis.

A laboratory method blank is laboratory reagent water or baked sand analyzed with all reagents, deuterated monitoring compounds, and internal standards and carried through the same sample preparation and analytical procedures as the field samples. The laboratory method blank is used to determine the level of contamination introduced by the laboratory during analysis.

A field blank is clean water prepared as a sample in the field by the sampler and shipped to the laboratory with the samples. A field blank is intended to detect contaminants that may have been introduced in the field, although any laboratory introduced contamination will be present. Contaminants that are found in the field blank which are absent in the laboratory method blank could be indicative of a field QC problem, a deficiency in the bottle preparation procedure, a difference in preparation of the laboratory and field blanks, or other indeterminate error.

C. Results for the following analyte are qualified as estimated due to a large percent relative standard deviation (%RSD) in the initial calibration and are flagged "J" in Table 1A.

- Methylene chloride in all samples, all method blanks, and storage blank VHBLK01

The %RSD exceeded the $\leq$30.0% validation criterion for methylene chloride in the initial calibration (see Table 2).

The DMC trans-1,3-dichloropropene-d4 also had a %RSD that exceeded the $\leq$30.0% validation criterion in the initial calibration (see Table 2). Quantitation of the analytes associated with this DMC may have been affected by the high %RSD (see attached Table 9 from the Functional Guidelines).

The initial calibration demonstrates that the instrument is capable of acceptable performance in the beginning of the analytical run and of producing a linear calibration curve.

D. Results for the following analytes are qualified as estimated due to DMC recoveries outside QC limits and are flagged "J" in Table 1A.

{Chloroform-d}
- 1,1-Dichloroethane and chloroform in sample Y2312

{trans-1,3-Dichloropropene-d4}
- cis-1,3-Dichloropropene, trans-1,3-dichloropropene, and 1,1,2-trichloroethane in sample Y2315

The DMC recoveries outside QC limits are shown below.

Sample	DMC	% Recovery	QC Limits
Y2312	Chloroethane-d5	210	60-126
Y2312	Chloroform-d	170	80-123
Y2315	trans-1,3-Dichloropropene-d4	78	80-128
Y2317MSD	1,1,2,2-Tetrachloroethane-d2	71	75-131

Detected results for affected analytes where DMC recoveries fell below QC limits may be biased low; where results are nondetected, false negatives may exist. Detected results for affected analytes where DMC recoveries exceeded QC limits may be biased high. For DMC recoveries that exceeded QC limits, only detected results for associated analytes are qualified. The DMC chloroethane-d5 recovery for sample Y2312 exceeded the QC limit but results were not qualified because they were nondetects. The samples were not reanalyzed.

Surrogates (e.g., deuterated monitoring compounds (DMCs)) are organic compounds which are similar to the target analytes in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. All samples are spiked with DMCs prior to purging. DMCs provide information about both the laboratory performance on individual samples and the possible effects of the sample matrix on the analytical results.

E. Sample Y2312 was reanalyzed at a 50-fold dilution due to high levels of trichlorofluoromethane, 1,1-dichloroethene, 1,1,2-trichloro-1,2,2-trifluoroethane, chloroform, trichloroethene, and tetrachloroethene that exceeded the calibration range. Results for these analytes are reported from the diluted analysis in Table 1A; results for other analytes are reported from the undiluted analysis.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Low Concentration Organic Data Review," June 2001.

U	The analyte was analyzed for, but was not detected above the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method.
L	Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
UJ	The analyte was not detected above the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
R	The sample results are unusable. The analyte may or may not be present in the sample.

Table 2
Calibration Summary

Case No.:	34569
SDG No.:	Y2312
Site:	Omega Chem OU2
Laboratory:	A4 Scientific, Inc. (A4)
Reviewer:	Calvin Tanaka, ESAT/LDC
Date:	June 23, 2006

RELATIVE RESPONSE FACTORS (RRF)

	RRF	RRF	RRF
Analysis date:	8/29/05	9/7/05	9/8/05
Analysis time:	10:43-	07:50	08:13
GC/MS I.D.:	C-5973	C-5973	C-5973
Analyte	Init.	Cont.	Cont.
trans-1,3-Dichloropropene-d4	0.041	0.047	0.044

PERCENT RELATIVE STANDARD DEVIATIONS (%RSD)

	%RSD
Analysis Date:	8/29/05
Analysis Time:	10:43-
GC/MS I.D.:	C-5973
Analyte	Init.
Methylene chloride	39.3
trans-1,3-Dichloropropene-d4	34.3

ASSOCIATED SAMPLES AND METHOD BLANKS

Initial, 8/29/05:	Y2312, Y2312DL, Y2315, Y2316, Y2317, Y2317MS, and Y2317MSD; method blanks VBLK82 and VBLK83; storage blank VHBLK01
Cont., 9/7/05:	Y2312, Y2312DL, Y2315, Y2316, Y2317, Y2317MS, and Y2317MSD; method blank VBLK82
Cont., 9/8/05:	Method blank VBLK83; storage blank VHBLK01.

ICF International / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
Phone: (510) 412-2300; Fax: (510) 412-2304.

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM)
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105041 Amendment 3

DATE: March 16, 2007

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	Not Provided
SDG No.:	06-1647
Laboratory:	Applied Physics & Chemistry Laboratory (APCL)
Analysis:	1,2,3-Trichloropropane (1,2,3-TCP) and n-Nitrosodimethylamine (NDMA)
Samples:	5 Water Samples (see Case Summary)
Collection Date:	March 6, 2006
Reviewer:	Nanny Estrada, ESAT/Laboratory Data Consultants (LDC)

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

SAMPLING ISSUES: [X] Yes [ ] No

Data Validation Report – Tier 3

Case No.: Not Provided
SDG No.: 06-1647
Site: Omega Chem OU2
Laboratory: APCL
Reviewer: Nanny Estrada, ESAT/LDC
Date: March 16, 2007

I. CASE SUMMARY

Sample Information

Samples:	OC2-MW7-W-0-155, OC2-MW7-W-4-156, OC2-MW8C-W-0-157, OC2-MW8B-W-0-158, and OC2-MW8A-W-0-159
Concentration and Matrix:	Low Concentration Water
Analysis:	1,2,3-TCP (GC) and NDMA (GC/MS/MS CI)
SOW:	EPA Methods 504.1 and 1625 Modified
Collection Date:	March 6, 2006
Sample Receipt Date:	March 6, 2006
Extraction Date:	March 9 and 10, 2006
Analysis Date:	March 10 and 14, 2006

Field QC

Field Blanks (FB):	Not Provided
Trip Blanks (TB):	OC2-MW7-W-4-156 (for 1,2,3-TCP only)
Equipment Blanks (EB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	Not Provided

Laboratory QC

Method Blanks & Associated Samples:

06G1343MB01:	(1,2,3-TCP) All samples
06G1337MB01:	(NDMA) All samples

Tables

1B:	Data Qualifier Definitions for Organic Data Review

Sampling Issues

On the chain of custody (COC), the "relinquished" date of 2/6/06 is incorrect; the correct date is 3/6/06 (see attached COC).

Additional Comments

For the NDMA analysis, decafluorotriphenylphosphine (DFTPP) was not analyzed. Since NDMA is analyzed by the chemical ionization (CI) technique, no adverse effect is expected.

This report was prepared in accordance with the following documents:

- ESAT Region 9 Standard Operating Procedure 901, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Volatile and Semivolatile Data Packages*;

- ESAT Region 9 Standard Operating Procedure 902, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Pesticide/PCB Data Packages*;

- EPA Method 504.1, *1,2-Dibromoethane (EDB), 1,2-Dibromo-3-chloro-propane (DBCP), and 1,2,3-Trichloropropane (123TCP) in Water by Microextraction and Gas Chromatography*, Revision 1.1, 1995;

- EPA Method 1625C, *Semivolatile Organic Compounds by Isotope dilution GC/MS*, June 1989; and

- *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review*, October 1999.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Holding Time/Preservation	Yes	
2.	GC/MS and GC Performance	Yes	
3.	Initial Calibration	Yes	
4.	Continuing Calibration	Yes	
5.	Laboratory Blanks	Yes	
6.	Field Blanks	Yes	
7.	Surrogate (Method 504.1)	Yes	
8.	Labeled Compound (Method 1625)	No	C
9.	Matrix Spike/Matrix Spike Duplicates	N/A	
10.	Laboratory Control Samples/Duplicates	Yes	
11.	Internal Standard	Yes	
12.	Compound Identification	Yes	
13.	Compound Quantitation	No	A, B
14.	System Performance	Yes	
15.	Field Duplicate Sample Analysis	N/A	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. The following detected result is qualified as estimated and should be flagged “J”.

- NDMA in sample OC2-MW8C-W-0-157 (below the practical quantitation limit)

Results below the practical quantitation limits (PQLs) are considered to be qualitatively acceptable, but quantitatively unreliable, due to the uncertainty in analytical precision near the limit of detection.

B. The laboratory reported the NDMA sample practical quantitation limit (PQL) as 0.002 ug/L and reported a NDMA detected result of 0.0009 ug/L for sample OC2-MW8C-W-0-157. However, the signal to noise (S/N) ratio is only 3 and the area is only 393 for the concentration of 0.0009 ug/L (see attached quantitation report, p. 2020 in data package). Furthermore, the area for low standard of the initial calibration is only 1074 (see attached quantitation report, p. 2029 in data package). In the reviewer's professional judgment, the sample PQL should be raised to 0.02 ug/L; non-detected sample results should be reported as 0.02U.

C. The laboratory did not spike the samples and method blanks with a labeled compound (i.e., surrogate; see Method 1625C Sections 6.8, 10.2.1.3, and 10.2.3.2 and Figure 4). Consequently, the extraction efficiency (surrogate recovery) cannot be evaluated. The NDMA-d6 spiked by the laboratory was used as an internal standard.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," October 1999.

U The analyte was analyzed for but was not detected above the reported sample quantitation limit.

L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ICF International / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
Phone: (510) 412-2300 Fax: (510) 412-2304

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM)
Quality Assurance (QA) Program, PMD-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105041 Amendment 3

DATE: March 14, 2007

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	None
SDG No.:	06-1647
Laboratory:	Applied Physics & Chemistry Laboratory (APCL)
Analysis:	Hexavalent Chromium
Samples:	4 Water Samples (see Case Summary)
Collection Dates:	March 6, 2006
Reviewer:	Stan Kott, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

SAMPLING ISSUES: [X] Yes [ ] No

Data Validation Report

Case No.: None
SDG No.: 06-1647
Site: Omega Chem OU2
Laboratory: Applied Physics & Chemistry Laboratory (APCL)
Reviewer: Stan Kott, ESAT/LDC
Date: March 14, 2007

I. CASE SUMMARY

Sample Information

Samples:	OC2-MW7-W-0-155, OC2-MW8C-W-0-157, OC2-MW8B-W-0-158, and OC2-MW8A-W-0-159
Concentration and Matrix:	Low Concentration Water
Analysis:	Hexavalent Chromium
SOW:	EPA Method 218.6
Collection Date:	March 6, 2006
Sample Receipt Date:	March 6, 2006
Preparation Date:	March 6, 2006
Analysis Date:	March 6, 2006

Field QC

Field Blanks (FB):	Not Provided
Equipment Blanks (EB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	Not Provided

Laboratory QC

Method Blanks (MB):	MB
Associated Samples:	Samples listed above
Matrix Spike (MS)/MS Duplicate (MSD):	OC2-MW7-W-0-155MS/MSD
Duplicates:	Laboratory Control Sample (LCS) and LCS Duplicate (LCSD)
Analysis:	Hexavalent Chromium

Analyte	Sample Preparation Date	Analysis Date
Hexavalent Chromium	March 6, 2006	March 6, 2006

Sampling Issues

The Chain of Custody (COC) record form did not specify a sample to be used for laboratory quality control (QC). As a result, the laboratory selected sample OC2-MW7-W-0-155 for QC analysis. The effect on data quality is not known.

Additional Comments

As directed by the EPA TOPO, a Tier 3 data review was performed. A Table 1A is not requested.

The calculated percent difference (%D) for calibration standards 0.20 µg/L and 5.0 µg/L is 25 %D and 23 %D, respectively, and exceed the 10% limit. The 10% limit was derived from the ±10% limit used in method 218.6 to determine the linear dynamic range upper limit. The high %D indicates that the calibration may not be linear at the low end of the curve. Since the analytical method does not require analysis of a practical quantitation limit (PQL) standard to confirm linearity of the calibration curve at the 1 µg/L PQL, results less than 20 µg/L may have a high bias.

The method specifies the sample pH be adjusted to 9.0 to 9.5 prior to analysis; however, there is no method specific requirement to document the sample pH. The pH of the samples prior to analysis could not be evaluated. The effect on data quality is not known.

Initial and continuing calibration blank data were not provided and could not be evaluated. The effect on data quality is not known.

This report was prepared in accordance with the following documents:

- Region 9 Standard Operating Procedure 906, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Inorganic Data Packages*;
- *Methods For The Determination Of Metals In Environmental Samples*, EPA-600/4-91-010, June 1991; and
- *USEPA Method 218.6, Determination of Dissolved Hexavalent Chromium in Drinking Water, Groundwater, and Industrial Wastewater Effluents by Ion Chromatography*, Revision 3.3, May 1994.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Data Completeness	Yes	
2.	Sample Preservation and Holding Times	Yes	
3.	Calibration	No	A
	a. Initial		
	b. Initial and Continuing Calibration Verification		
4.	Blanks	Yes	
5.	Laboratory Control Sample (LCS)	Yes	
6.	Duplicate Sample Analysis	Yes	
7.	Matrix Spike Sample Analysis	Yes	
8.	Field Duplicate Sample Analysis	N/A	
9.	Sample Quantitation	Yes	
10.	Overall Assessment	Yes	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. The following results should be flagged "J" because the final continuing calibration verification (CCV) standard result is outside method QC limits.

- Hexavalent chromium in all samples

The CCV2 recovery result for hexavalent chromium does not meet the 95-105% criterion for accuracy specified in the method. The recovery for hexavalent chromium is presented below and is based on an ideal recovery of 100%.

Analyte	% Recovery
Hexavalent Chromium (CCV2)	106

Since CCV2 was not reanalyzed as required by the method, results greater than or equal to the practical quantitation limit (PQL) are considered quantitatively uncertain. The results reported for hexavalent chromium in all samples may be biased high.

The inorganic method indicates that the laboratory verify that the instrument is properly calibrated on a continuing basis. Laboratory reagent blank (LRB) and laboratory performance check standards (LPC) are analyzed after every 10 analytical samples to determine the validity of the calibration.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR INORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared in accordance with the document *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004.

U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

ICF International / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
Phone: (510) 412-2300 Fax: (510) 412-2304

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM) RF
Quality Assurance (QA) Program, PMD-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105041 Amendment 7

DATE: January 8, 2008

SUBJECT: Review of Analytical Data, Tier 2

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	None
SDG Nos.:	06-1781
Laboratory:	Applied Physics & Chemistry Laboratory (APCL)
Analysis:	Hexavalent Chromium
Samples:	5 Water Samples (see Case Summary)
Collection Dates:	March 15, 2006
Reviewer:	Stan Kott, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

SAMPLING ISSUES: [X] Yes [ ] No

Data Validation Report

Case No.: None
SDG Nos.: 06-1781
Site: Omega Chem OU2
Laboratory: Applied Physics & Chemistry Laboratory (APCL)
Reviewer: Stan Kott, ESAT/LDC
Date: January 8, 2008

I. CASE SUMMARY

Sample Information

SDG 06-1781 Samples: OC2-MW23D-W-5-196, OC2-MW15-W-0-198, OC2-MW15-W-1-199, OC2-MW13B-W-0-201, and OC2-MW12-W-0-203

Concentration and Matrix: Low Concentration Water
Analysis: Hexavalent Chromium
Method: EPA Method 218.6
Collection Date: March 15, 2006
Sample Receipt Date: March 15, 2006
Preparation Date: March 15, 2006
Analysis Date: March 15, 2006

Field QC

Field Blanks (FB): Not Provided
Equipment Blanks (EB): Not Provided
Background Samples (BG): Not Provided
Field Duplicates (D1): OC2-MW15-W-0-198 and OC2-MW15-W-1-199

Laboratory QC

Method Blanks (MB): MB
Associated Samples: Samples listed above
Matrix Spike (MS)/MS Duplicate (MSD): OC2-MW23D-W-5-196 MS/MSD

Duplicates: MSD listed above and Laboratory Control Sample Duplicate (LCSD)

Analysis: Hexavalent Chromium

Analyte	Sample Preparation Date	Analysis Date
Hexavalent Chromium	March 15, 2006	March 15, 2006

Sampling Issues

None.

Additional Comments

As directed by the EPA TOM, a Tier 2 data review of all QC results and calibrations, minus calculation check, was performed. A Table 1A is not requested.

The calculated percent difference (%D) for calibration standards 0.20 µg/L and 5.0 µg/L is 25% and 23%, respectively. This high %D indicates that the calibration may not be linear at the low end of the curve. Since the analytical method does not require analysis of a practical quantitation limit (PQL) standard to confirm linearity of the calibration curve at the 1 µg/L PQL, results less than 20 µg/L may have a high bias. The effect on data quality for low level samples is not known.

The laboratory sample receipt form was not provided in the data package. The sample temperatures at the time of receipt could not be evaluated. The effect on data quality is not known.

Initial and continuing calibration blank data were not provided and could not be evaluated. The effect on data quality is not known.

This report was prepared in accordance with the following documents:

- Region 9 Standard Operating Procedure 906, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Inorganic Data Packages*;
- *Methods For The Determination Of Metals In Environmental Samples*, EPA-600/4-91-010, June 1991; and
- *USEPA Method 218.6, Determination of Dissolved Hexavalent Chromium in Drinking Water, Groundwater, and Industrial Wastewater Effluents by Ion Chromatography*, Revision 3.3, May 1994.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Data Completeness	Yes	
2.	Sample Preservation and Holding Times	Yes	
3.	Calibration	Yes	
	a. Initial		
	b. Initial and Continuing Calibration Verification		
4.	Blanks	Yes	
5.	Laboratory Control Sample (LCS)	Yes	
6.	Duplicate Sample Analysis	Yes	
7.	Matrix Spike Sample Analysis	Yes	
8.	Field Duplicate Sample Analysis	Yes	
9.	Sample Quantitation	Yes	A
10.	Overall Assessment	Yes	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. The 0.86 µg/L result for sample OC2-MW12-W-0-203 is above the method detection limit (MDL) but below the practical quantitation limit (PQL) and should be estimated.

Results above the MDL but below the PQL are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of quantitation.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR INORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared in accordance with the document *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004.

U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

ICF International / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
Phone: (510) 412-2300; Fax: (510) 412-2304.

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM)
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105041 Amendment 7

DATE: January 9, 2008

SUBJECT: Review of Analytical Data, **Tier 2**

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	Not Provided
SDG No.:	06-1781
Laboratory:	Applied Physics & Chemistry Laboratory (APCL)
Analysis:	1,2,3-Trichloropropane (1,2,3-TCP) and n-Nitrosodimethylamine (NDMA)
Samples:	8 Water Samples (see Case Summary)
Collection Date:	March 15, 2006
Reviewer:	Santiago Lee, ESAT/Laboratory Data Consultants (LDC)

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

SAMPLING ISSUES: [ ] Yes [X] No

00105041-8808/G5C+/06-1781-NT

Data Validation Report – **Tier 2**

Case No.: Not Provided
SDG No.: 06-1781
Site: Omega Chem OU2
Laboratory: APCL
Reviewer: Santiago Lee, ESAT/LDC
Date: January 9, 2008

I. CASE SUMMARY

Sample Information

SDG 06-1781 Samples:	OC2-MW23D-W-5-196, OC2-MW23D-W-4-197, OC2-MW15-W-0-198, OC2-MW15-W-1-199, OC2-MW15-W-2-200, OC2-MW13B-W-0-201, OC2-MW13B-W-3-202, and OC2-MW12-W-0-203
Concentration and Matrix:	Low Concentration Water
Analysis:	1,2,3-TCP (GC) and NDMA (GC/MS/MS CI)
Method:	EPA Methods 504.1 and 1625
Collection Date:	March 15, 2006
Sample Receipt Date:	March 15, 2006
Extraction Date:	March 16 through 20, 2006
Analysis Date:	March 15 through 23, 2006

Field QC

Field Blanks (FB):	OC2-MW15-W-2-200
Trip Blanks (TB):	OC2-MW23D-W-4-197
Equipment Blanks (EB):	OC2-MW13B-W-3-202
Background Samples (BG):	Not Provided
Field Duplicates (D1):	OC2-MW15-W-0-198 and OC2-MW15-W-1-199

Laboratory QC

Method Blanks & Associated Samples: Not Provided

Tables

1B: Data Qualifier Definitions for Organic Data Review

Sampling Issues

None.

Additional Comments

As directed by the EPA TOM, a Tier 2 data review was performed (review all QC results and calibrations, minus calculation check). A Table 1A is not requested.

The raw data for NDMA and 1,2,3-TCP analyses are not provided. Only sample results, QC summaries, batch QC reports, and sample chromatograms and quantitation reports are provided for review.

For the NDMA analysis, decafluorotriphenylphosphine (DFTPP) was not analyzed. Since NDMA is analyzed by the chemical ionization (CI) technique, no adverse effect is expected.

This report was prepared in accordance with the following documents:

- ESAT Region 9 Standard Operating Procedure 901, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Volatile and Semivolatile Data Packages*;

- ESAT Region 9 Standard Operating Procedure 902, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Pesticide/PCB Data Packages*;

- EPA Method 504.1, *1,2-Dibromoethane (EDB), 1,2-Dibromo-3-chloro-propane (DBCP), and 1,2,3-Trichloropropane (123TCP) in Water by Microextraction and Gas Chromatography*, Revision 1.1, 1995;

- EPA Method 1625C, *Semivolatile Organic Compounds by Isotope dilution GC/MS*, June 1989; and

- *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review*, October 1999.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Holding Time/Preservation	Yes	
2.	GC/MS and GC Performance	N/A	
3.	Initial Calibration	N/A	
4.	Continuing Calibration	Yes	
5.	Laboratory Blanks	Yes	
6.	Field Blanks (for 1,2,3-TCP only)	Yes	
7.	Surrogate (Method 504.1)	Yes	
8.	Labeled Compound (Method 1625)	No	C
9.	Matrix Spike/Matrix Spike Duplicates	Yes	
10.	Laboratory Control Samples/Duplicates	Yes	
11.	Internal Standard	Yes	
12.	Compound Identification	N/A	
13.	Compound Quantitation	No	A, B
14.	System Performance	N/A	
15.	Field Duplicate Sample Analysis	Yes	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. The following detected results are qualified as estimated and should be flagged "J".

- NDMA in samples OC2-MW15-W-0-198, OC2-MW15-W-1-199, and OC2-MW12-W-0-203 (below the practical quantitation limit)

Results below the practical quantitation limits (PQLs) are considered to be qualitatively acceptable, but quantitatively unreliable, due to the uncertainty in analytical precision near the limit of detection.

B. The laboratory reported the NDMA sample practical quantitation limit (PQL) as 0.002 ug/L. However, signal to noise (S/N) ratios and areas for NDMA detected results are relatively low. For example, the S/N ratio is only 13 and the area is only 1649 for the concentration of 0.003 ug/L in sample OC2-MW15-W-0-198 (lab sample ID 1781-4; see attached quantitation report). In the reviewer's professional judgment, the sample PQL should be raised to 0.02 ug/L. Non-detected sample results should be reported as 0.02U.

C. For the NDMA analysis, the laboratory did not spike the samples and method blanks with a labeled compound (i.e., surrogate; see Method 1625C Sections 6.8, 10.2.1.3, and 10.2.3.2 and Figure 4). Consequently, the extraction efficiency (surrogate recovery) for NDMA cannot be evaluated. The NDMA-d6 spiked by the laboratory was used as an internal standard.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," October 1999.

U The analyte was analyzed for but was not detected above the reported sample quantitation limit.

L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Print Date: 23 Mar 2006 09:43:24

Target Compound #2 from 1781-4 f=0.001.sms

Sample ID:	1781-4 f=0.001	Last Calibration:	2/21/2006 1:18 PM
Acquisition Date:	3/23/2006 2:21 AM	Calculation Date:	3/23/2006 9:43 AM
Method:	c:\... \ndma005.mth	Vial:	32
Volume:	3.0000	Multiplier:	1.000000
Data File:	c:\data\2006\06g1380\1781-4 f=0.001.sms		

Compound Information

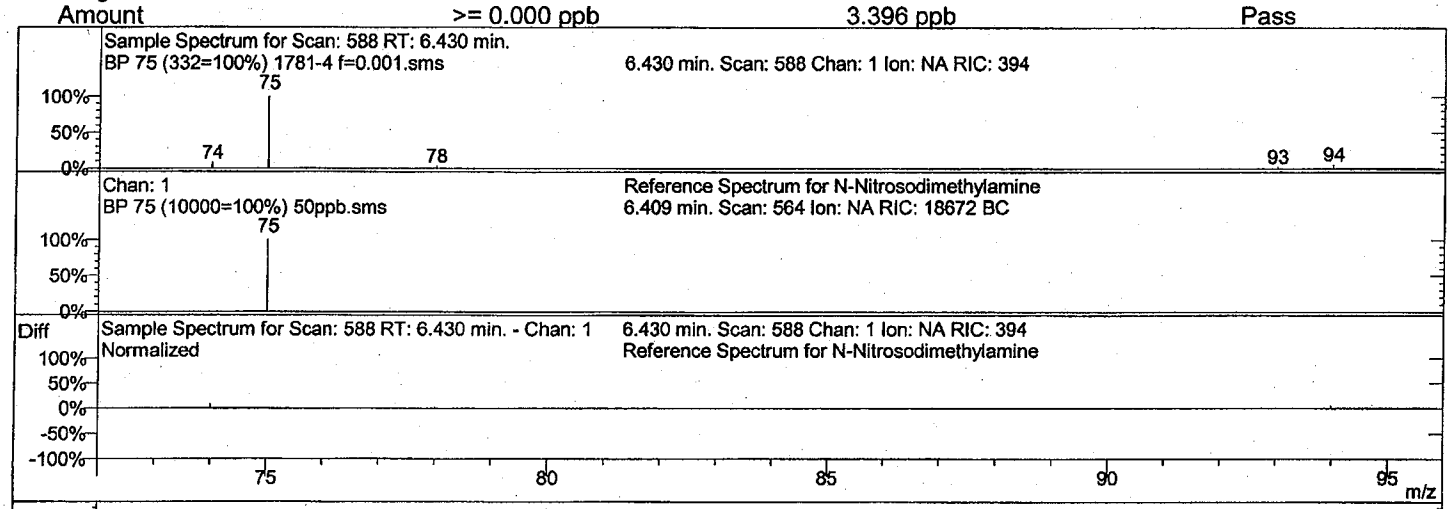
Peak Name:	N-Nitrosodimethylamine			
Result Index:	2	Compound Number: 2	CAS Number: 62-75-9	Identified

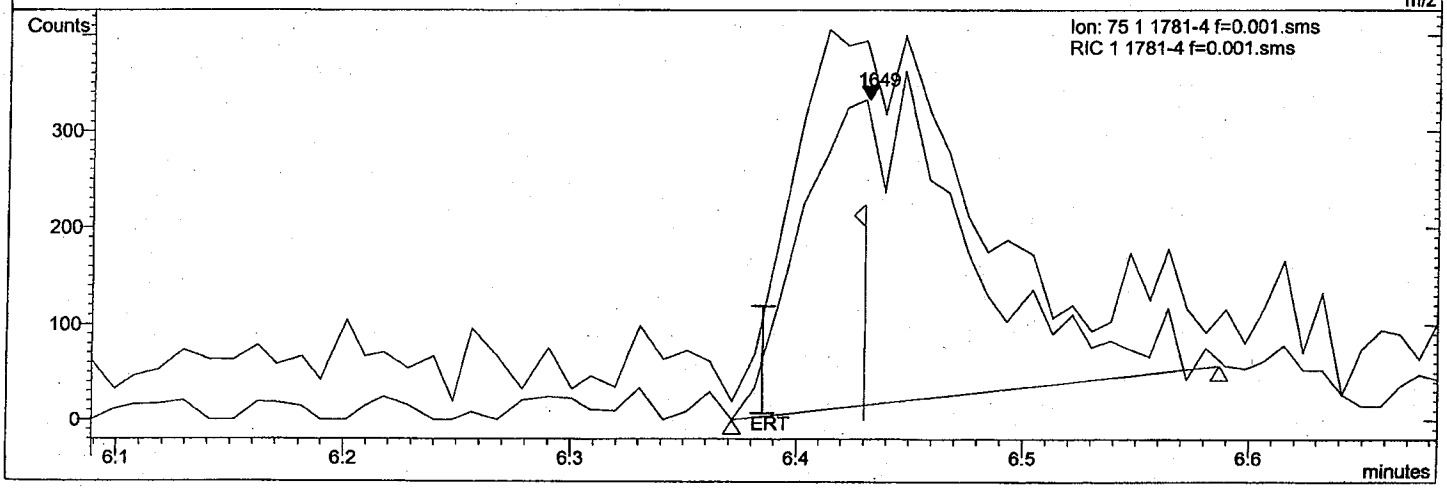
Identification

Parameter	Specification	Actual	Status
Search Type	Retention Time		
Retention Time	6.385 +/- 0.300	6.432 min.	Pass
Match Result		N/A	

Integration and Quantitation

Parameter	Specification	Actual	Status
Quan Ions	75		
IS Peak Name	NDMA-D6		
Calibration Equation	Linear, Force, None	y = +0.7286x	
S/N Ratio		13	
Peak Detection	Normal		
Slope Sensitivity	20		
Peak Width	20.00 sec	4.9 sec	
Baseline Type	Normal		
Tangent Percent	10%		
Area	>=100	1649	Pass
Height		316	
Amount	>= 0.000 ppb	3.396 ppb	Pass





DataVal, Inc.

Data Validation Report

Case No.: R06S31
Site: Omega Chemical OU-2 March 2006 Sampling
Laboratory: Region 9 Laboratory, Richmond, CA
Reviewer: Lisa Norosky/Agnieszka Jankowski, DataVal, Inc.
Date: October 2, 2006

I. Case Summary

SAMPLE INFORMATION:

Concentration and Matrix: Low Concentration Waters
Analysis: Perchlorate (314.0)
SOW: N/A

not in DC table

Samples in SDG 06075B: OC2-MW23D-W-5-196, OC2-MW15-W-0-198, OC2-MW15-W-1-199, OC2-MW13B-W-0-201 and OC2-MW12-W-0-203

PA PA PA

Collection Dates: March 15, 2006
Sample Receipt Dates: March 16, 2006

FIELD QC:
Field Blanks (FB): None.
Equipment Blanks (EB): None.
Background Samples (BG): None.
Duplicates (D1): OC2-MW15-W-0-198 and OC2-MW15-W-1-199

LABORATORY QC: Matrix Spikes: OC2-MW23D-W-5-196

ANALYSES: Perchlorate (314.0)

Analyte	Sample Preparation Dates	Analysis Dates
Perchlorate	March 28 and 29, 2006	March 28 and 29, 2006

METHOD BLANKS AND ASSOCIATED SAMPLES:

Perchlorate:
B6C0170-BLK1: OC2-MW23D-W-5-196, OC2-MW15-W-0-198, OC2-MW15-W-1-199 and OC2-MW13B-W-0-201
B6C0187-BLK1: OC2-MW12-W-0-203

TABLES:

1A: Analytical Results with Qualifications
1B: Data Qualifier Definitions for Inorganic Data

TPO ACTION: None.

TPO ATTENTION: None.

SAMPLING ISSUES:
None.

ADDITIONAL COMMENTS:
In addition to the laboratory SOPs, this report was prepared according to the following documents:

- *Methods for the Determination of Organic and Inorganic Compounds in Drinking Water* (EPA 815-R-00-014, August 2000)
- *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004.

All samples in sample delivery group (SDG) 06075B received full validation. This included re-calculation of all reported results for perchlorate in the samples included in this SDG. All reported values for all samples were verified as correctly reported by the laboratory.

II. Validation Summary

The data were evaluated based on the following parameters:

Parameter	Acceptable	Comment
1. Data Completeness	Yes	
2. Sample Preservation and Holding Times	Yes	
3. Calibration	Yes	
a. Initial Calibration Verification		
b. Continuing Calibration Verification		
c. Calibration Blank		
d. QL Standard		
4. Blanks	Yes	
a. Laboratory Preparation Blank		
b. Field Blank		
c. Equipment Blank		
5. ICP Interference Check Sample Analysis	N/A	
6. Laboratory Control Sample Analysis	Yes	
7. Spiked Sample Analysis	Yes	
8. Laboratory Duplicate Sample Analysis	N/A	
9. Field Duplicate Sample Analysis	Yes	
10. GFAA QC Analysis	N/A	
a. Duplicate Injections		
b. Analytical Spikes		
c. Method of Standard Addition		
11. ICP Serial Dilution Analysis	N/A	
12. Sample Quantitation	Yes	
13. Sample Result Verification	Yes	

N/A = Not Applicable

III. Overall Assessment of Data

All of the method requirements specified in laboratory standard operating procedure #531 have been met. The reported results for perchlorate in the samples were re-calculated and verified as correctly reported by the laboratory.

ANALYTICAL RESULTS
TABLE 1A

Case Number: R06S31
Site: Omega Chemical OU-2 March 2006 Sampling
SDG: 06075B
Lab: USEPA Region 9 Laboratory
Reviewer: Lisa Norosky, DataVal, Inc.
Date: 2-Oct-06

Analysis: Perchlorate
Matrix: Water

Station Location	OC2-MW23D-W-5-196				FD1				FD1				OC2-MW13B-W-0-201			
Sample ID	OC2-MW23D-W-5-196				OC2-MW15-W-0-198				OC2-MW15-W-1-199				OC2-MW13B-W-0-201			
Lab Sample ID	0603049-01				0603049-03				0603049-04				0603049-06			
Date of Collection	15-Mar-06				15-Mar-06				15-Mar-06				15-Mar-06			
Units	ug/L				ug/L				ug/L				ug/L			
Analyte	Result	Q	Val	Com	Result	Q	Val	Com	Result	Q	Val	Com	Result	Q	Val	Com
Perchlorate	3.8				3.9				4.2				3.2			

Station Location	OC2-MW12-W-0-203				Method Blank				Method Blank				QL			
Sample ID	OC2-MW12-W-0-203				B6C0170-BLK1				B6C0187-BLK1							
Lab Sample ID	0603049-08				27-Mar-06				29-Mar-06							
Date of Collection	15-Mar-06				ug/L				ug/L				ug/L			
Units	ug/L				Result				Result				Result			
Analyte	Result	Q	Val	Com		Q	Val	Com		Q	Val	Com				
Perchlorate	2.0	U			2.0	U			2.0	U			2.0			

Val-Validity Refer to Data Qualifiers in Table 1B.
Com-Comments Refer to the Corresponding Section in the Narrative for each letter.
N/A-Not Applicable, NA-Not Analyzed

FD1, FD2, etc.- Field Duplicate Pairs
FB-Field Blank, EB-Equipment Blank, TB-Trip Blank
BG-Background Sample

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR INORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared in accordance with the document "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004".

U The analyte was analyzed for, but was not detected above the level of the reported value. The reported value is either the sample quantitation limit or the sample detection limit for all the analytes except Cyanide (CN) and Mercury (Hg). For CN and Hg, the reported value is the Quantitation Limit (QL).

L Indicates results which fall between the sample detection limit and the QL. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

J The associated value is an estimated quantity. The analyte was analyzed for and was positively identified, but the reported numerical value may not be consistent with the amount actually present in the environmental sample.

R The data are unusable. The analyte was analyzed for, but the presence or absence of the analyte can not be verified.

UJ A combination of the "U" and the "J" qualifier. The analyte was analyzed for but was not detected. The reported value is an estimate and may be inaccurate or imprecise.

DataVal, Inc.

TD
RC updated
5/21/07

✓D% DB (RA)
6/27/07
✓VOC DB (RA)
6/28/07

MEMORANDUM

TO: Carl Brickner
Environmental Scientist
USEPA Region 9 Quality Assurance Office (PMD-3)

FROM: Donna Breaux DB 10/2/06
Senior Reviewer, DataVal, Inc.

DATE: October 2, 2006

SUBJECT: Review of Analytical Data

Attached are comments resulting from DataVal's review of the following analytical data:

SITE:	Omega Chemical OU-2 March 2006 Sampling
SITE ACCOUNT NO.:	09 BC LA 02
CERCLIS ID NO.:	CAD042245001
CASE NO.:	R06S31
SDG NO.:	06069D and 06075B
LABORATORY:	Region 9 Laboratory, Richmond, CA
ANALYSIS:	Volatile Organic Compounds and 1,4-Dioxane
SAMPLE NO.:	23 Water Samples (see Case Summary)
COLLECTION DATE:	March 9, 13, 14 and 15, 2006
REVIEWERS:	Lisa Norosky/Agnieszka Jankowski, DataVal, Inc.

If there are any questions, please contact Donna Breaux at (415) 883-2780.

Attachment

TPO: [ ]FYI [X]Attention [ ]Action

SAMPLING ISSUES: [X]Yes [ ]No

27 Commercial Blvd., Suite P Novato, CA 94949 • 415.883-2780 • Fax 415.884-2386

DataVal, Inc.

Data Validation Report

Case No.: R06S31
Site: Omega Chemical OU-2 March 2006 Sampling
Laboratory: Region 9 Laboratory, Richmond, CA
Reviewer: Lisa Norosky/ Agnieszka Jankowski, DataVal, Inc.
Date: October 2, 2006

I. Case Summary

SAMPLE INFORMATION:

Analysis: Volatile Organic Compounds and 1,4-Dioxane
SOW: N/A

VOC Samples in SDG 06075B: OC2-MW23D-W-5-196, OC2-MW23D-W-4-197, OC2-MW15-W-0-198, OC2-MW15-W-1-199, OC2-MW15-W-2-200, OC2-MW13B-W-0-201, OC2-MW13B-W-3-202 and OC2-MW12-W-0-203

Concentration and Matrix: Low Concentration Water
Collection Date: March 15, 2006
Sample Receipt Date: March 16, 2006
Extraction Date: N/A
Analysis Date: March 17, 21 and 22, 2006

1,4-Dioxane Samples in SDG 06069D: OC2-MW11-W-0-176, OC2-MW11-W-1-177, OC2-MW10-W-0-179, OC2-MW3-W-0-180, OC2-MW17B-W-0-181, OC2-MW17C-W-5-183, OC2-MW16A-W-0-184, OC2-MW16B-W-0-185, OC2-MW16C-W-0-188, OC2-MW18A-W-0-189, OC2-MW18A-W-1-190, OC2-MW18B-W-0-192, OC2-MW18C-W-0-193, OC2-MW23B-W-0-194 and OC2-MW23C-W-0-195

Concentration and Matrix: Low Concentration Water
Collection Date: March 9, 13 and 14, 2006
Sample Receipt Date: March 10, 14 and 15, 2006
Extraction Date: N/A
Analysis Date: March 15, 16, 17 and 19, 2006

not in RC table

1,4-Dioxane Samples in SDG 06075B:	OC2-MW23D-W-5-196, OC2-MW15-W-0-198, OC2-MW15-W-1-199, OC2-MW13B-W-0-201 and OC2-MW12-W-0-203
Concentration and Matrix:	Low Concentration Water
Collection Date:	March 15, 2006
Sample Receipt Date:	March 16, 2006
Extraction Date:	N/A
Analysis Date:	March 21 and 22, 2006

FIELD QC:

Trip Blanks (TB):	OC2-MW23D-W-4-197
Field Blanks (FB):	OC2-MW15-W-2-200
Equipment Blanks (EB):	OC2-MW13B-W-3-202
Background Samples (BG):	None.
Field Duplicates (D1) for 1,4-dioxane:	OC2-MW11-W-0-176 and OC2-MW11-W-1-177
Field Duplicates (D2) for 1,4-dioxane:	OC2-MW18A-W-0-189 and OC2-MW18A-W-1-190
Field Duplicates (D3) for VOCs:	OC2-MW15-W-0-198 and OC2-MW15-W-1-199

METHOD BLANKS AND ASSOCIATED SAMPLES:

1,4-Dioxane:	B6C0086-BLK1:	OC2-MW11-W-0-176, OC2-MW11-W-1-177, OC2-MW10-W-0-179 and OC2-MW3-W-0-180
	B6C0104-BLK1:	OC2-MW17B-W-0-181, OC2-MW17C-W-5-183, OC2-MW16A-W-0-184 and OC2-MW16B-W-0-185
	B6C0112-BLK1:	OC2-MW16C-W-0-188, OC2-MW18A-W-0-189, OC2-MW18A-W-1-190, OC2-MW18B-W-0-192, OC2-MW18C-W-0-193, OC2-MW23B-W-0-194 and OC2-MW23C-W-0-195
	B6C0128-BLK1:	OC2-MW13B-W-0-201 and OC2-MW12-W-0-203
	B6C0145-BLK1:	OC2-MW23D-W-5-196, OC2-MW15-W-0-198 and OC2-MW15-W-1-199
VOCs:	B6C0114-BLK1:	OC2-MW15-W-0-198
	B6C0116-BLK1:	OC2-MW23D-W-4-197, OC2-MW13B-W-3-202 and OC2-MW12-W-0-203
	B6C0130-BLK1:	OC2-MW23D-W-5-196, OC2-MW15-W-0-198, OC2-MW15-W-1-199 and OC2-MW15-W-2-200
	B6C0148-BLK1:	OC2-MW13B-W-0-201
Storage Blank REFRIG. BLANK:		OC2-MW23D-W-5-196, OC2-MW23D-W-4-197, OC2-MW15-W-0-198, OC2-MW15-W-1-199, OC2-MW15-W-2-200, OC2-MW13B-W-0-201, OC2-MW13B-W-3-202 and OC2-MW12-W-0-203

TABLES:

1A: Analytical Results with Qualifications
1B: Data Qualifier Definitions for Organic Data Review
1F: Tentatively Identified Compounds

TPO ACTION:

None.

TPO ATTENTION:

Two results are estimated (J) due to calibration problems.

SAMPLING ISSUES:

The detected results for two target analytes and one tentatively identified compound are qualified as nondetected and estimated (U,J) due to contamination in trip blank OC2-MW23D-W-4-197 and equipment blank OC2-MW13B-W-3-202.

ADDITIONAL COMMENTS:

This report was prepared according to the laboratory SOPs (#315 and #354), and the documents "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," October, 1999 and "USEPA Contract Laboratory Program National Functional Guidelines for Low Level Organic Data Review," June, 2001.

The tentatively identified compounds (TICs) found in the samples are reported on the Form 1Fs and in attachments to the case narrative included in this report.

The Quantitation Limit (QL) of 1 ug/L for methyl tertiary-butyl ether (MTBE) was not met by the laboratory. The laboratory reporting limit for this analyte was 2 ug/L.

Quantitation limit standards were analyzed near the beginning of each analytical run. All compounds had recoveries between 50% and 150% in the QL standards, with the exception of dichloromethane at 173% and 162%. The percent recoveries failed high and the samples were non-detect for this compound.

All samples in sample delivery groups (SDG) 06069D and 06075B received full validation. This included re-calculation of all reported results for all samples included in these SDGs. All reported values for all samples were verified as correctly reported by the laboratory.

II. Validation Summary

	VOCs Acceptable/Comment		1,4-Dioxane Acceptable/Comment	
HOLDING TIMES	[YES]	[ ]	[YES]	[ ]
GC/MS TUNE	[YES]	[ ]	[YES]	[ ]
CALIBRATIONS	[NO]	[C]	[YES]	[ ]
FIELD QC	[NO]	[B, E]	[YES]	[ ]
LABORATORY BLANKS	[YES]	[ ]	[YES]	[ ]
SURROGATES	[YES]	[ ]	[YES]	[ ]
LABORATORY CONTROL SPIKE/DUPLICATE	[YES]	[ ]	[YES]	[ ]
MATRIX SPIKE/DUPLICATE	[NO]	[D]	[YES]	[ ]
INTERNAL STANDARDS	[YES]	[ ]	[YES]	[ ]
COMPOUND IDENTIFICATION	[YES]	[ ]	[YES]	[ ]
COMPOUND QUANTITATION	[YES]	[A]	[YES]	[A]
SYSTEM PERFORMANCE	[YES]	[ ]	[YES]	[ ]

III. Validity and Comments

A. The following results, denoted with an "L" qualifier, are estimated and flagged "J" in Table 1A.

- All results below the contract required quantitation limits

Results below the quantitation limits (QLs) are considered to be qualitatively acceptable, but quantitatively unreliable, due to the uncertainty in analytical precision near the limit of detection.

B. The following detected results are qualified as nondetected and estimated due to trip blank or equipment blank contamination. The results are flagged "U,J" in Table 1A.

- Ethyl acetate in sample OC2-MW12-W-0-203 -08
- Freon 113 in samples OC2-MW23D-W-5-196 -01, OC2-MW13B-W-0-201 -06 and OC2-MW12-W-0-203 -08
- Tetrachloroethene in sample OC2-MW23D-W-5-196 -01

Ethyl acetate was found in trip blank OC2-MW23D-W-4-197 at a concentration of 3.8 µg/L. Freon 113 and tetrachloroethene were found in equipment blank OC2-MW13B-W-3-202 at concentrations of 0.2 ug/L and 0.2 ug/L, respectively. The results for the samples listed above are considered nondetected and estimated (U,J) and the quantitation limits have been increased according to the blank qualification rules presented below. It

should be noted that the value for ethyl acetate in the trip blank and the associated sample were reported as tentatively identified compounds (TICs) by the laboratory.

No positive results are reported unless the concentration of the compound in the sample exceeds 10 times the amount in any associated blank for the common laboratory contaminants or 5 times the amount for other compounds. If the sample result is greater than the QL, the quantitation limit is raised to the sample result (U,J). If the sample result is less than the QL, the result is reported as nondetected (U,J) at the QL.

A trip blank is laboratory reagent water which is shipped from the laboratory to the field with the empty sample containers and back to the laboratory with the filled sample containers. A trip blank is intended to detect contaminants introduced during the transport of the samples to the laboratory, although any laboratory introduced contamination will also be present. Contaminants that are found in the trip blank which are absent in the laboratory blank could be indicative of a problem in transportation, storage, the bottle preparation procedure, or other indeterminate error.

An equipment blank is clean water that has been collected as a sample using decontaminated sampling equipment. The intent of an equipment blank is to monitor for contamination introduced by the sampling activity, although any laboratory introduced contamination will also be present.

C. The quantitation limits for the following analyte are estimated due to a large percent relative standard deviation (%RSD) in the initial calibration. The results are flagged "J" in Table 1A.

- Naphthalene in sample OC2-MW15-W-0-198 and method blank B6C0114-BLK1

A percent RSD of 37% was observed for naphthalene in the initial calibration performed March 3, 2006. This value exceeds the ≤30.0% QC advisory validation criterion.

The initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of the analytical sequence and of producing a linear calibration curve.

D. The matrix spike and matrix spike duplicate results for dichlorodifluoromethane, chloromethane, vinyl chloride, bromomethane, dichloromethane, 2,2-dichloropropane and styrene in QC samples

OC2-MW23D-W-5-196 -01 MS/MSD did not meet the criteria for accuracy and precision specified in the laboratory SOP. The percent recoveries for dichlorodifluoromethane, chloromethane, vinyl chloride, bromomethane, dichloromethane, 2,2-dichloropropane and styrene are presented below.

OC2-MW23D-W-5-196 -01	MS	MSD	
Analyte	%Recovery	%Recovery	RPD
Dichlorodifluoromethane	58%	61%	5% (okay)
Chloromethane	65%	67%	2% (okay)
Vinyl chloride	67%	67%	0.3% (okay)
Bromomethane	64%	65%	0.9% (okay)
Dichloromethane	67%	66%	0.9% (okay)
2,2-Dichloropropane	24%	26%	8% (okay)
Styrene	0%	0%	0% (okay)

QC limits:	%Recovery	RPD
	70%-130%	20%

The effect of the low recoveries on the quality of the data is not known.

Matrix spike sample analysis provides information about the effect of the sample matrix on sample preparation and measurement.

E. In the analysis of the field duplicate pairs, the following relative percent differences (RPDs) were obtained for the analytes listed below.

	OC2-MW15-W-0-198 -03	OC2-MW15-W-1-199 -04	
Analyte	Conc., µg/L	Conc., µg/L	RPD
Dichlorodifluoromethane	4.7	2.7	54%
trans-1,2-Dichloroethene	2.5	1.9	27%
cis-1,2-Dichloroethene	7.5	6.1	21%
Trichlorofluoromethane	670	340	65%
1,1-Dichloroethene	2000	1000	67%
Freon 113	1400	910	42%
Chloroform	440	210	71%
Trichloroethene	540	260	70%
Tetrachloroethene	1900	840	77%

The analysis of field duplicate samples is a measure of both field and analytical precision. The imprecision in the results of the analysis of the field duplicate pair may be due to the sample matrix, method defects, or poor sampling or laboratory technique.

ANALYTICAL RESULTS
TABLE 1A

Case Number: R06S31
Site: Omega Chemical OU-2 March 2006 Sampling
SDG: 06075B
Lab: USEPA Region 9 Laboratory
Reviewer: Lisa Norosky, DataVal, Inc.
Date: 2-Oct-06

Analysis: Volatile Organic Compounds
Matrix: Water

Station Location	OC2-MW23D-W-5-196				TB				FD1			
Sample ID	OC2-MW23D-W-5-196				OC2-MW23D-W-4-197				OC2-MW15-W-0-198			
Lab Sample ID	0603049-01				0603049-02				0603049-03			
Date of Collection	15-Mar-06				15-Mar-06				15-Mar-06			
Units	ug/L				ug/L				ug/L			
Analyte	Result	Q	Val	Com	Result	Q	Val	Com	Result	Q	Val	Com
Dichlorodifluoromethane	0.5	U		D	0.5	U			4.7			E
Chloromethane	0.5	U		D	0.5	U			0.5	U		
Vinyl chloride	0.5	U		D	0.5	U			0.5	U		
Bromomethane	0.5	U		D	0.5	U			0.5	U		
Chloroethane	0.5	U			0.5	U			0.5	U		
Trichlorofluoromethane	0.5	U			0.5	U			670			E
1,1-Dichloroethene	0.5	U			0.5	U			2000			E
Freon 113	0.2		UJ	B	0.5	U			1400			E
Acetone	4.0	U			4.0	U			4.0	U		
Dichloromethane	0.5	U		D	0.5	U			0.5	U		
trans-1,2-Dichloroethene	0.5	U			0.5	U			2.5			E
Methyl t-butyl ether(MTBE)	2.0	U			2.0	U			5.6			
1,1-Dichloroethane	0.5	U			0.5	U			5.2			
2,2-Dichloropropane	0.5	U		D	0.5	U			0.5	U		
cis-1,2-Dichloroethene	0.5	U			0.5	U			7.5			E
2-Butanone (MEK)	4.0	U			4.0	U			4.0	U		
Bromochloromethane	0.5	U			0.5	U			0.5	U		
Chloroform	0.5	U			0.5	U			440			E
1,1,1-Trichloroethane	0.5	U			0.5	U			2.0			
Carbon tetrachloride	0.5	U			0.5	U			0.2	L	J	A
1,1-Dichloropropene	0.5	U			0.5	U			0.5	U		
Benzene	0.5	U			0.5	U			0.5			
1,2-Dichloroethane	0.5	U			0.5	U			17			
Trichloroethene	0.8				0.5	U			540			E
1,2-Dichloropropane	0.5	U			0.5	U			0.5	U		
Dibromomethane	0.5	U			0.5	U			0.5	U		
Bromodichloromethane	0.5	U			0.5	U			0.5	U		
cis-1,3-Dichloropropene	0.5	U			0.5	U			0.5	U		
Toluene	0.5	U			0.5	U			0.5	U		
trans-1,3-Dichloropropene	0.5	U			0.5	U			0.5	U		
1,1,2-Trichloroethane	0.5	U			0.5	U			0.7			
Tetrachloroethene	0.2		UJ	B	0.5	U			1900			E
1,3-Dichloropropane	0.5	U			0.5	U			0.5	U		
Chlorodibromomethane	0.5	U			0.5	U			0.5	U		
1,2-Dibromoethane (EDB)	0.5	U			0.5	U			0.5	U		
Chlorobenzene	0.5	U			0.5	U			0.5	U		
1,1,1,2-Tetrachloroethane	0.5	U			0.5	U			0.5	U		
Ethylbenzene	0.5	U			0.5	U			0.5	U		
m&p-Xylene	1.0	U			1.0	U			1.0	U		
o-Xylene	0.5	U			0.5	U			0.5	U		
Styrene	0.5	U		D	0.5	U			0.5	U		
Bromoform	0.5	U			0.5	U			0.5	U		
Isopropylbenzene	0.5	U			0.5	U			0.5	U		
Bromobenzene	0.5	U			0.5	U			0.5	U		
1,1,2,2-Tetrachloroethane	0.5	U			0.5	U			0.5	U		
1,2,3-Trichloropropane	0.5	U			0.5	U			0.5	U		
Propylbenzene	0.5	U			0.5	U			0.5	U		
2-Chlorotoluene	0.5	U			0.5	U			0.5	U		
4-Chlorotoluene	0.5	U			0.5	U			0.5	U		
1,3,5-Trimethylbenzene	0.5	U			0.5	U			0.5	U		
tert-Butylbenzene	0.5	U			0.5	U			0.5	U		
1,2,4-Trimethylbenzene	0.5	U			0.5	U			0.5	U		
sec-Butylbenzene	0.5	U			0.5	U			0.5	U		
1,3-Dichlorobenzene	0.5	U			0.5	U			0.5	U		
p-Isopropyltoluene	0.5	U			0.5	U			0.5	U		
1,4-Dichlorobenzene	0.5	U			0.5	U			0.5	U		
1,2-Dichlorobenzene	0.5	U			0.5	U			0.5	U		
Butylbenzene	0.5	U			0.5	U			0.5	U		
1,2-Dibromo-3-chloropropane	2.0	U			2.0	U			2.0	U		
1,2,4-Trichlorobenzene	0.5	U			0.5	U			0.5	U		
Hexachlorobutadiene	0.5	U			0.5	U			0.5	U		
Naphthalene	0.5	U			0.5	U			0.5	U	J	C
1,2,3-Trichlorobenzene	0.5	U			0.5	U			0.5	U		

Val-Validity Refer to Data Qualifiers in Table 1B.
Com-Comments Refer to the Corresponding Section in the Narrative for each letter.
N/A-Not Applicable, NA-Not Analyzed

FD1, FD2, etc.- Field Duplicate Pairs
FB-Field Blank, EB-Equipment Blank, TB-Trip Blank
BG-Background Sample

A= TR
B= TB, EB
C= RSD
D= MS/MSD
E= FD

ANALYTICAL RESULTS
TABLE 1A

Case Number: R06S31
Site: Omega Chemical OU-2 March 2006 Sampling
SDG: 06075B
Lab: USEPA Region 9 Laboratory
Reviewer: Lisa Norosky, DataVal, Inc.
Date: 2-Oct-06

Analysis: Volatile Organic Compounds
Matrix: Water

Station Location	FD1				FB				OC2-MW13B-W-0-201			
Sample ID	OC2-MW15-W-1-199				OC2-MW15-W-2-200				OC2-MW13B-W-0-201			
Lab Sample ID	0603049-04				0603049-05				0603049-06			
Date of Collection	15-Mar-06				15-Mar-06				15-Mar-06			
Units	ug/L				ug/L				ug/L			
Analyte	Result	Q	Val	Com	Result	Q	Val	Com	Result	Q	Val	Com
Dichlorodifluoromethane	2.7			E	0.5	U			0.5	U		
Chloromethane	0.5	U			0.5	U			0.5	U		
Vinyl chloride	0.5	U			0.5	U			0.5	U		
Bromomethane	0.5	U			0.5	U			0.5	U		
Chloroethane	0.5	U			0.5	U			0.5	U		
Trichlorofluoromethane	340			E	0.5	U			0.5	U		
1,1-Dichloroethene	1000			E	0.5	U			0.2	L	J	A
Freon 113	910			E	0.5	U			0.2		UJ	B
Acetone	4.0	U			4.0	U			4.0	U		
Dichloromethane	0.5	U			0.5	U			0.5	U		
trans-1,2-Dichloroethene	1.9			E	0.5	U			0.5	U		
Methyl t-butyl ether(MTBE)	6.1				2.0	U			1.3			
1,1-Dichloroethane	4.4				0.5	U			0.5	U		
2,2-Dichloropropane	0.5	U			0.5	U			0.5	U		
cis-1,2-Dichloroethene	6.1			E	0.5	U			0.5	U		
2-Butanone (MEK)	4.0	U			4.0	U			4.0	U		
Bromochloromethane	0.5	U			0.5	U			0.5	U		
Chloroform	210			E	0.5	U			0.5	U		
1,1,1-Trichloroethane	1.7				0.5	U			0.5	U		
Carbon tetrachloride	0.2	L	J	A	0.5	U			0.5	U		
1,1-Dichloropropene	0.5	U			0.5	U			0.5	U		
Benzene	0.5				0.5	U			0.5	U		
1,2-Dichloroethane	17				0.5	U			0.7			
Trichloroethene	260			E	0.5	U			0.4	L	J	A
1,2-Dichloropropane	0.5	U			0.5	U			0.5	U		
Dibromomethane	0.5	U			0.5	U			0.5	U		
Bromodichloromethane	0.5	U			0.5	U			0.5	U		
cis-1,3-Dichloropropene	0.5	U			0.5	U			0.5	U		
Toluene	0.5	U			0.5	U			0.5	U		
trans-1,3-Dichloropropene	0.5	U			0.5	U			0.5	U		
1,1,2-Trichloroethane	0.8				0.5	U			0.5	U		
Tetrachloroethene	840			E	0.5	U			1.9			
1,3-Dichloropropane	0.5	U			0.5	U			0.5	U		
Chlorodibromomethane	0.5	U			0.5	U			0.5	U		
1,2-Dibromoethane (EDB)	0.5	U			0.5	U			0.5	U		
Chlorobenzene	0.5	U			0.5	U			0.5	U		
1,1,1,2-Tetrachloroethane	0.5	U			0.5	U			0.5	U		
Ethylbenzene	0.5	U			0.5	U			0.5	U		
m&p-Xylene	1.0	U			1.0	U			1.0	U		
o-Xylene	0.5	U			0.5	U			0.5	U		
Styrene	0.5	U			0.5	U			0.5	U		
Bromoform	0.5	U			0.5	U			0.5	U		
Isopropylbenzene	0.5	U			0.5	U			0.5	U		
Bromobenzene	0.5	U			0.5	U			0.5	U		
1,1,2,2-Tetrachloroethane	0.5	U			0.5	U			0.5	U		
1,2,3-Trichloropropane	0.5	U			0.5	U			0.5	U		
Propylbenzene	0.5	U			0.5	U			0.5	U		
2-Chlorotoluene	0.5	U			0.5	U			0.5	U		
4-Chlorotoluene	0.5	U			0.5	U			0.5	U		
1,3,5-Trimethylbenzene	0.5	U			0.5	U			0.5	U		
tert-Butylbenzene	0.5	U			0.5	U			0.5	U		
1,2,4-Trimethylbenzene	0.5	U			0.5	U			0.5	U		
sec-Butylbenzene	0.5	U			0.5	U			0.5	U		
1,3-Dichlorobenzene	0.5	U			0.5	U			0.5	U		
p-Isopropyltoluene	0.5	U			0.5	U			0.5	U		
1,4-Dichlorobenzene	0.5	U			0.5	U			0.5	U		
1,2-Dichlorobenzene	0.5	U			0.5	U			0.5	U		
Butylbenzene	0.5	U			0.5	U			0.5	U		
1,2-Dibromo-3-chloropropane	2.0	U			2.0	U			2.0	U		
1,2,4-Trichlorobenzene	0.5	U			0.5	U			0.5	U		
Hexachlorobutadiene	0.5	U			0.5	U			0.5	U		
Naphthalene	0.5	U			0.5	U			0.5	U		
1,2,3-Trichlorobenzene	0.5	U			0.5	U			0.5	U		

Val-Validity Refer to Data Qualifiers in Table 1B.
Com-Comments Refer to the Corresponding Section in the Narrative for each letter.
N/A-Not Applicable, NA-Not Analyzed

FD1, FD2, etc.- Field Duplicate Pairs
FB-Field Blank, EB-Equipment Blank, TB-Trip Blank
BG-Background Sample

ANALYTICAL RESULTS
TABLE 1A

Case Number: R06S31
Site: Omega Chemical OU-2 March 2006 Sampling
SDG: 06075B
Lab: USEPA Region 9 Laboratory
Reviewer: Lisa Norosky, DataVal, Inc.
Date: 2-Oct-06

Analysis: Volatile Organic Compounds
Matrix: Water

Station Location	EB				OC2-MW12-W-0-203				Method			
Sample ID	OC2-MW13B-W-3-202				OC2-MW12-W-0-203				Blank			
Lab Sample ID	0603049-07				0603049-08				B6C0114-BLK1			
Date of Collection	15-Mar-06				15-Mar-06				20-Mar-06			
Units	ug/L				ug/L				ug/L			
Analyte	Result	Q	Val	Com	Result	Q	Val	Com	Result	Q	Val	Com
Dichlorodifluoromethane	0.5	U			0.5	U			0.5	U		
Chloromethane	0.5	U			0.5	U			0.5	U		
Vinyl chloride	0.5	U			0.5	U			0.5	U		
Bromomethane	0.5	U			0.5	U			0.5	U		
Chloroethane	0.5	U			0.5	U			0.5	U		
Trichlorofluoromethane	0.5	U			03	L	J	A	0.5	U		
1,1-Dichloroethene	0.5	U			6.8				0.5	U		
Freon 113	0.2	L	J	A	0.2		UJ	B	0.5	U		
Acetone	2.2	L	J	A	42				4.0	U		
Dichloromethane	0.5	U			0.5	U			0.5	U		
trans-1,2-Dichloroethene	0.5	U			0.5	U			0.5	U		
Methyl t-butyl ether(MTBE)	2.0	U			2.0	U			2.0	U		
1,1-Dichloroethane	0.5	U			0.5	U			0.5	U		
2,2-Dichloropropane	0.5	U			0.5	U			0.5	U		
cis-1,2-Dichloroethene	0.5	U			0.5	U			0.5	U		
2-Butanone (MEK)	4.0	U			4.0	U			4.0	U		
Bromochloromethane	0.5	U			0.5	U			0.5	U		
Chloroform	0.5	U			0.2	L	J	A	0.5	U		
1,1,1-Trichloroethane	0.5	U			0.5	U			0.5	U		
Carbon tetrachloride	0.5	U			0.5	U			0.5	U		
1,1-Dichloropropene	0.5	U			0.5	U			0.5	U		
Benzene	0.5	U			0.2	L	J	A	0.5	U		
1,2-Dichloroethane	0.5	U			0.5	U			0.5	U		
Trichloroethene	0.5	U			130				0.5	U		
1,2-Dichloropropane	0.5	U			0.5	U			0.5	U		
Dibromomethane	0.5	U			0.5	U			0.5	U		
Bromodichloromethane	0.5	U			0.5	U			0.5	U		
cis-1,3-Dichloropropene	0.5	U			0.5	U			0.5	U		
Toluene	0.5	U			0.3	L	J	A	0.5	U		
trans-1,3-Dichloropropene	0.5	U			0.5	U			0.5	U		
1,1,2-Trichloroethane	0.5	U			0.5	U			0.5	U		
Tetrachloroethene	02	L	J	A	8.1				0.5	U		
1,3-Dichloropropane	0.5	U			0.5	U			0.5	U		
Chlorodibromomethane	0.5	U			0.5	U			0.5	U		
1,2-Dibromoethane (EDB)	0.5	U			0.5	U			0.5	U		
Chlorobenzene	0.5	U			0.5	U			0.5	U		
1,1,1,2-Tetrachloroethane	0.5	U			0.5	U			0.5	U		
Ethylbenzene	0.5	U			0.5	U			0.5	U		
m&p-Xylene	1.0	U			1.0	U			1.0	U		
o-Xylene	0.5	U			0.5	U			0.5	U		
Styrene	0.5	U			0.5	U			0.5	U		
Bromoform	0.5	U			0.5	U			0.5	U		
Isopropylbenzene	0.5	U			0.5	U			0.5	U		
Bromobenzene	0.5	U			0.5	U			0.5	U		
1,1,2,2-Tetrachloroethane	0.5	U			0.5	U			0.5	U		
1,2,3-Trichloropropane	0.5	U			0.5	U			0.5	U		
Propylbenzene	0.5	U			0.5	U			0.5	U		
2-Chlorotoluene	0.5	U			0.5	U			0.5	U		
4-Chlorotoluene	0.5	U			0.5	U			0.5	U		
1,3,5-Trimethylbenzene	0.5	U			0.5	U			0.5	U		
tert-Butylbenzene	0.5	U			0.5	U			0.5	U		
1,2,4-Trimethylbenzene	0.5	U			0.5	U			0.5	U		
sec-Butylbenzene	0.5	U			0.5	U			0.5	U		
1,3-Dichlorobenzene	0.5	U			0.5	U			0.5	U		
p-Isopropyltoluene	0.5	U			0.5	U			0.5	U		
1,4-Dichlorobenzene	0.5	U			0.5	U			0.5	U		
1,2-Dichlorobenzene	0.5	U			0.5	U			0.5	U		
Butylbenzene	0.5	U			0.5	U			0.5	U		
1,2-Dibromo-3-chloropropane	2.0	U			2.0	U			2.0	U		
1,2,4-Trichlorobenzene	0.5	U			0.5	U			0.5	U		
Hexachlorobutadiene	0.5	U			0.5	U			0.5	U		
Naphthalene	0.5	U			0.5	U			0.5	U	J	C
1,2,3-Trichlorobenzene	0.5	U			0.5	U			0.5	U		

Val-Validity Refer to Data Qualifiers in Table 1B.
Com-Comments Refer to the Corresponding Section in the Narrative for each letter.
N/A-Not Applicable, NA-Not Analyzed

FD1, FD2, etc.- Field Duplicate Pairs
FB-Field Blank, EB-Equipment Blank, TB-Trip Blank
BG-Background Sample

ANALYTICAL RESULTS
TABLE 1A

Case Number: R06S31
Site: Omega Chemical OU-2 March 2006 Sampling
SDG: 06075B
Lab: USEPA Region 9 Laboratory
Reviewer: Lisa Norosky, DataVal, Inc.
Date: 2-Oct-06

Analysis: Volatile Organic Compounds
Matrix: Water

Station Location	Method Blank				Method Blank				Method Blank			
Sample ID	B6C0116-BLK1				B6C0130-BLK1				B6C0148-BLK1			
Lab Sample ID												
Date of Collection	17-Mar-06				21-Mar-06				22-Mar-06			
Units	ug/L				ug/L				ug/L			
Analyte	Result	Q	Val	Com	Result	Q	Val	Com	Result	Q	Val	Com
Dichlorodifluoromethane	0.5	U			0.5	U			0.5	U		
Chloromethane	0.5	U			0.5	U			0.5	U		
Vinyl chloride	0.5	U			0.5	U			0.5	U		
Bromomethane	0.5	U			0.5	U			0.5	U		
Chloroethane	0.5	U			0.5	U			0.5	U		
Trichlorofluoromethane	0.5	U			0.5	U			0.5	U		
1,1-Dichloroethene	0.5	U			0.5	U			0.5	U		
Freon 113	0.5	U			0.5	U			0.5	U		
Acetone	4.0	U			4.0	U			4.0	U		
Dichloromethane	0.5	U			0.5	U			0.5	U		
trans-1,2-Dichloroethene	0.5	U			0.5	U			0.5	U		
Methyl t-butyl ether(MTBE)	2.0	U			2.0	U			2.0	U		
1,1-Dichloroethane	0.5	U			0.5	U			0.5	U		
2,2-Dichloropropane	0.5	U			0.5	U			0.5	U		
cis-1,2-Dichloroethene	0.5	U			0.5	U			0.5	U		
2-Butanone (MEK)	4.0	U			4.0	U			4.0	U		
Bromochloromethane	0.5	U			0.5	U			0.5	U		
Chloroform	0.5	U			0.5	U			0.5	U		
1,1,1-Trichloroethane	0.5	U			0.5	U			0.5	U		
Carbon tetrachloride	0.5	U			0.5	U			0.5	U		
1,1-Dichloropropene	0.5	U			0.5	U			0.5	U		
Benzene	0.5	U			0.5	U			0.5	U		
1,2-Dichloroethane	0.5	U			0.5	U			0.5	U		
Trichloroethene	0.5	U			0.5	U			0.5	U		
1,2-Dichloropropane	0.5	U			0.5	U			0.5	U		
Dibromomethane	0.5	U			0.5	U			0.5	U		
Bromodichloromethane	0.5	U			0.5	U			0.5	U		
cis-1,3-Dichloropropene	0.5	U			0.5	U			0.5	U		
Toluene	0.5	U			0.5	U			0.5	U		
trans-1,3-Dichloropropene	0.5	U			0.5	U			0.5	U		
1,1,2-Trichloroethane	0.5	U			0.5	U			0.5	U		
Tetrachloroethene	0.5	U			0.5	U			0.5	U		
1,3-Dichloropropane	0.5	U			0.5	U			0.5	U		
Chlorodibromomethane	0.5	U			0.5	U			0.5	U		
1,2-Dibromoethane (EDB)	0.5	U			0.5	U			0.5	U		
Chlorobenzene	0.5	U			0.5	U			0.5	U		
1,1,1,2-Tetrachloroethane	0.5	U			0.5	U			0.5	U		
Ethylbenzene	0.5	U			0.5	U			0.5	U		
m&p-Xylene	1.0	U			1.0	U			1.0	U		
o-Xylene	0.5	U			0.5	U			0.5	U		
Styrene	0.5	U			0.5	U			0.5	U		
Bromoform	0.5	U			0.5	U			0.5	U		
Isopropylbenzene	0.5	U			0.5	U			0.5	U		
Bromobenzene	0.5	U			0.5	U			0.5	U		
1,1,2,2-Tetrachloroethane	0.5	U			0.5	U			0.5	U		
1,2,3-Trichloropropane	0.5	U			0.5	U			0.5	U		
Propylbenzene	0.5	U			0.5	U			0.5	U		
2-Chlorotoluene	0.5	U			0.5	U			0.5	U		
4-Chlorotoluene	0.5	U			0.5	U			0.5	U		
1,3,5-Trimethylbenzene	0.5	U			0.5	U			0.5	U		
tert-Butylbenzene	0.5	U			0.5	U			0.5	U		
1,2,4-Trimethylbenzene	0.5	U			0.5	U			0.5	U		
sec-Butylbenzene	0.5	U			0.5	U			0.5	U		
1,3-Dichlorobenzene	0.5	U			0.5	U			0.5	U		
p-Isopropyltoluene	0.5	U			0.5	U			0.5	U		
1,4-Dichlorobenzene	0.5	U			0.5	U			0.5	U		
1,2-Dichlorobenzene	0.5	U			0.5	U			0.5	U		
Butylbenzene	0.5	U			0.5	U			0.5	U		
1,2-Dibromo-3-chloropropane	2.0	U			2.0	U			2.0	U		
1,2,4-Trichlorobenzene	0.5	U			0.5	U			0.5	U		
Hexachlorobutadiene	0.5	U			0.5	U			0.5	U		
Naphthalene	0.5	U			0.5	U			0.5	U		
1,2,3-Trichlorobenzene	0.5	U			0.5	U			0.5	U		

Val-Validity Refer to Data Qualifiers in Table 1B.
Com-Comments Refer to the Corresponding Section in the Narrative for each letter.
N/A-Not Applicable, NA-Not Analyzed

FD1, FD2, etc.- Field Duplicate Pairs
FB-Field Blank, EB-Equipment Blank, TB-Trip Blank
BG-Background Sample

ANALYTICAL RESULTS
TABLE 1A

Case Number: R06S31
Site: Omega Chemical OU-2 March 2006 Sampling
SDG: 06075B
Lab: USEPA Region 9 Laboratory
Reviewer: Lisa Norosky, DataVal, Inc.
Date: 2-Oct-06

Analysis: Volatile Organic Compounds
Matrix: Water

Station Location Sample ID Lab Sample ID Date of Collection Units Analyte	Storage Blank REFRIG. BLANK 13-Mar-06 ug/L Result	Q	Val	Com	QL ug/L Result
Dichlorodifluoromethane	0.5	U			0.5
Chloromethane	0.5	U			0.5
Vinyl chloride	0.5	U			0.5
Bromomethane	0.5	U			0.5
Chloroethane	0.5	U			0.5
Trichlorofluoromethane	0.5	U			0.5
1,1-Dichloroethene	0.5	U			0.5
Freon 113	0.5	U			0.5
Acetone	4.0	U			4.0
Dichloromethane	0.5	U			0.5
trans-1,2-Dichloroethene	0.5	U			0.5
Methyl t-butyl ether(MTBE)	2.0	U			2.0
1,1-Dichloroethane	0.5	U			0.5
2,2-Dichloropropane	0.5	U			0.5
cis-1,2-Dichloroethene	0.5	U			0.5
2-Butanone (MEK)	4.0	U			4.0
Bromochloromethane	0.5	U			0.5
Chloroform	0.5	U			0.5
1,1,1-Trichloroethane	0.5	U			0.5
Carbon tetrachloride	0.5	U			0.5
1,1-Dichloropropene	0.5	U			0.5
Benzene	0.5	U			0.5
1,2-Dichloroethane	0.5	U			0.5
Trichloroethene	0.5	U			0.5
1,2-Dichloropropane	0.5	U			0.5
Dibromomethane	0.5	U			0.5
Bromodichloromethane	0.5	U			0.5
cis-1,3-Dichloropropene	0.5	U			0.5
Toluene	0.5	U			0.5
trans-1,3-Dichloropropene	0.5	U			0.5
1,1,2-Trichloroethane	0.5	U			0.5
Tetrachloroethene	0.5	U			0.5
1,3-Dichloropropane	0.5	U			0.5
Chlorodibromomethane	0.5	U			0.5
1,2-Dibromoethane (EDB)	0.5	U			0.5
Chlorobenzene	0.5	U			0.5
1,1,1,2-Tetrachloroethane	0.5	U			0.5
Ethylbenzene	0.5	U			0.5
m&p-Xylene	1.0	U			1.0
o-Xylene	0.5	U			0.5
Styrene	0.5	U			0.5
Bromoform	0.5	U			0.5
Isopropylbenzene	0.5	U			0.5
Bromobenzene	0.5	U			0.5
1,1,2,2-Tetrachloroethane	0.5	U			0.5
1,2,3-Trichloropropane	0.5	U			0.5
Propylbenzene	0.5	U			0.5
2-Chlorotoluene	0.5	U			0.5
4-Chlorotoluene	0.5	U			0.5
1,3,5-Trimethylbenzene	0.5	U			0.5
tert-Butylbenzene	0.5	U			0.5
1,2,4-Trimethylbenzene	0.5	U			0.5
sec-Butylbenzene	0.5	U			0.5
1,3-Dichlorobenzene	0.5	U			0.5
p-Isopropyltoluene	0.5	U			0.5
1,4-Dichlorobenzene	0.5	U			0.5
1,2-Dichlorobenzene	0.5	U			0.5
Butylbenzene	0.5	U			0.5
1,2-Dibromo-3-chloropropane	2.0	U			2.0
1,2,4-Trichlorobenzene	0.5	U			0.5
Hexachlorobutadiene	0.5	U			0.5
Naphthalene	0.5	U			0.5
1,2,3-Trichlorobenzene	0.5	U			0.5

Val-Validity Refer to Data Qualifiers in Table 1B.
Com-Comments Refer to the Corresponding Section in the Narrative for each letter.
N/A-Not Applicable, NA-Not Analyzed

FD1, FD2, etc.- Field Duplicate Pairs
FB-Field Blank, EB-Equipment Blank, TB-Trip Blank
BG-Background Sample

ANALYTICAL RESULTS - TENTATIVELY IDENTIFIED COMPOUNDS
TABLE 1F

Case Number: R06S31
Site: Omega Chemical OU-2 March 2006 Sampling
SDG: 06075B
Lab: USEPA Region 9 Laboratory
Reviewer: Lisa Norosky, DataVal, Inc.
Date: 2-Oct-06

Analysis: VOCs
Matrix: Water

Station Location	OC2-MW23D-W-5-196				Station Location	TB			
Sample ID	OC2-MW23D-W-5-196				Sample ID	OC2-MW23D-W-4-197			
Lab Sample ID	0603049-01				Lab Sample ID	0603049-02			
Date of Collection	15-Mar-06				Date of Collection	15-Mar-06			
Units	ug/L				Units	ug/L			
Analyte	Result	Q	Val	Com	Analyte	Result	Q	Val	Com
None					Ethyl acetate	3.8	L	NJ	

Station Location	FD1				Station Location	FD1			
Sample ID	OC2-MW15-W-0-198				Sample ID	OC2-MW15-W-1-199			
Lab Sample ID	0603049-03				Lab Sample ID	0603049-04			
Date of Collection	15-Mar-06				Date of Collection	15-Mar-06			
Units	ug/L				Units	ug/L			
Analyte	Result	Q	Val	Com	Analyte	Result	Q	Val	Com
Ethane,-dichloro-trifluoro(...	16	L	NJ		Alkane PEAK2 : Straight-Chain	15	L	NJ	
Methane, dichlorofluoro-	5.1	L	NJ		Methane, dichlorofluoro-	6.2	L	NJ	
Ethane,-dichlorotrifluoro-(...	21	L	NJ		Ethane,-tetrachloro-di	3.3	L	NJ	
Ethane, -tetrachloro-di	3.2	L	NJ		Alkane PEAK1 : Straight-Chain	18	L	NJ	

Station Location	FB				Station Location	OC2-MW13B-W-0-201			
Sample ID	OC2-MW15-W-2-200				Sample ID	OC2-MW13B-W-0-201			
Lab Sample ID	0603049-05				Lab Sample ID	0603049-06			
Date of Collection	15-Mar-06				Date of Collection	15-Mar-06			
Units	ug/L				Units	ug/L			
Analyte	Result	Q	Val	Com	Analyte	Result	Q	Val	Com
None					None				

Station Location	EB				Station Location	OC2-MW12-W-0-203			
Sample ID	OC2-MW13B-W-3-202				Sample ID	OC2-MW12-W-0-203			
Lab Sample ID	0603049-07				Lab Sample ID	0603049-08			
Date of Collection	15-Mar-06				Date of Collection	15-Mar-06			
Units	ug/L				Units	ug/L			
Analyte	Result	Q	Val	Com	Analyte	Result	Q	Val	Com
None					Unknown	1.4	L	NJ	
					Ethyl acetate	3.8		UJ	B

Station Location	Method				Station Location	Method			
Sample ID	Blank				Sample ID	Blank			
Lab Sample ID	B6C0114-BLK1				Lab Sample ID	B6C0116-BLK1			
Date of Collection	20-Mar-06				Date of Collection	17-Mar-06			
Units	ug/L				Units	ug/L			
Analyte	Result	Q	Val	Com	Analyte	Result	Q	Val	Com
None					None				

Station Location	Method				Station Location	Method			
Sample ID	Blank				Sample ID	Blank			
Lab Sample ID	B6C0130-BLK1				Lab Sample ID	B6C0148-BLK1			
Date of Collection	21-Mar-06				Date of Collection	22-Mar-06			
Units	ug/L				Units	ug/L			
Analyte	Result	Q	Val	Com	Analyte	Result	Q	Val	Com
None					None				

Station Location	Storage
Sample ID	Blank
Lab Sample ID	REFRIG. BLANK
Date of Collection	13-Mar-06
Units	ug/L

Analyte	Result	Q	Val	Com
Ethyne, fluoro-	1.3	L	NJ	

Val-Validity Refer to Data Qualifiers in Table 1B.
Com-Comments Refer to the Corresponding Section in the Narrative for each letter.
N/A-Not Applicable, NA-Not Analyzed

FD1, FD2, etc.- Field Duplicate Pairs
FB-Field Blank, EB-Equipment Blank, TB-Trip Bl
BG-Background Sample

ANALYTICAL RESULTS
TABLE 1A

Case Number: R06S31
Site: Omega Chemical OU-2 March 2006 Sampling
SDG: 06069D
Lab: USEPA Region 9 Laboratory
Reviewer: Lisa Norosky, DataVal, Inc.
Date: 2-Oct-06

Analysis: 1,4-Dioxane
Matrix: Water

Station Location	FD1				FD1				OC2-MW10-W-0-179				OC2-MW3-W-0-180			
Sample ID	OC2-MW11-W-0-176				OC2-MW11-W-1-177				OC2-MW10-W-0-179				OC2-MW3-W-0-180			
Lab Sample ID	0603035-02				0603035-03				0603035-05				0603035-06			
Date of Collection	9-Mar-06				9-Mar-06				9-Mar-06				9-Mar-06			
Units	ug/L				ug/L				ug/L				ug/L			
Analyte	Result	Q	Val	Com	Result	Q	Val	Com	Result	Q	Val	Com	Result	Q	Val	Com
1,4-Dioxane	1.0	U			1.0	U			2.3				0.6	L	J	A

Station Location	OC2-MW17B-W-0-181				OC2-MW17C-W-5-183				OC2-MW16A-W-0-184				OC2-MW16B-W-0-185			
Sample ID	OC2-MW17B-W-0-181				OC2-MW17C-W-5-183				OC2-MW16A-W-0-184				OC2-MW16B-W-0-185			
Lab Sample ID	0603041-01				0603041-03				0603041-04				0603041-05			
Date of Collection	13-Mar-06				13-Mar-06				13-Mar-06				13-Mar-06			
Units	ug/L				ug/L				ug/L				ug/L			
Analyte	Result	Q	Val	Com	Result	Q	Val	Com	Result	Q	Val	Com	Result	Q	Val	Com
1,4-Dioxane	4.4				1.0	U			4.2				1.0	U		

Station Location	OC2-MW16C-W-0-188				FD2				FD2				OC2-MW18B-W-0-192			
Sample ID	OC2-MW16C-W-0-188				OC2-MW18A-W-0-189				OC2-MW18A-W-1-190				OC2-MW18B-W-0-192			
Lab Sample ID	0603046-02				0603046-03				0603046-04				0603046-06			
Date of Collection	15-Mar-06				15-Mar-06				15-Mar-06				15-Mar-06			
Units	ug/L				ug/L				ug/L				ug/L			
Analyte	Result	Q	Val	Com	Result	Q	Val	Com	Result	Q	Val	Com	Result	Q	Val	Com
1,4-Dioxane	0.7	L	J	A	1.0	U			1.0	U			1.0	U		

Station Location	OC2-MW18C-W-0-193				OC2-MW23B-W-0-194				OC2-MW23C-W-0-195				Method Blank			
Sample ID	OC2-MW18C-W-0-193				OC2-MW23B-W-0-194				OC2-MW23C-W-0-195							
Lab Sample ID	0603046-07				0603046-08				0603046-09				B6C0086-BLK1			
Date of Collection	15-Mar-06				15-Mar-06				15-Mar-06							
Units	ug/L				ug/L				ug/L				ug/L			
Analyte	Result	Q	Val	Com	Result	Q	Val	Com	Result	Q	Val	Com	Result	Q	Val	Com
1,4-Dioxane	1.0	U			0.5	L	J	A	38				1.0	U		

Station Location	Method Blank				Method Blank				
Sample ID									
Lab Sample ID	B6C0104-BLK1				B6C0112-BLK1				QL
Date of Collection									
Units	ug/L				ug/L				ug/L
Analyte	Result	Q	Val	Com	Result	Q	Val	Com	Result
1,4-Dioxane	1.0	U			1.0	U			1.0

Val-Validity Refer to Data Qualifiers in Table 1B.
Com-Comments Refer to the Corresponding Section in the Narrative for each letter.
N/A-Not Applicable, NA-Not Analyzed

FD1, FD2, etc.- Field Duplicate Pairs
FB-Field Blank, EB-Equipment Blank, TB-Trip Blank
BG-Background Sample

ANALYTICAL RESULTS
TABLE 1A

Case Number: R06S31
Site: Omega Chemical OU-2 March 2006 Sampling
SDG: 06075B
Lab: USEPA Region 9 Laboratory
Reviewer: Lisa Norosky, DataVal, Inc.
Date: 2-Oct-06

Analysis: 1,4-Dioxane
Matrix: Water

Station Location	OC2-MW23D-W-5-196				FD1				FD1				OC2-MW13B-W-0-201			
Sample ID	OC2-MW23D-W-5-196				OC2-MW15-W-0-198				OC2-MW15-W-1-199				OC2-MW13B-W-0-201			
Lab Sample ID	0603049-01				0603049-03				0603049-04				0603049-06			
Date of Collection	15-Mar-06				15-Mar-06				15-Mar-06				15-Mar-06			
Units	ug/L				ug/L				ug/L				ug/L			
Analyte	Result	Q	Val	Com	Result	Q	Val	Com	Result	Q	Val	Com	Result	Q	Val	Com
1,4-Dioxane	1.0	U			70				74				1.0	U		

Station Location	OC2-MW12-W-0-203				Method Blank				Method Blank				QL
Sample ID	OC2-MW12-W-0-203				B6C0128-BLK1				B6C0145-BLK1				
Lab Sample ID	0603049-08												
Date of Collection	15-Mar-06												
Units	ug/L				ug/L				ug/L				ug/L
Analyte	Result	Q	Val	Com	Result	Q	Val	Com	Result	Q	Val	Com	Result
1,4-Dioxane	1.0	U			1.0	U			1.0	U			1.0

Val-Validity Refer to Data Qualifiers in Table 1B.
Com-Comments Refer to the Corresponding Section in the Narrative for each letter.
N/A-Not Applicable, NA-Not Analyzed

FD1, FD2, etc.- Field Duplicate Pairs
FB-Field Blank, EB-Equipment Blank, TB-Trip Blank
BG-Background Sample

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," October 1999.

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

DataVal, Inc.

TP 5/09/07 PC

MEMORANDUM

TO: Carl Brickner
Environmental Scientist
USEPA Region 9 Quality Assurance Office (PMD-3)

FROM: Donna Breaux DB 10/2/06
Senior Reviewer, DataVal, Inc.

DATE: October 2, 2006

SUBJECT: Review of Analytical Data

Attached are comments resulting from DataVal's review of the following analytical data:

SITE:	Omega Chemical OU-2 March 2006 Sampling
SITE ACCOUNT NO.:	09 BC LA 02
CERCLIS I.D. NO.:	CAD042245001
CASE NO.:	R06S31
SDG NO.:	06075B
LABORATORY:	Region 9 Laboratory, Richmond, CA
ANALYSES:	Perchlorate (314.0)
SAMPLE NO.:	5 Water Samples (See Case Summary)
COLLECTION DATES:	March 15, 2006
REVIEWERS:	Lisa Norosky/Agnieszka Jankowski, DataVal, Inc.

If there are any questions, please contact Donna Breaux at (415) 883-2780.

Attachment

TPO: [ ]FYI [ ]Attention [ ]Action

SAMPLING ISSUES: [ ] Yes [X] No

R06S31_GenChem_Rpt

27 Commercial Blvd., Suite P Novato, CA 94949 • 415.883-2780 • Fax 415.884-2386

ICF International / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
Phone: (510) 412-2300 Fax: (510) 412-2304

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM)
Quality Assurance (QA) Program, PMD-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105041 Amendment 3

DATE: March 14, 2007

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	None
SDG No.:	06-1647
Laboratory:	Applied Physics & Chemistry Laboratory (APCL)
Analysis:	Hexavalent Chromium
Samples:	4 Water Samples (see Case Summary)
Collection Dates:	March 6, 2006
Reviewer:	Stan Kott, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

SAMPLING ISSUES: [X] Yes [ ] No

Data Validation Report

Case No.: None
SDG No.: 06-1647
Site: Omega Chem OU2
Laboratory: Applied Physics & Chemistry Laboratory (APCL)
Reviewer: Stan Kott, ESAT/LDC
Date: March 14, 2007

I. CASE SUMMARY

Sample Information

Samples:	OC2-MW7-W-0-155, OC2-MW8C-W-0-157, OC2-MW8B-W-0-158, and OC2-MW8A-W-0-159
Concentration and Matrix:	Low Concentration Water
Analysis:	Hexavalent Chromium
SOW:	EPA Method 218.6
Collection Date:	March 6, 2006
Sample Receipt Date:	March 6, 2006
Preparation Date:	March 6, 2006
Analysis Date:	March 6, 2006

Field QC

Field Blanks (FB):	Not Provided
Equipment Blanks (EB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	Not Provided

Laboratory QC

Method Blanks (MB):	MB
Associated Samples:	Samples listed above
Matrix Spike (MS)/MS Duplicate (MSD):	OC2-MW7-W-0-155MS/MSD
Duplicates:	Laboratory Control Sample (LCS) and LCS Duplicate (LCSD)
Analysis:	Hexavalent Chromium

Analyte	Sample Preparation Date	Analysis Date
Hexavalent Chromium	March 6, 2006	March 6, 2006

Sampling Issues

The Chain of Custody (COC) record form did not specify a sample to be used for laboratory quality control (QC). As a result, the laboratory selected sample OC2-MW7-W-0-155 for QC analysis. The effect on data quality is not known.

Additional Comments

As directed by the EPA TOPO, a Tier 3 data review was performed. A Table 1A is not requested.

The calculated percent difference (%D) for calibration standards 0.20 µg/L and 5.0 µg/L is 25 %D and 23 %D, respectively, and exceed the 10% limit. The 10% limit was derived from the ±10% limit used in method 218.6 to determine the linear dynamic range upper limit. The high %D indicates that the calibration may not be linear at the low end of the curve. Since the analytical method does not require analysis of a practical quantitation limit (PQL) standard to confirm linearity of the calibration curve at the 1 µg/L PQL, results less than 20 µg/L may have a high bias.

The method specifies the sample pH be adjusted to 9.0 to 9.5 prior to analysis; however, there is no method specific requirement to document the sample pH. The pH of the samples prior to analysis could not be evaluated. The effect on data quality is not known.

Initial and continuing calibration blank data were not provided and could not be evaluated. The effect on data quality is not known.

This report was prepared in accordance with the following documents:

- Region 9 Standard Operating Procedure 906, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Inorganic Data Packages*;
- *Methods For The Determination Of Metals In Environmental Samples*, EPA-600/4-91-010, June 1991; and
- *USEPA Method 218.6, Determination of Dissolved Hexavalent Chromium in Drinking Water, Groundwater, and Industrial Wastewater Effluents by Ion Chromatography*, Revision 3.3, May 1994.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Data Completeness	Yes	
2.	Sample Preservation and Holding Times	Yes	
3.	Calibration	No	A
	a. Initial		
	b. Initial and Continuing Calibration Verification		
4.	Blanks	Yes	
5.	Laboratory Control Sample (LCS)	Yes	
6.	Duplicate Sample Analysis	Yes	
7.	Matrix Spike Sample Analysis	Yes	
8.	Field Duplicate Sample Analysis	N/A	
9.	Sample Quantitation	Yes	
10.	Overall Assessment	Yes	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. The following results should be flagged "J" because the final continuing calibration verification (CCV) standard result is outside method QC limits.

- Hexavalent chromium in all samples

The CCV2 recovery result for hexavalent chromium does not meet the 95-105% criterion for accuracy specified in the method. The recovery for hexavalent chromium is presented below and is based on an ideal recovery of 100%.

Analyte	% Recovery
Hexavalent Chromium (CCV2)	106

Since CCV2 was not reanalyzed as required by the method, results greater than or equal to the practical quantitation limit (PQL) are considered quantitatively uncertain. The results reported for hexavalent chromium in all samples may be biased high.

The inorganic method indicates that the laboratory verify that the instrument is properly calibrated on a continuing basis. Laboratory reagent blank (LRB) and laboratory performance check standards (LPC) are analyzed after every 10 analytical samples to determine the validity of the calibration.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR INORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared in accordance with the document *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004.

U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

ICF International / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
Phone: (510) 412-2300; Fax: (510) 412-2304.

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM)
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105041 Amendment 3

DATE: March 16, 2007

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	Not Provided
SDG No.:	06-1647
Laboratory:	Applied Physics & Chemistry Laboratory (APCL)
Analysis:	1,2,3-Trichloropropane (1,2,3-TCP) and n-Nitrosodimethylamine (NDMA)
Samples:	5 Water Samples (see Case Summary)
Collection Date:	March 6, 2006
Reviewer:	Nanny Estrada, ESAT/Laboratory Data Consultants (LDC)

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

SAMPLING ISSUES: [X] Yes [ ] No

Data Validation Report – Tier 3

Case No.: Not Provided
SDG No.: 06-1647
Site: Omega Chem OU2
Laboratory: APCL
Reviewer: Nanny Estrada, ESAT/LDC
Date: March 16, 2007

I. CASE SUMMARY

Sample Information

Samples:	OC2-MW7-W-0-155, OC2-MW7-W-4-156, OC2-MW8C-W-0-157, OC2-MW8B-W-0-158, and OC2-MW8A-W-0-159
Concentration and Matrix:	Low Concentration Water
Analysis:	1,2,3-TCP (GC) and NDMA (GC/MS/MS CI)
SOW:	EPA Methods 504.1 and 1625 Modified
Collection Date:	March 6, 2006
Sample Receipt Date:	March 6, 2006
Extraction Date:	March 9 and 10, 2006
Analysis Date:	March 10 and 14, 2006

Field QC

Field Blanks (FB):	Not Provided
Trip Blanks (TB):	OC2-MW7-W-4-156 (for 1,2,3-TCP only)
Equipment Blanks (EB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	Not Provided

Laboratory QC

Method Blanks & Associated Samples:

06G1343MB01:	(1,2,3-TCP) All samples
06G1337MB01:	(NDMA) All samples

Tables

1B:	Data Qualifier Definitions for Organic Data Review

Sampling Issues

On the chain of custody (COC), the "relinquished" date of 2/6/06 is incorrect; the correct date is 3/6/06 (see attached COC).

Additional Comments

For the NDMA analysis, decafluorotriphenylphosphine (DFTPP) was not analyzed. Since NDMA is analyzed by the chemical ionization (CI) technique, no adverse effect is expected.

This report was prepared in accordance with the following documents:

- ESAT Region 9 Standard Operating Procedure 901, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Volatile and Semivolatile Data Packages*;

- ESAT Region 9 Standard Operating Procedure 902, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Pesticide/PCB Data Packages*;

- EPA Method 504.1, *1,2-Dibromoethane (EDB), 1,2-Dibromo-3-chloro-propane (DBCP), and 1,2,3-Trichloropropane (123TCP) in Water by Microextraction and Gas Chromatography*, Revision 1.1, 1995;

- EPA Method 1625C, *Semivolatile Organic Compounds by Isotope dilution GC/MS*, June 1989; and

- *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review*, October 1999.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Holding Time/Preservation	Yes	
2.	GC/MS and GC Performance	Yes	
3.	Initial Calibration	Yes	
4.	Continuing Calibration	Yes	
5.	Laboratory Blanks	Yes	
6.	Field Blanks	Yes	
7.	Surrogate (Method 504.1)	Yes	
8.	Labeled Compound (Method 1625)	No	C
9.	Matrix Spike/Matrix Spike Duplicates	N/A	
10.	Laboratory Control Samples/Duplicates	Yes	
11.	Internal Standard	Yes	
12.	Compound Identification	Yes	
13.	Compound Quantitation	No	A, B
14.	System Performance	Yes	
15.	Field Duplicate Sample Analysis	N/A	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. The following detected result is qualified as estimated and should be flagged “J”.

- NDMA in sample OC2-MW8C-W-0-157 (below the practical quantitation limit)

Results below the practical quantitation limits (PQLs) are considered to be qualitatively acceptable, but quantitatively unreliable, due to the uncertainty in analytical precision near the limit of detection.

B. The laboratory reported the NDMA sample practical quantitation limit (PQL) as 0.002 ug/L and reported a NDMA detected result of 0.0009 ug/L for sample OC2-MW8C-W-0-157. However, the signal to noise (S/N) ratio is only 3 and the area is only 393 for the concentration of 0.0009 ug/L (see attached quantitation report, p. 2020 in data package). Furthermore, the area for low standard of the initial calibration is only 1074 (see attached quantitation report, p. 2029 in data package). In the reviewer's professional judgment, the sample PQL should be raised to 0.02 ug/L; non-detected sample results should be reported as 0.02U.

C. The laboratory did not spike the samples and method blanks with a labeled compound (i.e., surrogate; see Method 1625C Sections 6.8, 10.2.1.3, and 10.2.3.2 and Figure 4). Consequently, the extraction efficiency (surrogate recovery) cannot be evaluated. The NDMA-d6 spiked by the laboratory was used as an internal standard.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," October 1999.

U The analyte was analyzed for but was not detected above the reported sample quantitation limit.

L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Case Number: R06S80

SDG Number 06254A(SVOA)

Site: Omega Chemical OU2

Laboratory: USEPA Region 9 Laboratory

Reviewer: Kimberly Gould

Date: 26-May-07

Units: ug/L

Qualifiers: U indicates that the analyte was analyzed for but not detected above the reported sample quantitation limit

L indicates that the reported value is estimated because it is below the laboratory quantitation limit

TABLE 1A - ANALYTICAL RESULTS WITH QUALIFICATIONS

Location												
Sample ID	OC2-MW13B-W-0-253		OC2-MW12-W-0-254		OC2-MW1B-W-0-255		OC2-MW1A-W-0-256		OC2-MW23D-W-0-259		OC2-MW23B-W-0-260	
Lab Sample ID	0609026-02		0609026-03		0609026-04		0609026-05		0609031-02		0609031-03	
Date of Collection	09/08/06		09/08/06		09/08/06		09/08/06		09/11/06		09/11/06	
Dilution Factor	1		1		1		1		1		1	
Analyte	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**
1,4-Dioxane	1.0	U	0.9	U	**1.9**		**0.9**	**L**	0.9	U	**0.6**	**L**

Case Number: R06S80

SDG Number 06254A(SVOA)

Site: Omega Chemical OU2

Laboratory: USEPA Region 9 Laboratory

Reviewer: Kimberly Gould

Date: 26-May-07

Units: ug/L

Qualifiers: U indicates that the analyte was analyzed for but not detected above the reported sample quantitation limit

L indicates that the reported value is estimated because it is below the laboratory quantitation limit

TABLE 1A - ANALYTICAL RESULTS WITH QUALIFICATIONS

Station Location			*Duplicate of OC2-MW23C-W-0-261*							
Sample ID	OC2-MW23C-W-0-261		OC2-MW23C-W-1-262		OC2-MW14-W-0-263					
Lab Sample ID	0609031-04		0609031-05		0609031-06					
Date of Collection	09/11/06		09/11/06		09/11/06					
Dilution Factor	1		1		1					
Analyte	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**				
1,4-Dioxane	22		24		7.1					

Case Number: R06S80
SDG Number: 06254A
Site: Omega Chemical OU2
Laboratory: USEPA Region 9 Laboratory
Reviewer: Kimberly Gould
Date: 27-May-07
Units: ug/L

TABLE 1A - ANALYTICAL RESULTS WITH QUALIFICATIONS

Qualifiers: U indicates that the analyte was analyzed for but not detected above the reported sample quantitation limit
L indicates that the reported value is estimated because it is below the laboratory quantitation limit
J indicates that the reported value is estimated R indicates that the reported value is rejected

Station Location	*Trip Blank*															
Sample ID	OC2-TB8-W-4-252		OC2-MW13B-W-0-253		OC2-MW12-W-0-254		OC2-MW1B-W-0-255		OC2-MW1B-W-0-255		OC2-MW1A-W-0-256		OC2-MW1A-W-0-256		OC2-MW1A-W-2-257	
Lab Sample ID	0609026-01		0609026-02		0609026-03		0609026-04		0609026-04RE1		0609026-05		0609026-05RE1		0609026-06	
Date of Collection	09/08/06		09/08/06		09/08/06		09/08/06		09/08/06		09/08/06		09/08/06		09/08/06	
Dilution Factor	1		1		1		1		20		1		20		1	
Analyte	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**			**Result**	**Q**	**Result**	**Q**	**Result**	**Q**
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
Chloromethane	0.5	U	0.5	U	**0.4**	**L**	0.5	U			0.5	U			0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
Bromomethane	0.5	**UJ**	0.5	**UJ**	0.5	**UJ**	0.5	**UJ**			0.5	U			0.5	**UJ**
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	**19**				**7.6**				0.5	U
1,1-Dichloroethene	0.5	U	0.5	U	**4.0**				**41**				**31**		0.5	U
Freon-113	0.5	U	0.5	U	0.5	U			**64**				**24**		0.5	U
Acetone	4.0	**UJ**	4.0	**UJ**	4.0	**UJ**	4.0	**UJ**			4.0	**UJ**			4.0	**UJ**
Dichloromethane	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
trans-1,2-Dichloroethene	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
tert-1,2-Dichloroethene	2.0	U	2.0	U	2.0	U	2.0	U			2.0	U			2.0	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
cis-1,2-Dichloroethene	0.5	U	0.5	U	0.5	U	**4.4**				**0.3**	**L**			0.5	U
2-Butanone	4.0	**UJ**	4.0	**UJ**	4.0	**UJ**	4.0	**UJ**			4.0	**UJ**			4.0	**UJ**
Bromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
Chloroform	0.5	U	0.5	U	**0.2**	**L**	**2.6**				**2.8**				**0.4**	**L**
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
1,2-Dichloroethane	0.5	U	**0.6**		0.5	U	**0.3**	**L**			**0.2**	**L**			0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U			**0.2**	**L**			0.5	U
Trichloroethene	0.5	U	**0.2**	**L**	**13**				**400**				**470**		0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
4-Methyl-2-pentanone	4.0	U	4.0	U	4.0	U	4.0	U			4.0	U			4.0	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
Tetrachloroethene	0.5	U	**2.8**		**0.7**				**170**				**83**		**0.2**	**L**
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
2-Hexanone	4.0	U	4.0	U	4.0	U	4.0	U			4.0	U			4.0	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
1,2-Dibromoethane (EDB)	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
m & p-Xylene	1.0	U	1.0	U	1.0	U	1.0	U			1.0	U			1.0	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
Styrene	0.5	**UJ**	0.5	**UJ**	0.5	**UJ**	0.5	**UJ**			0.5	**UJ**			0.5	**UJ**
Bromoform	0.5	**UJ**	0.5	**UJ**	0.5	**UJ**	0.5	**UJ**			0.5	**UJ**			0.5	**UJ**
Isopropylbenzene	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
2-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
4-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
1,3,5-Trimethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
1,2,4-Trimethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
1,3-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
1,4-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
p-Isopropyltoluene	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
1,2-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
n- Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
1,2-Dibromo-3-chloropropane	2.0	U	2.0	U	2.0	U	2.0	U			2.0	U			2.0	U
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
tert-Butyl methyl ether	2.0	U	2.0	U	2.0	U	2.0	U			2.0	U			2.0	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
Dichlorotrifluoroethane (TIC)	*Not Reported*		*Not Reported*		*Not Reported*		**5.30**	**NJ**	*Not Reported*		*Not Reported*				*Not Reported*	

Case Number: R06S80

SDG Number: 06254A

Site: Omega Chemical OU2

Laboratory: USEPA Region 9 Laboratory

Reviewer: Kimberly Gould

Date: 26-May-07

Units: ug/L

Qualifiers: U indicates that the analyte was analyzed for but not detected above the reported sample quantitation limit
L indicates that the reported value is estimated because it is below the laboratory quantitation limit

TABLE 1A - ANALYTICAL RESULTS WITH QUALIFICATIONS

Station Location	*Trip Blank*		OC2-MW23D-W-0-259		OC2-MW23B-W-0-260		OC2-MW23B-W-0-260		OC2-MW23C-W-0-261		OC2-MW23C-W-0-261		*Duplicate of OC2-MW23C-W-0-261*	
Sample ID	OC2-TB9-W-4-258												OC2-MW23C-W-1-262	
Lab Sample ID	0609031-01		0609031-02		0609031-03		0609031-03RE1		0609031-04		0609031-04RE1		0609031-05	
Date of Collection	09/11/06		09/11/06		09/11/06		09/11/06		09/11/06		09/11/06		09/11/06	
Dilution Factor	1		1		1		2		1		50		1	
Analyte	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**	**Result**	**Q**
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U			**1.0**				**0.5**	
Chloromethane	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
Bromomethane	0.5	U	0.5	U	0.5	U			0.5	U			0.5	**UJ**
Chloroethane	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U					**250**			
1,1-Dichloroethene	0.5	U	0.5	U	**2.2**						**600**			
Freon-113	0.5	U	0.5	U	**0.7**						**790**			
Acetone	4.0	**UJ**	4.0	**UJ**	4.0	**UJ**			4.0	**UJ**			4.0	**UJ**
Dichloromethane	0.5	U	0.5	U	0.5	U			**0.3**	**L**			0.5	U
trans-1,2-Dichloroethene	0.5	U	0.5	U	0.5	U			**1.5**				**0.9**	
tert-1,2-Dichloroethene	2.0	U	2.0	U	2.0	U			2.0	U			2.0	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U			**2.1**				**1.6**	
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
cis-1,2-Dichloroethene	0.5	U	0.5	U	**1.3**				**24**				**16**	
2-Butanone	4.0	**UJ**	4.0	**UJ**	4.0	**UJ**			4.0	**UJ**			4.0	**UJ**
Bromochloromethane	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
Chloroform	0.5	U	0.5	U	**0.5**						**91**		0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U			**0.5**				**0.4**	**L**
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
Benzene	0.5	U	0.5	U	0.5	U			**0.3**	**L**			**0.2**	**L**
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U			**6.4**				0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
Trichloroethene	0.5	U	**0.3**	**L**	**20**						**610**			
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
4-Methyl-2-pentanone	4.0	U	4.0	U	4.0	U			4.0	U			4.0	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U			**0.2**	**L**			**0.3**	**L**
Toluene	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
Tetrachloroethene	0.5	U	0.5	U			**24**				**500**			
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
2-Hexanone	4.0	U	4.0	U	4.0	U			4.0	U			4.0	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
1,2-Dibromoethane (EDB)	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
m & p-Xylene	1.0	U	1.0	U	1.0	U			1.0	U			1.0	U
o-Xylene	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
Styrene	0.5	**UJ**	0.5	**UJ**	0.5	**UJ**			0.5	**UJ**			0.5	**UJ**
Bromoform	0.5	**UJ**	0.5	**UJ**	0.5	**UJ**			0.5	**UJ**			0.5	**UJ**
Isopropylbenzene	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
Bromobenzene	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
2-Chlorotoluene	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
4-Chlorotoluene	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
1,3,5-Trimethylbenzene	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
1,2,4-Trimethylbenzene	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
1,3-Dichlorobenzene	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
1,4-Dichlorobenzene	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
p-Isopropyltoluene	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
1,2-Dichlorobenzene	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
n- Butylbenzene	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
1,2-Dibromo-3-chloropropane	2.0	U	2.0	U	2.0	U			2.0	U			2.0	U
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
tert-Butyl methyl ether	2.0	U	2.0	U	2.0	U			**1.1**	**L**			2.0	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U			0.5	U			0.5	U
Dichlorotrifluoroethane (TIC)	*Not Reported*		*Not Reported*		*Not Reported*				**8.1**	**NJ**			**4.6**	**NJ**
Tetrachlorodifluoroethane (TIC)	*Not Reported*		*Not Reported*		*Not Reported*				**1.0**	**NJ**			**5.4**	**NJ**
Dichlorofluoromethane (TIC)	*Not Reported*		*Not Reported*		*Not Reported*				**1.4**	**NJ**			**1.5**	**NJ**

Case Number: R06S80 **TABLE 1A - ANALYTICAL RESULTS WITH**
SDG Number: 06254A **QUALIFICATIONS**
Site: Omega Chemical OU2
Laboratory: USEPA Region 9 Laboratory
Reviewer: Kimberly Gould
Date: 26-May-07
Units: ug/L
Qualifiers: U indicates that the analyte was analyzed for but not detected above the reported sample quantitation limit
L indicates that the reported value is estimated because it is below the laboratory quantitation limit

Station Location				
Sample ID	**OC2-MW23C-W-1-262**		**OC2-MW14-W-0-263**	
Lab Sample ID	**0609031-05RE1**		**0609031-06RE1**	
Date of Collection	**09/11/06**		**09/11/06**	
Dilution Factor	**20**		**20**	
Analyte	**Result**	**Q**	**Result**	**Q**
Dichlorodifluoromethane			10	U
Chloromethane			10	U
Vinyl chloride			10	U
Bromomethane			10	U
Chloroethane			10	U
Trichlorofluoromethane	**120**		**140**	
1,1-Dichloroethene	**270**		**210**	
Freon-113	**350**		**380**	
Acetone			80	**UJ**
Dichloromethane			10	U
trans-1,2-Dichloroethene			10	U
tert-1,2-Dichloroethene			40	U
1,1-Dichloroethane			10	U
2,2-Dichloropropane			10	U
cis-1,2-Dichloroethene			10	U
2-Butanone			80	**UJ**
Bromochloromethane			10	U
Chloroform			**12**	
1,1,1-Trichloroethane			10	U
1,1-Dichloropropene			10	U
Benzene			10	U
1,2-Dichloroethane			10	U
Carbon tetrachloride			10	U
Trichloroethene	**230**		**30**	
1,2-Dichloropropane			10	U
Dibromomethane			10	U
Bromodichloromethane			10	U
cis-1,3-Dichloropropene			10	U
4-Methyl-2-pentanone			80	U
trans-1,3-Dichloropropene			10	U
1,1,2-Trichloroethane			10	U
Toluene			10	U
Tetrachloroethene	**210**		**160**	
1,3-Dichloropropane			10	U
2-Hexanone			80	U
Dibromochloromethane			10	U
1,2-Dibromoethane (EDB)			10	U
Chlorobenzene			10	U
1,1,1,2-Tetrachloroethane			10	U
Ethylbenzene			10	U
m & p-Xylene			20	U
o-Xylene			10	U
Styrene			10	**UJ**
Bromoform			10	**UJ**
Isopropylbenzene			10	U
Bromobenzene			10	U
1,1,2,2-Tetrachloroethane			10	U
1,2,3-Trichloropropane			10	U
n-Propylbenzene			10	U
2-Chlorotoluene			10	U
4-Chlorotoluene			10	U
1,3,5-Trimethylbenzene			10	U
tert-Butylbenzene			10	U
1,2,4-Trimethylbenzene			10	U
sec-Butylbenzene			10	U
1,3-Dichlorobenzene			10	U
1,4-Dichlorobenzene			10	U
p-Isopropyltoluene			10	U
1,2-Dichlorobenzene			10	U
n- Butylbenzene			10	U
1,2-Dibromo-3-chloropropane			40	U
1,2,4-Trichlorobenzene			10	U
Hexachlorobutadiene			10	U
Naphthalene			10	U
tert-Butyl methyl ether			40	U
1,2,3-Trichlorobenzene			10	U
Dichlorotrifluoroethane (TIC)	*Not Reported*		*Not Reported*	
Tetrachlorotrifluoroethane (TIC)	*Not Reported*		*Not Reported*	
Dichlorofluoromethane (TIC)	*Not Reported*		*Not Reported*	

ICF International / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
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Phone: (510) 412-2300; Fax: (510) 412-2304.

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM) RF
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105041 Amendment 7

DATE: January 8, 2008

SUBJECT: Review of Analytical Data, **Tier 2**

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	Not Provided
SDG No.:	IPI0104
Laboratory:	Test America Analytical Testing Corp.
Analysis:	n-Nitrosodimethylamine (NDMA)
Samples:	6 Water Samples (see Case Summary)
Collection Date:	September 1, 2006
Reviewer:	Santiago Lee, ESAT/Laboratory Data Consultants (LDC)

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

SAMPLING ISSUES: [X] Yes [ ] No

00105041-8799/G5C+/IPI0104-N

Data Validation Report – **Tier 2**

Case No.: Not Provided
SDG No.: IPI0104
Site: Omega Chem OU2
Laboratory: Test America Analytical Testing Corp.
Reviewer: Santiago Lee, ESAT/LDC
Date: January 4, 2008

I. CASE SUMMARY

Sample Information

Samples:	OC2-MW20C-W-0-234, OC2-MW20B-W-0-235, OC2-MW20A-W-0-236, OC2-MW20A-W-1-237, OC2-MW9B-W-0-238, and OC2-MW9A-W-0-239
Concentration and Matrix:	Low Concentration Water
Analysis:	NDMA (GC/MS/MS CI)
Method:	EPA Method 1625 Modified
Collection Date:	September 1, 2006
Sample Receipt Date:	September 1, 2006
Extraction Date:	September 8, 2006
Analysis Date:	September 13 and 14, 2006

Field QC

Field Blanks (FB):	Not Provided
Trip Blanks (TB):	Not Provided
Equipment Blanks (EB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	OC2-MW20A-W-0-236 and OC2-MW20A-W-1-237

Laboratory QC

Method Blanks & Associated Samples:

6I08056-BLK1:	(NDMA) All samples

Tables

1B:	Data Qualifier Definitions for Organic Data Review

Sampling Issues

The chain of custody (COC) form did not specify the sample to be used for laboratory quality control (QC). The laboratory did not perform matrix spike/matrix spike/duplicate (MS/MSD) analysis for this SDG. Consequently, the matrix-specific accuracy and precision could not be evaluated.

Additional Comments

As directed by the EPA TOM, a Tier 2 data review was performed (review all QC results and calibrations, minus calculation check). A Table 1A is not requested.

For the 09/13/06 and 09/14/06 calibration verifications, the following information are missing in the data package: daily log summary, QA-QC check report with internal standard (IS) areas, daily midpoint check summary, and raw data.

Decafluorotriphenylphosphine (DFTPP) was not analyzed. Since NDMA is analyzed by the chemical ionization (CI) technique, no adverse effect is expected.

This report was prepared in accordance with the following documents:

- ESAT Region 9 Standard Operating Procedure 901, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Volatile and Semivolatile Data Packages*;

- EPA Method 1625C, *Semivolatile Organic Compounds by Isotope dilution GC/MS*, June 1989; and

- *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review*, October 1999.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Holding Time/Preservation	Yes	
2.	GC/MS and GC Performance	N/A	
3.	Initial Calibration	Yes	
4.	Continuing Calibration	N/A	
5.	Laboratory Blanks	Yes	
6.	Field Blanks	N/A	
7.	Labeled Compound	No	C
8.	Matrix Spike/Matrix Spike Duplicates	N/A	
9.	Laboratory Control Samples/Duplicates	Yes	
10.	Internal Standard	N/A	
11.	Compound Identification	N/A	
12.	Compound Quantitation	No	A, B
13.	System Performance	N/A	
14.	Field Duplicate Sample Analysis	Yes	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. The following detected result is qualified as estimated and should be flagged "J".

- NDMA in sample OC2-MW20A-W-1-237 (below the practical quantitation limit)

Results below the practical quantitation limits (PQLs) are considered to be qualitatively acceptable, but quantitatively unreliable, due to the uncertainty in analytical precision near the limit of detection.

B. The laboratory reported the NDMA sample practical quantitation limit (PQL) as 0.0019 ug/L. However, the area for low standard is only 843 for the initial calibration (see attached quantitation report, p. 26 in data package). Furthermore, the area is only 2342 for the concentration of 0.0042 ug/L in sample OC2-MW20A-W-1-237 (see attached quantitation report, p. 119 in data package). In the reviewer's professional judgment, the sample PQL should be raised to 0.01 ug/L; non-detected sample results should be reported as 0.01U.

C. The laboratory did not spike the samples and method blanks with a labeled compound (i.e., surrogate; see Method 1625C Sections 6.8, 10.2.1.3, and 10.2.3.2 and Figure 4). Consequently, the extraction efficiency (surrogate recovery) cannot be evaluated. The NDMA-d6 spiked by the laboratory was used as an internal standard.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," October 1999.

U The analyte was analyzed for but was not detected above the reported sample quantitation limit.

L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\06SEP12\NNA001.D
Acq On : 12 Sep 2006 2:44 pm
Sample : 1PPB WATER ICAL STD# 6060243
Misc : n-Nitrosamines Water ICAL
MS Integration Params: rteint.p
Quant Time: Sep 12 17:53 2006

Vial: 3
Operator: DF/AI
Inst : gcms37
Multiplr: 1.00

Quant Results File: C6I12NWA.RES

Quant Method : C:\MSDCHEM\1\METHODS\C6I12NWA.M (RTE Integrator)
Title : Nitrosamine Water ICAL 9/12/06, Preextraction IS
Last Update : Tue Sep 12 17:53:07 2006
Response via : Initial Calibration
DataAcq Meth : C6H02NWA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) NDMA-D6	10.78	81	3840	10.00 PPB	0.00
4) NDPA-D14	15.22	145	1282	10.00 PPB	0.00
Target Compounds					**Qvalue**
2) NDMA	10.73	92	843	0.61 PPB	98
3) NDEA	12.97	120	386	0.30 PPB	89
5) NDPA	15.18	148	180	0.81 PPB	71
6) NPYR	16.45	118	124	0.54 PPB	97

(#) = qualifier out of range (m) = manual integration
NNA001.D C6I12NWA.M Tue Sep 12 17:53:21 2006

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\06SEP13\C0913031.D Vial: 7
Acq On : 13 Sep 2006 8:22 pm Operator: DF/AI
Sample : IPI0104-04 Inst : gcms37
Misc : WATER 1L/1mL ------ Batch 6I08056 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 14 7:30 2006 Quant Results File: C6I12NWA.RES

Quant Method : C:\MSDCHEM\1\METHODS\C6I12NWA.M (RTE Integrator)
Title : Nitrosamine Water ICAL 9/12/06, Preextraction IS
Last Update : Tue Sep 12 17:55:56 2006
Response via : Initial Calibration
DataAcq Meth : C6I12NWA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) NDMA-D6	10.77	81	2673	10.00 PPB	0.00
4) NDPA-D14	15.22	145	2716	10.00 PPB	0.00
Target Compounds					Qvalue
2) NDMA	10.72	92	2342	4.45 PPB	88
3) NDEA	12.97	120	49	0.18 PPB	72
5) NDPA	15.18	148	7946	23.23 PPB	89
6) NPYR	16.45	118	27	0.11 PPB #	1

(#) = qualifier out of range (m) = manual integration
C0913031.D C6I12NWA.M Thu Sep 14 07:30:08 2006 Page 1

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MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM) RF
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105041 Amendment 7

DATE: January 8, 2008

SUBJECT: Review of Analytical Data, **Tier 2**

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	Not Provided
SDG No.:	IPI0104
Laboratory:	Test America Analytical Testing Corp.
Analysis:	1,2,3-Trichloropropane (1,2,3-TCP)
Samples:	6 Water Samples (see Case Summary)
Collection Date:	September 1, 2006
Reviewer:	Santiago Lee, ESAT/Laboratory Data Consultants (LDC)

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

SAMPLING ISSUES: [X] Yes [ ] No

Data Validation Report – **Tier 2**

Case No.: Not Provided
SDG No.: IPI0104
Site: Omega Chem OU2
Laboratory: Test America Analytical Testing Corp.
Reviewer: Santiago Lee, ESAT/LDC
Date: January 8, 2008

I. CASE SUMMARY

Sample Information

Samples:	OC2-MW20C-W-0-234, OC2-MW20B-W-0-235, OC2-MW20A-W-0-236, OC2-MW20A-W-1-237, OC2-MW9B-W-0-238, and OC2-MW9A-W-0-239
Concentration and Matrix:	Low Concentration Water
Analysis:	1,2,3-TCP (GC/MS)
Method:	EPA Method 524.2
Collection Date:	September 1, 2006
Sample Receipt Date:	September 1, 2006
Extraction Date:	September 11 and 12, 2006
Analysis Date:	September 11 and 12, 2006

Field QC

Field Blanks (FB):	Not Provided
Trip Blanks (TB):	Not Provided
Equipment Blanks (EB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	OC2-MW20A-W-0-236 and OC2-MW20A-W-1-237

Laboratory QC

Method Blanks & Associated Samples:

C6I1103-BLK1:	OC2-MW20C-W-0-234, OC2-MW20B-W-0-235, OC2-MW20A-W-0-236, OC2-MW20A-W-1-237, and OC2-MW9B-W-0-238
C6I1201-BLK1:	OC2-MW9A-W-0-239

Tables

1B:	Data Qualifier Definitions for Organic Data Review

Sampling Issues

The chain of custody (COC) form did not specify the sample to be used for laboratory quality control (QC). The laboratory did perform matrix spike/matrix spike/duplicate (MS/MSD) analyses but it is not known which samples were spiked (see Comment A).

The COC (attached) indicated that ascorbic acid was used as preservative. According to the electronic mail dated 02/28/07 (attached), HCl was also added to the samples. Sample holding time was met based on the use of HCl as preservative.

Additional Comments

As directed by the EPA TOM, a Tier 2 data review was performed (review all QC

results and calibrations, minus calculation check). A Table 1A is not requested.

The raw data for 1,2,3-TCP is missing in the data package; data for initial calibrations, continuing calibrations, run logs, tune reports, quantitation reports, and chromatograms are not provided. Only sample results and QC summaries are provided (attached, pp. 4 and 8 of 10 in data package) for review.

This report was prepared in accordance with the following documents:

- ESAT Region 9 Standard Operating Procedure 901, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Volatile and Semivolatile Data Packages*;
- EPA Method 524.2, *Measurement of Purgeable Organic Compounds in Water by Capillary Column Gas Chromatography/Mass Spectrometry*, Revision 4.1, 1995;
- *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review*, October 1999.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Holding Time/Preservation	Yes	
2.	GC/MS and GC Performance	N/A	
3.	Initial Calibration	N/A	
4.	Continuing Calibration	N/A	
5.	Laboratory Blanks	Yes	
6.	Field Blanks	N/A	
7.	Surrogate	N/A	
8.	Matrix Spike/Matrix Spike Duplicates	No	A
9.	Laboratory Control Samples	Yes	
10.	Internal Standard	N/A	
11.	Compound Identification	N/A	
12.	Compound Quantitation	N/A	
13.	System Performance	N/A	
14.	Field Duplicate Sample Analysis	Yes	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. The matrix spike/matrix spike duplicate recoveries (78%/79%) for 1,2,3-TCP analyzed on 09/11/06 were below the laboratory QC limit of 80-120%. MS/MSD recoveries (97%/112%) for 1,2,3-TCP analyzed on 09/12/06 were within the laboratory QC limit. It is not known which samples were spiked because the sample cross reference for the subcontracted laboratory is not provided. Consequently, the matrix-specific accuracy and precision could not be evaluated.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," October 1999.

U The analyte was analyzed for but was not detected above the reported sample quantitation limit.

L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Matrix spike sample analysis provides information about the effect of the sample matrix on sample preparation and measurement.

17461 Derian Ave #100 Irvine CA 92614 (949) 261 1022 FAX (949) 260 3299
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4687 FAX (909) 370-1046
9830 South 51st St., Suite B-12D, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd #3, Las Vegas NV 89120 (702) 796-3620 FAX (702) 798-3628

TestAmerica
ANALYTICAL TESTING CORPORATION

CHAIN OF CUSTODY FORM

Client Name/Address: CH2M Hill, 3347 Hamilton Center Dr, Ste 200, Santa Ana, CA 92707

Project/PO Number: Region 4 Case # RC658C

Project Manager: Dan Jablonski

Phone Number: 949 727 4364

Sampler: Dan Jablonski

Fax Number:

Analysis Required

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	NDMA	1,2,3 TCP	Hex Cr							Special Instructions
OC2-MW20C-W-0-234	GW	VOA Poly Amber	6	9/1/06	0845	Ascorbic Acid	X	X	X							
OC2-MW20B-W-0-235	↓	↓	6	↓	1015	↓	X	X	X							
OC2-MW20A-W-0-236	↓	↓	6	↓	1105	↓	X	X	X							
OC2-MW20A-W-1-237	↓	↓	6	↓	1115	↓	X	X	X							
OC2-MW9B-W-0-238	↓	↓	6	↓	1340	↓	X	X	X							
OC2-MW9A-W-0-239	↓	↓	6	↓	1420	↓	X	X	X							
																HE 9-1-06
																1800

Relinquished By:	Date/Time:	Received By:	Date/Time:	Turnaround Time: (Check)
[signature]	9-1-06 1610	[signature] TAI	9/1/06 1610	same day ____ 72 hours ____
Relinquished By: [signature] TAI	Date/Time: 9-1-06 1730	Received By:	Date/Time:	24 hours ____ 5 days ____
				48 hours ____ normal X
Relinquished By:	Date/Time:	Received in Lab By: [signature]	Date/Time: 9-1-06 1730	Sample Integrity: (Check) intact X on ice X 2°C

Note: By relinquishing samples to Test America, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

Rose Fong/R9/USEPA/US
02/28/2007 09:49 AM

To Stan Kolt/R9/USEPA/US@EPA
cc
bcc
Subject Omega Chem TestAmerica CRL response

History: This message has been forwarded.

---- Forwarded by Rose Fong/R9/USEPA/US on 02/28/2007 09:48 AM ----

Victoria.Taylor@CH2M.com
02/28/2007 08:45 AM

To Rose Fong/R9/USEPA/US@EPA
cc Daniel.Jablonski@CH2M.com, tom.perina@ch2m.com
Subject FW: Request for Additional Information

I got a response from Test America on the sample preservation issues. They provided the bottle order that indicates how the bottles for the different test methods were preserved. It appears that the COC was incorrectly filled out.

Hopefully this will be enough to resolve the validation issues. Thanks VT

From: Diane Suzuki [mailto:dsuzuki@testamericainc.com]
Sent: Wednesday, February 21, 2007 3:08 PM
To: Taylor, Victoria/BAO
Cc: Jablonski, Daniel/LAC; Perina, Tom/RIV
Subject: RE: Request for Additional Information

Hi Vikki
I started to go through the various workorders, but I thought it would be easier to send you the bottle order that was submitted for this around of sampling. Please note on the bottle order the HCL preservative with the ascorbic acid is not visable. While the method 524.2 allows sodium thiosulfate and HCl as a dechlorinating agent/preservative pair, we have found that it actually damages the trap on the instrument. For this reason, we have been trying to use Ascorbic Acid and HCl exclusively. The HCl is required for THMs when Ascorbic Acid is used.

For the your COC that has HCL only, I believe that due to space limitation, your sampler may not have entered all of the information.

...diane

TestAmerica
ANALYTICAL TESTING CORPORATION

GPL Laboratories 7210-A Corporate Court Frederick, MD 21703 Attention: Tim Mikesell	Project ID: Omega Chemical OU-2 SSID-BC R06S80 Report Number: IPI0104	Sampled: 09/01/06 Received: 09/01/06

CDHS SRL 524 MODIFIED METHOD FOR 1,2,3-TRICHLOROPROPANE PT/GCMS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPI0104-01 (OC2-MW20C-W-0-234 - Water)				**Sampled: 09/01/06**				
Reporting Units: ng/L								
1,2,3-Trichloropropane (123-TCP)	SRL 524M-TCP	C6I1103	5.0	ND	1	9/11/2006	9/11/2006	
Sample ID: IPI0104-02 (OC2-MW20B-W-0-235 - Water)				**Sampled: 09/01/06**				
Reporting Units: ng/L								
1,2,3-Trichloropropane (123-TCP)	SRL 524M-TCP	C6I1103	5.0	ND	1	9/11/2006	9/11/2006	
Sample ID: IPI0104-03 (OC2-MW20A-W-0-236 - Water)				**Sampled: 09/01/06**				
Reporting Units: ng/L								
1,2,3-Trichloropropane (123-TCP)	SRL 524M-TCP	C6I1103	5.0	ND	1	9/11/2006	9/11/2006	
Sample ID: IPI0104-04 (OC2-MW20A-W-1-237 - Water)				**Sampled: 09/01/06**				
Reporting Units: ng/L								
1,2,3-Trichloropropane (123-TCP)	SRL 524M-TCP	C6I1103	5.0	ND	1	9/11/2006	9/11/2006	
Sample ID: IPI0104-05 (OC2-MW9B-W-0-238 - Water)				**Sampled: 09/01/06**				
Reporting Units: ng/L								
1,2,3-Trichloropropane (123-TCP)	SRL 524M-TCP	C6I1103	5.0	ND	1	9/11/2006	9/11/2006	
Sample ID: IPI0104-06 (OC2-MW9A-W-0-239 - Water)				**Sampled: 09/01/06**				
Reporting Units: ng/L								
1,2,3-Trichloropropane (123-TCP)	SRL 524M-TCP	C6I1201	5.0	ND	1	9/12/2006	9/12/2006	

TestAmerica - Irvine, CA
Diane Suzuki
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from TestAmerica.

TestAmerica
ANALYTICAL TESTING CORPORATION

GPL Laboratories 7210-A Corporate Court Frederick, MD 21703 Attention: Tim Mikesell	Project ID: Omega Chemical OU-2 SSID-BC R06S80 Report Number: IPI0104	Sampled: 09/01/06 Received: 09/01/06

METHOD BLANK/QC DATA

CDHS SRL 524 MODIFIED METHOD FOR 1,2,3-TRICHLOROPROPANE PT/GCMS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: C6I1103 Extracted: 09/11/06										
Blank Analyzed: 09/11/2006 (C6I1103-BLK1)										
1,2,3-Trichloropropane (123-TCP)	ND	5.0	ng/L							
LCS Analyzed: 09/11/2006 (C6I1103-BS1)										
1,2,3-Trichloropropane (123-TCP)	4.42	5.0	ng/L	5.00		88	80-120			
Matrix Spike Analyzed: 09/11/2006 (C6I1103-MS1)					**Source: CPI0173-03**					
1,2,3-Trichloropropane (123-TCP)	39.2	5.0	ng/L	50.0	ND	78	80-120			*M2*
Matrix Spike Dup Analyzed: 09/11/2006 (C6I1103-MSD1)					**Source: CPI0173-03**					
1,2,3-Trichloropropane (123-TCP)	39.4	5.0	ng/L	50.0	ND	79	80-120	1	20	*M2*
Batch: C6I1201 Extracted: 09/12/06										
Blank Analyzed: 09/12/2006 (C6I1201-BLK1)										
1,2,3-Trichloropropane (123-TCP)	ND	5.0	ng/L							
LCS Analyzed: 09/12/2006 (C6I1201-BS1)										
1,2,3-Trichloropropane (123-TCP)	4.47	5.0	ng/L	5.00		89	80-120			
Matrix Spike Analyzed: 09/12/2006 (C6I1201-MS1)					**Source: CPI0252-01**					
1,2,3-Trichloropropane (123-TCP)	48.4	5.0	ng/L	50.0	ND	97	80-120			
Matrix Spike Dup Analyzed: 09/12/2006 (C6I1201-MSD1)					**Source: CPI0252-01**					
1,2,3-Trichloropropane (123-TCP)	55.8	5.0	ng/L	50.0	ND	112	80-120	14	20	

TestAmerica - Irvine, CA
Diane Suzuki
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from TestAmerica.

ICF International / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
Phone: (510) 412-2300 Fax: (510) 412-2304

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM)
Quality Assurance (QA) Program, PMD-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105041 Amendment 3

DATE: February 28, 2007

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	None
SDG No.:	IPH3268
Laboratory:	Test America Analytical Testing Corp.
Analysis:	Hexavalent Chromium
Samples:	5 Groundwater Samples (see Case Summary)
Collection Dates:	August 31, 2006
Reviewer:	Stan Kott, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOPO for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

SAMPLING ISSUES: [X] Yes [ ] No

Data Validation Report

Case No.: None
SDG No.: IPH3268
Site: Omega Chem OU2
Laboratory: Test America Analytical Testing Corp.
Reviewer: Stan Kott, ESAT/LDC
Date: February 28, 2007

I. CASE SUMMARY

Sample Information

Samples:	OC2-MW16C-W-0-228, OC2-MW16B-W-0-229, OC2-MW16A-W-0-230, OC2-MW22-W-0-231, and OC2-MW21-W-0-232
Concentration and Matrix:	Low Concentration Groundwater
Analysis:	Hexavalent Chromium
SOW:	EPA Method 218.6
Collection Date:	August 31, 2006
Sample Receipt Date:	August 31, 2006
Preparation Date:	August 31, 2006
Analysis Date:	September 1, 2006

Field QC

Field Blanks (FB):	Not Provided
Equipment Blanks (EB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	Not Provided

Laboratory QC

Method Blanks (MB):	MB
Associated Samples:	Samples listed above
Matrix Spike (MS)/MS Duplicate (MSD):	IPH3308-04MS/MSD (See Additional Comments)
Duplicate:	MSD listed above
Analysis:	Hexavalent Chromium

Analyte	Sample Preparation Date	Analysis Date
Hexavalent Chromium	August 31, 2006	September 1, 2006

Sampling Issues

The chain of custody (COC) record form indicates “HCL” for hexavalent chromium sample preservation. Additional information indicates the sample preservation on the COC was incorrect. See Attachments.

The Chain of Custody (COC) record form did not specify a sample to be used for laboratory quality control (QC). As a result, the laboratory selected sample IPH3308-04 for QC analysis. The effect on data quality is not known.

Additional Comments

As directed by the EPA TOPO, a Tier 3 data review was performed. A Table 1A is not requested.

The initial calibration blank (IB) data provided in the data package was analyzed prior to instrument calibration and does not reflect the calibration used to analyze this SDG. The effect on data quality is not known.

The laboratory analyzed the laboratory control sample (LCS) at a 0.050 mg/L concentration not the 0.10 mg/L concentration specified in the method. No adverse effect on data quality is expected.

The laboratory selected sample IPH3308-04 for laboratory QC analysis. Although MS/MSD results met criteria, this sample is from a different SDG and may not reflect the matrix characteristics of the samples in SDG IPH3268. The effect on data quality is not known.

Note that hexavalent chromium results are reported in mg/L instead of µg/L as specified in the method. No adverse effect on data quality is expected.

This report was prepared in accordance with the following documents:

- Region 9 Standard Operating Procedure 906, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Inorganic Data Packages*;
- *Methods For The Determination Of Metals In Environmental Samples*, EPA-600/4-91-010, June 1991; and
- *USEPA Method 218.6, Determination of Dissolved Hexavalent Chromium in Drinking Water, Groundwater, and Industrial Wastewater Effluents by Ion Chromatography*, Revision 3.3, May 1994.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Data Completeness	Yes	
2.	Sample Preservation and Holding Times	Yes	
3.	Calibration	Yes	
	a. Initial		
	b. Initial and Continuing Calibration Verification		
4.	Blanks	Yes	
5.	Laboratory Control Sample (LCS)	Yes	
6.	Duplicate Sample Analysis	Yes	
7.	Matrix Spike Sample Analysis	Yes	
8.	Field Duplicate Sample Analysis	N/A	
9.	Sample Quantitation	Yes	
10.	Overall Assessment	Yes	

N/A = Not Applicable

III. OVERALL ASSESSMENT OF DATA

All of the method requirements specified in Method 218.6 have been met. Reported results for hexavalent chromium in all of the samples were appropriate and correctly calculated.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR INORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared in accordance with the document *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004.

U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Rose Fong/R9/USEPA/US
02/28/2007 09:49 AM

To Stan Kott/R9/USEPA/US@EPA
cc
bcc
Subject Omega Chem TestAmerica CRL response

History: This message has been forwarded.

----- Forwarded by Rose Fong/R9/USEPA/US on 02/28/2007 09:48 AM -----

Victoria.Taylor@CH2M.com
02/28/2007 08:45 AM

To Rose Fong/R9/USEPA/US@EPA
cc Daniel.Jablonski@CH2M.com, tom.perina@ch2m.com
Subject FW: Request for Additional Information

I got a response from Test America on the sample preservation issues. They provided the bottle order that indicates how the bottles for the different test methods were preserved. It appears that the COC was incorrectly filled out.

Hopefully this will be enough to resolve the validation issues. Thanks VT

From: Diane Suzuki [mailto:dsuzuki@testamericainc.com]
Sent: Wednesday, February 21, 2007 3:08 PM
To: Taylor, Victoria/BAO
Cc: Jablonski, Daniel/LAC; Perina, Tom/RIV
Subject: RE: Request for Additional Information

Hi Vikki
I started to go through the various workorders, but I thought it would be easier to send you the bottle order that was submitted for this around of sampling. Please note on the bottle order the HCL preservative with the ascorbic acid is not visable. While the method 524.2 allows sodium thiosulfate and HCl as a dechlorinating agent/preservative pair, we have found that it actually damages the trap on the instrument. For this reason, we have been trying to use Ascorbic Acid and HCl exclusively. The HCl is required for THMs when Ascorbic Acid is used.

For the your COC that has HCL only, I believe that due to space limitation, your sampler may not have entered all of the information.

....diane

Date Printed: 8/16/2006 6:02:02AM

BOTTLE ORDER DELIVERY (ALTERNATE ADDRESS)

TESTAMERICA - IRVINE, CA
17461 Derian Avenue. Suite 100
Irvine, CA 92614
Ph: (949) 261-1022 Fax: (949) 260-3297

Date Requested:	08/14/06 8:08PM	**Scheduled Date:**	08/16/06 Anytime
Requested By:	CH2M Hill - Los Angeles	**Client Contact:**	Kerang Sun
Alternate Address:	CH2M Hill - Los Angeles	**Client Phone#:**	(714) 429-2000
	3 Hutton Centre Drive, Ste 200	**Created By:**	Diane Suzuki
	Santa Ana, CA 92707	**Project Manager:**	Diane Suzuki

Miscellaneous Items Requested:

Cooler(s):	Ice:	COC's:	Misc Items:
3 Large Cooler(s)	None	30 Lab COC's	None

Comments:

Cross Streets/Driving Directions: None Supplied
Comments: Ensure that a copy of the 'Sample Acceptance Policy' is included in the cooler(s) for this request!

Qty	Qty Type	Bottle Type	Analysis	Holding Time	Comments
180	60 - Samples	40 ml VOA w/Ascorbic acid Lot Number(s): 051108	524.2 CA 123-TCP (SIM) DMAC-OUT	14 Days	Collect 3 containers per sample. No headspace!
120	60 - Samples	1 L Amber Lot Number(s): H619101DB	NDMA-1625C Mod	7 Days	Collect 2 containers per sample.
60	Samples	500 ml Poly Lot Number(s): None Assigned	Chromium VI EPA 7199	1 Day	
10	Samples	1 L Amber Lot Number(s): H619101DB	NDMA-1625C Mod	7 Days	These are additional containers for MS/MSD QC samples for NDMA. Please collect the desired sample in triplicate.

ICF International / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
Phone: (510) 412-2300; Fax: (510) 412-2304.

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM)
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105041 Amendment 4

DATE: March 19, 2007

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	Not Provided
SDG No.:	IPH3268
Laboratory:	Test America Analytical Testing Corp.
Analysis:	1,2,3-Trichloropropane (1,2,3-TCP) and n-Nitrosodimethylamine (NDMA)
Samples:	5 Water Samples (see Case Summary)
Collection Date:	August 31, 2006
Reviewer:	Nanny Estrada, ESAT/Laboratory Data Consultants (LDC)

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

SAMPLING ISSUES: [ ] Yes [X] No

Data Validation Report – Tier 3

Case No.: Not Provided
SDG No.: IPH3268
Site: Omega Chem OU2
Laboratory: Test America Analytical Testing Corp.
Reviewer: Nanny Estrada, ESAT/LDC
Date: March 19, 2007

I. CASE SUMMARY

Sample Information

Samples:	OC2-MW16C-W-0-228, OC2-MW16B-W-0-229, OC2-MW16A-W-0-230, OC2-MW22-W-0-231, and OC2-MW21-W-0-232
Concentration and Matrix:	Low Concentration Water
Analysis:	1,2,3-TCP (GC/MS) and NDMA (GC/MS/MS CI)
SOW:	EPA Methods 524.2 and 1625 Modified
Collection Date:	August 31, 2006
Sample Receipt Date:	August 31, 2006
Extraction Date:	September 7, 2006
Analysis Date:	September 7 and 13, 2006

Field QC

Field Blanks (FB):	Not Provided
Trip Blanks (TB):	Not Provided
Equipment Blanks (EB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	Not Provided

Laboratory QC

Method Blanks & Associated Samples:

6I07058-BLK1:	(NDMA) All samples
C6I0702-BLK1:	(1,2,3-TCP) All samples

Tables

1B:	Data Qualifier Definitions for Organic Data Review

Sampling Issues

None.

Additional Comments

For the NDMA analysis, decafluorotriphenylphosphine (DFTPP) was not analyzed. Since NDMA is analyzed by the chemical ionization (CI) technique, no adverse effect is expected.

This report was prepared in accordance with the following documents:

- ESAT Region 9 Standard Operating Procedure 901, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Volatile and Semivolatile Data Packages*;

- EPA Method 524.2, *Measurement of Purgeable Organic Compounds in Water by Capillary Column Gas Chromatography/Mass Spectrometry*, Revision 4.1, 1995;

- EPA Method 1625C, *Semivolatile Organic Compounds by Isotope dilution GC/MS*, June 1989; and

- *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review*, October 1999.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Holding Time/Preservation	Yes	
2.	GC/MS and GC Performance	Yes	
3.	Initial Calibration	Yes	
4.	Continuing Calibration	Yes	
5.	Laboratory Blanks	Yes	
6.	Field Blanks	N/A	
7.	Surrogate (Method 524.2)	Yes	
8.	Labeled Compound (Method 1625)	No	B
9.	Matrix Spike/Matrix Spike Duplicates	N/A	
10.	Laboratory Control Samples/Duplicates	Yes	
11.	Internal Standard	Yes	
12.	Compound Identification	Yes	
13.	Compound Quantitation	No	A
14.	System Performance	Yes	
15.	Field Duplicate Sample Analysis	N/A	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. The laboratory reported the NDMA sample practical quantitation limit (PQL) as 0.0019 ug/L. No NDMA was detected above this PQL. However, the area for the low standard of the initial calibration is only 843 (see attached quantitation report, p. 28 in data package). In the reviewer's professional judgment, the sample PQL should be raised to 0.01 ug/L; non-detected sample results should be reported as 0.01U.

B. The laboratory did not spike the samples and method blanks with a labeled compound (i.e., surrogate; see Method 1625C Sections 6.8, 10.2.1.3, and 10.2.3.2 and Figure 4). Consequently, the extraction efficiency (surrogate recovery) cannot be evaluated. The NDMA-d6 spiked by the laboratory was used as an internal standard.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," October 1999.

U The analyte was analyzed for but was not detected above the reported sample quantitation limit.

L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

May 27, 2007

MEMORANDUM

SUBJECT: Review of Analytical Data

TO: Carl Brickner
Environmental Scientist
USEPA Region 9 Quality Assurance Office (PMD-3)
75 Hawthorne Street
San Francisco, CA 94105-3901

FROM: Jana Dawson
TechLaw, Inc.
14500 Avion Parkway, Suite 300
Chantilly, VA 20151-1101

Attached are comments resulting from review of the following analytical data:

SITE:	Omega Chemical OU2
CERCLIS ID NO.:	Not Available
CASE NO.:	R06S80
SDG NO(S).:	06254A
SAMPLE NO.:	10 Groundwater Samples and 2 Aqueous Trip Blanks
COLLECTION DATE(S):	September 8, 2006 and September 11, 2006
LABORATORY:	USEPA Region 9 Laboratory, Richmond CA
ANALYSES:	Volatile Organic Compound Analysis by USEPA Region 9 Laboratory Standard Operating Procedure 354 Rev. 7 and USEPA Method 524.2
REVIEWER(S):	Kimberly M. Gould Staff Consultant TechLaw, Inc.

If there are any questions, please contact Kimberly M. Gould via telephone at 304-830-1436 or via e-mail at kgould@techlawinc.com.
Attachment(s)

USEPA Project Officer Attention:	Rejected Data:	[ ] Yes	[X] No
	Estimated Data:	[X] Yes	[ ] No
	Sampling Issues:	[ ] Yes	[X] No

DATA VALIDATION REPORT

SITE:	Omega Chemical OU2
CERCLIS ID NO.:	Not Available
CASE NO.:	R06S80
SDG NO(S).:	06254A
LABORATORY:	USEPA Region 9 Laboratory, Richmond CA
REVIEWER(S):	Kimberly M. Gould Staff Consultant TechLaw, Inc.
DATE:	May 27, 2007

I. Case Summary

Sample Information:

Sample Numbers:	OC2-TB8-W-4-252, OC2-MW13B-W-0-253, OC2-MW12-W-0-254, OC2-MW1B-W-0-255, OC2-MW1A-W-0-256, OC2-MW1A-W-2-257, OC2-TB9-W-4-258, OC2-MW23D-W-0-259, OC2-MW23B-W-0-260, OC2-MW23C-W-0-261, OC2-MW23C-W-1-262, OC2-MW14-W-0-263
Concentration and Matrix:	Low/Groundwater
Analysis:	Volatile Organic Compound Analysis
SOW/SOP:	Volatile Organic Compound Analysis in Water by USEPA Region 9 Laboratory Standard Operating Procedure(s) 354, Rev. 7. Methods for the Determination of Organic Compounds in Drinking Water – Revision Four (EPA/600/4-90/020, August 1992)
Collection Dates:	September 8, 2006 and September 11, 2006
Sample Receipt Dates:	September 9, 2006 and September 12, 2006
Analysis Dates:	September 11, 2006, September 12, 2006, September 13, 2006, September 14, 2006 and September 21, 2006

Field QC Samples:

Trip Blank (TB1):	OC2-TB8-W-4-252
Trip Blank (TB2):	OC2-TB9-W-4-258
Field Blank (FB):	None
Equipment Blank (EB1):	None
Equipment Blank (EB2):	None
Equipment Blank (EB3):	None
Background Sample (BG):	None
Field Duplicate Pair (D1):	OC2-MW23C-W-0-261 and OC2-MW23C-W1-262
Field Duplicate Pair (D2):	None
Field Duplicate Pair (D3):	None

Method Blanks and Associated Samples:

B6I0044-BLK1 (9/11/06):	OC2-TB8-W-4-252,
B6I0054-BLK1 (9/12/06):	OC2-MW13B-W-0-253, OC2-MW12-W-0-254
B6I0050-BLK1 (9/12/06):	OC2-MW12-W-0-254RE, OC2-MW1B-W-0-255, OC2-MW1B-W-0-255RE, OC2-MW1A-W-0-256RE, OC2-MW1A-W-2-257
B6I0058-BLK1 (9/13/06):	OC2-MW12-W-0-254, OC2-MW1A-W-0-256, OC2-TB9-W-4-258, OC2-MW23D-W-0-259, OC2-MW23B-W-0-260, OC2-MW23B-W-0-260RE, OC2-MW23C-W-0-261, OC2-MW23C-W-0-261RE
B6I0062-BLK1 (9/14/06):	OC2-MW23C-W-1-262RE, OC2-MW14-W-0-263RE
B6I0089-BLK1 (9/21/06):	OC2-MW23C-W-1-262

Tables:
1A: Analytical Results with Qualifications
1B: Data Qualifier Definitions

USEPA Project Officer Attention:

Rejected Data:	No results were rejected in this SDG.
Estimated Data:	Results were qualified as estimated in this SDG.
Sampling Issues:	No sampling issues were associated with this SDG.

Additional Comments:
This data validation report was prepared in accordance with laboratory SOPs and by adhering to guidance provided in the "USEPA Contract Laboratory Program National Functional Guidelines

for Organic Data Review" (CLP NFGs) (EPA-540/R-99-008, October 1999).

The following method was also referenced:
Methods for the Determination of Organic Compounds in Drinking Water – Revision Four (EPA/600/4-90/020, August 1992)

II. Validation Summary

	Acceptable	Comment
Holding Times and Sample Preservation	Yes	
GC/MS Performance	Yes	
Calibration(s)	No	A, B, C
System Performance	Yes	
Laboratory Blank(s)	Yes	
Laboratory Control Sample(s)	No	D
Matrix Spike Sample(s)	No	E
Matrix Spike Duplicate Sample(s)	No	E
Compound Identification	Yes	F
Compound Quantitation	Yes	G
Field QC	Yes	H

III. Validity and Comments

A) Initial calibration percent relative standard deviation (%RSD) results for Acetone (25.15 %D), 2-Butanone (46 %D) and Bromoform (24.4 %D) were outside of the QC limits of 20 %RSD. The detected results for Acetone, 2-Butanone and Bromoform in all samples are qualified as estimated (J) and none-detected results are qualified (UJ).

B) Calibration verification percent deviation (%D) results for acetone (44.6 %D), dichlorodifluoromethane (-34 %D, 31.8 %D), vinyl chloride (33.7 %D), trichlorofluoromethane (31.1 %D), bromoform (37 %D, 44.8 %D), bromomethane (62.3 %D, 56.7 %D), 2-butanone (38.3 %D, -31.6 %D) and 2-hexanone (-37.2 %D) were outside of the QC limits of 30 %D.

C) Secondary source verification standard (SCV1) percent recovery (%R) results for acetone (68 %R) and dichlorodifluoromethane (59 %R) were outside of the QC limits of 70 – 130 %R.

D) The recoveries for the Laboratory control samples and qualification for the associated samples are listed below:

For B6I0044-BS1 (9/11/06): The recovery of Bromomethane (40%) was below the QC limit. Bromomethane was not detected in the associated samples. The non-detected result of Bromomethane in OC2-TB8-W-4-252 is qualified as (UJ).

For B6I0054-BS1 (9/12/06): The recoveries of Bromomethane (42%), 2-Butanone (57%), 1,2-Dibromoethane (126%), Bromoform (149%), Bromobenzene (124%), 1,1,2,2-Tetrachloroethane (129%) were outside the QC limits. No detected compounds were detected for the above compounds in the associated samples. The non-detected results for Bromomethane and 2-Butanone in samples OC2-MW13B-W-0-253, OC2-MW12-W-0-254 are qualified as (UJ) due to low bias. No qualification for 1,2-Dibromoethane, Bromoform, Bromobenzene, and 1,1,2,2-Tetrachloroethane are required.

For B6I0050-BS1 (9/12/06): The recoveries of Bromomethane (42%) and 2-Butanone (57%) were below the QC limits. Bromomethane and 2-Butanone were not detected in the associated samples. The non-detected results for Bromomethane and 2-Butanone in samples OC2-MW1B-W-0-255, OC2-MW1B-W-0-255RE, OC2-MW1A-W-0-256RE, OC2-MW1A-W-2-257 are qualified as estimated (UJ).

For B6I0062-BS1 (9/14/06): The recovery of 1,2,4-Trimethylbenzene (122%) was above the QC limit. 1,2,4-Trimethylbenzene was not detected in the associated samples and no qualification is required.

For B6I0089-BS1 (9/21/06): The recoveries of Bromomethane (45%) and Tetrachloroethene (138%) were outside the QC limits. Bromomethane and Tetrachloroethene were not detected in the associated samples. The non-detected result for Bromomethane in OC2-MW23C-W-1-262 is qualified as (UJ) and no qualification for Tetrachloroethene is required.

E) For OC2-MW23D-W-0-259MS/OC2-MW23D-W-0-259MSD, the recoveries for toluene (121 %R; QC limits 68 – 120 %R), Chlorobenzene (121 %R; QC limits 75 – 120 %R), 1,1,1,2-Tetrachloroethane (132 %R; QC limits 71 – 130 %R), Bromobenzene (132 %R & 126%; QC limits 77 – 120 %R), 1,1,2,2-Tetrachloroethane (134 %R; QC limits 70 – 130 %R), 1,3-Dichlorobenzene (132 %R; QC limits 77 – 120 %R), 1,4-Dichlorobenzene (132 %R; QC limits 76 – 120 %R) and 1,2-Dichlorobenzene (131 %R; QC limits 69 – 130 %R) were outside of the respective QC limits. All sample results were non-detects and therefore are not qualified based on the elevated recoveries.

Additionally, the relative percent difference (RPD) results for Styrene (133% RPD; QC

limits 20% RPD) were outside of the respective QC limits. The non-detected results for Styrene in all samples (except for the trip blanks, matrix spike/matrix spike duplicate do not apply to trip blanks) are qualified as estimated (UJ) as follows:

· Styrene in all field samples.

For OC2-MW13B-W-0-253MS/OC2-MW13B-W-0-253MSD, the recoveries for Bromobenzene (123 & 121%R; QC limits 77 – 120 %R), 1,3-Dichlorobenzene (122 %R; QC limits 77 – 120 %R) and 1,4-Dichlorobenzene (122 %R; QC limits 76 – 120 %R) were outside of the respective QC limits. The non-detected results are not affected by the elevated recoveries therefore no qualifications are required.

Toluene, Chlorobenzene, 1,1,1,2-tetrachloroethane, Bromobenzene, 1,1,2,2-Tetrachloroethane, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, 1,2-Dichlorobenzene were recovered above the acceptance limits in both sets of matrix spikes. However, these compounds were not detected in any of the samples and therefore are not qualified based on the elevated recoveries.

F) Dichlorotrifluoroethane was reported as a tentatively identified compound (TIC) with an estimated concentration of 5.3 ug/L in sample OC2-MW1B-W-0-255 and has been qualified as estimated (NJ) by the data reviewer. Dichlorotrifluoroethane (8.1 ug/L), tetrachlorodifluoroethane (1.8 ug/L) and dichlorofluoromethane (1.4 ug/L) were reported as tentatively identified compounds (TICs) in sample OC2-M23B-W-0-261 at the above-referenced concentrations and have been qualified as estimated (NJ) by the data reviewer. Dichlorotrifluoroethane (4.6 ug/L, 5.4 ug/L) and dichlorofluoromethane (1.5 ug/L) were reported as tentatively identified compounds (TICs) in sample OC2-M23C-W-1-262 at the above-referenced concentrations and have been qualified as estimated (NJ) by the data reviewer.

G) The following results are qualified as estimated (L) (see Table 1A) because they were below the Laboratory Quantitation Limits:

· Trichloroethene in samples OC2-MW13B-W-0-253 and OC2-MW23D-W-0-259.
· Chloromethane in sample OC2-MW12-W-0-254.
· Chloroform in samples OC2-MW12-W-0-254 and OC2-MW1A-W-2-257.
· 1,2-Dichloroethane in samples OC2-MW1B-W-0-255 and OC2-MW1A-W-0-256.
· cis-1,2-Dichloroethane in sample OC2-MW1A-W-0-256.
· Tetrachloroethene in sample OC2-MW1A-W-2-257.
· Dichloromethane, tert-Butyl methyl ether and 1,1,2-trichloroethane in sample OC2-MW23C-W-0-261.
· 1,1,1-Trichloroethane, benzene and 1,1,2-trichloroethane in sample OC2-MW23C-W-1-262.

H) Sample OC2-MW23C-W1-262 was collected as a duplicate of sample OC2-MW23C-W-0-261. All relative percent difference (RPD) results for compounds positively identified in both samples were outside of the QC limits of 20 RPD. However, poor duplicate sample RPD results are not basis alone to indicate qualifying the associated client sample results, therefore additional action was not required.

Table 1B. Data Qualifier Definitions

The following data qualifier definitions are based upon the "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (CLP NFGs) (EPA-540/R-99-008, October 1999) and have been modified to comply with EPA Region IX requirements.

No qualifiers	Indicate the data are acceptable both qualitatively and quantitatively.
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
L	Indicates results which fall below the Laboratory Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in analytical precision near the limits of detection.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

May 26, 2007

MEMORANDUM

SUBJECT: Review of Analytical Data
TO: Carl Brickner
Environmental Scientist
USEPA Region 9 Quality Assurance Office (PMD-3)
75 Hawthorne Street
San Francisco, CA 94105-3901

FROM: Jana Dawson
TechLaw, Inc.
14500 Avion Parkway, Suite 300
Chantilly, VA 20151-1101

Attached are comments resulting from review of the following analytical data:

SITE:	Omega Chemical OU2
CERCLIS ID NO.:	Not Available
CASE NO.:	R06S80
SDG NO(S).:	06254A
SAMPLE NO.:	9 Groundwater Samples
COLLECTION DATE(S):	September 8, 2006 and September 11, 2006
LABORATORY:	USEPA Region 9 Laboratory, Richmond CA
ANALYSES:	1,4-Dioxane (Semi-Volatile Organic Compound Analysis) by USEPA Region 9 Laboratory Standard Operating Procedure(s) 275, Rev. 2, 315 Rev. 4 and USEPA SW-846 Manual Method 8270C
REVIEWER(S):	Kimberly M. Gould Staff Consultant TechLaw, Inc.

If there are any questions, please contact Kimberly M. Gould via telephone at 304-830-1436 or via e-mail at kgould@techlawinc.com.
Attachment(s)

USEPA Project Officer Attention:	Rejected Data:	[ ] Yes	[X] No
	Estimated Data:	[X] Yes	[ ] No
	Sampling Issues:	[X] Yes	[ ] No

DATA VALIDATION REPORT

SITE:	Omega Chemical OU2
CERCLIS ID NO.:	Not Available
CASE NO.:	R06S80
SDG NO(S).:	06254A
LABORATORY:	USEPA Region 9 Laboratory, Richmond CA
REVIEWER(S):	Kimberly M. Gould Staff Consultant TechLaw, Inc.
DATE:	May 26, 2007

I. Case Summary

Sample Information:

Sample Numbers:	OC2-MW13M-W-0-253, OC2-MW-12-W-0-254, OC2-MW1B-W-0-255, OC2-MW1A-W-0-256, OC2-MW23D-W-0-259, OC2-MW23B-W-0-260, OC2-MW23C-W-0-261, OC2-MW23C-W-1-262, OC2-MW14-W-0-263
Concentration and Matrix:	Aqueous
Analysis:	Semi-Volatile Organic Compound Analysis
SOW/SOP:	1,4-Dioxane (Semi-Volatile Organic Compound Analysis) by USEPA Region 9 Laboratory Standard Operating Procedure(s) 275, Rev. 2, 315 Rev. 4 and USEPA Test Methods for Evaluating Solid Waste (SW-846) Revision 0, Method 8270C
Collection Dates:	September 8, 2006 and September 11, 2006
Sample Receipt Dates:	September 9, 2006 and September 12, 2006
Analysis Dates:	September 14, 2006 and September 15, 2006

Field QC Samples:

Field Blank (FB):	None
Equipment Blank (EB1):	None
Equipment Blank (EB2):	None
Equipment Blank (EB3):	None
Background Sample (BG):	None
Field Duplicate Pair (D1):	OC2-MW23C-W-0-261 and OC2-MW23C-W-1-262
Field Duplicate Pair (D2):	None
Field Duplicate Pair (D3):	None

Method Blanks and Associated Samples:

B6I0056-BLK1 (3/12/06): OC2-MW13M-W-0-253, OC2-MW-12-W-0-254, OC2-MW1B W-0-255, OC2-MW1A-W-0-256, OC2-MW23D-W-0-259, OC2-MW23B-W-0-260, OC2-MW23C-W-0-261, OC2-MW23C-W-1-262, OC2-MW14-W-0-263

Tables:

1A: Analytical Results with Qualifications

1B: Data Qualifier Definitions

USEPA Project Officer Attention:

Rejected Data: No rejected sample results were associated with this SDG.

Estimated Data: 1,4-Dioxane results were qualified as estimated in this SDG.

Sampling Issues: Minor temperature issues were associated with this SDG.

Additional Comments:

This data validation report was prepared in accordance with laboratory SOPs and by adhering to guidance provided in the "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (CLP NFGs) (EPA-540/R-99-008, October 1999).

The following methods were also referenced:

USEPA Test Methods for Evaluating Solid Waste (SW-846) Revision 0, 8270C

II. Validation Summary

	Acceptable	Comment
Holding Times and Sample Preservation	Yes	A
GC/MS Performance	Yes	
Calibration(s)	Yes	
System Performance	Yes	
Laboratory Blank(s)	Yes	
Laboratory Control Sample(s)	Yes	B
Matrix Spike Sample(s)	Yes	C
Matrix Spike Duplicate Sample(s)	Yes	C
Surrogates	Yes	D
Compound Identification	Yes	
Compound Quantitation	Yes	E
Field QC	Yes	F

III. Validity and Comments

A) Laboratory personnel noted that sample cooler temperatures were 1 ^{o}C and 1.1 ^{o}C upon receipt at the laboratory. Although protocol indicates that samples should be shipped and stored at 4° C (+/- 2° C), it is highly unlikely that the samples were adversely affected by a temperature non-compliance of approximately one degree. Therefore, the data validator did not qualify the data based upon this issue.

B) The laboratory did not use the laboratory control sample (LCS) quality control (QC) limits of 74 – 126 %R set forth in the applicable SOP, but utilized the QC limits of 59 - 130 %R when determining if recoveries were acceptable. All applicable LCS %R results were acceptable when compared to either set of QC limits.

C) The laboratory did not use the matrix spike (MS)/matrix spike duplicate (MSD) quality control (QC) limits of 54 - 141 %R set forth in the applicable SOP, but utilized the QC limits of 64 - 130 %R when determining if recoveries were acceptable. All MS/MSD %R results were acceptable when compared to either set of QC limits.

D) The laboratory did not use the surrogate spike quality control (QC) limits of 10 - 129 %R set forth in the applicable SOP, but utilized the QC limits of 18 - 130 %R when determining if sample surrogate spike recoveries were acceptable. All applicable sample surrogate spike %R results were acceptable when compared to either set of QC limits.

E) The following result is qualified as estimated (L) (see Table 1A) because results were below the Laboratory Quantitation Limits:

- 1,4-Dioxane in samples OC2-MW1A-W-0-256 and OC2-MW23B-W-0-260.

F) Sample OC2-MW23C-W-1-262 was collected as a duplicate of sample OC2-MW23C-W-0-261. The relative percent difference for 1,4-dioxane (8.6%) was within the QC limits of 20%.

Table 1B. Data Qualifier Definitions

The following data qualifier definitions are based upon the "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (CLP NFGs) (EPA-540/R-99-008, October 1999) and have been modified to comply with EPA Region IX requirements.

No qualifiers	Indicate the data are acceptable both qualitatively and quantitatively.
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
L	Indicates results which fall below the Laboratory Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in analytical precision near the limits of detection.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ICF International / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
Phone: (510) 412-2300 Fax: (510) 412-2304

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM) RF
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager DL
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105074 Amendment 3

DATE: August 16, 2007

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	None Provided
SDG No.:	IQC0291
Laboratory:	TestAmerica Analytical Testing Corp.
Analysis:	Hexavalent Chromium
Samples:	5 Groundwater Samples (see Case Summary)
Collection Dates:	March 2, 2007
Reviewer:	Stan Kott, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

SAMPLING ISSUES: [X] Yes [ ] No

Data Validation Report

Case No.: None Provided
SDG No.: IQC0291
Site: Omega Chem OU2
Laboratory: TestAmerica Analytical Testing Corp.
Reviewer: Stan Kott, ESAT/LDC
Date: August 16, 2007

I. CASE SUMMARY

Sample Information

Samples:	OC2-MW20C-W-0-481, OC2-MW20B-W-0-482, OC2-MW20A-W-0-483, OC2-MW9B-W-0-485, and OC2-MW9A-W-0-486
Concentration and Matrix:	Low Concentration Water
Analysis:	Hexavalent Chromium
SOW:	EPA Method 218.6
Collection Date:	March 2, 2007
Sample Receipt Date:	March 2, 2007
Preparation Date:	March 2, 2007
Analysis Date:	March 2, 2007

Field QC

Field Blanks (FB):	Not Provided
Equipment Blanks (EB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	Not Provided

Laboratory QC

Method Blanks:	7C02041-BLK1
Associated Samples:	Samples listed above
Matrix Spikes:	OC2-MW20C-W-0-481MS1
Matrix Spike Duplicates:	OC2-MW20C-W-0-481MSD1

Analysis: Hexavalent Chromium

Analyte	Sample Preparation Date	Analysis Date
Hexavalent Chromium	March 2, 2007	March 2, 2007

Sampling Issues

The Chain of Custody (COC) record form did not specify a sample to be used for laboratory quality control (QC). As a result, the laboratory selected sample OC2-MW20C-W-O-481. The effect on data quality is not known.

Additional Comments

As directed by the EPA TOM, a Tier 3 data review was performed. A Table 1A is not requested.

The method specifies the sample pH be adjusted to 9.0 to 9.5 prior to analysis; however, there is no method specific requirement to document the sample pH. The pH of the samples prior to analysis could not be evaluated. The effect on data quality is not known.

Definitions of data qualifiers are listed in Table 1B.

This report was prepared in accordance with the following documents:

- Region 9 Standard Operating Procedure 906, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Inorganic Data Packages*;
- *Methods For The Determination Of Metals In Environmental Samples*, EPA-600/4-91-010, June 1991; and
- *USEPA Method 218.6, Determination of Dissolved Hexavalent Chromium in Drinking Water, Groundwater, and Industrial Wastewater Effluents by Ion Chromatography*, Revision 3.3, May 1994.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Data Completeness	Yes	
2.	Sample Preservation and Holding Times	Yes	
3.	Calibration	Yes	
	a. Initial		
	b. Initial and Continuing Calibration Verification		
4.	Blanks	Yes	
5.	Laboratory Control Sample (LCS)	Yes	
6.	Duplicate Sample Analysis	Yes	
7.	Matrix Spike Sample Analysis	Yes	
8.	Field Duplicate Sample Analysis	N/A	
9.	Sample Quantitation	Yes	
10.	Overall Assessment	Yes	

N/A = Not Applicable

III. OVERALL ASSESSMENT OF DATA

All of the method requirements specified in the EPA Method 218.6 have been met. Reported results for hexavalent chromium in all of the samples were appropriately and correctly calculated.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR INORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared in accordance with the document *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004.

U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

ICF International / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
Phone: (510) 412-2300 Fax: (510) 412-2304

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM) RF
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105074 Amendment 3

DATE: August 16, 2007

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	None Provided
SDG No.:	IQC0783
Laboratory:	TestAmerica Analytical Testing Corp.
Analysis:	Hexavalent Chromium
Samples:	1 Groundwater Sample (see Case Summary)
Collection Dates:	March 7, 2007
Reviewer:	Stan Kott, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

SAMPLING ISSUES: [X] Yes [ ] No

Data Validation Report

Case No.: None Provided
SDG No.: IQC0783
Site: Omega Chem OU2
Laboratory: TestAmerica Analytical Testing Corp.
Reviewer: Stan Kott, ESAT/LDC
Date: August 16, 2007

I. CASE SUMMARY

Sample Information

Samples:	OC2-HPW6A-W-0-384
Concentration and Matrix:	Low Concentration Water
Analysis:	Hexavalent Chromium
SOW:	EPA Method 218.6
Collection Date:	March 7, 2007
Sample Receipt Date:	March 7, 2007
Preparation Date:	March 7, 2007
Analysis Date:	March 7, 2007

Field QC

Field Blanks (FB):	Not Provided
Equipment Blanks (EB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	Not Provided

Laboratory QC

Method Blanks:	7C07085-BLK1
Associated Samples:	Samples listed above
Matrix Spikes:	IQC0721-01MS1
Matrix Spike Duplicates:	IQC0721-01MSD1

Analysis: Hexavalent Chromium

Analyte	Sample Preparation Date	Analysis Date
Hexavalent Chromium	March 7, 2007	March 7, 2007

Sampling Issues

The Chain of Custody (COC) record form did not specify a sample to be used for laboratory quality control (QC). As a result, the laboratory selected sample IQC0721-01. The effect on data quality is not known.

Additional Comments

As directed by the EPA TOM, a Tier 3 data review was performed. A Table 1A is not requested.

The laboratory indicates the sample arrived at a temperature of 1.1°C. Although this temperature is below the 4.0°C method limit, no adverse effect on data quality is expected.

Page 7 of the data package indicates the sample was received on March 7, 2007 at 17:20 hours, but extracted on March 7, 2007 at 15:00 hours. This may be due to a possible typographical error in the preparation column on the Preparation Bench Sheet (page 38).

Definitions of data qualifiers are listed in Table 1B.

This report was prepared in accordance with the following documents:

- Region 9 Standard Operating Procedure 906, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Inorganic Data Packages*;
- *Methods For The Determination Of Metals In Environmental Samples*, EPA-600/4-91-010, June 1991; and
- *USEPA Method 218.6, Determination of Dissolved Hexavalent Chromium in Drinking Water, Groundwater, and Industrial Wastewater Effluents by Ion Chromatography*, Revision 3.3, May 1994.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Data Completeness	Yes	
2.	Sample Preservation and Holding Times	Yes	
3.	Calibration	Yes	
	a. Initial		
	b. Initial and Continuing Calibration Verification		
4.	Blanks	Yes	
5.	Laboratory Control Sample (LCS)	Yes	
6.	Duplicate Sample Analysis	Yes	
7.	Matrix Spike Sample Analysis	Yes	
8.	Field Duplicate Sample Analysis	N/A	
9.	Sample Quantitation	Yes	
10.	Overall Assessment	Yes	

N/A = Not Applicable

III. OVERALL ASSESSMENT OF DATA

All of the method requirements specified in the EPA Method 218.6 have been met. Reported results for hexavalent chromium in all of the samples were appropriately and correctly calculated.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR INORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared in accordance with the document *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004.

U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

ANALYTICAL RESULTS
Table 1A

Case No. : 36072 SDG No. : Y34K9
Site : Omega Chem OU2
Lab : DataChem Laboratories, Inc.
Reviewer : April Martinez, ESAT/LDC
Date : 05/11/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Trace Level Water Samples for Trace Volatiles

Station Location :	HPW1A (Y34K9)-EB			HPW1A (Y34L0)			HPW1B (Y34L1)			HPW2A (Y34L2)			HPW2B (Y34L3)			HP276A (Y34L4)		
Sample ID :	Y34K9		EB	Y34L0			Y34L1			Y34L2			Y34L3			Y34L4		
Collection Date :	3/12/2007			3/12/2007			3/12/2007			3/12/2007			3/12/2007			3/13/2007		
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			5.0		
Trace Volatiles	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Dichlorodifluoromethane	0.50U			0.50U			0.50U			0.50U			0.50U			2.5U		
Chloromethane	0.50U			0.50U			0.22L	J	B	0.50U			0.50U			2.5U		
Vinyl chloride	0.50U			0.50U			0.50U			0.15L	J	B	0.50U			0.84L	J	B
Bromomethane	0.50U			0.50U			0.50U			0.50U			0.50U			2.5U		
Chloroethane	0.50U			0.50U			0.50U			0.50U			0.50U			2.5U		
Trichlorofluoromethane	0.50U			0.50U			0.50U			0.50U			0.50U			2.5U		
1,1-Dichloroethene	0.50U			1.1			0.50U			21	J	E	0.62			12		
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50U			0.50U			0.50U			0.50U			0.50U			2.5U		
Acetone	5.0U	J	C	5.0U	J	C	5.0U	J	C	5.0U	J	C	5.0U	J	C	25U	J	C
Carbon disulfide	0.50U			0.50U			0.50U			0.50U			0.50U			2.5U		
Methyl acetate	0.50U	J	C	0.50U	J	C	0.50U	J	C	0.50U	J	C	0.50U	J	C	2.5U	J	C
Methylene chloride	0.50U			0.50U			0.50U			0.50U			0.50U			2.5U		
trans-1,2-Dichloroethene	0.50U			0.50U			0.50U			0.50U			0.50U			2.8		
Methyl tert-butyl ether	0.50U			0.50U			0.50U			0.50U			0.50U			2.5U		
1,1-Dichloroethane	0.50U			0.50U			0.50U			1.4			0.50U			3.9		
cis-1,2-Dichloroethene	0.50U			0.50U			0.50U			0.50U			0.50U			49		
2-Butanone	5.0U	J	C	5.0U	J	C	5.0U	J	C	5.0U	J	C	5.0U	J	C	25U	J	C
Bromochloromethane	0.50U			0.50U			0.50U			0.50U			0.50U			2.5U		
Chloroform	0.50U			0.50U			0.13L	J	B	0.27L	J	B	0.50U			2.5U		
1,1,1-Trichloroethane	0.50U			0.50U			0.50U			0.50U			0.50U			2.5U		
Cyclohexane	0.50U			0.50U	J	D	0.50U			0.50U			0.50U			600		F
Carbon tetrachloride	0.50U			0.50U			0.50U			0.50U			0.50U			2.5U		
Benzene	0.50U			0.50U			0.50U			0.50U			0.29L	J	B	1.9L	J	B
1,2-Dichloroethane	0.50U			0.50U			0.50U			0.50U			0.50U			3.1		
1,4-Dioxane	20U	R	A	20U	R	A	20U	R	A	20U	R	A	20U	R	A	100U	R	A
Trichloroethene	0.50U			9.5			0.59			23	J	E	0.66			2.5U		

ANALYTICAL RESULTS
Table 1A

Case No. : 36072 SDG No. : Y34K9
Site : Omega Chem OU2
Lab : DataChem Laboratories, Inc.
Reviewer : April Martinez, ESAT/LDC
Date : 05/11/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Trace Level Water Samples for Trace Volatiles

Station Location :	HPW1A (Y34K9)-EB			HPW1A (Y34L0)			HPW1B (Y34L1)			HPW2A (Y34L2)			HPW2B (Y34L3)			HP276A (Y34L4)		
Sample ID :	Y34K9		EB	Y34L0			Y34L1			Y34L2			Y34L3			Y34L4		
Collection Date :	3/12/2007			3/12/2007			3/12/2007			3/12/2007			3/12/2007			3/13/2007		
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			5.0		
Trace Volatiles	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Methylcyclohexane	0.50U			0.50U	J	D	0.50U			0.50U			0.50U			280		F
1,2-Dichloropropane	0.50U			0.50U	J	D	0.50U			0.50U			0.50U			2.5U		
Bromodichloromethane	0.50U			0.50U	J	D	0.50U			0.50U			0.50U			2.5U		
cis-1,3-Dichloropropene	0.50U			0.50U			0.50U			0.50U			0.50U			2.5U		
4-Methyl-2-Pentanone	5.0U			5.0U			5.0U			5.0U			5.0U			25U		
Toluene	0.50U			0.50U			0.50U			0.50U			0.26L	J	B	2.5U		
trans-1,3-Dichloropropene	0.50U			0.50U			0.50U			0.50U			0.50U			2.5U		
1,1,2-Trichloroethane	0.50U			0.50U			0.50U			0.50U			0.50U			2.5U		
Tetrachloroethene	0.50U			0.50			0.50U			1.6			0.35L	J	B	2.5U		
2-Hexanone	5.0U			5.0U			5.0U			5.0U			5.0U			25U		
Dibromochloromethane	0.50U			0.50U			0.50U			0.50U			0.50U			2.5U		
1,2-Dibromoethane	0.50U			0.50U			0.50U			0.50U			0.50U			2.5U		
Chlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			2.5U		
Ethylbenzene	0.50U			0.50U			0.50U			0.50U			0.50U			46		
o-Xylene	0.50U			0.50U			0.50U			0.50U			0.50U			2.5U		
m,p-Xylene	0.50U			0.50U			0.50U			0.50U			0.14L	J	B	2.5U		
Styrene	0.50U			0.50U			0.50U			0.50U			0.50U			2.5U		
Bromoform	0.50U			0.50U			0.50U			0.50U			0.50U			2.5U		
Isopropylbenzene	0.50U			0.50U			0.50U			0.50U			0.50U			82		
1,1,2,2-Tetrachloroethane	0.50U			0.50U			0.50U			0.50U			0.50U			2.5U		
1,3-Dichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			2.5U		
1,4-Dichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			2.5U		
1,2-Dichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			2.5U		
1,2-Dibromo-3-chloropropane	0.50U			0.50U			0.50U			0.50U			0.50U			2.5U		
1,2,4-Trichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			2.5U		
1,2,3-Trichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			2.5U		

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
CRQL - Contract Required Quantitation LImit
N/A - Not Applicable
NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample

ANALYTICAL RESULTS
Table 1A

Case No. : 36072 SDG No. : Y34K9
Site : Omega Chem OU2
Lab : DataChem Laboratories, Inc.
Reviewer : April Martinez, ESAT/LDC
Date : 05/11/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Trace Level Water Samples for Trace Volatiles

Station Location :	HP277A (Y34L5)			HP277A (Y34L6) - FD			TB (Y34L7)			HP28A (Y34L8)			HP279A (Y34L9)			HP279B (Y34M0)		
Sample ID :	Y34L5		D1	Y34L6		D1	Y34L7		TB	Y34L8			Y34L9			Y34M0		
Collection Date :	3/12/2007			3/13/2007			3/13/2007			3/13/2007			3/14/2007			3/14/2007		
Dilution Factor :	2.0			2.0			1.0			1.0			1.0			1.0		
Trace Volatiles	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Dichlorodifluoromethane	1.0U			1.0U			0.50U			0.50U			0.50U			0.30L	J	B
Chloromethane	1.0U			1.0U			0.50U			0.50U			0.50U			0.50U		
Vinyl chloride	0.46L	J	B	0.30L	J	B	0.50U			11			11			6.6		
Bromomethane	1.0U			1.0U			0.50U			0.50U			0.50U			0.50U		
Chloroethane	1.0U			1.0U			0.50U			0.50U			0.50U			0.50U		
Trichlorofluoromethane	1.3			1.2			0.50U			0.64			5.0			13		
1,1-Dichloroethene	150		F	120		F	0.50U			27		F	20			22		F
1,1,2-Trichloro-1,2,2-trifluoroethane	1.2			0.59L	J	B	0.50U			2.6			3.0			28		F
Acetone	10U	J	C	10U	J	C	5.0U	J	C	5.0U	J	C	5.0U	J	C	5.0U	J	C
Carbon disulfide	1.0U			1.0U			0.50U			0.50U			0.50U			0.50U		
Methyl acetate	1.0U	J	C	1.0U	J	C	0.50U	J	C	0.50U	J	C	0.50U	J	C	0.50U	J	C
Methylene chloride	1.0U			1.0U			0.50U			0.50U			0.50U			0.50U		
trans-1,2-Dichloroethene	0.93L	J	BD	0.53L	J	BD	0.50U			6.4	J	D	2.2	J	D	0.59	J	D
Methyl tert-butyl ether	1.0U			1.0U			0.50U			0.50U			0.50U			0.50U		
1,1-Dichloroethane	17			18			0.50U			2.0			3.4			3.5		
cis-1,2-Dichloroethene	75	J	DF	72	J	DF	0.50U			13	J	D	17	J	D	12	J	D
2-Butanone	10U	J	C	10U	J	C	5.0U	J	C	5.0U	J	C	5.0U	J	C	5.0U	J	C
Bromochloromethane	1.0U			1.0U			0.50U			0.50U			0.50U			0.50U		
Chloroform	1.2			1.2			0.50U			0.38L	J	B	0.36L	J	B	0.92		
1,1,1-Trichloroethane	0.56L	J	B	0.58L	J	B	0.50U			0.50U			0.50U			0.50U		
Cyclohexane	1.0U			1.0U			0.50U			1.8			1.9			2.4		
Carbon tetrachloride	1.0U			1.0U			0.50U			0.50U			0.50U			0.50U		
Benzene	1.0U			1.0U			0.50U			0.39L	J	B	0.60			0.33L	J	B
1,2-Dichloroethane	8.5			8.9			0.50U			1.1			0.50U			0.50U		
1,4-Dioxane	40U	R	A	40	J	CD	20U	R	A	20U	R	A	20U	R	A	20U	R	A
Trichloroethene	100		F	91		F	0.50U			74		F	68		F	79		F

ANALYTICAL RESULTS
Table 1A

Case No. : 36072 SDG No. : Y34K9
Site : Omega Chem OU2
Lab : DataChem Laboratories, Inc.
Reviewer : April Martinez, ESAT/LDC
Date : 05/11/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Trace Level Water Samples for Trace Volatiles

Station Location :	HP277A (Y34L5)			HP277A (Y34L6) - FD			TB (Y34L7)			HP28A (Y34L8)			HP279A (Y34L9)			HP279B (Y34M0)		
Sample ID :	Y34L5		D1	Y34L6		D1	Y34L7		TB	Y34L8			Y34L9			Y34M0		
Collection Date :	3/12/2007			3/13/2007			3/13/2007			3/13/2007			3/14/2007			3/14/2007		
Dilution Factor :	2.0			2.0			1.0			1.0			1.0			1.0		
Trace Volatiles	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Methylcyclohexane	1.0U			1.0U			0.50U			0.50U			0.50U			0.50U		
1,2-Dichloropropane	1.0U			1.0U			0.50U			0.50U			0.50U			0.50U		
Bromodichloromethane	1.0U			1.0U			0.50U			0.50U			0.50U			0.50U		
cis-1,3-Dichloropropene	1.0U			1.0U			0.50U			0.50U			0.50U			0.50U		
4-Methyl-2-Pentanone	10U			10U			5.0U			5.0U			5.0U			5.0U		
Toluene	1.0U			1.0U			0.50U			0.50U			0.50U			0.50U		
trans-1,3-Dichloropropene	1.0U			1.0U			0.50U			0.50U			0.50U			0.50U		
1,1,2-Trichloroethane	1.0U			1.0U			0.50U			0.50U			0.50U			0.50U		
Tetrachloroethene	260		F	210		F	0.50U			51		F	55		F	88		F
2-Hexanone	10U			10U			5.0U			5.0U			5.0U			5.0U		
Dibromochloromethane	1.0U			1.0U			0.50U			0.50U			0.50U			0.50U		
1,2-Dibromoethane	1.0U			1.0U			0.50U			0.50U			0.50U			0.50U		
Chlorobenzene	1.0U			1.0U			0.50U			0.50U			0.50U			0.50U		
Ethylbenzene	1.0U			1.0U			0.50U			0.50U			0.50U			0.50U		
o-Xylene	1.0U			1.0U			0.50U			0.50U			0.50U			0.50U		
m,p-Xylene	1.0U			1.0U			0.50U			0.50U			0.50U			0.50U		
Styrene	1.0U			1.0U			0.50U			0.50U			0.50U			0.50U		
Bromoform	1.0U			1.0U			0.50U			0.50U			0.50U			0.50U		
Isopropylbenzene	1.0U			1.0U			0.50U			0.50U			0.50U			0.50U		
1,1,2,2-Tetrachloroethane	1.0U			1.0U			0.50U	J	D	0.50U			0.50U			0.50U		
1,3-Dichlorobenzene	1.0U			1.0U			0.50U			0.50U			0.50U			0.50U		
1,4-Dichlorobenzene	1.0U			1.0U			0.50U			0.50U			0.50U			0.50U		
1,2-Dichlorobenzene	1.0U			1.0U			0.50U			0.50U			0.50U			0.50U		
1,2-Dibromo-3-chloropropane	1.0U			1.0U			0.50U	J	D	0.50U			0.50U			0.50U		
1,2,4-Trichlorobenzene	1.0U			1.0U			0.50U			0.50U			0.50U			0.50U		
1,2,3-Trichlorobenzene	1.0U			1.0U			0.50U			0.50U			0.50U			0.50U		

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
CRQL - Contract Required Quantitation LImit
N/A - Not Applicable
NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample

ANALYTICAL RESULTS
Table 1A

Case No. : 36072 SDG No. : Y34K9
Site : Omega Chem OU2
Lab : DataChem Laboratories, Inc.
Reviewer : April Martinez, ESAT/LDC
Date : 05/11/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Trace Level Water Samples for Trace Volatiles

Station Location :	HP2910A (Y34M1)			HP2911A (Y34M2)			HP2911A (Y34M3)-AB			HP2912A (Y34M4)			HP2912B (Y34M5)			HP2913A (Y34M6)		
Sample ID :	Y34M1			Y34M2			Y34M3		FB	Y34M4			Y34M5			Y34M6		
Collection Date :	3/14/2007			3/14/2007			3/14/2007			3/15/2007			3/15/2007			3/15/2007		
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
Trace Volatiles	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Dichlorodifluoromethane	0.50U			0.50U			0.50U			0.15L	J	B	0.22L	J	B	0.50U		
Chloromethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Vinyl chloride	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Bromomethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Chloroethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Trichlorofluoromethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,1-Dichloroethene	0.50U			0.15L	J	B	0.50U			0.24L	J	B	0.19L	J	B	2.9		
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Acetone	5.0U	J	C	5.0U	J	C	5.0U	J	C	5.0U	J	C	5.0U	J	C	5.0U	J	C
Carbon disulfide	0.50U			0.14L	J	B	0.50U			0.50U			0.50U			0.50U		
Methyl acetate	0.50U	J	C	0.50U	J	C	0.50U	J	C	0.50U	J	C	0.50U	J	C	0.50U	J	C
Methylene chloride	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
trans-1,2-Dichloroethene	0.50U			0.50U			0.50U			0.50U			0.50U			0.15L	J	B
Methyl tert-butyl ether	0.50U			0.50U			0.50U			0.50U			0.50U			0.96		
1,1-Dichloroethane	0.50U			0.50U			0.50U			0.21L	J	B	0.22L	J	B	0.57		
cis-1,2-Dichloroethene	0.50U			0.50U			0.50U			0.28L	J	B	0.49L	J	B	7.4		
2-Butanone	5.0U	J	C	5.0U	J	C	5.0U	J	C	5.0U	J	C	5.0U	J	C	5.0U	J	C
Bromochloromethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Chloroform	0.50U			0.38L	J	B	0.50U			0.15L	J	B	0.50U			0.54		
1,1,1-Trichloroethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Cyclohexane	0.50U			0.50U	J	D	0.50U			0.50U			0.50U			0.50U		
Carbon tetrachloride	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Benzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,2-Dichloroethane	0.50U			0.50U			0.50U			0.50U			0.50U			1.9		
1,4-Dioxane	20U	R	A	20U	R	A	20U	R	A	20U	R	A	20U	R	A	20U	R	A
Trichloroethene	0.50U			2.0			0.50U			19			18			17		

ANALYTICAL RESULTS
Table 1A

Case No. : 36072 SDG No. : Y34K9
Site : Omega Chem OU2
Lab : DataChem Laboratories, Inc.
Reviewer : April Martinez, ESAT/LDC
Date : 05/11/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Trace Level Water Samples for Trace Volatiles

Station Location :	HP2910A (Y34M1)			HP2911A (Y34M2)			HP2911A (Y34M3)-AB			HP2912A (Y34M4)			HP2912B (Y34M5)			HP2913A (Y34M6)		
Sample ID :	Y34M1			Y34M2			Y34M3		FB	Y34M4			Y34M5			Y34M6		
Collection Date :	3/14/2007			3/14/2007			3/14/2007			3/15/2007			3/15/2007			3/15/2007		
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
Trace Volatiles	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Methylcyclohexane	0.50U			0.50U	J	D	0.50U			0.50U			0.50U			0.50U		
1,2-Dichloropropane	0.50U			0.50U	J	D	0.50U			0.50U			0.50U			0.17L	J	B
Bromodichloromethane	0.50U			0.50U	J	D	0.50U			0.50U			0.50U			0.50U		
cis-1,3-Dichloropropene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
4-Methyl-2-Pentanone	5.0U			5.0U			5.0U			5.0U			5.0U			5.0U		
Toluene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
trans-1,3-Dichloropropene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,1,2-Trichloroethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Tetrachloroethene	0.50U			0.51			0.50U			3.6			4.6			20		
2-Hexanone	5.0U			5.0U			5.0U			5.0U			5.0U			5.0U		
Dibromochloromethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,2-Dibromoethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Chlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Ethylbenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
o-Xylene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
m,p-Xylene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Styrene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Bromoform	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Isopropylbenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,1,2,2-Tetrachloroethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,3-Dichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,4-Dichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,2-Dichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,2-Dibromo-3-chloropropane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,2,4-Trichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,2,3-Trichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
CRQL - Contract Required Quantitation LImit
N/A - Not Applicable
NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample

ANALYTICAL RESULTS
Table 1A

Case No. : 36072 SDG No. : Y34K9
Site : Omega Chem OU2
Lab : DataChem Laboratories, Inc.
Reviewer : April Martinez, ESAT/LDC
Date : 05/11/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Trace Level Water Samples for Trace Volatiles

Station Location :	HP2914A (Y34M7)			HP2914B (Y34M8)			Method Blank			Method Blank			Method Blank			Storage Blank		
Sample ID :	Y34M7			Y34M8			VBLKT1			VBLKT2			VBLKT3			VHBLKT1		
Collection Date :	3/15/2007			3/15/2007														
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
Trace Volatiles	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Dichlorodifluoromethane	0.50U			0.11L	J	B	0.50U			0.50U			0.50U			0.50U		
Chloromethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Vinyl chloride	0.50U			0.37L	J	B	0.50U			0.50U			0.50U			0.50U		
Bromomethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Chloroethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Trichlorofluoromethane	0.50U			0.31L	J	B	0.50U			0.50U			0.50U			0.50U		
1,1-Dichloroethene	1.4			44		F	0.50U			0.50U			0.50U			0.50U		
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50U			0.35L	J	B	0.50U			0.50U			0.50U			0.50U		
Acetone	5.0U	J	C	5.0U	J	C	5.0U	J	C	5.0U	J	C	5.0U	J	C	5.0U	J	C
Carbon disulfide	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Methyl acetate	0.50U	J	C	0.50U	J	C	0.50U	J	C	0.50U	J	C	0.50U	J	C	0.50U	J	C
Methylene chloride	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
trans-1,2-Dichloroethene	0.50U			1.7	J	D	0.50U			0.50U			0.50U			0.50U		
Methyl tert-butyl ether	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,1-Dichloroethane	0.34L	J	B	3.4			0.50U			0.50U			0.50U			0.50U		
cis-1,2-Dichloroethene	0.82			7.0	J	D	0.50U			0.50U			0.50U			0.50U		
2-Butanone	5.0U	J	C	5.0U	J	C	5.0U	J	C	5.0U	J	C	5.0U	J	C	5.0U	J	C
Bromochloromethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Chloroform	0.67			0.45L	J	B	0.50U			0.50U			0.50U			0.50U		
1,1,1-Trichloroethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Cyclohexane	0.50U			0.29L	J	B	0.50U			0.50U			0.50U			0.50U		
Carbon tetrachloride	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Benzene	0.50U			0.43L	J	B	0.50U			0.50U			0.50U			0.50U		
1,2-Dichloroethane	1.1			2.1			0.50U			0.50U			0.50U			0.50U		
1,4-Dioxane	20U	R	A	20U	R	A	20U	R	A	20U	R	A	20U	R	A	20U	R	A
Trichloroethene	7.7			82		F	0.50U			0.50U			0.50U			0.50U		

ANALYTICAL RESULTS
Table 1A

Case No. : 36072 SDG No. : Y34K9
Site : Omega Chem OU2
Lab : DataChem Laboratories, Inc.
Reviewer : April Martinez, ESAT/LDC
Date : 05/11/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Trace Level Water Samples for Trace Volatiles

Station Location :	HP2914A (Y34M7)			HP2914B (Y34M8)			Method Blank			Method Blank			Method Blank			Storage Blank		
Sample ID :	Y34M7			Y34M8			VBLKT1			VBLKT2			VBLKT3			VHBLKT1		
Collection Date :	3/15/2007			3/15/2007														
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
Trace Volatiles	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Methylcyclohexane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,2-Dichloropropane	0.50U			0.21L	J	B	0.50U			0.50U			0.50U			0.50U		
Bromodichloromethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
cis-1,3-Dichloropropene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
4-Methyl-2-Pentanone	5.0U			5.0U			5.0U			5.0U			5.0U			5.0U		
Toluene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
trans-1,3-Dichloropropene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,1,2-Trichloroethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Tetrachloroethene	3.5			110		F	0.50U			0.50U			0.50U			0.50U		
2-Hexanone	5.0U			5.0U			5.0U			5.0U			5.0U			5.0U		
Dibromochloromethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,2-Dibromoethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Chlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Ethylbenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
o-Xylene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
m,p-Xylene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Styrene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Bromoform	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Isopropylbenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,1,2,2-Tetrachloroethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,3-Dichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,4-Dichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,2-Dichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,2-Dibromo-3-chloropropane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,2,4-Trichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,2,3-Trichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
CRQL - Contract Required Quantitation LImit
N/A - Not Applicable
NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample

ANALYTICAL RESULTS
Table 1A

Case No. : 36072 SDG No. : Y34K9
Site : Omega Chem OU2
Lab : DataChem Laboratories, Inc.
Reviewer : April Martinez, ESAT/LDC
Date : 05/11/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Trace Level Water Samples for Trace Volatiles

Station Location :																		
Sample ID :	CRQL																	
Collection Date :																		
Dilution Factor :																		
Trace Volatiles	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Dichlorodifluoromethane	0.50																	
Chloromethane	0.50																	
Vinyl chloride	0.50																	
Bromomethane	0.50																	
Chloroethane	0.50																	
Trichlorofluoromethane	0.50																	
1,1-Dichloroethene	0.50																	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50																	
Acetone	5.0																	
Carbon disulfide	0.50																	
Methyl acetate	0.50																	
Methylene chloride	0.50																	
trans-1,2-Dichloroethene	0.50																	
Methyl tert-butyl ether	0.50																	
1,1-Dichloroethane	0.50																	
cis-1,2-Dichloroethene	0.50																	
2-Butanone	5.0																	
Bromochloromethane	0.50																	
Chloroform	0.50																	
1,1,1-Trichloroethane	0.50																	
Cyclohexane	0.50																	
Carbon tetrachloride	0.50																	
Benzene	0.50																	
1,2-Dichloroethane	0.50																	
1,4-Dioxane	20																	
Trichloroethene	0.50																	

ANALYTICAL RESULTS
Table 1A

Case No. : 36072 SDG No. : Y34K9
Site : Omega Chem OU2
Lab : DataChem Laboratories, Inc.
Reviewer : April Martinez, ESAT/LDC
Date : 05/11/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Trace Level Water Samples for Trace Volatiles

Station Location :																		
Sample ID :	CRQL																	
Collection Date :																		
Dilution Factor :																		
Trace Volatiles	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Methylcyclohexane	0.50																	
1,2-Dichloropropane	0.50																	
Bromodichloromethane	0.50																	
cis-1,3-Dichloropropene	0.50																	
4-Methyl-2-Pentanone	5.0																	
Toluene	0.50																	
trans-1,3-Dichloropropene	0.50																	
1,1,2-Trichloroethane	0.50																	
Tetrachloroethene	0.50																	
2-Hexanone	5.0																	
Dibromochloromethane	0.50																	
1,2-Dibromoethane	0.50																	
Chlorobenzene	0.50																	
Ethylbenzene	0.50																	
o-Xylene	0.50																	
m,p-Xylene	0.50																	
Styrene	0.50																	
Bromoform	0.50																	
Isopropylbenzene	0.50																	
1,1,2,2-Tetrachloroethane	0.50																	
1,3-Dichlorobenzene	0.50																	
1,4-Dichlorobenzene	0.50																	
1,2-Dichlorobenzene	0.50																	
1,2-Dibromo-3-chloropropane	0.50																	
1,2,4-Trichlorobenzene	0.50																	
1,2,3-Trichlorobenzene	0.50																	

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
CRQL - Contract Required Quantitation LImit
N/A - Not Applicable
NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample

ICF International / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
Phone: (510) 412-2300 Fax: (510) 412-2304

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM)
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105053

DATE: May 1, 2007

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	36072
SDG No.:	MY34K3
Laboratory:	Sentinel, Inc. (SENTIN)
Analysis:	Select CLP Dissolved Metals by ICP-AES
Samples:	10 Groundwater Samples (see Case Summary)
Collection Date:	March 8, 9, and 12, 2007
Reviewer:	Stan Kott, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

cc: Cynthia Gurley, CLP PO USEPA Region 4
Steve Remaley, CLP PO USEPA Region 9

CLP PO: [X] FYI [ ] Action

SAMPLING ISSUES: [X] Yes [ ] No

Data Validation Report

Case No.: 36072
SDG No.: MY34K3
Site: Omega Chem OU2
Laboratory: Sentinel, Inc. (SENTIN)
Reviewer: Stan Kott, ESAT/LDC
Date: May 1, 2007

I. CASE SUMMARY

Sample Information

Samples:	MY34K3, MY34K5 through MY34K9, and MY34L0 through MY34L3
Concentration and Matrix:	Low/Medium Concentration Groundwater
Analysis:	Select CLP Dissolved Metals by ICP-AES
SOW:	ILM05.3
Collection Date:	March 8, 9, and 12, 2007
Sample Receipt Date:	March 10 and 14, 2007
Preparation Date:	March 15, 2007
Analysis Date:	March 16, 2007

Field QC

Field Blanks (FB):	Not Provided
Equipment Blanks (EB):	MY34K9
Background Samples (BG):	Not Provided
Field Duplicates (D1):	MY34K5 and MY34K6

Laboratory QC

Method Blank & Associated Samples:	Preparation Blank-Water (PBW) and samples listed above
Matrix Spike:	MY34K5S
Duplicates:	MY34K5D
ICP Serial Dilution:	MY34K5L

Analysis: Select CLP Dissolved Metals by ICP-AES

Analyte	Sample Preparation and Digestion Date	Analysis Date
ICP-AES Metals	March 15, 2007	March 16, 2007
Percent Solids	Not Applicable	Not Applicable

CLP PO Action

None

Sampling Issues

1. The laboratory stated that a temperature indicator bottle was not provided in the cooler for samples MY34K9 through MY34L3. The laboratory used a laser thermometer to determine the cooler temperature to be -3.5ºC. This temperature exceeds the 4º±2ºC limit specified in the method; however, no adverse effect on data quality is expected.

2. The Traffic Report/Chain of Custody (TR/COC) record form did not specify a sample to be used for laboratory QC. The laboratory selected sample MY34K5 for QC analysis and notified the Sample Management Office (SMO). The effect on data quality is not known.

3. The laboratory indicated the samples were prepared at half the volume specified in the preparation method due to insufficient sample volume. The effect on data quality is not known.

Additional Comments

Samples for this SDG were analyzed for dissolved aluminum, calcium, iron, magnesium, potassium, and sodium by inductively coupled plasma-atomic emission spectroscopy (ICP-AES).

All method requirements specified in the EPA Contract Laboratory Program (CLP) Inorganic Statement of Work (SOW), except as noted, have been met.

Analytical results are listed in Table 1A with qualifications. Definitions of data qualifiers used in Table 1A are listed in Table 1B.

This report was prepared in accordance with the following documents:

- Region 9 Standard Operating Procedure 906, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Inorganic Data Packages*;

- *USEPA Contract Laboratory Program Statement of Work For Inorganic Analysis Multi-Media, Multi-Concentration* ILM05.3, March 2004; and

- *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Data Completeness	Yes	
2.	Sample Preservation and Holding Times	Yes	
3.	Calibration	Yes	
	a. Initial		
	b. Initial and Continuing Calibration Verification		
	c. CRQL Check Standard (CRI)		
4.	Blanks	No	B
5.	ICP Interference Check Sample (ICS)	Yes	
6.	Laboratory Control Sample (LCS)	Yes	
7.	Duplicate Sample Analysis	Yes	
8.	Matrix Spike Sample Analysis	Yes	
9.	ICP Serial Dilution Analysis	No	C
10.	ICP-MS Internal Standards	N/A	
11.	Field Duplicate Sample Analysis	No	D
12.	Sample Quantitation	Yes	A
13.	Overall Assessment	Yes	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. Results above the method detection limit (MDL) but below the contract required quantitation limit (CRQL) (denoted with an "L" qualifier) are estimated and flagged "J" in Table 1A.

Results above the MDL but below the CRQL are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of quantitation.

B. The following results are qualified as estimated high and flagged "J+" in Table 1A due to equipment blank contamination.

- Aluminum in samples MY34L0, MY34L2, and MY34L3

Sample results greater than the CRQL are qualified as estimated high (J+) unless the concentration of the analyte in the sample exceeds 5 times the amount in any associated blank.

The reported result of 253 µg/L for aluminum in equipment blank sample MY34K9 exceeds the 200 µg/L CRQL.

An equipment blank is reagent water that has been collected as a sample using decontaminated sampling equipment. The intent of an equipment blank is to monitor contamination introduced by the sampling activity, although any laboratory introduced contamination will also be present.

C. The following results are estimated and flagged "J" in Table 1A because an ICP serial dilution result is outside method QC limits.

- Calcium in all samples except MY34K9

The percent difference for the ICP serial dilution analysis of sample MY34K5L did not meet the 10% criterion for calcium as shown below.

Analyte	% Difference
Calcium	+12

Results reported for calcium in the samples listed above are considered quantitatively uncertain. Chemical and physical interferences may exist due to sample matrix effects. The result for calcium in the diluted sample was higher than the original. Therefore, the reported sample results for calcium may be biased low.

A five-fold dilution of the laboratory QC sample is performed in association with the ICP procedure to indicate whether interference exists due to sample matrix effects. If the analyte concentration is sufficiently high (minimally a factor of 50 above the MDL in the original sample), the five fold serial dilution must agree within 10% of the original results after correction for dilution.

D. Relative percent differences (RPDs) of 140 and 184 were obtained for aluminum and iron, respectively, in the analysis of field duplicate pair samples MY34K5 and MY34K6. Since sampling variability is included in the measurement, field duplicate results are expected to vary more than laboratory duplicates which have a ±20 RPD or ±CRQL criteria for precision. The effect on data quality is not known.

The analysis of field duplicate samples is a measure of both field and analytical precision. The imprecision in the results of the analysis of the field duplicate pair may be due to the sample matrix, high levels of solids in the sample, or poor sampling or laboratory technique.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR INORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared in accordance with the document *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004.

U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

ANALYTICAL RESULTS
Table 1A

Case No. : 36072 SDG No. : MY34K3
Site : OMEGA RECOVERY SERV.
Lab : SENTINEL, INC. (SENTIN)
Reviewer : Stan Kott, ESAT/LDC
Date : 5/01/2007

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Low/Medium Concentration Groundwater Samples for Select Dissolved Metals by ICP-AES

Station Location :	HPW6B			HPW5B			HPW5B1			HPW7B			HPW8B			HPW1A (Y34K9)-EB		
Sample ID :	MY34K3			MY34K5	D1		MY34K6	D1		MY34K7			MY34K8			MY34K9	EB	
Collection Date :	3/8/2007			3/9/2007			3/9/2007			3/9/2007			3/9/2007			3/12/2007		
PARAMETER	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
ALUMINUM	279			293		D	1670		D	351			276			253		B
CALCIUM	145000	J	C	99800	J	C	105000	J	C	152000	J	C	171000	J	C	420L	J	A
IRON	65.4L	J	A	51.4L	J	AD	1230		D	100L	J	A	77.7L	J	A	100U		
MAGNESIUM	97900			73300			77000			86700			65700			81.1L	J	A
POTASSIUM	16900			15300			15700			11700			15000			209L	J	A
SODIUM	163000			87700			92300			95600			77100			856L	J	A

Station Location :	HPW1A (Y34L0)			HPW1B (Y34L1)			HPW2A (Y34L2)			HPW2B (Y34L3)								
Sample ID :	MY34L0			MY34L1			MY34L2			MY34L3			MDL			CRQL		
Collection Date :	3/12/2007			3/12/2007			3/12/2007			3/12/2007								
PARAMETER	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
ALUMINUM	191L	J+	AB	8170			785	J+	B	356	J+	B	56.9			200		
CALCIUM	82700	J	C	81500	J	C	119000	J	C	67400	J	C	48.2			5000		
IRON	24.9L	J	A	12100			590			109			15.9			100		
MAGNESIUM	28300			24500			54800			25000			48.2			5000		
POTASSIUM	8720			6720			18100			20700			13.6			5000		
SODIUM	48400			41700			63800			49300			273			5000		

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
MDL - Method Detection Limit
N/A - Not Applicable NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample
CRQL - Contract Required Quantitation Limit

ICF International / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
Phone: (510) 412-2300 Fax: (510) 412-2304

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM)
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105053

DATE: May 1, 2007

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	36072
SDG No.:	MY34K5
Laboratory:	Sentinel, Inc. (SENTIN)
Analysis:	CLP Dissolved Metals by ICP-MS and Dissolved Mercury
Samples:	10 Groundwater Samples (see Case Summary)
Collection Date:	March 8, 9, and 12, 2007
Reviewer:	Stan Kott, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

cc: Cynthia Gurley, CLP PO USEPA Region 4
Steve Remaley, CLP PO USEPA Region 9

CLP PO: [X] FYI [ ] Action

SAMPLING ISSUES: [X] Yes [ ] No

Data Validation Report

Case No.: 36072
SDG No.: MY34K5
Site: Omega Chem OU2
Laboratory: Sentinel, Inc. (SENTIN)
Reviewer: Stan Kott, ESAT/LDC
Date: May 1, 2007

I. CASE SUMMARY

Sample Information

Samples:	MY34K3, MY34K5 through MY34K9, and MY34L0 through MY34L3
Concentration and Matrix:	Low/Medium Concentration Groundwater
Analysis:	CLP Dissolved Metals by ICP-MS and Dissolved Mercury
SOW:	ILM05.3
Collection Date:	March 8, 9, and 12, 2007
Sample Receipt Date:	March 10 and 14, 2007
Preparation Date:	March 15, 2007
Analysis Date:	March 16, 19, and 21, 2007

Field QC

Field Blanks (FB):	Not Provided
Equipment Blanks (EB):	MY34K9
Background Samples (BG):	Not Provided
Field Duplicates (D1):	MY34K5 and MY34K6

Laboratory QC

Method Blank & Associated Samples:	Preparation Blank-Water (PBW) and samples listed above
Matrix Spike:	MY34K3S
Duplicates:	MY34K3D
ICP Serial Dilution:	MY34K3L
Analysis:	CLP Dissolved Metals by ICP-MS and Dissolved Mercury

Analyte	Sample Preparation and Digestion Date	Analysis Date
ICP-MS Metals	March 15, 2007	March 19 and 21, 2007
Mercury	March 15, 2007	March 16, 2007
Percent Solids	Not Applicable	Not Applicable

CLP PO Action

None

Sampling Issues

1. The laboratory stated that a temperature indicator bottle was not provided in the cooler for samples MY34K9 through MY34L3. The laboratory used a laser thermometer to determine the cooler temperature to be -3.5ºC. This temperature exceeds the 4º±2ºC limit specified in the method; however, no adverse effect on data quality is expected.

2. The Traffic Report/Chain of Custody (TR/COC) record form did not specify a sample to be used for laboratory QC. The laboratory selected sample MY34K3 for QC analysis and notified the Sample Management Office (SMO). The effect on data quality is not known.

3. The laboratory indicated the samples were prepared at half the volumes specified in the preparation methods due to insufficient sample volume. The effect on data quality is not known.

4. The equipment blank field quality control (QC) sample MY34K9 was not sent blind to the laboratory. The effect on data quality is not known.

Additional Comments

All method requirements specified in the EPA Contract Laboratory Program (CLP) Inorganic Statement of Work (SOW), except as noted, have been met.

Analytical results are listed in Table 1A with qualifications. Definitions of data qualifiers used in Table 1A are listed in Table 1B.

This report was prepared in accordance with the following documents:

- Region 9 Standard Operating Procedure 906, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Inorganic Data Packages*;

- *USEPA Contract Laboratory Program Statement of Work For Inorganic Analysis Multi-Media, Multi-Concentration* ILM05.3, March 2004; and

- *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Data Completeness	Yes	
2.	Sample Preservation and Holding Times	Yes	
3.	Calibration	Yes	
	a. Initial		
	b. Initial and Continuing Calibration Verification		
	c. CRQL Check Standard (CRI)		
	d. ICP-MS Tuning Analysis		
4.	Blanks	No	B,C
5.	ICP Interference Check Sample (ICS)	Yes	
6.	Laboratory Control Sample (LCS)	Yes	
7.	Duplicate Sample Analysis	Yes	
8.	Matrix Spike Sample Analysis	Yes	
9.	ICP Serial Dilution Analysis	Yes	
10.	ICP-MS Internal Standards	Yes	
11.	Field Duplicate Sample Analysis	No	D
12.	Sample Quantitation	Yes	A
13.	Overall Assessment	Yes	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. Results above the method detection limit (MDL) but below the contract required quantitation limit (CRQL) (denoted with an "L" qualifier) are estimated and flagged "J" in Table 1A.

Results above the MDL but below the CRQL are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of quantitation.

B. The following results are qualified as estimated high and flagged "J+" in Table 1A due to equipment blank contamination.

- Chromium and zinc in samples MY34L0, MY34L2, and MY34L3

Sample results greater than the CRQL are qualified as estimated high (J+) unless the concentration of the analyte in the sample exceeds 5 times the amount in any associated blank.

The reported results of 4.3 µg/L for chromium and 3.3 µg/L for zinc in equipment blank sample MY34K9 exceed the respective 2.0 µg/L CRQLs.

An equipment blank is reagent water that has been collected as a sample using decontaminated sampling equipment. The intent of an equipment blank is to monitor contamination introduced by the sampling activity, although any laboratory introduced contamination will also be present.

C. The following results are reported as non-detected (U) in Table 1A due to low level preparation blank (PBW) and continuing calibration blank (CCB) contamination.

- Antimony in samples MY34L0, MY34L1, and MY34L2
- Barium in sample MY34K9
- Cadmium in samples MY34L1 and MY34L3
- Mercury in all samples
- Silver in samples MY34K6 and MY34L1
- Vanadium in sample MY34L0

Analyte amounts greater than the MDL but less than the CRQL were found in several blanks at the concentrations listed below.

Analyte	Blank	Concentration
Antimony	CCB3	0.16 µg/L
Barium	PBW	0.74 µg/L
Cadmium	CCB3	0.32 µg/L
Mercury	CCB2 and CCB3	0.10 µg/L
Silver	CCB2	0.15 µg/L
Vanadium	CCB3	0.12 µg/L

Affected sample results greater than or equal to the MDL but less than the CRQL are reported as non-detected (U) at the respective CRQL.

A continuing calibration blank (CCB) consists of deionized, distilled water and reagents. It is analyzed after the continuing calibration verification (CCV) standard, at a frequency of every 10 samples and at the end of the analytical run to monitor analyte carry-over.

A preparation blank is an analytical control that contains distilled, deionized water, or baked sand for solid matrices, and reagents, which is carried through the entire analytical procedure. The preparation blank is used to determine the level of contamination introduced by the laboratory during preparation and analysis.

D. Several relative percent differences (RPDs) and absolute differences were obtained in the analysis of field duplicate pair samples MY34K5 and MY34K6 and are listed below.

Analyte	Field Duplicate RPD/Absolute Difference	CRQL
Chromium	79 RPD	N/A
Cobalt	2.1 µg/L	1.0 µg/L
Copper	7.3 µg/L	2.0 µg/L
Nickel	29 RPD	N/A
Vanadium	147 RPD	N/A
Zinc	80 RPD	N/A

Since sampling variability is included in the measurement, field duplicate results are expected to vary more than laboratory duplicates which have a ±20 RPD or ±CRQL absolute difference criteria for precision. The effect on data quality is not known.

In addition, arsenic and lead were detected in the field duplicate sample MY34K6 at concentrations of 2.7 µg/L and 2.2 µg/L, respectively. Arsenic and lead were not detected in the associated field duplicate sample MY34K5. A RPD is not calculated. Since sampling variability is included in the measurement, field duplicate results are expected to vary more than laboratory duplicates which have a ±20 RPD or ±CRQL criteria for precision. The effect on data quality is not known.

The analysis of field duplicate samples is a measure of both field and analytical precision. The imprecision in the results of the analysis of the field duplicate pair may be due to the sample matrix, sample non-homogeneity, or poor sampling or laboratory technique.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR INORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared in accordance with the document *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004.

U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

ANALYTICAL RESULTS
Table 1A

Case No. : 36072 SDG No. : MY34K5
Site : OMEGA RECOVERY SERV.
Lab : SENTINEL, INC. (SENTIN)
Reviewer : Stan Kott, ESAT/LDC
Date : 5/01/2007

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Low/Medium Concentration Groundwater Samples for Dissolved Metals by ICP-MS and Dissolved Mercury

Station Location :	HPW6B			HPW5B			HPW5B1			HPW7B			HPW8B			HPW1A (Y34K9) -EB		
Sample ID :	MY34K3			MY34K5	D1		MY34K6	D1		MY34K7			MY34K8			MY34K9	EB	
Collection Date :	3/8/2007			3/9/2007			3/9/2007			3/9/2007			3/9/2007			3/12/2007		
PARAMETER	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
ANTIMONY	1.1L	J	A	0.87L	J	A	0.94L	J	A	0.82L	J	A	0.71L	J	A	2.0U		
ARSENIC	0.34L	J	A	1.0U		D	2.7		D	0.66L	J	A	0.47L	J	A	1.0U		
BARIUM	78.2			222			242			352			141			10.0U		C
BERYLLIUM	1.0U			1.0U			0.14L	J	A	1.0U			1.0U			1.0U		
CADMIUM	1.0U			1.0U			1.0U			1.0U			1.0U			1.0U		
CHROMIUM	3.2			4.4		D	10.1		D	3.7			4.0			4.3		B
COBALT	3.9			2.4		D	4.5		D	3.0			2.5			1.0U		
COPPER	3.8			0.89L	J	AD	8.2		D	13.0			2.8			2.0U		
LEAD	0.17L	J	A	1.0U		D	2.2		D	0.21L	J	A	0.15L	J	A	1.0U		
MANGANESE	712			640			654			540			336			0.26L	J	A
MERCURY	0.20U		C	0.20U		C	0.20U		C	0.20U		C	0.20U		C	0.20U		C
NICKEL	22.7			10.5		D	14.1		D	24.5			20.1			1.0U		
SELENIUM	3.5L	J	A	3.0L	J	A	2.1L	J	A	1.9L	J	A	8.5			5.0U		
SILVER	1.0U			1.0U			1.0U		C	1.0U			1.0U			1.0U		
THALLIUM	1.0U			1.0U			1.0U			1.0U			1.0U			1.0U		
VANADIUM	0.90L	J	A	1.6		D	10.5		D	0.68L	J	A	1.0U			1.0U		
ZINC	5.1			7.0		D	16.3		D	6.0			4.1			3.3		B

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
MDL - Method Detection Limit
N/A - Not Applicable NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample
CRQL - Contract Required Quantitation Limit

ANALYTICAL RESULTS
Table 1A

Case No. : 36072 SDG No. : MY34K5
Site : OMEGA RECOVERY SERV.
Lab : SENTINEL, INC. (SENTIN)
Reviewer : Stan Kott, ESAT/LDC
Date : 5/01/2007

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Low/Medium Concentration Groundwater Samples for Dissolved Metals by ICP-MS and Dissolved Mercury

Station Location :	HPW1A (Y34L0)			HPW1B (Y34L1)			HPW2A (Y34L2)			HPW2B (Y34L3)			MDL			CRQL		
Sample ID :	MY34L0			MY34L1			MY34L2			MY34L3								
Collection Date :	3/12/2007			3/12/2007			3/12/2007			3/12/2007								
PARAMETER	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
ANTIMONY	2.0U		C	2.0U		C	2.0U		C	1.6L	J	A	0.16			2.0		
ARSENIC	0.54L	J	A	9.9			1.3			2.1			0.22			1.0		
BARIUM	219			410			137			237			0.22			10.0		
BERYLLIUM	1.0U			0.72L	J	A	1.0U			1.0U			0.088			1.0		
CADMIUM	1.0U			1.0U		C	1.0U			1.0U		C	0.38			1.0		
CHROMIUM	4.4	J+	B	38.3			5.7	J+	B	2.9	J+	B	0.57			2.0		
COBALT	1.3			17.0			2.2			0.77L	J	A	0.043			1.0		
COPPER	0.65L	J	A	30.0			2.4			4.3			0.27			2.0		
LEAD	0.19L	J	A	10.0			0.68L	J	A	3.2			0.14			1.0		
MANGANESE	212			1330			236			154			0.15			1.0		
MERCURY	0.20U		C	0.20U		C	0.20U		C	0.20U		C	0.030			0.20		
NICKEL	4.4			33.8			7.0			8.7			0.17			1.0		
SELENIUM	0.51L	J	A	3.2L	J	A	1.6L	J	A	5.0U			0.44			5.0		
SILVER	1.0U			1.0U		C	1.0U			1.0U			0.048			1.0		
THALLIUM	1.0U			1.0U			1.0U			1.0U			0.31			1.0		
VANADIUM	1.0U		C	51.9			2.9			3.6			0.45			1.0		
ZINC	2.4	J+	B	66.4			11.4	J+	B	10.3	J+	B	0.64			2.0		

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
MDL - Method Detection Limit
N/A - Not Applicable NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample
CRQL - Contract Required Quantitation Limit

ICF international / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
Phone: (510) 412-2300; Fax: (510) 412-2304.

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM)
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105053

DATE: May 3, 2007

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID NO.:	CAD042245001
Case No.:	36072
SDG No.:	Y34K9
Laboratory:	DataChem Laboratories, Inc. (DATAC)
Analysis:	1,4-Dioxane, 1,2-Dibromoethane , and 1,2-Dibromo-3-chloropropane (Trace SIM Volatiles)
Samples:	19 Ground Water Samples (see Case Summary)
Collection Date:	March 12 through 15, 2007
Reviewer:	Santiago Lee, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

cc: Carol Beard, CLP PO USEPA Region 8
Steve Remaley, CLP PO USEPA Region 9

CLP PO: [X] Attention [X] Action

SAMPLING ISSUES: [X] Yes [ ] No

00105053-7829/36072/Y34K9-14D

Data Validation Report

Case No.: 36072
SDG No.: Y34K9
Site: Omega Chem OU2
Laboratory: DataChem Laboratories, Inc.
Reviewer: Santiago Lee, ESAT/LDC
Date: May 3, 2007

I. CASE SUMMARY

Sample Information

Samples:	Y34K9 through Y34L2 and Y34L4 through Y34M8
Concentration and Matrix:	Low/Medium Concentration Water
Analysis:	1,4-Dioxane, 1,2-Dibromoethane , and 1,2-Dibromo-3-chloropropane by Trace Volatiles Selective Ion Monitoring (SIM)
SOW:	SOM01.1
Collection Date:	March 12 through 15, 2007
Sample Receipt Date:	March 14 and 16, 2007
Extraction Date:	Not Applicable
Analysis Date:	March 19 and 20, 2007

Field QC

Field Blanks (FB):	Y34M3
Equipment Blanks (EB):	Y34K9
Trip Blank (TB):	Y34L7
Background Samples (BG):	Not Provided
Field Duplicates (D1):	Y34L5 and Y34L6

Laboratory QC

Method Blanks & Associated Samples:

VBLKS1:	All samples and storage blank VHBLKS1

Tables

1A:	Analytical Results with Qualifications
1B:	Data Qualifier Definitions for Organic Data Review
2:	Calibration Summary

CLP PO Action

Nondetected results for 1,4-dioxane are qualified as rejected (R) due to very low response factors (<0.01) in initial and continuing calibrations (see Comment A).

CLP PO Attention

1. Detected results for 1,4-dioxane are qualified as estimated (J) due to very low response factors (<0.01) in initial and continuing calibrations (see Comment B).

2. Detected results for 1,4-dioxane in samples Y34L2, Y34L4, Y34L5, Y34L8 through Y34M2, Y34M4, and Y34M8 are qualified as estimated (J) due to high deuterated monitoring compound (DMC) recoveries (see Comment D).

3. Results for all analytes in sample Y34M3 are qualified as estimated (J) due to high internal standard (IS) areas (see Comment E).

Sampling Issues

1. The laboratory indicated on the sample log-in sheet that the temperature indicator bottle was absent from the cooler containing samples Y34K9 through Y34L8 (see p. 853 in data package). The SDG Narrative did not indicate how the cooler temperature was recorded.

2. The SDG Narrative (attached, p. 4 in data package) indicated that the pH of samples Y34L0, Y34L2, Y34M0, and Y34M1 were 4, 5, 3, and 3, respectively.

3. The sampler signature is missing on the traffic report & chain of custody record (TR/COCs) for sample Y34L8 (see attached TR/COC, p. 9 in data package).

4. Equipment blank, field duplicate, and trip blank were not submitted "blind" to the laboratory since "EB", "FD", and "TB", respectively, were used as part of station locations on traffic report & chain of custody records (attached, p. 4 through 6 in data package).

Additional Comments

The laboratory performed manual integrations on calibrations due to incorrect auto integration. Manual integrations were reviewed and found to be satisfactory and in compliance with proper integration techniques.

This report was prepared in accordance with the following documents:

- ESAT Region 9 Standard Operating Procedure 901, *Guidelines for Data Review of Contract Laboratory Program Analytical Services Volatile and Semivolatile Data Packages*;

- *USEPA Contract Laboratory Program Statement of Work for Organics Analysis, Multi-Media, Multi-Concentration*, SOM01.1, May 2005; and

- *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review*, January 2005.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Holding Time/Preservation	Yes	
2.	GC/MS Tune/GC Performance	Yes	
3.	Initial Calibration	No	A, B
4.	Continuing Calibration	No	A, B
5.	Laboratory Blanks	Yes	
6.	Field Blanks	Yes	
7.	Deuterated Monitoring Compounds	No	D
8.	Matrix Spike/Matrix Spike Duplicates	N/A	
9.	Laboratory Control Samples/Duplicates	N/A	
10.	Internal Standards	No	E
11.	Compound Identification	Yes	
12.	Compound Quantitation	Yes	C
13.	System Performance	Yes	
14.	Field Duplicate Sample Analysis	Yes	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. Nondetected results for the following analyte are qualified as rejected due to very low relative response factors (RRFs) in initial and continuing calibrations and are flagged "R" in Table 1A.

- 1,4-Dioxane in samples Y33K9 through Y34L1, Y34L7, and Y34M3, method blank VBLKS1, and storage blank VHBLKS1

RRFs below 0.01 were reported for 1,4-dioxane in initial and continuing calibrations (see Table 2). Since results are nondetected, false negatives may exist.

DMC 1,4-dioxane-d8 also had RRFs below 0.01 in initial and continuing calibrations (see Table 2).

The RRF evaluates instrument sensitivity and is used in the quantitation of target analytes.

B. Detected results for the following analyte are qualified as estimated due to very low relative response factors (RRFs) in initial and continuing calibrations and are flagged "J" in Table 1A.

- 1,4-Dioxane in samples Y34L2, Y34L4 through Y34L6, Y34L8 through Y34M2, and Y34M4 through Y34M8

RRFs below 0.01 were reported for 1,4-dioxane in initial and continuing calibrations (see Table 2). Detected results may be biased low.

DMC 1,4-dioxane-d8 also had RRFs below 0.01 in initial and continuing calibrations (see Table 2).

C. The following results, denoted with an "L" qualifier, are estimated and flagged "J" in Table 1A.

- All detected results below the contract required quantitation limits

Results below the contract required quantitation limits (CRQLs) are considered to be qualitatively acceptable, but quantitatively unreliable, due to the uncertainty in analytical precision near the limit of detection.

D. Results for the following analyte are qualified as estimated due to DMC recoveries above QC limits and are flagged "J" in Table 1A.

{1,4-Dioxane-d8}

- 1,4-Dioxane in samples Y34L2, Y34L4, Y34L5, Y34L8 through Y34M2, Y34M4, and Y34M8

DMC recoveries above QC limits are shown below.

Sample	DMC	% Recovery	QC Limits
Y34L4	1,2-Dichloroethane-d4	291	78-129
Y34L0	1,4-Dioxane-d8	171	50-150
Y34L1	1,4-Dioxane-d8	198	50-150
Y34L2	1,4-Dioxane-d8	277	50-150
Y34L4	1,4-Dioxane-d8	842	50-150
Y34L5	1,4-Dioxane-d8	253	50-150
Y34L8	1,4-Dioxane-d8	269	50-150
Y34L9	1,4-Dioxane-d8	158	50-150
Y34M0	1,4-Dioxane-d8	160	50-150
Y34M1	1,4-Dioxane-d8	311	50-150
Y34M2	1,4-Dioxane-d8	182	50-150
Y34M4	1,4-Dioxane-d8	190	50-150
Y34M8	1,4-Dioxane-d8	173	50-150
Y34M1	1,1,2,2-Tetrachloroethane-d2	126	73-125

Qualified results may be biased high. For DMC recoveries that exceeded QC limits, only detected results for associated analytes are qualified. Recoveries for DMCs 1,2-dichloroethane-d4 and 1,1,2,2-tetrachloroethane-d2 exceeded the QC limits but associated results were not qualified because they were nondetects. The samples were not reanalyzed.

Surrogates (e.g., deuterated monitoring compounds (DMCs)) are organic compounds which are similar to the target analytes in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. All samples are spiked with DMCs prior to purging. DMCs

provide information about both the laboratory performance on individual samples and the possible effects of the sample matrix on the analytical results.

E. Results for the following analytes are qualified as estimated due to high internal standard (IS) areas and are flagged "J" in Table 1A.

- All analytes in sample Y34M3

IS areas outside QC limits are shown below.

Sample	Internal Standard	Area	QC Limits
Y34M3	Chlorobenzene-d5	1,360,026	536,554-1,251,958
Y34M3	1,4-Difluorobenzene	1,715,102	712,085-1,661,531
Y34M3	1,4-Dichlorobenzene-d4	614,069	257,449-600,715

Results for the affected analytes are considered quantitatively questionable. Where results are nondetected, false negatives may exist. The samples were not reanalyzed.

Data users should note that the result for 1,4-dioxane in sample Y34M3 was qualified as rejected (see Comment A).

Internal standards, introduced into every calibration standard, blank, sample, and QC sample, monitor changes in analyte response due to matrix effects and fluctuations in instrument sensitivity throughout the analytical sequence. Internal standards are used to quantitate the concentration of target analytes and surrogate standards.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review," January 2005.

U The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method.

L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

J The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the CRQL).

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.

R The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.

Table 2
Calibration Summary

Case No.: 36072
SDG No.: Y34K9
Site: Omega Chem OU2
Laboratory: DataChem Laboratories, Inc.
Reviewer: Santiago Lee, ESAT/LDC
Date: May 3, 2007

RELATIVE RESPONSE FACTORS

	$\overline{RRF}$	RRF	RRF
Analysis date:	12/19/06	03/19/07	03/20/07
Analysis time:	16:21	15:00	02:26
GC/MS I.D.:	V2	V2	V2
Analyte	Init.	Cont.	Cont.
1,4-Dioxane	0.001	0.001	0.001
1,4-Dioxane-d8	0.001	0.001	0.001

ASSOCIATED SAMPLES AND METHOD BLANKS

Initial, 12/19/07: All samples, method blank VBLKS1, and storage blank VHBLKS1
Cont., 03/19/07 (16:21): All samples, method blank VBLKS1, and storage blank VHBLKS1
Cont., 03/20/07 (02:26): All samples, method blank VBLKS1, and storage blank VHBLKS1.

ANALYTICAL RESULTS
Table 1A

Case No. : 36072 SDG No. : Y34K9
Site : Omega Chem OU2
Lab : DataChem Laboratories, Inc.
Reviewer : Santiago Lee, ESAT/LDC
Date : 05/03/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Trace Level Water Samples for Volatiles SIM

Station Location :	HPW1A (Y34K9)-EB			HPW1A (Y34L0)			HPW1B (Y34L1)			HPW2A (Y34L2)			HP276A (Y34L4)			HP277A (Y34L5)		
Sample ID :	Y34K9		EB	Y34L0			Y34L1			Y34L2			Y34L4			Y34L5		D1
Collection Date :	3/12/2007			3/12/2007			3/12/2007			3/12/2007			3/13/2007			3/12/2007		
Dilution Factor :	1.0			1.0			1.0			1.0			5.0			2.0		
Volatiles SIM	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
1,4-Dioxane	2.0U	R	A	2.0U	R	A	2.0U	R	A	1.1L	J	BCD	32	J	BD	45	J	BD
1,2-Dibromoethane	0.050U			0.050U			0.050U			0.050U			0.25U			0.10U		
1,2-Dibromo-3-chloropropane	0.050U			0.050U			0.050U			0.050U			0.25U			0.10U		

Station Location :	HP277A (Y34L6) - FD			TB (Y34L7)			HP28A (Y34L8)			HP279A (Y34L9)			HP279B (Y34M0)			HP2910A (Y34M1)		
Sample ID :	Y34L6		D1	Y34L7		TB	Y34L8			Y34L9			Y34M0			Y34M1		
Collection Date :	3/13/2007			3/13/2007			3/13/2007			3/14/2007			3/14/2007			3/14/2007		
Dilution Factor :	2.0			1.0			1.0			1.0			1.0			1.0		
Volatiles SIM	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
1,4-Dioxane	53	J	B	2.0U	R	A	7.0	J	BD	15	J	BD	18	J	BD	1.5L	J	BCD
1,2-Dibromoethane	0.10U			0.050U			0.050U			0.050U			0.050U			0.050U		
1,2-Dibromo-3-chloropropane	0.10U			0.050U			0.050U			0.050U			0.050U			0.050U		

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
CRQL - Contract Required Quantitation LImit
N/A - Not Applicable
NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample

ANALYTICAL RESULTS
Table 1A

Case No. : 36072 SDG No. : Y34K9
Site : Omega Chem OU2
Lab : DataChem Laboratories, Inc.
Reviewer : Santiago Lee, ESAT/LDC
Date : 05/03/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Trace Level Water Samples for Volatiles SIM

Station Location :	HP2911A (Y34M2)			HP2911A (Y34M3)-AB			HP2912A (Y34M4)			HP2912B (Y34M5)			HP2913A (Y34M6)			HP2914A (Y34M7)		
Sample ID :	Y34M2			Y34M3		FB	Y34M4			Y34M5			Y34M6			Y34M7		
Collection Date :	3/14/2007			3/14/2007			3/15/2007			3/15/2007			3/15/2007			3/15/2007		
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
Volatiles SIM	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
1,4-Dioxane	1.9L	J	BCD	2.0U	R	AE	1.7L	J	BCD	1.9L	J	BC	2.3	J	B	2.0	J	B
1,2-Dibromoethane	0.050U			0.050U	J	E	0.050U			0.050U			0.050U			0.050U		
1,2-Dibromo-3-chloropropane	0.050U			0.050U	J	E	0.050U			0.050U			0.050U			0.050U		

Station Location :	HP2914B (Y34M8)			Method Blank			Storage Blank											
Sample ID :	Y34M8			VBLKS1			VHBLKS1			CRQL								
Collection Date :	3/15/2007																	
Dilution Factor :	1.0			1.0			1.0											
Volatiles SIM	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
1,4-Dioxane	9.9	J	BD	2.0U	R	A	2.0U	R	A	2.0								
1,2-Dibromoethane	0.050U			0.050U			0.050U			0.050								
1,2-Dibromo-3-chloropropane	0.050U			0.050U			0.050U			0.050								

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
CRQL - Contract Required Quantitation LImit
N/A - Not Applicable
NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample

ICF international / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
Phone: (510) 412-2300 Fax: (510) 412-2304

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM)
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105053

DATE: May 11, 2007

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID NO.:	CAD042245001
Case No.:	36072
SDG No.:	Y34K9
Laboratory:	DataChem Laboratories, Inc. (DATAC)
Analysis:	Trace Volatiles
Samples:	20 Groundwater Samples (see Case Summary)
Collection Date:	March 12 through 15, 2007
Reviewer:	April Martinez, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

cc: Carol Beard, CLP PO USEPA Region 8
Steve Remaley, CLP PO USEPA Region 9

CLP PO: [X] Attention [X] Action

SAMPLING ISSUES: [X] Yes [ ] No

Data Validation Report

Case No.: 36072
SDG No.: Y34K9
Site: Omega Chem OU2
Laboratory: DataChem Laboratories, Inc.
Reviewer: April Martinez, ESAT/LDC
Date: May 11, 2007

I. CASE SUMMARY

Sample Information

Samples:	Y34K9 through Y34M8
Concentration and Matrix:	Low Concentration Water
Analysis:	Trace Volatiles
SOW:	SOM01.1
Collection Date:	March 12 through 15, 2007
Sample Receipt Date:	March 13 through 16, 2007
Extraction Date:	Not Applicable
Analysis Date:	March 14, 15, 17, 18, and 19, 2007

Field QC

Field Blanks (FB):	Y34M3
Equipment Blanks (EB):	Y34K9
Trip Blank (TB):	Y34L7
Background Samples (BG):	Not Provided
Field Duplicates (D1):	Y34L5 and Y34L6

Laboratory QC

Method Blanks & Associated Samples:

VBLKT1:	Y34L5DL, Y34L6DL, Y34L2, Y34L5, Y34L6
VBLKT2:	Y34M3 through Y34M7, Y34L0, Y34L1, Y34M2, Y34L8DL, Y34L9DL, Y34M0DL, Y34L4DL, Y34L8 through Y34M0
VBLKT3:	Y34M8, Y34L7, Y34M1, Y34L3, Y34M8DL, Y34K9, Y34L4, Y34L4MS, Y34L4MSD; storage blank VHBLKT1

Tables

1A:	Analytical Results with Qualifications
1B:	Data Qualifier Definitions for Organic Data Review
2:	Calibration Summary

CLP PO Action

Nondetected results for 1,4-dioxane in samples Y34K9 through Y34L5 and Y34L7 through Y34M8, all method blanks, and storage blank VHBLKT1 are qualified as rejected (R) due to very low response factors (<0.01) in initial and continuing calibrations (see Comment A).

CLP PO Attention

1. Results for some analytes are qualified as estimated (J) due to calibration problems (see Comment C).

2. Results for some analytes are qualified as estimated (J) due to deuterated monitoring compound (DMC) recovery problems (see Comment D).

3. Detected results for 1,1-dichloroethene and trichloroethene in sample Y34L2 are qualified as estimated (J) due to concentrations exceeding calibration range (see Comment E).

Sampling Issues

1. The laboratory indicated on the sample log-in sheet that the temperature indicator bottle was absent from the cooler containing samples Y34K9 through Y34L8 (see p. 853 in data package). The SDG Narrative did not indicate how the cooler temperature was recorded.

2. The SDG Narrative (attached, p.1 in data package) indicated that the pH of samples Y34L2, Y34M1, and Y34M2 were 5, 4, and 3, respectively.

3. The sampler signature is missing on the traffic report & chain of custody record (TR/COC) for sample Y34L8 (see attached TR/COC, p. 9 in data package).

4. Equipment blank, field duplicate, and trip blank were not submitted "blind" to the laboratory since "EB", "FD", and "TB", respectively, were used as part of station locations on TR/COCs (see p. 8 through 10 in data package).

Additional Comments

Other than laboratory artifacts (approximate retention times of 15.5, 19.4, 22.8, and 25.4 minutes), tentatively identified compounds (TICs) were found in samples Y34L1 through Y34L6, Y34L8 through Y34M0, Y34M2, Y35M5, and Y34M8 (see attached Form 1Js).

The laboratory performed manual integrations on calibrations due to incorrect auto integration. Manual integrations were reviewed and found to be satisfactory and in compliance with proper integration techniques.

This report was prepared in accordance with the following documents:

- ESAT Region 9 Standard Operating Procedure 901, *Guidelines for Data Review of Contract Laboratory Program Analytical Services Volatile and Semivolatile Data Packages*;

- *USEPA Contract Laboratory Program Statement of Work for Organics Analysis, Multi-Media, Multi-Concentration*, SOM01.1, May 2005; and

- *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review*, January 2005.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Holding Time/Preservation	Yes	
2.	GC/MS Tune/GC Performance	Yes	
3.	Initial Calibration	No	A, C
4.	Continuing Calibration	No	A, C
5.	Laboratory Blanks	Yes	
6.	Field Blanks	Yes	
7.	Deuterated Monitoring Compounds	No	D
8.	Matrix Spike/Matrix Spike Duplicates	Yes	
9.	Laboratory Control Samples/Duplicates	N/A	
10.	Internal Standards	Yes	
11.	Compound Identification	Yes	
12.	Compound Quantitation	No	B, E, F, G
13.	System Performance	Yes	
14.	Field Duplicate Sample Analysis	Yes	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. Nondetected results for the following analyte are qualified as rejected due to very low relative response factors (RRFs) in initial and continuing calibrations and are flagged "R" in Table 1A.

- 1,4-Dioxane in samples Y34K9 through Y34L5 and Y34L7 through Y34M8, all method blanks, and storage blank VHBLKT1

RRFs below 0.01 were reported for 1,4-dioxane in the initial and continuing calibrations (see Table 2). Since results are nondetected, false negatives may exist.

DMC 1,4-dioxane-d8 also had RRFs below 0.01 in the initial and continuing calibrations (see Table 2).

The RRF evaluates instrument sensitivity and is used in the quantitation of target analytes.

B. The following results, denoted with an "L" qualifier, are estimated and flagged "J" in Table 1A.

- All detected results below the contract required quantitation limits

Results below the contract required quantitation limits (CRQLs) are considered to be qualitatively acceptable, but quantitatively unreliable, due to the uncertainty in analytical precision near the limit of detection.

C. Results for the following analytes are qualified as estimated due to low RRFs in initial and continuing calibrations and are flagged "J" in Table 1A.

- 1,4-Dioxane in sample Y34L6

- Acetone, methyl acetate, and 2-butanone in all samples, all method blanks, and storage blank VHBLKT1

RRFs below 0.01 were reported for 1,4-dioxane in initial and continuing calibrations (see Table 2). The detected result for 1,4-dioxane in sample Y34L6 may be biased low.

Average RRFs below 0.05 were reported for acetone and 2-butanone in initial calibrations (see Table 2). RRFs were below the 0.05 validation criterion for acetone, methyl acetate, and 2-butanone in continuing calibrations (see Table 2). Since results are nondetected, false negatives may exist.

DMCs 2-butanone-d5 and 2-hexanone-d5 also had RRFs below the 0.05 validation criterion in continuing calibrations (see Table 2). Quantitation of the analytes associated with these DMCs may have been affected by low RRFs (see attached Table 9 from the Functional Guidelines).

D. Results for the following analytes are qualified as estimated due to DMC recoveries outside QC limits and are flagged "J" in Table 1A.

{1,1-Dichloroethene-d2}
- trans-1,2-Dichloroethene and cis-1,2-dichloroethene in samples Y34L5, Y34L6, Y34L8, Y34L9, Y34M0, and Y34M8

{1,2-Dichloropropane-d6}
- Cyclohexane, methylcyclohexane, 1,2-dichloropropane, and bromodichloromethane in samples Y34L0 and Y34M2

{1,4-Dioxane-d8}
- 1,4-Dioxane in sample Y34L6

{1,1,2,2-Tetrachloroethane-d2}
- 1,1,2,2-tetrachloroethane and 1,2-dibromo-3-chloropropane in sample Y34L7

DMC recoveries outside QC limits are shown below.

Sample	DMC	% Recovery	QC Limits
Y34M4	Vinyl chloride-d3	132	65-131
Y34L2	1,1-Dichloroethene-d2	176	55-104
Y34L5	1,1-Dichloroethene-d2	487	55-104
Y34L5DL	1,1-Dichloroethene-d2	108	55-104
Y34L6	1,1-Dichloroethene-d2	435	55-104
Y34L8	1,1-Dichloroethene-d2	210	55-104
Y34L9	1,1-Dichloroethene-d2	159	55-104
Y34M0	1,1-Dichloroethene-d2	165	55-104
Y34M8	1,1-Dichloroethene-d2	300	55-104
Y34L0	1,2-Dichloropropane-d6	72	79-124
Y34M2	1,2-Dichloropropane-d6	72	79-124
Y34M8DL	1,2-Dichloropropane-d6	78	79-124
Y34L3	1,4-Dioxane-d8	169	50-150
Y34L6	1,4-Dioxane-d8	151	50-150
Y34L9	1,4-Dioxane-d8	182	50-150
Y34M0	1,4-Dioxane-d8	160	50-150
Y34M1	1,4-Dioxane-d8	152	50-150
Y34M8	1,4-Dioxane-d8	174	50-150
Y34L4MSD	1,4-Dioxane-d8	171	50-150
Y34L7	1,1,2,2-Tetrachloroethane-d2	68	73-125

Detected results for affected analytes where DMC recoveries fell below QC limits may be biased low; where results are nondetected, false negatives may exist. Detected results for affected analytes where DMC recoveries exceeded QC limits may be biased high. For DMC recoveries that exceeded QC limits, only detected results for associated analytes are qualified. The recovery for DMC vinyl chloride-d3 in sample Y34M4 exceeded QC limit but vinyl chloride result was not qualified because it was a nondetect. The samples were not reanalyzed.

E. Detected results for the following analytes are qualified as estimated due to concentrations exceeding calibration range and are flagged “J” in Table 1A.

- 1,1-Dichloroethene and trichloroethene in sample Y34L2

Concentrations of 1,1-dichloroethene and trichloroethene in the undiluted analysis of sample Y34L2 were 21 ug/L and 23 ug/L, respectively. These values exceed the 0.5-20 ug/L calibration range. The laboratory did not reanalyzed sample Y34L2.

Results reported in Table 1A for these analytes are from the undiluted analysis. Their concentrations are considered to be qualitatively acceptable but quantitatively questionable and should be considered as the minimum concentrations at which these analytes are present in the sample.

F. Sample Y34L4 was reanalyzed at a 50-fold dilution due to high levels of cyclohexane and methylcyclohexane that exceeded the calibration range. Results for cyclohexane and methylcyclohexane in sample Y34L4 are reported from the diluted

analysis in Table 1A; results for other analytes are reported from 5-fold diluted analysis.

Samples Y34L5 and Y34L6 were reanalyzed at 20-fold dilutions due to high levels of 1,1-dichloroethene, cis-1,2-dichloroethene, trichloroethene, and tetrachloroethene that exceeded the calibration range. Results for 1,1-dichloroethene, cis-1,2-dichloroethene, trichloroethene, and tetrachloroethene in these samples are reported from the diluted analyses in Table 1A; results for other analytes are reported from the 2-fold diluted analyses.

Samples Y34L8 and Y34M8 were reanalyzed at 5-fold and 10-fold dilutions, respectively, due to high levels of 1,1-dichloroethene, trichloroethene, and tetrachloroethene that exceeded the calibration range. Results for 1,1-dichloroethene, trichloroethene, and tetrachloroethene in these samples are reported from the diluted analyses in Table 1A; results for other analytes are reported from the undiluted analyses.

Sample Y34L9 was reanalyzed at a 5-fold dilution due to high levels of trichloroethene and tetrachloroethene that exceeded the calibration range. Results for trichloroethene and tetrachloroethene in sample Y34L9 are reported from the diluted analysis in Table 1A; results for other analytes are reported from the undiluted analysis.

Sample Y34M0 was reanalyzed at a 5-fold dilution due to high levels of 1,1,-dichloroethne, 1,1,2-trichloro-1,2,2-trifluoroethane, trichloroethene, and tetrachloroethene that exceeded the calibration range. Results for 1,1,-dichloroethne, 1,1,2-trichloro-1,2,2-trifluoroethane, trichloroethene, and tetrachloroethene in sample Y34M0 are reported from the diluted analysis in Table 1A; results for other analytes are reported from the undiluted analysis.

G. Samples Y34L4, Y34L5, and Y34L6 were analyzed at 5-, 2-, and 2-fold dilutions, respectively, due high levels of target analytes. The CRQLs listed for these samples in Table 1A have been multiplied by the dilution factor.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review," January 2005.

U The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method.

L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

J The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the CRQL).

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.

R The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.

Table 2
Calibration Summary

Case No.: 36072
SDG No.: Y34K9
Site: Omega Chem OU2
Laboratory: DataChem Laboratories, Inc.
Reviewer: April Martinez, ESAT/LDC
Date: May 11, 2007

RELATIVE RESPONSE FACTORS

	RRF	RRF	RRF	RRF
Analysis date:	1/9/07	3/14/07	3/15/07	3/17/07
Analysis time:	10:38-	15:45	03:01	15:34
GC/MS I.D.:	5972-P	5972-P	5972-P	5972-P
Analyte	Init.	Cont.	Cont.	Cont.
Acetone	0.017	0.017	0.015	0.016
Methyl acetate	------	0.042	0.039	0.044
2-Butanone	0.031	0.030	0.031	0.027
1,4-Dioxane	0.0007	0.0007	0.0009	0.0007
2-Butanone	0.032	0.030	0.033	0.027
2-Hexanone-d5	0.038	0.037	0.039	0.034
1,4-Dioxane-d8	0.0007	0.0007	0.0009	0.0007

	RRF	RRF	RRF
Analysis date:	3/18/07	3/18/07	3/19/07
Analysis time:	02:57	14:47	02:10
GC/MS I.D.:	5972-P	5972-P	5972-P
Analyte	Cont.	Cont.	Cont.
Acetone	0.014	0.017	0.014
Methyl acetate	0.040	0.043	0.041
2-Butanone	0.029	0.032	0.029
1,4-Dioxane	0.0009	0.0009	0.0009
2-Butanone	0.031	0.032	0.029
2-Hexanone-d5	0.036	0.037	0.035
1,4-Dioxane-d8	0.0009	0.0009	0.0008

ASSOCIATED SAMPLES AND METHOD BLANKS

Initial 01/9/07: All samples, method blanks, and storage blank VHBLKT1
Cont., 03/14/07 (15:45): Y34L5DL, Y34L6DL, Y34L2, Y34L5, Y34L6, and VBLKT1
Cont., 03/15/07 (03:01): Y34L5DL, Y34L6DL, Y34L2, Y34L5, Y34L6, and VBLKT1

Cont., 03/17/07 (15:34): Y34M3 through Y34M7, Y34L0, Y34L1, Y34M2, Y34L8DL, Y34L9DL, Y34M0DL, Y34L4DL, Y34L8 through Y34M0, and VBLKT2

Cont., 03/18/07 (02:57): Y34M3 through Y34M7, Y34L0, Y34L1, Y34M2, Y34L8DL, Y34L9DL, Y34M0DL, Y34L4DL, Y34L8 through Y34M0, and VBLKT2

Cont., 03/18/07 (14:47): Y34M8, Y34L7, Y34M1, Y34L3, Y34M8DL, Y34K9, Y34L4, Y34L4MS, Y34L4MSD; storage blank VHBLKT1; and VBLKT3

Cont., 03/19/07 (02:10): Y34M8, Y34L7, Y34M1, Y34L3, Y34M8DL, Y34K9, Y34L4, Y34L4MS, Y34L4MSD; storage blank VHBLKT1; and VBLKT3.

ANALYTICAL RESULTS
Table 1A - Tier 2

Case No. : 36184 SDG No. : Y36K5
Site : OMEGA CHEM OU2
Lab : MITKEM CORPORATION
Reviewer : Santiago Lee, ESAT/LDC
Date : 05/23/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Low Level Water Samples for Semivolatiles

Station Location :	Y36K5			Y36K7			Y36K8			Y36K9			Y36L1			Y36L2		
Sample ID :	Y36K5			Y36K7			Y36K8			Y36K9			Y36L1			Y36L2		
Collection Date :	2/26/2007			2/26/2007			2/26/2007			2/26/2007			2/26/2007			2/27/2007		
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
Semivolatiles	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
1,4-Dioxane	0.79L	J	A	18			14			24			29			2.0U		

Station Location :	Y36L3			Y36L5			Y36L6			Y36L7			Y36L8			Y36L9		
Sample ID :	Y36L3			Y36L5		D1	Y36L6		D1	Y36L7			Y36L8			Y36L9		
Collection Date :	2/27/2007			2/27/2007			2/27/2007			2/27/2007			2/28/2007			2/28/2007		
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
Semivolatiles	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
1,4-Dioxane	2.0U			2.0U			2.0U			2.0U			2.0U			0.37L	J	A

Station Location :	Y36M0			Y36M2			Y36M3			Y36M4			Method Blank			Method Blank		
Sample ID :	Y36M0			Y36M2			Y36M3			Y36M4			SBLK2V			SBLK2X		
Collection Date :	2/28/2007			2/28/2007			2/28/2007			3/1/2007								
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
Semivolatiles	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
1,4-Dioxane	0.26L	J	A	0.80L	J	A	23			2.0U			2.0U			2.0U		

Station Location :																		
Sample ID :	CRQL																	
Collection Date :																		
Dilution Factor :																		
Semivolatiles	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
1,4-Dioxane	2.0																	

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
CRQL - Contract Required Quantitation LImit
N/A - Not Applicable
NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample

ICF International / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
Phone: (510) 412-2300 Fax: (510) 412-2304

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM) RF
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager DL
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105074 Amendment 3

DATE: August 16, 2007

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	None Provided
SDG No.:	IQC0291
Laboratory:	TestAmerica Analytical Testing Corp.
Analysis:	Hexavalent Chromium
Samples:	5 Groundwater Samples (see Case Summary)
Collection Dates:	March 2, 2007
Reviewer:	Stan Kott, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

SAMPLING ISSUES: [X] Yes [ ] No

Data Validation Report

Case No.: None Provided
SDG No.: IQC0291
Site: Omega Chem OU2
Laboratory: TestAmerica Analytical Testing Corp.
Reviewer: Stan Kott, ESAT/LDC
Date: August 16, 2007

I. CASE SUMMARY

Sample Information

Samples:	OC2-MW20C-W-0-481, OC2-MW20B-W-0-482, OC2-MW20A-W-0-483, OC2-MW9B-W-0-485, and OC2-MW9A-W-0-486
Concentration and Matrix:	Low Concentration Water
Analysis:	Hexavalent Chromium
SOW:	EPA Method 218.6
Collection Date:	March 2, 2007
Sample Receipt Date:	March 2, 2007
Preparation Date:	March 2, 2007
Analysis Date:	March 2, 2007

Field QC

Field Blanks (FB):	Not Provided
Equipment Blanks (EB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	Not Provided

Laboratory QC

Method Blanks:	7C02041-BLK1
Associated Samples:	Samples listed above
Matrix Spikes:	OC2-MW20C-W-0-481MS1
Matrix Spike Duplicates:	OC2-MW20C-W-0-481MSD1

Analysis: Hexavalent Chromium

Analyte	Sample Preparation Date	Analysis Date
Hexavalent Chromium	March 2, 2007	March 2, 2007

Sampling Issues

The Chain of Custody (COC) record form did not specify a sample to be used for laboratory quality control (QC). As a result, the laboratory selected sample OC2-MW20C-W-O-481. The effect on data quality is not known.

Additional Comments

As directed by the EPA TOM, a Tier 3 data review was performed. A Table 1A is not requested.

The method specifies the sample pH be adjusted to 9.0 to 9.5 prior to analysis; however, there is no method specific requirement to document the sample pH. The pH of the samples prior to analysis could not be evaluated. The effect on data quality is not known.

Definitions of data qualifiers are listed in Table 1B.

This report was prepared in accordance with the following documents:

- Region 9 Standard Operating Procedure 906, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Inorganic Data Packages*;
- *Methods For The Determination Of Metals In Environmental Samples*, EPA-600/4-91-010, June 1991; and
- *USEPA Method 218.6, Determination of Dissolved Hexavalent Chromium in Drinking Water, Groundwater, and Industrial Wastewater Effluents by Ion Chromatography*, Revision 3.3, May 1994.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Data Completeness	Yes	
2.	Sample Preservation and Holding Times	Yes	
3.	Calibration	Yes	
	a. Initial		
	b. Initial and Continuing Calibration Verification		
4.	Blanks	Yes	
5.	Laboratory Control Sample (LCS)	Yes	
6.	Duplicate Sample Analysis	Yes	
7.	Matrix Spike Sample Analysis	Yes	
8.	Field Duplicate Sample Analysis	N/A	
9.	Sample Quantitation	Yes	
10.	Overall Assessment	Yes	

N/A = Not Applicable

III. OVERALL ASSESSMENT OF DATA

All of the method requirements specified in the EPA Method 218.6 have been met. Reported results for hexavalent chromium in all of the samples were appropriately and correctly calculated.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR INORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared in accordance with the document *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004.

U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

ICF International / Laboratory Data Consultants
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MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM) RF
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105074 Amendment 3

DATE: August 16, 2007

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	None Provided
SDG No.:	IQC0783
Laboratory:	TestAmerica Analytical Testing Corp.
Analysis:	Hexavalent Chromium
Samples:	1 Groundwater Sample (see Case Summary)
Collection Dates:	March 7, 2007
Reviewer:	Stan Kott, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

SAMPLING ISSUES: [X] Yes [ ] No

Data Validation Report

Case No.: None Provided
SDG No.: IQC0783
Site: Omega Chem OU2
Laboratory: TestAmerica Analytical Testing Corp.
Reviewer: Stan Kott, ESAT/LDC
Date: August 16, 2007

I. CASE SUMMARY

Sample Information

Samples:	OC2-HPW6A-W-0-384
Concentration and Matrix:	Low Concentration Water
Analysis:	Hexavalent Chromium
SOW:	EPA Method 218.6
Collection Date:	March 7, 2007
Sample Receipt Date:	March 7, 2007
Preparation Date:	March 7, 2007
Analysis Date:	March 7, 2007

Field QC

Field Blanks (FB):	Not Provided
Equipment Blanks (EB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	Not Provided

Laboratory QC

Method Blanks:	7C07085-BLK1
Associated Samples:	Samples listed above
Matrix Spikes:	IQC0721-01MS1
Matrix Spike Duplicates:	IQC0721-01MSD1

Analysis: Hexavalent Chromium

Analyte	Sample Preparation Date	Analysis Date
Hexavalent Chromium	March 7, 2007	March 7, 2007

Sampling Issues

The Chain of Custody (COC) record form did not specify a sample to be used for laboratory quality control (QC). As a result, the laboratory selected sample IQC0721-01. The effect on data quality is not known.

Additional Comments

As directed by the EPA TOM, a Tier 3 data review was performed. A Table 1A is not requested.

The laboratory indicates the sample arrived at a temperature of 1.1°C. Although this temperature is below the 4.0°C method limit, no adverse effect on data quality is expected.

Page 7 of the data package indicates the sample was received on March 7, 2007 at 17:20 hours, but extracted on March 7, 2007 at 15:00 hours. This may be due to a possible typographical error in the preparation column on the Preparation Bench Sheet (page 38).

Definitions of data qualifiers are listed in Table 1B.

This report was prepared in accordance with the following documents:

- Region 9 Standard Operating Procedure 906, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Inorganic Data Packages*;
- *Methods For The Determination Of Metals In Environmental Samples*, EPA-600/4-91-010, June 1991; and
- *USEPA Method 218.6, Determination of Dissolved Hexavalent Chromium in Drinking Water, Groundwater, and Industrial Wastewater Effluents by Ion Chromatography*, Revision 3.3, May 1994.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Data Completeness	Yes	
2.	Sample Preservation and Holding Times	Yes	
3.	Calibration	Yes	
	a. Initial		
	b. Initial and Continuing Calibration Verification		
4.	Blanks	Yes	
5.	Laboratory Control Sample (LCS)	Yes	
6.	Duplicate Sample Analysis	Yes	
7.	Matrix Spike Sample Analysis	Yes	
8.	Field Duplicate Sample Analysis	N/A	
9.	Sample Quantitation	Yes	
10.	Overall Assessment	Yes	

N/A = Not Applicable

III. OVERALL ASSESSMENT OF DATA

All of the method requirements specified in the EPA Method 218.6 have been met. Reported results for hexavalent chromium in all of the samples were appropriately and correctly calculated.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR INORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared in accordance with the document *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004.

U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

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MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM)
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105083 Amendment 1

DATE: October 3, 2007

SUBJECT: Tier 1A Data Evaluation Memo for the Omega Chem OU2 site, SDGs: IQG0607, IQG0879, IQG1031, and IQG1213

SUMMARY: 16 groundwater samples received by TestAmerica Analytical Testing Corp. were analyzed for Chemical Oxygen Demand (COD) by EPA Method 410.4.

A forms-only evaluation of the data packages was performed to identify any key analytical issues/deficiencies affecting data quality. This evaluation approach is employed when in-depth data review is not required as indicated by the data user. During this limited evaluation, areas of concern were noted (see Lettered and Additional Comments).

The evaluation included: a review of the data package for completeness, review of the chain of custody forms (against laboratory reported information, for signatures, for sample condition upon receipt by the laboratory and for sample preservation), review of holding times, review of QC summaries, review of blanks for contamination, random check of reported results against raw data, and a random check of raw data for interference problems or system control problems.

The following data quality issues should be noted:

A. The COD results for all samples in SDG IQG1031 should be estimated and flagged "J" due to inadequate sample preservation. These samples did not meet Method 410.4 sample preservation criterion of 4ºC. The samples were not adequately preserved in the field and arrived at the laboratory at a temperature of 13ºC. The COD results for all samples in SDG IQG1031 may be biased low and false negatives may exist.

Additional Comments:

1. The Chain of Custody (COC) record form did not specify a sample to be used for laboratory quality control (QC). As a result, the laboratory selected the QC samples. The effect on data quality is not known.

2. The exact type of sample preservation was not provided on the COC record forms. However, the laboratory Case Narrative indicates no problems were encountered. No adverse effect on data quality is expected.

A Table 1A was not requested.

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR INORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared in accordance with the document *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004.

U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

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MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM)
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105083 Amendment 1

DATE: October 2, 2007

SUBJECT: Review of Analytical Data, Tier 2

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	None
SDG Nos.:	IQG0607, IQG1031, IQG1213, IQG1460, and IQG1853
Laboratory:	TestAmerica Analytical Testing Corp.
Analysis:	Hexavalent Chromium
Samples:	26 Groundwater Samples (see Case Summary)
Collection Dates:	July 9, 12, 13, 17, and 19, 2007
Reviewer:	Stan Kott, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

SAMPLING ISSUES: [X] Yes [ ] No

Data Validation Report

Case No.: None
SDG Nos.: IQG0607, IQG1031, IQG1213, IQG1460, and IQG1853
Site: Omega Chem OU2
Laboratory: TestAmerica Analytical Testing Corp.
Reviewer: Stan Kott, ESAT/LDC
Date: October 2, 2007

I. CASE SUMMARY

Sample Information

SDG IQG0607 Samples:	OC2-MW24D-W-0-577, OC2-MW24C-W-0-578, OC2-MW24B-W-0-579, OC2-MW24A-W-0-580, and OC2-MW24A-W-1-581
SDG IQG1031 Samples:	OC2-MW27D-W-0-590, OC2-MW27C-W-0-591, OC2-MW27B-W-0-592, OC2-MW24B-W-1-593, and OC2-MW27A-W-0-594
SDG IQG1213 Samples:	OC2-MW23A-W-0-595, OC2-MW23D-W-0-596, OC2-MW23C-W-0-597, OC2-MW23B-W-0-598, and OC2-MW29-W-0-599
SDG IQG1460 Samples:	OC2-MW8D-W-0-603, OC2-MW8C-W-0-604, OC2-MW8B-W-0-605, OC2-MW8A-W-0-606, OC2-MW12-W-0-607, and OC2-MW12-W-1-608
SDG IQG1853 Samples:	OC2-MW20C-W-0-614, OC2-MW20B-W-0-615, OC2-MW20A-W-0-616, OC2-MW14-W-0-617, and OC2-MW3-W-0-618
Concentration and Matrix:	Low Concentration Groundwater
Analysis:	Hexavalent Chromium
SOW:	EPA Method 218.6
Collection Date:	July 9, 12, 13, 17, and 19, 2007
Sample Receipt Date:	July 9, 12, 13, 17, and 19, 2007
Preparation Date:	July 9, 13, 13, 17, and 19, 2007
Analysis Date:	July 9, 13, 13, 17, and 19, 2007

Field QC

Field Blanks (FB):	Not Provided
Equipment Blanks (EB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	OC2-MW24A-W-0-580 and OC2-MW24A-W-1-581
Field Duplicates (D2):	OC2-MW27B-W-0-592 and OC2-MW27B-W-1-593
Field Duplicates (D3):	OC2-MW12-W-0-607 and OC2-MW12-W-1-608

Laboratory QC

Method Blanks and Associated Samples:	7G09092-BLK1 for SDG IQG0607, 7G13055-BLK1 for SDG IQG1031, 7G13133-BLK1 for SDG IQG1213, 7G17075-BLK1 for SDGIQG1460, and 7G19121-BLK1 for SDG1853

Matrix Spike (MS): IQG0597-01MS1, OC2-MW27C-W-0-591MS1, OC2-MW29-W-0-599MS1, IQG1425-03MS1, and OC2-MW20C-W-0-614MS1

Matrix Spike Duplicate (MSD): IQG0597-01MSD1, OC2-MW27C-W-0-591MSD1, OC2-MW29-W-0-599MSD1, IQG1425-03MSD1, and OC2-MW20C-W-0-614MSD1

Analysis: Hexavalent Chromium

Analyte	Sample Preparation Date	Analysis Date
Hexavalent Chromium	July 9, 13, 17, and 19, 2007	July 9, 13, 17, and 19, 2007

Sampling Issues

The Chain of Custody (COC) record form did not specify a sample to be used for laboratory quality control (QC). As a result, the laboratory selected the QC samples. For SDG IQG0607 and SDG IQG1460, the laboratory selected samples IQG0597-01 and IQG1425-03, respectively, which may not be representative of the respective environmental sample matrices. The effect on data quality is not known.

The cooler containing all samples for SDG IQG1031 arrived at the laboratory with a temperature of 13ºC. This temperature exceeds the 4ºC temperature specified in Method 218.6. The results are estimated (J) due to inadequate preservation. See Validity and Comments section Comment B.

The exact type of sample preservation was not provided on the COC record form. However, the laboratory Case Narrative indicates no problems were encountered. No adverse effect on data quality is expected.

Additional Comments

As directed by the TOM, a Tier 2 validation (i.e., review all QC results and calibrations, minus calculation check) was performed.

The laboratory reports results less than the reporting limit (RL) as "ND". However, ND is reported in the attached table as 0.0003U. No adverse effect on data quality is expected.

Hexavalent chromium sample OC2-MW8A-W-0-606 (SDG IQG1460) exceeded the instrument calibration curve and was analyzed at a 10-fold dilution. No adverse effect on data quality is expected.

Analytical results are listed in Table 1A with qualifications. Definitions of data qualifiers used in Table 1A are listed in Table 1B.

This report was prepared in accordance with the following documents:

- Region 9 Standard Operating Procedure 906, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Inorganic Data Packages*; and
- *USEPA Method 218.6, Determination of Dissolved Hexavalent Chromium in*

Drinking Water, Groundwater, and Industrial Wastewater Effluents by Ion Chromatography, Revision 3.3, May 1994.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Data Completeness	Yes	
2.	Sample Preservation and Holding Times	No	A,B
3.	Calibration	Yes	
	a. Initial		
	b. Initial and Continuing Calibration Verification		
4.	Blanks	Yes	
5.	Laboratory Control Sample (LCS)	Yes	
6.	Duplicate Sample Analysis	Yes	
7.	Matrix Spike Sample Analysis	Yes	
8.	Field Duplicate Sample Analysis	No	C
9.	Sample Quantitation	Yes	
10.	Overall Assessment	Yes	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. The following result is estimated and should be flagged "J" because the technical holding time was exceeded.

- Hexavalent chromium in sample OC2-MW27D-W-0-590 (SDG IQG1031)

The method 24 hour technical holding time for water was exceeded as shown below.

Sample Number	Date Collected	Time Collected	Date Analyzed	Time Analyzed	Exceeded (HH:MM)
OC2-MW27D-W-0-590	7/12/07	08:10 AM	7/13/07	10:47 AM	2:37

The not detected result for sample OC2-MW27D-W-0-590 may be biased low and a false negative may exist.

B. The following results are estimated and flagged "J" in Table 1A due to inadequate sample preservation.

- Hexavalent chromium in all SDG IQG1031 samples

These samples did not meet Method 218.6 sample preservation criterion. The samples were not adequately preserved in the field to a temperature of 4ºC as shown below.

Sample Number	Temperature
OC2-MW27D-W-0-590	13ºC
OC2-MW27C-W-0-591	13ºC
OC2-MW27B-W-0-592	13ºC
OC2-MW27B-W-1-593	13ºC
OC2-MW27A-W-0-594	13ºC

The not detected sample results for samples listed above may be biased low and false negatives may exist

C. An absolute difference of 0.00071 mg/L was obtained for hexavalent chromium in the analysis of field duplicate pair samples OC2-MW12-W-0-607 and OC2-MW12-W-1-608 (SDG IQG1460). Since sampling variability is included in the measurement, field duplicate results are expected to vary more than laboratory duplicates which have a ±0.0003 mg/L absolute difference criterion for precision. The effect on data quality is not known.

The analysis of field duplicate samples is a measure of both field and analytical precision. The imprecision in the results of the analysis of the field duplicate pair may be due to the sample matrix, poor sampling, or laboratory technique.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR INORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared in accordance with the document *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004.

U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

ICF International / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
Phone: (510) 412-2300; Fax: (510) 412-2304.

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM)
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105083 Amendment 1

DATE: October 2, 2007

SUBJECT: Review of Analytical Data, **Tier 2**

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	Not Provided
SDG No.:	IQG0607, IQG1031, IQG1213, IQG1460, and IQG1853
Laboratory:	Test America Analytical Testing Corp.
Analysis:	1,2,3-Trichloropropane (1,2,3-TCP) and n-Nitrosodimethylamine (NDMA)
Samples:	26 Water Samples (see Case Summary)
Collection Date:	July 9, 12, 13, 17, and 19, 2007
Reviewer:	Santiago Lee, ESAT/Laboratory Data Consultants (LDC)

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

SAMPLING ISSUES: [ ] Yes [X] No

Data Validation Report – **Tier 2**

Case No.: Not Provided
SDG No.: IQG0607, IQG1031, IQG1213, IQG1460, and IQG1853
Site: Omega Chem OU2
Laboratory: Test America Analytical Testing Corp.
Reviewer: Santiago Lee, ESAT/LDC
Date: October 2, 2007

I. CASE SUMMARY

Sample Information

Samples:	(IQG0607) OC2-MW24D-W-0-577, OC2-MW24C-W-0-578, OC2-MW24B-W-0-579, OC2-MW24A-W-0-580, and OC2-MW24A-W-1-581 (IQG1031) OC2-MW27D-W-0-590, OC2-MW27C-W-0-591, OC2-MW27B-W-0-592, OC2-MW27B-W-1-593, and OC2-MW27A-W-0-594 (IQG1213) OC2-MW23A-W-0-595, OC2-MW23D-W-0-596, OC2-MW23C-W-0-597, OC2-MW23B-W-0-598, and OC2-MW29-W-0-599 (IQG1460) OC2-MW8D-W-0-603, OC2-MW8C-W-0-604, OC2-MW8B-W-0-605, and OC2-MW8A-W-0-606, OC2-MW12-W-0-607, and OC2-MW12-W-0-608 (IQG1853) OC2-MW20C-W-0-614, OC2-MW20B-W-0-615, OC2-MW22A-W-0-616, OC2-MW14-W-0-617, and OC2-MW3-W-0-618
Concentration and Matrix:	Low Concentration Water
Analysis:	1,2,3-TCP (GC/MS) and NDMA (GC/MS/MS CI)
Methods:	EPA Methods 524.2 and 1625 Modified
Collection Date:	July 9, 12, 13, 17, and 19, 2007
Sample Receipt Date:	July 9, 12, 13, 17, and 19, 2007
Extraction Date:	July 10 through 25, 2006
Analysis Date:	July 11 through 27, 2006

Field QC

Field Blanks (FB):	Not Provided
Trip Blanks (TB):	Not Provided
Equipment Blanks (EB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	OC2-MW24A-W-0-580 and OC2-MW24A-W-1-581
Field Duplicates (D2):	OC2-MW27B-W-0-592 and OC2-MW27B-W-1-593
Field Duplicates (D1):	OC2-MW12-W-0-607 and OC2-MW12-W-1-608

Laboratory QC

Method Blanks & Associated Samples:

7G10045-BLK1:	(NDMA) OC2-MW24C-W-0-578, OC2-MW24B-W-0-579, OC2-MW24A-W-0-580, OC2-MW24A-W-1-581
7G12056-BLK1:	(NDMA) OC2-MW24D-W-0-577
7G16057-BLK1:	(NDMA) OC2-MW27D-W-0-590, OC2-MW27C-W-0-591, OC2-MW27B-W-0-592, OC2-MW27B-W-1-593, OC2-MW27A-W-0-594
7G17059-BLK1:	(NDMA) OC2-MW23A-W-0-595, OC2-MW23D-W-0-596, OC2-MW23C-W-0-597, OC2-MW23B-W-0-598, and OC2-MW29-W-0-599

7G19061-BLK1: (NDMA) OC2-MW8D-W-0-603, OC2-MW8C-W-0-604, OC2-MW8B-W-0-605, and OC2-MW8A-W-0-606, OC2-MW12-W-0-607, and OC2-MW12-W-0-608
7G25080-BLK1: (NDMA) OC2-MW8D-W-0-603, OC2-MW8C-W-0-604, OC2-MW8B-W-0-605, and OC2-MW8A-W-0-606, OC2-MW12-W-0-607, and OC2-MW12-W-0-608
C7G1202-BLK1: (1,2,3-TCP) OC2-MW24D-W-0-577, OC2-MW24C-W-0-578
C7G1605-BLK1: (1,2,3-TCP) OC2-MW24B-W-0-579, OC2-MW24A-W-0-580, OC2-MW24A-W-1-581
C7G1703-BLK1: (1,2,3-TCP) OC2-MW27D-W-0-590, OC2-MW27C-W-0-591, OC2-MW27B-W-0-592, OC2-MW27B-W-1-593, OC2-MW27A-W-0-594, OC2-MW23A-W-0-595, OC2-MW23D-W-0-596, OC2-MW23C-W-0-597
C7G2611-BLK1: (1,2,3-TCP) OC2-MW12-W-0-607, OC2-MW12-W-1-608
C7G2702-BLK1: (1,2,3-TCP) OC2-MW20C-W-0-614, OC2-MW20B-W-0-615, OC2-MW22A-W-0-616, OC2-MW14-W-0-617, and OC2-MW3-W-0-618

Tables

1B: Data Qualifier Definitions for Organic Data Review

Sampling Issues

1. Samples collected on 07/12/07 were received by the laboratory with a cooler temperature of 13.1°C which exceeds the 4±2°C sample preservation criterion. Nondetected results for 1,2,3-TCP should be qualified as estimated (J; see Comment A). For the NDMA analysis, no adverse effect on data quality is expected since the cooler temperature is below 20°C.

2. The sampler name is missing on the chain of custody form (COC) for samples collected on 07/13/07 (see attached COC; in IQG1213 data package). For samples collected on 7/17/07, the COC was not completed (see attached COC; p. 4 in IQG1460 data package).

Additional Comments

As directed by the TOM, a Tier 2 validation (i.e., review all QC results and calibrations, minus calculation check) was performed. A Table 1A is not requested.

For the NDMA analysis, decafluorotriphenylphosphine (DFTPP) was not analyzed. Since NDMA is analyzed by the chemical ionization (CI) technique, no adverse effect is expected.

For the 1,2,3-TCP analysis, 4-bromofluorobenzene (BFB) was not analyzed. Since 1,2,3-TCP is analyzed by the selected ion monitoring (SIM) technique, no adverse effect is expected.

This report was prepared in accordance with the following documents:

- ESAT Region 9 Standard Operating Procedure 901, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Volatile and Semivolatile Data Packages*;

- EPA Method 524.2, *Measurement of Purgeable Organic Compounds in Water by Capillary Column Gas Chromatography/Mass Spectrometry*, Revision 4.1, 1995;

- EPA Method 1625C, *Semivolatile Organic Compounds by Isotope dilution GC/MS*, June 1989; and

- *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review*, October 1999.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Holding Time/Preservation	No	A
2.	GC/MS and GC Performance	Yes	
3.	Initial Calibration	Yes	
4.	Continuing Calibration	Yes	
5.	Laboratory Blanks	Yes	
6.	Field Blanks	N/A	
7.	Surrogate (Method 524.2)	No	B
8.	Labeled Compound (Method 1625)	No	C
9.	Matrix Spike/Matrix Spike Duplicates	Yes	
10.	Laboratory Control Samples/Duplicates	Yes	
11.	Internal Standard	Yes	
12.	Compound Identification	Yes	
13.	Compound Quantitation	Yes	
14.	System Performance	Yes	
15.	Field Duplicate Sample Analysis	N/A	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. Nondetected results for the following analyte are qualified as estimated due to a preservation problem and should be flagged “J”.

- 1,2,3-TCP in samples OC2-MW27D-W-0-590, OC2-MW27C-W-0-591, OC2-MW27B-W-0-592, OC2-MW27B-W-1-593, and OC2-MW27A-W-0-594

Samples listed above were received by the laboratory with a cooler temperature of 13.1°C which exceeds the 4±2°C sample preservation criterion. Since results are nondetected, false negatives may exist.

B. For the 1,2,3-TCP analysis, the laboratory did not spike the samples, QC samples, and method blanks with a surrogate (see Method 524.2 Sections 3.2, 7.5, 11.1.2, and 12.1.1 and Table 1). Consequently, the extraction efficiency (surrogate recovery) cannot be evaluated. The 1,2,3-trichloropropane-d5 spiked by the laboratory was used as an internal standard.

C. For the NDMA analysis, the laboratory did not spike the samples, QC samples, and method blanks with a labeled compound (i.e., surrogate; see Method 1625C Sections 6.8, 10.2.1.3, and 10.2.3.2 and Figure 4). Consequently, the extraction efficiency (surrogate recovery) cannot be evaluated. The NDMA-d6 spiked by the laboratory was used as an internal standard.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," October 1999.

U The analyte was analyzed for but was not detected above the reported sample quantitation limit.

L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ICF International / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
Phone: (510) 412-2300 Fax: (510) 412-2304

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM)
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105083 Amendment 1

DATE: October 1, 2007

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	None Provided
SDG No.:	IQG0879
Laboratory:	TestAmerica Analytical Testing Corp.
Analysis:	Hexavalent Chromium
Samples:	4 Groundwater Samples (see Case Summary)
Collection Dates:	July 11, 2007
Reviewer:	Stan Kott, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

SAMPLING ISSUES: [X] Yes [ ] No

Data Validation Report

Case No.: None Provided
SDG No.: IQG0879
Site: Omega Chem OU2
Laboratory: TestAmerica Analytical Testing Corp.
Reviewer: Stan Kott, ESAT/LDC
Date: October 1, 2007

I. CASE SUMMARY

Sample Information

Samples:	OC2-MW26D-W-5-586, OC2-MW26C-W-0-587, OC2-MW26B-W-0-588, OC2-MW26A-W-0-589
Concentration and Matrix:	Low Concentration Groundwater
Analysis:	Hexavalent Chromium
SOW:	EPA Method 218.6
Collection Date:	July 11, 2007
Sample Receipt Date:	July 11, 2007
Preparation Date:	July 11, 2007
Analysis Date:	July 11, 2007

Field QC

Field Blanks (FB):	Not Provided
Equipment Blanks (EB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	Not Provided

Laboratory QC

Method Blanks:	7G11117-BLK1
Associated Samples:	Samples listed above
Matrix Spike:	7G11117-MS1
Matrix Spike Duplicate:	7G11117-MSD1

Analysis: Hexavalent Chromium

Analyte	Sample Preparation Date	Analysis Date
Hexavalent Chromium	July 11, 2007	July 11, 2007

Sampling Issues

The Chain of Custody (COC) record form did not specify a sample to be used for laboratory quality control (QC). However, the laboratory selected sample OC2-MW26D-W-5-586 which is designated as a QC sample on the Field QA/QC Summary Form. No adverse effect on data quality is expected.

The exact type of sample preservation was not provided on the COC record form. However, the laboratory Case Narrative indicates no problems were encountered. No adverse on data quality is expected.

Additional Comments

As directed by the EPA TOM, a Tier 3 data review was performed.

Analytical results are listed in Table 1A with qualifications. Definitions of data qualifiers used in Table 1A are listed in Table 1B.

This report was prepared in accordance with the following documents:

- Region 9 Standard Operating Procedure 906, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Inorganic Data Packages*;
- *Methods For The Determination Of Metals In Environmental Samples*, EPA-600/4-91-010, June 1991; and
- *USEPA Method 218.6, Determination of Dissolved Hexavalent Chromium in Drinking Water, Groundwater, and Industrial Wastewater Effluents by Ion Chromatography*, Revision 3.3, May 1994.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Data Completeness	Yes	
2.	Sample Preservation and Holding Times	Yes	
3.	Calibration	Yes	
	a. Initial		
	b. Initial and Continuing Calibration Verification		
4.	Blanks	Yes	
5.	Laboratory Control Sample (LCS)	Yes	
6.	Duplicate Sample Analysis	Yes	
7.	Matrix Spike Sample Analysis	Yes	
8.	Field Duplicate Sample Analysis	N/A	
9.	Sample Quantitation	Yes	
10.	Overall Assessment	Yes	

N/A = Not Applicable

III. OVERALL ASSESSMENT OF DATA

All of the method requirements specified in the EPA Method 218.6 have been met. Reported results for hexavalent chromium in all of the samples were appropriately and correctly calculated.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR INORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared in accordance with the document *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004.

U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

ICF International / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
Phone: (510) 412-2300 Fax: (510) 412-2304

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM)
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105083 Amendment 1

DATE: October 1, 2007

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	None Provided
SDG No.:	IQG0879
Laboratory:	TestAmerica Analytical Testing Corp.
Analysis:	Hexavalent Chromium
Samples:	4 Groundwater Samples (see Case Summary)
Collection Dates:	July 11, 2007
Reviewer:	Stan Kott, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

SAMPLING ISSUES: [X] Yes [ ] No

Data Validation Report

Case No.: None Provided
SDG No.: IQG0879
Site: Omega Chem OU2
Laboratory: TestAmerica Analytical Testing Corp.
Reviewer: Stan Kott, ESAT/LDC
Date: October 1, 2007

I. CASE SUMMARY

Sample Information

Samples:	OC2-MW26D-W-5-586, OC2-MW26C-W-0-587, OC2-MW26B-W-0-588, OC2-MW26A-W-0-589
Concentration and Matrix:	Low Concentration Groundwater
Analysis:	Hexavalent Chromium
SOW:	EPA Method 218.6
Collection Date:	July 11, 2007
Sample Receipt Date:	July 11, 2007
Preparation Date:	July 11, 2007
Analysis Date:	July 11, 2007

Field QC

Field Blanks (FB):	Not Provided
Equipment Blanks (EB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	Not Provided

Laboratory QC

Method Blanks:	7G11117-BLK1
Associated Samples:	Samples listed above
Matrix Spike:	7G11117-MS1
Matrix Spike Duplicate:	7G11117-MSD1

Analysis: Hexavalent Chromium

Analyte	Sample Preparation Date	Analysis Date
Hexavalent Chromium	July 11, 2007	July 11, 2007

Sampling Issues

The Chain of Custody (COC) record form did not specify a sample to be used for laboratory quality control (QC). However, the laboratory selected sample OC2-MW26D-W-5-586 which is designated as a QC sample on the Field QA/QC Summary Form. No adverse effect on data quality is expected.

The exact type of sample preservation was not provided on the COC record form. However, the laboratory Case Narrative indicates no problems were encountered. No adverse on data quality is expected.

Additional Comments

As directed by the EPA TOM, a Tier 3 data review was performed.

Analytical results are listed in Table 1A with qualifications. Definitions of data qualifiers used in Table 1A are listed in Table 1B.

This report was prepared in accordance with the following documents:

- Region 9 Standard Operating Procedure 906, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Inorganic Data Packages*;
- *Methods For The Determination Of Metals In Environmental Samples*, EPA-600/4-91-010, June 1991; and
- *USEPA Method 218.6, Determination of Dissolved Hexavalent Chromium in Drinking Water, Groundwater, and Industrial Wastewater Effluents by Ion Chromatography*, Revision 3.3, May 1994.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Data Completeness	Yes	
2.	Sample Preservation and Holding Times	Yes	
3.	Calibration	Yes	
	a. Initial		
	b. Initial and Continuing Calibration Verification		
4.	Blanks	Yes	
5.	Laboratory Control Sample (LCS)	Yes	
6.	Duplicate Sample Analysis	Yes	
7.	Matrix Spike Sample Analysis	Yes	
8.	Field Duplicate Sample Analysis	N/A	
9.	Sample Quantitation	Yes	
10.	Overall Assessment	Yes	

N/A = Not Applicable

III. OVERALL ASSESSMENT OF DATA

All of the method requirements specified in the EPA Method 218.6 have been met. Reported results for hexavalent chromium in all of the samples were appropriately and correctly calculated.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR INORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared in accordance with the document *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004.

U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

ICF International / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
Phone: (510) 412-2300 Fax: (510) 412-2304

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM) RF
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105077 Amendment 3

DATE: October 8, 2007

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	36520
SDG No.:	MY3CJ1
Laboratory:	Bonner Analytical Testing Co. (BONNER)
Analysis:	Select CLP Dissolved Metals and Dissolved Boron and Dissolved Silicon by ICP-AES
Samples:	20 Groundwater Samples (see Case Summary)
Collection Date:	July 9 through 13, 2007
Reviewer:	Stan Kott, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

cc: Cynthia Gurley, CLP PO USEPA Region 4
Steve Remaley, CLP PO USEPA Region 9

CLP PO: [X] FYI [ ] Action

SAMPLING ISSUES: [X] Yes [ ] No

Data Validation Report

Case No.: 36520
SDG No.: MY3CJ1
Site: Omega Chem OU2
Laboratory: Bonner Analytical Testing Co. (BONNER)
Reviewer: Stan Kott, ESAT/LDC
Date: October 8, 2007

I. CASE SUMMARY

Sample Information

Samples:	MY3CJ1 through MY3CJ5, MY3CJ7 through MY3CJ9, MY3CK0, MY3CK2 through MY3CK5, MY3CK7 through MY3CK9, MY3CL0, MY3CL1, MY3CL3, and MY3CL7
Concentration and Matrix:	Low Concentration Groundwater
Analysis:	Select CLP Dissolved Metals, Dissolved Boron, and Dissolved Silicon by ICP-AES
SOW:	ILM05.4 and Modification Reference Number: 1450.0
Collection Date:	July 9 through 13, 2007
Sample Receipt Date:	July 11 through 14, 2007
Preparation Date:	July 18, 2007
Analysis Date:	July 19, 2007

Field QC

Field Blanks (FB):	Not Provided
Equipment Blanks (EB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	MY3CJ4 and MY3CJ5
Field Duplicates (D2):	MY3CK9 and MY3CL0

Laboratory QC

Method Blank & Associated Samples:	Preparation Blank-Water (PBW) and samples listed above
Matrix Spike:	MY3CK2S
Duplicates:	MY3CK2D
ICP Serial Dilution:	MY3CK2L
Analysis:	Select CLP Dissolved Metals, Dissolved Boron, and Dissolved Silicon by ICP-AES

Analyte	Sample Preparation and Digestion Date	Analysis Date
ICP-AES Metals	July 18, 2007	July 19, 2007
Percent Solids	Not Applicable	Not Applicable

CLP PO Action

None.

Sampling Issues

1. The laboratory indicated that temperature indicator bottles were not provided in two sample coolers. The laboratory used a thermometer to determine the cooler temperatures to be 0.1°C and 0.6°C. Although these temperatures are outside the 4°C±2°C limit, no adverse effect on data quality is expected.

2. The laboratory indicated that the labels on the sample bottles incorrectly identified the nitric acid preservative as HNO_2. The laboratory indicated that the pH was within the method limit of less than two. No adverse effect on data quality is expected.

Additional Comments

Samples of this SDG were analyzed under Modified Analysis Request (MAR), Modification Reference Number 1450.0 for CLP dissolved metals plus dissolved boron and dissolved silicon by inductively coupled plasma-atomic emission spectroscopy (ICP-AES).

The laboratory indicated that the MY3CJ3 metals sample was transshipped from the USEPA Region 9 laboratory. No adverse effect on data quality is expected.

Initial sodium concentrations exceeded the instrument's linear range and were analyzed at the following dilutions: 2-fold for MY3CJ1, MY3CJ2, MY3CJ4, MY3CJ5, MY3CJ9, MY3CK0, MY3CK4, MY3CK5, MY3CK7, MY3CK9, MY3CL0, MY3CL1, MY3CL3, and MY3CL7; 3-fold for MY3CJ3. No adverse effect on data quality is expected.

All method requirements specified in the EPA Contract Laboratory Program (CLP) Inorganic Statement of Work (SOW), except as noted, have been met.

Analytical results are listed in Table 1A with qualifications. Definitions of data qualifiers used in Table 1A are listed in Table 1B.

This report was prepared in accordance with the following documents:

- Region 9 Standard Operating Procedure 906, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Inorganic Data Packages*;
- *USEPA Contract Laboratory Program Statement of Work For Inorganic Analysis Multi-Media, Multi-Concentration* ILM05.3, March 2004;
- *ILM05.3 to ILM05.4 Summary of Changes*, December 1, 2006; and
- *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Data Completeness	Yes	
2.	Sample Preservation and Holding Times	Yes	
3.	Calibration	Yes	
	a. Initial		
	b. Initial and Continuing Calibration Verification		
	c. CRQL Check Standard (CRI)		
4.	Blanks	Yes	
5.	ICP Interference Check Sample (ICS)	Yes	
6.	Laboratory Control Sample (LCS)	Yes	
7.	Duplicate Sample Analysis	Yes	
8.	Matrix Spike Sample Analysis	Yes	
9.	ICP Serial Dilution Analysis	Yes	
10.	ICP-MS Internal Standards	N/A	
11.	Field Duplicate Sample Analysis	Yes	
12.	Sample Quantitation	Yes	A
13.	Overall Assessment	Yes	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. Results above the method detection limit (MDL) but below the contract required quantitation limit (CRQL) (denoted with an "L" qualifier) are estimated and flagged "J" in Table 1A.

Results above the MDL but below the CRQL are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of quantitation.

ANALYTICAL RESULTS
Table 1A

Case No. : 36520 SDG No. : MY3CJ1
Site : OMEGA RECOVERY SERV.
Lab : BONNER ANALYTICAL TESTING Co. (BONNER)
Reviewer : Stan Kott, ESAT/LDC
Date : October 8, 2007

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Low Concentration Groundwater Samples for Select Dissolved Metals by ICP-AES

Station Location :	MY3CJ1			MY3CJ2			MY3CJ3			MY3CJ4			MY3CJ5			Y3CJ7		
Sample ID :	MY3CJ1			MY3CJ2			MY3CJ3			MY3CJ4	D1		MY3CJ5	D1		MY3CJ7		
Collection Date :	7/9/2007			7/9/2007			7/9/2007			7/9/2007			7/9/2007			7/10/2007		
PARAMETER	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
ALUMINUM	129L	J	A	200U			110L	J	A	21.1L	J	A	200U			200U		
CALCIUM	84500			110000			121000			184000			182000			44100		
IRON	149			100U			93.6L	J	A	100U			100U			4.8L	J	A
MAGNESIUM	35600			55300			50700			53600			53800			11700		
POTASSIUM	7520			6410			10100			5110			5160			2900L	J	A
SODIUM	137000			129000			160000			117000			118000			35700		
BORON	320			371			410			393			396			82.8L	J	A
SILICON	15400			16200			13100			20800			20700			10900		

Station Location :	Y3CJ8			Y3CJ9			Y3CK0			Y3CK2			Y3CK3			Y3CK4		
Sample ID :	MY3CJ8			MY3CJ9			MY3CK0			MY3CK2			MY3CK3			MY3CK4		
Collection Date :	7/10/2007			7/10/2007			7/10/2007			7/11/2007			7/11/2007			7/11/2007		
PARAMETER	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
ALUMINUM	200U			139L	J	A	200U			200U			35.7L	J	A	27.9L	J	A
CALCIUM	37200			165000			196000			45700			154000			184000		
IRON	100U			131			6.9L	J	A	4.9L	J	A	100U			10.1L	J	A
MAGNESIUM	10400			48900			44200			9310			38500			46600		
POTASSIUM	3650L	J	A	9550			6110			2930L	J	A	5490			6450		
SODIUM	57400			144000			115000			34200			79800			119000		
BORON	120			370			378			70.9L	J	A	216			338		
SILICON	10200			13300			14800			11000			12900			13800		

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
MDL - Method Detection Limit
N/A - Not Applicable NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample
CRQL - Contract Required Quantitation Limit

ANALYTICAL RESULTS
Table 1A

Case No. : 36520 SDG No. : MY3CJ1
Site : OMEGA RECOVERY SERV.
Lab : BONNER ANALYTICAL TESTING Co. (BONNER)
Reviewer : Stan Kott, ESAT/LDC
Date : October 8, 2007

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Low Concentration Groundwater Samples for Select Dissolved Metals by ICP-AES

Station Location :	Y3CK5			Y3CK7			Y3CK8			Y3CK9			Y3CL0			Y3CL1		
Sample ID :	MY3CK5			MY3CK7			MY3CK8			MY3CK9	D2		MY3CL0	D2		MY3CL1		
Collection Date :	7/11/2007			7/12/2007			7/12/2007			7/12/2007			7/12/2007			7/12/2007		
PARAMETER	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
ALUMINUM	24.0L	J	A	200U			200U			20.4L	J	A	200U			200U		
CALCIUM	237000			46100			36000			164000			163000			189000		
IRON	100U			58.6L	J	A	22.8L	J	A	110			108			8.4L	J	A
MAGNESIUM	58000			12500			7680			51900			51000			50500		
POTASSIUM	6830			5060			3780L	J	A	6600			6440			6470		
SODIUM	94600			150000			98800			105000			104000			129000		
BORON	387			149			170			271			269			364		
SILICON	13400			16600			15000			18600			18400			8220		

Station Location :	Y3CL3			Y3CL7			MDL			CRQL								
Sample ID :	MY3CL3			MY3CL7														
Collection Date :	7/13/2007			7/13/2007														
PARAMETER	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
ALUMINUM	200U			29.7L	J	A	18.4			200								
CALCIUM	155000			214000			15.0			5000								
IRON	100U			54.4L	J	A	4.4			100								
MAGNESIUM	43400			53500			3.8			5000								
POTASSIUM	4950L	J	A	6600			21.1			5000								
SODIUM	112000			101000			131			5000								
BORON	386			255			2.6			100								
SILICON	18100			13800			12.4			5000								

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
MDL - Method Detection Limit
N/A - Not Applicable NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample
CRQL - Contract Required Quantitation Limit

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR INORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared in accordance with the document *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004.

U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

ICF International / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
Phone: (510) 412-2300 Fax: (510) 412-2304

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM) RF
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105077 Amendment 3

DATE: October 8, 2007

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	36520
SDG No.:	MY3CJ2
Laboratory:	Bonner Analytical Testing Co. (BONNER)
Analysis:	CLP Dissolved Metals by ICP-MS and Cyanide
Samples:	20 Groundwater Samples (see Case Summary)
Collection Date:	July 9 through 13, 2007
Reviewer:	Stan Kott, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

cc: Cynthia Gurley, CLP PO USEPA Region 4
Steve Remaley, CLP PO USEPA Region 9

CLP PO: [X] FYI [ ] Action

SAMPLING ISSUES: [X] Yes [ ] No

Data Validation Report

Case No.: 36520
SDG No.: MY3CJ2
Site: Omega Chem OU2
Laboratory: Bonner Analytical Testing Co. (BONNER)
Reviewer: Stan Kott, ESAT/LDC
Date: October 8, 2007

I. CASE SUMMARY

Sample Information

Samples:	MY3CJ1 through MY3CJ5, MY3CJ7 through MY3CJ9, MY3CK0, MY3CK2 through MY3CK5, MY3CK7 through MY3CK9, MY3CL0, MY3CL1, MY3CL3, and MY3CL7
Concentration and Matrix:	Low Concentration Groundwater
Analysis:	CLP Dissolved Metals by ICP-MS and Cyanide
SOW:	ILM05.4
Collection Date:	July 9 through 13, 2007
Sample Receipt Date:	July 11 through 14, 2007
Preparation Date:	July 17, 2007
Analysis Date:	July 17 and 23, 2007

Field QC

Field Blanks (FB):	Not Provided
Equipment Blanks (EB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	MY3CJ4 and MY3CJ5
Field Duplicates (D2):	MY3CK9 and MY3CL0

Laboratory QC

Method Blank & Associated Samples:	Preparation Blank-Water (PBW) and samples listed above
Matrix Spike:	MY3CK2S
Duplicates:	MY3CK2D
ICP Serial Dilution:	MY3CK2L

Analysis: CLP Dissolved Metals by ICP-MS and Cyanide

Analyte	Sample Preparation and Digestion Date	Analysis Date
ICP-MS Metals	July 17, 2007	July 23, 2007
Cyanide	July 17, 2007	July 17, 2007
Percent Solids	Not Applicable	Not Applicable

CLP PO Action

None.

Sampling Issues

1. The laboratory indicated that temperature indicator bottles were not provided in two sample coolers. The laboratory used a thermometer to determine the cooler temperatures to be 0.1°C and 0.6°C. Although these temperatures are outside the 4°C±2°C limit, no adverse effect on data quality is expected.

2. The laboratory indicated that the labels on the sample bottles incorrectly identified the nitric acid preservative as HNO_2. The laboratory indicated that the pH was within the method limit of less than two. No adverse effect on data quality is expected.

Additional Comments

The laboratory indicated that the MY3CJ3 metals sample was transshipped from the USEPA Region 9 laboratory. No adverse effect on data quality is expected.

All method requirements specified in the EPA Contract Laboratory Program (CLP) Inorganic Statement of Work (SOW), except as noted, have been met.

Analytical results are listed in Table 1A with qualifications. Definitions of data qualifiers used in Table 1A are listed in Table 1B.

This report was prepared in accordance with the following documents:

- Region 9 Standard Operating Procedure 906, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Inorganic Data Packages*;
- *USEPA Contract Laboratory Program Statement of Work For Inorganic Analysis Multi-Media, Multi-Concentration* ILM05.3, March 2004;
- *ILM05.3 to ILM05.4 Summary of Changes*, December 1, 2006; and
- *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Data Completeness	Yes	
2.	Sample Preservation and Holding Times	Yes	
3.	Calibration	Yes	
	a. Initial		
	b. Initial and Continuing Calibration Verification		
	c. CRQL Check Standard (CRI)		
	d. ICP-MS Tuning Analysis		
4.	Blanks	No	B,C
5.	ICP Interference Check Sample (ICS)	Yes	
6.	Laboratory Control Sample (LCS)	Yes	
7.	Duplicate Sample Analysis	Yes	
8.	Matrix Spike Sample Analysis	Yes	
9.	ICP Serial Dilution Analysis	Yes	
10.	ICP-MS Internal Standards	Yes	
11.	Field Duplicate Sample Analysis	Yes	
12.	Sample Quantitation	Yes	A
13.	Overall Assessment	Yes	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. Results above the method detection limit (MDL) but below the contract required quantitation limit (CRQL) (denoted with an "L" qualifier) are estimated and flagged "J" in Table 1A.

Results above the MDL but below the CRQL are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of quantitation.

B. The following results are qualified as estimated high and flagged "J+" or reported non-detected "U" in Table 1A due to preparation blank contamination.

- Zinc in samples MY3CJ1, MY3CJ3, MY3CJ4, MY3CJ5, MY3CJ7, MY3CJ8, MY3CJ9, MY3CK0, MY3CK2 through MY3CK5, MY3CK7, MY3CK8, MY3CK9, MY3CL0, MY3CL1, MY3CL3, and MY3CL7

Sample results greater than the CRQL are qualified as estimated high (J+) unless the concentration of zinc in the sample exceeds 5 times the amount in any associated blank. Sample results greater than or equal to the MDL but less than or equal to the CRQL are reported as non-detected (U) at the CRQL.

The reported result of 2.4 μg/L for zinc in preparation blank sample PBW1 exceeded the 2.0 μg/L CRQL.

A preparation blank is an analytical control that contains distilled, deionized water, or baked sand for solid matrices, and reagents, which is carried through the entire analytical procedure. The preparation blank is used to determine the level of contamination introduced by the laboratory during preparation and analysis.

C. The following results are reported as non-detected (U) in Table 1A due to low level continuing calibration blank (CCB) contamination.

- Antimony in samples MY3CJ1, MY3CJ2, MY3CJ3, MY3CK0, MY3CK5, MY3CK7, and MY3CL1
- Arsenic in sample MY3CK2, MY3CK3, MY3CK5, MY3CK7, and MY3CK8
- Cadmium in samples MY3CJ1 through MY3CJ5, MY3CJ8, MY3CJ9, MY3CK0, MY3CK3, MY3CK4, MY3CK5, MY3CL1, MY3CL3, and MY3CL7
- Chromium in samples MY3CJ1, MY3CJ8, MY3CK2, MY3CK7, MY3CK8, MY3CK9, MY3CL0, MY3CL1, and MY3CL7
- Cobalt in samples MY3CJ7, MY3CJ8, MY3CK2, MY3CK7, and MY3CK8
- Silver in samples MY3CK5 and MY3CL3
- Thallium in samples MY3CJ1 through MY3CJ5, MY3CJ7, MY3CK0, MY3CK3, MY3CK4, MY3CK5, MY3CK7, and MY3CL0
- Vanadium in sample MY3CK0, MY3CK2, MY3CK4, MY3CK5, MY3CL1, and MY3CL7

Analyte amounts greater than the MDL but less than the CRQL were found in several blanks at the concentrations listed below.

Analyte	Run 1 Blank	Run 2 Blank	Concentration, µg/L
Antimony	CCB2	CCB1	0.88 and 0.96
Arsenic	CCB3	CCB2	0.30 and 0.36
Cadmium	CCB2	CCB2	0.029 and 0.045
Chromium	CCB2	CCB2	0.20 and 0.26
Cobalt	CCB2	CCB2	0.025 and 0.042
Silver	---	CCB2	0.018
Thallium	CCB1	CCB2	0.081 and 0.14
Vanadium	CCB3	CCB2	0.82 and 0.57

Affected sample results greater than or equal to the MDL but less than the CRQL are reported as non-detected (U) at the respective CRQL.

A continuing calibration blank (CCB) consists of deionized, distilled water and reagents. It is analyzed after the continuing calibration verification (CCV) standard, at a frequency of every 10 samples and at the end of the analytical run to monitor analyte carry-over.

ANALYTICAL RESULTS
Table 1A

Case No. : 36520 SDG No. : MY3CJ2
Site : OMEGA RECOVERY SERV.
Lab : BONNER ANALYTICAL TESTING Co. (BONNER)
Reviewer : Stan Kott, ESAT/LDC
Date : October 8, 2007

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Low Concentration Groundwater Samples for CLP Dissolved Metals by ICP-MS and Cyanide

Station Location :	MY3CJ1			MY3CJ2			MY3CJ3			MY3CJ4			MY3CJ5			Y3CJ7		
Sample ID :	MY3CJ1			MY3CJ2			MY3CJ3			MY3CJ4	D1		MY3CJ5	D1		MY3CJ7		
Collection Date :	7/9/2007			7/9/2007			7/9/2007			7/9/2007			7/9/2007			7/10/2007		
PARAMETER	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
ANTIMONY	2.0U		C	2.0U		C	2.0U		C	2.0U			2.0U			2.0U		
ARSENIC	2.5			2.6			3.2			1.7			1.9			2.2		
BARIUM	23.0			21.6			22.5			35.6			35.8			20.1		
BERYLLIUM	1.0U			1.0U			1.0U			1.0U			1.0U			1.0U		
CADMIUM	1.0U		C	1.0U		C	1.0U		C	1.0U		C	1.0U		C	1.0U		
CHROMIUM	2.0U		C	1.4L	J	A	1.6L	J	A	3.1			3.1			10.5		
COBALT	0.28L	J	A	0.26L	J	A	0.27L	J	A	0.35L	J	A	0.35L	J	A	1.0U		C
COPPER	2.7			0.45L	J	A	0.64L	J	A	0.46L	J	A	0.42L	J	A	2.0U		
LEAD	1.0U			1.0U			1.0U			1.0U			1.0U			1.0U		
MANGANESE	89.5			47.4			63.0			56.8			57.0			2.9		
NICKEL	2.2			1.1			2.1			1.8			1.8			0.43L	J	A
SELENIUM	5.2			8.5			8.9			4.5L	J	A	4.7L	J	A	4.8L	J	A
SILVER	0.028L	J	A	1.0U			1.0U			1.0U			1.0U			1.0U		
THALLIUM	1.0U		C	1.0U		C	1.0U		C	1.0U		C	1.0U		C	1.0U		C
VANADIUM	6.9			6.6			6.2			5.7			5.8			8.0		
ZINC	5.9	J+	B	42.8			7.3	J+	B	2.4	J+	B	2.9	J+	B	2.2	J+	B
CYANIDE	6.7L	J	A	10.0U			3.3L	J	A	10.0U			10.0U			10.0U		

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
MDL - Method Detection Limit
N/A - Not Applicable NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample
CRQL - Contract Required Quantitation Limit

ANALYTICAL RESULTS
Table 1A

Case No. : 36520 SDG No. : MY3CJ2
Site : OMEGA RECOVERY SERV.
Lab : BONNER ANALYTICAL TESTING Co. (BONNER)
Reviewer : Stan Kott, ESAT/LDC
Date : October 8, 2007

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Low Concentration Groundwater Samples for CLP Dissolved Metals by ICP-MS and Cyanide

Station Location :	Y3CJ8			Y3CJ9			Y3Ck0			Y3CK2			Y3CK3			Y3CK4		
Sample ID :	MY3CJ8			MY3CJ9			MY3CK0			MY3CK2			MY3CK3			MY3CK4		
Collection Date :	7/10/2007			7/10/2007			7/10/2007			7/11/2007			7/11/2007			7/11/2007		
PARAMETER	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
ANTIMONY	2.0U			2.0U			2.0U		C	2.0U			2.0U			2.0U		
ARSENIC	3.3			2.0			1.0			1.0U		C	1.0U		C	1.1		
BARIUM	22.7			47.3			42.1			65.4			65.3			33.3		
BERYLLIUM	1.0U			1.0U			1.0U			1.0U			1.0U			1.0U		
CADMIUM	1.0U		C	1.0U		C	1.0U		C	1.0U			1.0U		C	1.0U		C
CHROMIUM	2.0U		C	10.4			28.8			2.0U		C	9.1			51.9		
COBALT	1.0U		C	0.32L	J	A	0.31L	J	A	1.0U		C	0.24L	J	A	0.33L	J	A
COPPER	0.21L	J	A	1.0L	J	A	0.42L	J	A	0.24L	J	A	0.38L	J	A	0.41L	J	A
LEAD	1.0U			1.0U			1.0U			1.0U			1.0U			1.0U		
MANGANESE	13.4			14.3			11.6			25.7			7.0			8.2		
NICKEL	0.53L	J	A	1.9			1.9			0.26L	J	A	1.2			1.8		
SELENIUM	5.4			12.5			10.2			5.0U			20.0			14.0		
SILVER	1.0U			1.0U			1.0U			1.0U			1.0U			1.0U		
THALLIUM	1.0U			1.0U			1.0U		C	1.0U			1.0U		C	1.0U		C
VANADIUM	8.2			5.4			5.0U		C	5.0U		C	6.1			5.0U		C
ZINC	7.4	J+	B	3.9	J+	B	2.0U		B	2.0U		B	3.7	J+	B	3.8	J+	B
CYANIDE	10.0U			10.0U			10.0U			10.0U			10.0U			10.0U		

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
MDL - Method Detection Limit
N/A - Not Applicable NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample
CRQL - Contract Required Quantitation Limit

ANALYTICAL RESULTS
Table 1A

Case No. : 36520 SDG No. : MY3CJ2
Site : OMEGA RECOVERY SERV.
Lab : BONNER ANALYTICAL TESTING Co. (BONNER)
Reviewer : Stan Kott, ESAT/LDC
Date : October 8, 2007

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Low Concentration Groundwater Samples for CLP Dissolved Metals by ICP-MS and Cyanide

Station Location :	Y3CK5			Y3CK7			Y3CK8			Y3CK9			Y3CL0			Y3CL1		
Sample ID :	MY3CK5			MY3CK7			MY3CK8			MY3CK9	D2		MY3CL0	D2		MY3CL1		
Collection Date :	7/11/2007			7/12/2007			7/12/2007			7/12/2007			7/12/2007			7/12/2007		
PARAMETER	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
ANTIMONY	2.0U		C	2.0U		C	2.0U			2.0U			2.0U			2.0U		C
ARSENIC	1.0U		C	1.0U		C	1.0U		C	2.7			2.7			1.8		
BARIUM	46.6			138			212			75.2			75.2			37.6		
BERYLLIUM	1.0U			1.0U			1.0U			1.0U			1.0U			1.0U		
CADMIUM	1.0U		C	1.0U			1.0U			1.0U			1.0U			1.0U		C
CHROMIUM	33.3			2.0U		C	2.0U		C	2.0U		C	2.0U		C	2.0U		C
COBALT	0.39L	J	A	1.0U		C	1.0U		C	0.23L	J	A	0.22L	J	A	0.56L	J	A
COPPER	0.56L	J	A	0.20L	J	A	0.33L	J	A	0.29L	J	A	0.29L	J	A	0.42L	J	A
LEAD	1.0U			1.0U			1.0U			1.0U			1.0U			1.0U		
MANGANESE	10.1			101			48.6			344			339			822		
NICKEL	2.8			0.32L	J	A	0.37L	J	A	2.2			2.0			3.0		
SELENIUM	8.6			5.0U			5.0U			5.0U			5.0U			5.0U		
SILVER	1.0U		C	1.0U			1.0U			1.0U			1.0U			1.0U		
THALLIUM	1.0U		C	1.0U		C	1.0U			1.0U			1.0U		C	1.0U		
VANADIUM	5.0U		C	5.0U			5.0U			5.0U			5.0U			5.0U		C
ZINC	2.3	J+	B	2.0U		B	3.9	J+	B	2.6	J+	B	3.7	J+	B	9.8	J+	B
CYANIDE	3.1L	J	A	10.0U			10.0U			10.0U			10.0U			10.0U		

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
MDL - Method Detection Limit
N/A - Not Applicable NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample
CRQL - Contract Required Quantitation Limit

ANALYTICAL RESULTS
Table 1A

Case No. : 36520 SDG No. : MY3CJ2
Site : OMEGA RECOVERY SERV.
Lab : BONNER ANALYTICAL TESTING Co. (BONNER)
Reviewer : Stan Kott, ESAT/LDC
Date : October 8, 2007

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Low Concentration Groundwater Samples for CLP Dissolved Metals by ICP-MS and Cyanide

Station Location :	Y3CL3			Y3CL7			MDL			CRQL								
Sample ID :	MY3CL3			MY3CL7														
Collection Date :	7/13/2007			7/13/2007														
PARAMETER	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
ANTIMONY	2.0U			2.0U			0.27			2.0								
ARSENIC	1.4			1.3			0.07			1.0								
BARIUM	46.8			59.6			0.1			10.0								
BERYLLIUM	1.0U			1.0U			0.032			1.0								
CADMIUM	1.0U		C	1.0U		C	0.01			1.0								
CHROMIUM	24.0			2.0U		C	0.06			2.0								
COBALT	0.25L	J	A	0.50L	J	A	0.011			1.0								
COPPER	0.53L	J	A	0.62L	J	A	0.20			2.0								
LEAD	1.0U			1.0U			0.18			1.0								
MANGANESE	26.5			594			0.055			1.0								
NICKEL	1.6			1.9			0.16			1.0								
SELENIUM	4.4L	J	A	8.3			0.27			5.0								
SILVER	1.0U		C	1.0U			0.012			1.0								
THALLIUM	1.0U			1.0U			0.012			1.0								
VANADIUM	3.3L	J	A	5.0U		C	0.44			5.0								
ZINC	4.0	J+	B	5.2	J+	B	0.34			2.0								
CYANIDE	10.0U			3.5L			3.0			10.0								

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
MDL - Method Detection Limit
N/A - Not Applicable NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample
CRQL - Contract Required Quantitation Limit

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR INORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared in accordance with the document *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004.

U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

ICF International / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
Phone: (510) 412-2300; Fax: (510) 412-2304.

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM)
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105083

DATE: October 1, 2007

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	Not Provided
SDG No.:	IQG0879
Laboratory:	Test America Analytical Testing Corp.
Analysis:	1,2,3-Trichloropropane (1,2,3-TCP) and n-Nitrosodimethylamine (NDMA)
Samples:	4 Water Samples (see Case Summary)
Collection Date:	July 11, 2007
Reviewer:	Calvin Tanaka, ESAT/Laboratory Data Consultants (LDC)

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

SAMPLING ISSUES: [ ] Yes [X] No

Data Validation Report – Tier 3

Case No.: Not Provided
SDG No.: IQG0879
Site: Omega Chem OU2
Laboratory: Test America Analytical Testing Corp.
Reviewer: Calvin Tanaka, ESAT/LDC
Date: October 1, 2007

I. CASE SUMMARY

Sample Information

Samples:	OC2-MW26D-W-5-586, OC2-MW26C-W-0-587, OC2-MW26B-W-0-588, and OC2-MW26A-W-0-589
Concentration and Matrix:	Low Concentration Water
Analysis:	1,2,3-TCP (GC/MS) and NDMA (GC/MS/MS CI)
Methods:	EPA Methods 524.2 and 1625 Modified
Collection Date:	July 11, 2007
Sample Receipt Date:	July 11, 2007
Extraction Date:	July 16 through 18, 2006
Analysis Date:	July 16 through 18, 2006

Field QC

Field Blanks (FB):	Not Provided
Trip Blanks (TB):	Not Provided
Equipment Blanks (EB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	Not Provided

Laboratory QC

Method Blanks & Associated Samples:

7G16057-BLK1:	(NDMA) All samples
C7G1605-BLK1:	(1,2,3-TCP) OC2-MW26C-W-0-587 and OC2-MW26B-W-0-588
C7G1703-BLK1:	(1,2,3-TCP) OC2-MW26A-W-0-589
C7G1807-BLK1:	(1,2,3-TCP) OC2-MW26D-W-5-586

Tables

1B:	Data Qualifier Definitions for Organic Data Review

Sampling Issues

None.

Additional Comments

For the NDMA analysis, decafluorotriphenylphosphine (DFTPP) was not analyzed. Since NDMA is analyzed by the chemical ionization (CI) technique, no adverse effect is expected.

For the 1,2,3-TCP analysis, 4-bromofluorobenzene (BFB) was not analyzed. Since 1,2,3-TCP is analyzed by the selected ion monitoring (SIM) technique, no adverse effect is expected.

This report was prepared in accordance with the following documents:

- ESAT Region 9 Standard Operating Procedure 901, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Volatile and Semivolatile Data Packages*;

- EPA Method 524.2, *Measurement of Purgeable Organic Compounds in Water by Capillary Column Gas Chromatography/Mass Spectrometry*, Revision 4.1, 1995;

- EPA Method 1625C, *Semivolatile Organic Compounds by Isotope dilution GC/MS*, June 1989; and

- *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review*, October 1999.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Holding Time/Preservation	Yes	
2.	GC/MS and GC Performance	Yes	
3.	Initial Calibration	Yes	
4.	Continuing Calibration	Yes	
5.	Laboratory Blanks	Yes	
6.	Field Blanks	N/A	
7.	Surrogate (Method 524.2)	No	A
8.	Labeled Compound (Method 1625)	No	B
9.	Matrix Spike/Matrix Spike Duplicates	Yes	
10.	Laboratory Control Samples/Duplicates	Yes	
11.	Internal Standard	Yes	
12.	Compound Identification	Yes	
13.	Compound Quantitation	Yes	
14.	System Performance	Yes	
15.	Field Duplicate Sample Analysis	N/A	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. For the 1,2,3-TCP analysis, the laboratory did not spike the samples, QC samples, and method blanks with a surrogate (see Method 524.2 Sections 3.2, 7.5, 11.1.2, and 12.1.1 and Table 1). Consequently, the extraction efficiency (surrogate recovery) cannot be evaluated. The 1,2,3-trichloropropane-d5 spiked by the laboratory was used as an internal standard.

B. For the NDMA analysis, the laboratory did not spike the samples, QC samples, and method blank with a labeled compound (i.e., surrogate; see Method 1625C Sections 6.8, 10.2.1.3, and 10.2.3.2 and Figure 4). Consequently, the extraction efficiency (surrogate recovery) cannot be evaluated. The NDMA-d6 spiked by the laboratory was used as an internal standard.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," October 1999.

U The analyte was analyzed for but was not detected above the reported sample quantitation limit.

L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ICF international / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
Phone: (510) 412-2300; Fax: (510) 412-2304.

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM)
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105077 Amendment 3

DATE: September 13, 2007

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID NO.:	CAD042245001
Case No.:	36520
SDG No.:	Y3CN1
Laboratory:	Shealy Environmental Services, Inc. (SHEALY)
Analysis:	1,4-Dioxane (Semivolatile SIM)
Samples:	17 Ground Water Samples (see Case Summary)
Collection Date:	July 18, 19, 20, and 23, 2007
Reviewer:	Santiago Lee, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

cc: Carol Beard, CLP PO USEPA Region 8
Steve Remaley, CLP PO USEPA Region 9

CLP PO: [X] Attention [ ] Action

SAMPLING ISSUES: [X] Yes [ ] No

Data Validation Report

Case No.: 36520
SDG No.: Y3CN1
Site: Omega Chem OU2
Laboratory: Shealy Environmental Services, Inc.
Reviewer: Santiago Lee, ESAT/LDC
Date: September 13, 2007

I. CASE SUMMARY

Sample Information

Samples:	Y3CN1 through Y3CN4, Y3CN6 through Y3CN9, Y3CP0, Y3CP2 through Y3CP5, and Y3CP7 through Y3CQ0
Concentration and Matrix:	Low/Medium Concentration Water
Analysis:	1,4-Dioxane by Semivolatile Selective Ion Monitoring (SIM)
SOW:	SOM01.1
Collection Date:	July 18, 19, 20, and 23, 2007
Sample Receipt Date:	July 19, 20, 21, and 24, 2007
Extraction Date:	July 19, 23, and 26, 2007
Analysis Date:	July 22, 25, and 29, 2007

Field QC

Field Blanks (FB):	Not Provided
Equipment Blanks (EB):	Not Provided
Trip Blank (TB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	Y3CP9 and Y3CQ0

Laboratory QC

Method Blanks & Associated Samples:

SBLK17:	Y3CN1 through Y2CN4
SBLK48:	Y3CN6 through Y3CN9, Y3CP0, and Y3CP2 through Y2CP5
SBLK81:	Y3CP7 through Y2CQ0

Tables

1A:	Analytical Results with Qualifications
1B:	Data Qualifier Definitions for Organic Data Review

CLP PO Action

None.

CLP PO Attention

1. Results for 1,4-dioxane in Y3CN1 through Y3CN4, Y3CN6 through Y3CN9, Y3CP0, Y3CP2 through Y3CP5, and Y3CP7 are qualified as estimated (J) due to low deuterated monitoring compound (DMC) recoveries (see Comment B).

2. The result for 1,4-dioxane in sample Y3CN2 is qualified as estimated (J) due to a low internal standard area (see Comment C).

Sampling Issues

The sampler signature is missing on traffic report & chain of custody records (TR/COCs) for samples collected on 07/18/07 through 07/20/07 (see attached TR/COCs, pp. 5 through 7 in data package).

Additional Comments

This report was prepared in accordance with the following documents:

- ESAT Region 9 Standard Operating Procedure 901, *Guidelines for Data Review of Contract Laboratory Program Analytical Services Volatile and Semivolatile Data Packages*;
- *USEPA Contract Laboratory Program Statement of Work for Organics Analysis, Multi-Media, Multi-Concentration,* SOM01.1, May 2005; and
- *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review*, January 2005.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Holding Time/Preservation	Yes	
2.	GC/MS Tune/GC Performance	Yes	
3.	Initial Calibration	Yes	
4.	Continuing Calibration	Yes	
5.	Laboratory Blanks	Yes	
6.	Field Blanks	N/A	
7.	Deuterated Monitoring Compounds	No	B
8.	Matrix Spike/Matrix Spike Duplicates	N/A	
9.	Laboratory Control Samples/Duplicates	N/A	
10.	Internal Standards	No	C
11.	Compound Identification	Yes	
12.	Compound Quantitation	Yes	A
13.	System Performance	Yes	
14.	Field Duplicate Sample Analysis	Yes	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. The following results, denoted with an "L" qualifier, are estimated and flagged "J" in Table 1A.

- All detected results below the contract required quantitation limits

Results below the contract required quantitation limits (CRQLs) are considered to be qualitatively acceptable, but quantitatively unreliable, due to the uncertainty in analytical precision near the limit of detection.

B. Results for the following analyte are qualified as estimated due to DMC recoveries below the QC limit and are flagged "J" in Table 1A.

{1,4-Dioxane-d8}
- 1,4-Dioxane in samples Y3CN1 through Y3CN4, Y3CN6 through Y3CN9, Y3CP0, Y3CP2 through Y3CP5, and Y3CP7 and method blanks SBLK48 and SBLK81

DMC recoveries below the QC limit are shown below.

Sample	DMC	% Recovery	QC Limits
Y3CN1	1,4-Dioxane-d8	22	40-150
Y3CN2	1,4-Dioxane-d8	24	40-150
Y3CN3	1,4-Dioxane-d8	27	40-150
Y3CN4	1,4-Dioxane-d8	27	40-150
Y3CN6	1,4-Dioxane-d8	31	40-150
Y3CN7	1,4-Dioxane-d8	30	40-150
Y3CN8	1,4-Dioxane-d8	28	40-150
Y3CN9	1,4-Dioxane-d8	39	40-150
Y3CP0	1,4-Dioxane-d8	31	40-150
Y3CP2	1,4-Dioxane-d8	34	40-150
Y3CP3	1,4-Dioxane-d8	31	40-150
Y3CP4	1,4-Dioxane-d8	35	40-150
Y3CP5	1,4-Dioxane-d8	30	40-150
Y3CP7	1,4-Dioxane-d8	28	40-150
SBLK48	1,4-Dioxane-d8	28	40-150
SBLK81	1,4-Dioxane-d8	23	40-150

Qualified results may be biased low. The samples were not re-extracted.

C. The result for the following analyte is qualified as estimated due to a low internal standard (IS) area and is flagged "J" in Table 1A.

- 1,4-Dioxane in sample Y3CN2

The IS area below the QC limit is shown below.

ANALYTICAL RESULTS
Table 1A

Case No. : 36520 SDG No. : Y3CN1
Site : Omega Chem OU2
Lab : Shealy Environmental Services, Inc.
Reviewer : Santiago Lee, ESAT/LDC
Date : 09/13/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Low Level Water Samples for Semivolatiles SIM

Station Location :	Y3CN1			Y3CN2			Y3CN3			Y3CN4			Y3CN6			Y3CN7		
Sample ID :	Y3CN1			Y3CN2			Y3CN3			Y3CN4			Y3CN6			Y3CN7		
Collection Date :	7/18/2007			7/18/2007			7/18/2007			7/18/2007			7/19/2007			7/19/2007		
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
Semivolatiles SIM	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
1,4-Dioxane	2.0U	J	B	44	J	BC	7.5	J	B	27	J	B	2.0U	J	B	1.7L	J	AB

Station Location :	Y3CN8			Y3CN9			Y3CP0			Y3CP2			Y3CP3			Y3CP4		
Sample ID :	Y3CN8			Y3CN9			Y3CP0			Y3CP2			Y3CP3			Y3CP4		
Collection Date :	7/19/2007			7/19/2007			7/19/2007			7/20/2007			7/20/2007			7/20/2007		
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
Semivolatiles SIM	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
1,4-Dioxane	2.1	J	B	8.5	J	B	2.0U	J	B	2.0U	J	B	2.0U	J	B	2.0U	J	B

Station Location :	Y3CP5			Y3CP7			Y3CP8			Y3CP9			Y3CQ0			Method Blank		
Sample ID :	Y3CP5			Y3CP7			Y3CP8			Y3CP9		D1	Y3CQ0		D1	SBLK17		
Collection Date :	7/20/2007			7/23/2007			7/23/2007			7/23/2007			7/23/2007					
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
Semivolatiles SIM	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
1,4-Dioxane	2.0U	J	B	2.0U	J	B	2.0U			2.0U			2.0U			2.0U		

Station Location :	Method Blank			Method Blank														
Sample ID :	SBLK48			SBLK81			CRQL											
Collection Date :																		
Dilution Factor :	1.0			1.0														
Semivolatiles SIM	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
1,4-Dioxane	2.0U	J	B	2.0U	J	B	2.0											

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
CRQL - Contract Required Quantitation LImit
N/A - Not Applicable
NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review," January 2005.

U The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method.

L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

J The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the CRQL).

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.

R The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.

USEPA Contract Laboratory Program
Organic Traffic Report & Chain of Custody Record

Case No:	36520
DAS No:	
SDG No:	Y3CL1, Y3CN1

L

Date Shipped:	7/18/2007
Carrier Name:	FedEx
Airbill:	799177129103, 792380236[illegible]
Shipped to:	Shealy Environmental 106 Vantage Point Drive Cayce SC 29033 (803) 791-9700

Chain of Custody Record

Relinquished By	(Date / Time)	Received By	(Date / Time)
1	7-18-07- 1400		
2			
3			
4		7/19/07 0930	

Sampler Signature:

For Lab Use Only

Lab Contract No:	EPW05031
Unit Price:	
Transfer To:	
Lab Contract No:	
Unit Price:	

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		INORGANIC SAMPLE No.	FOR LAB USE ONLY Sample Condition On Receipt
Y3CN0	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	255 (Ice Only), 256 (Ice Only), 257 (Ice Only), 258 (Ice Only), 259 (HCL), 260 (HCL), 261 (HCL), 262 (HCL), 263 (HCL), 264 (HCL), 265 (HCL), 266 (HCL) (12)	Y3CN0	S: 7/18/2007	8:25		OK
Y3CN1	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	267 (Ice Only), 268 (Ice Only), 269 (HCL), 270 (HCL), 271 (HCL), 272 (HCL) (6)	Y3CN1	S: 7/18/2007	9:15		
Y3CN2	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	273 (Ice Only), 274 (Ice Only), 275 (HCL), 276 (HCL), 277 (HCL), 278 (HCL) (6)	Y3CN2	S: 7/18/2007	10:10		
Y3CN3	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	279 (Ice Only), 280 (Ice Only), 281 (HCL), 282 (HCL), 283 (HCL), 284 (HCL) (6)	Y3CN3	S: 7/18/2007	11:15		
Y3CN4	Ground Water/ Robert Hernandez	M/G	SIM TVOA (21), SVOA (21)	285 (Ice Only), 286 (Ice Only), 287 (HCL), 288 (HCL), 289 (HCL), 290 (HCL) (6)	Y3CN4	S: 7/18/2007	12:12		
Y3CN5	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21)	291 (HCL), 292 (HCL), 293 (HCL), 294 (HCL) (4)	Y3CN5	S: 7/18/2007	13:00		

COPY
ORIGINAL DOCUMENTS INCLUDED IN CSF Y3CL1-3165
Signature
07/23/07
Date

Shipment for Case Complete?N	Sample(s) to be used for laboratory QC: Y3CN0	Additional Sampler Signature(s):	Cooler Temperature Upon Receipt 5.3, 4.6	Chain of Custody Seal Number: NA
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G		Custody Seal Intact? Y / Shipment Iced? Y

SIM TVOA = CLP TCL Volatiles (including SIM), SVOA = 1,4-Dioxane

TR Number: 9-373659945-071807-0002

LABORATORY COPY

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USEPA Contract Laboratory Program
Organic Traffic Report & Chain of Custody Record

EPA

Case No:	36520
DAS No:	
SDG No:	Y3CN1

L

Date Shipped:	7/19/2007
Carrier Name:	FedEx
Airbill:	790294947320, 799177924(
Shipped to:	Shealy Environmental 106 Vantage Point Drive Cayce SC 29033 (803) 791-9700

Chain of Custody Record

Relinquished By	(Date / Time)	Received By	(Date / Time)
1	1400		
2			
3			
4			

Sampler Signature:

For Lab Use Only

Lab Contract No:	EPW05031
Unit Price:	
Transfer To:	
Lab Contract No:	
Unit Price:	

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	FOR LAB USE ONLY Sample Condition On Receipt
Y3CN6	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	297 (Ice Only), 298 (Ice Only), 299 (HCL), 300 (HCL), 301 (HCL), 302 (HCL) (6)	Y3CN6	S: 7/19/2007 8:30		OK
Y3CN7	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	303 (Ice Only), 304 (Ice Only), 305 (HCL), 306 (HCL), 307 (HCL), 308 (HCL) (6)	Y3CN7	S: 7/19/2007 9:25		
Y3CN8	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	309 (Ice Only), 310 (Ice Only), 311 (HCL), 312 (HCL), 313 (HCL), 314 (HCL) (6)	Y3CN8	S: 7/19/2007 9:55		
Y3CN9	Ground Water/ Robert Hernandez	M/G	SIM TVOA (21), SVOA (21)	315 (Ice Only), 316 (Ice Only), 317 (HCL), 318 (HCL), 319 (HCL), 320 (HCL) (6)	Y3CN9	S: 7/19/2007 11:07		
Y3CP0	Ground Water/ Robert Hernandez	M/G	SIM TVOA (21), SVOA (21)	321 (Ice Only), 322 (Ice Only), 323 (HCL), 324 (HCL), 325 (HCL), 326 (HCL) (6)	Y3CP0	S: 7/19/2007 12:45		
Y3CP1	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21)	327 (HCL), 328 (HCL), 329 (HCL), 330 (HCL) (4)	Y3CP1	S: 7/19/2007 13:00		

Shipment for Case Complete?N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Cooler Temperature Upon Receipt 3.8, 4.4	Chain of Custody Seal Number: NA
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Custody Seal Intact? Y	Shipment Iced? Y

SIM TVOA = CLP TCL Volatiles (including SIM), SVOA = 1,4-Dioxane

TR Number: 9-373659945-071907-0001

LABORATORY COPY

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USEPA Contract Laboratory Program
Organic Traffic Report & Chain of Custody Record

Case No:	36520
DAS No:	
SDG No:	Y3CN1

L

Date Shipped:	7/20/2007
Carrier Name:	FedEx
Airbill:	791726191401
Shipped to:	Shealy Environmental 106 Vantage Point Drive Cayce SC 29033 (803) 791-9700

Chain of Custody Record

Relinquished By	(Date / Time)	Received By	(Date / Time)
1	7-20-07 1200		
2			
3			
4			7/21/07 1100

Sampler Signature:

For Lab Use Only

Lab Contract No:	EPW03031
Unit Price:	5 SMV07/26/07
Transfer To:	
Lab Contract No:	
Unit Price:	

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		INORGANIC SAMPLE No.	FOR LAB USE ONLY Sample Condition On Receipt
Y3CP2	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	331 (Ice Only), 332 (Ice Only), 333 (HCL), 334 (HCL), 335 (HCL), 336 (HCL) (6)	Y3CP2	S: 7/20/2007	7:25		OK
Y3CP3	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	337 (Ice Only), 338 (Ice Only), 339 (HCL), 340 (HCL), 341 (HCL), 342 (HCL) (6)	Y3CP3	S: 7/20/2007	8:17		
Y3CP4	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	343 (Ice Only), 344 (Ice Only), 345 (HCL), 346 (HCL), 347 (HCL), 348 (HCL) (6)	Y3CP4	S: 7/20/2007	9:05		
Y3CP5	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	349 (Ice Only), 350 (Ice Only), 351 (HCL), 352 (HCL), 353 (HCL), 354 (HCL) (6)	Y3CP5	S: 7/20/2007	10:20		
Y3CP6	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21)	361 (HCL), 362 (HCL), 363 (HCL), 364 (HCL) (4)	Y3CP6	S: 7/20/2007	11:00		

Shipment for Case Complete?N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Cooler Temperature Upon Receipt 4.6	Chain of Custody Seal Number: NA
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G		Custody Seal Intact? Y / Shipment Iced? Y

SIM TVOA = CLP TCL Volatiles (including SIM), SVOA = 1,4-Dioxane

TR Number: 9-373659945-072007-0001

LABORATORY COPY

PR provides preliminary results. Requests for preliminary results will increase analytical costs.
Send Copy to: Sample Management Office, 2000 Edmund Halley Dr., Reston, VA. 20191-3400 Phone 703/264-9348 Fax 703/264-9222

ICF international / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
Phone: (510) 412-2300; Fax: (510) 412-2304.

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM) RF
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105077 Amendment 3

DATE: September 14, 2007

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID NO.:	CAD042245001
Case No.:	36520
SDG No.:	Y3CN1
Laboratory:	Shealy Environmental Services, Inc. (SHEALY)
Analysis:	1,4-Dioxane, 1,2-Dibromoethane , and 1,2-Dibromo-3-chloropropane (Trace SIM Volatiles)
Samples:	20 Ground Water Samples (see Case Summary)
Collection Date:	July 18, 19, 20, and 23, 2007
Reviewer:	Santiago Lee, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

cc: Carol Beard, CLP PO USEPA Region 8
Steve Remaley, CLP PO USEPA Region 9

CLP PO: [X] Attention [X] Action

SAMPLING ISSUES: [X] Yes [ ] No

00105077-8326/36520/Y3CN1-VS

Data Validation Report

Case No.: 36520
SDG No.: Y3CN1
Site: Omega Chem OU2
Laboratory: Shealy Environmental Services, Inc.
Reviewer: Santiago Lee, ESAT/LDC
Date: September 14, 2007

I. CASE SUMMARY

Sample Information

Samples:	Y3CN1 through Y3CN9 and Y3CP0 through Y3CQ0
Concentration and Matrix:	Low/Medium Concentration Water
Analysis:	1,4-Dioxane, 1,2-Dibromoethane , and 1,2-Dibromo-3-chloropropane by Trace Volatiles Selective Ion Monitoring (SIM)
SOW:	SOM01.1 and Modification Reference No. 1363.2
Collection Date:	July 18, 19, 20, and 23, 2007
Sample Receipt Date:	July 19, 20, 21, and 24, 2007
Extraction Date:	Not Applicable
Analysis Date:	July 25, 26, and 31, 2007

Field QC

Field Blanks (FB):	Y3CN5, Y3CP1, Y3CP6, and Y3CQ2 (in SDG Y3CQ1)
Equipment Blanks (EB):	Not Provided
Trip Blank (TB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	Y3CP9 and Y3CQ0

Laboratory QC

Method Blanks & Associated Samples:

VBLK25:	Y3CN1 through Y2CN9, Y3CP0, and Y3CP1
VBLK26:	Y3CN4RE, Y3CP2 through Y3CQ0 and storage blank VHBLK32
VBLK31:	storage blank VHBLK32RE

Tables

1A:	Analytical Results with Qualifications
1B:	Data Qualifier Definitions for Organic Data Review
2:	Calibration Summary

CLP PO Action

1. Nondetected results for 1,4-dioxane in samples Y3CN5, Y3CN6, Y3CP0 through Y3CP4, and Y3CP6 through Y3CP9 are qualified as rejected (R) due to very low relative response factors (RRF <0.01) in initial and continuing calibrations (see Comment A).

2. The nondetected result for 1,4-dioxane in sample Y3CP8 is qualified as rejected (R) due to a very low deuterated monitoring compound (DMC) recovery (<20%; see Comment B).

CLP PO Attention

1. Detected results for 1,4-dioxane in samples Y3CN1 through Y3CN4, Y3CN7 through Y3CN9, Y3CP5, and Y3CQ0 are qualified as estimated (J) due to very low RRFs (<0.01) in initial and continuing calibrations (see Comment D).

2. Detected results for 1,4-dioxane in samples Y3CN1, Y3CN5, Y3CN6, Y3CP0, Y3CP5, Y3CP9, and Y3CQ0 are qualified as nondetected and estimated (U,J) due to method blank contamination (see Comment E).

3. Detected results for 1,4-dioxane in Y3CN2 and Y3CN4 are qualified as estimated (J) due to high DMC recoveries (see Comment F).

4. Detected results for 1,4-dioxane in samples Y3CN2 and Y3CN4 are qualified as estimated (J) due to concentrations exceeding calibration range (see Comment G).

Sampling Issues

The sampler signature is missing on traffic report & chain of custody records (TR/COCs) for samples collected on 07/18/07 through 07/20/07 (see attached TR/COCs, pp. 5 through 7 in data package).

Additional Comments

The SDG Narrative stated that "Sample Y3CN4 was re-analyzed due to the possibility of carryover in the first analysis." Results for Y3CN4 are reported in Table 1A since 1,4-Dioxane results for Y3CN4 (120 ug/L) and Y3CN4RE (110 ug/L) are very similar.

The laboratory performed manual integrations on calibrations and samples due to incorrect auto integration. Manual integrations were reviewed and found to be satisfactory and in compliance with proper integration techniques.

This report was prepared in accordance with the following documents:

- ESAT Region 9 Standard Operating Procedure 901, *Guidelines for Data Review of Contract Laboratory Program Analytical Services Volatile and Semivolatile Data Packages*;

- *USEPA Contract Laboratory Program Statement of Work for Organics Analysis, Multi-Media, Multi-Concentration,* SOM01.1, May 2005; and

- *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review*, January 2005.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Holding Time/Preservation	Yes	
2.	GC/MS Tune/GC Performance	Yes	
3.	Initial Calibration	No	A, D
4.	Continuing Calibration	No	A, D
5.	Laboratory Blanks	No	E
6.	Field Blanks	Yes	
7.	Deuterated Monitoring Compounds	No	B, F
8.	Matrix Spike/Matrix Spike Duplicates	N/A	
9.	Laboratory Control Samples/Duplicates	N/A	
10.	Internal Standards	Yes	
11.	Compound Identification	Yes	
12.	Compound Quantitation	No	C, G
13.	System Performance	Yes	
14.	Field Duplicate Sample Analysis	Yes	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. Nondetected results for the following analyte are qualified as rejected due to very low RRFs in initial and continuing calibrations and are flagged "R" in Table 1A.

- 1,4-Dioxane in samples Y3CN5, Y3CN6, Y3CP0 through Y3CP4, and Y3CP6 through Y3CP9 and storage blanks VHBLK32 and VHBLK32RE

RRFs below 0.01 were reported for 1,4-dioxane in initial and continuing calibrations (see Table 2). Since results are nondetected, false negatives may exist.

DMC 1,4-dioxane-d8 also had RRFs below 0.01 in initial and continuing calibrations (see Table 2).

The RRF evaluates instrument sensitivity and is used in the quantitation of target analytes.

B. The result for the following analyte is qualified as rejected due to a very low DMC recovery (<20%) and is flagged "R" in Table 1A.

{1,4-Dioxane-d8}
• 1,4-Dioxane in sample Y3CP8

A recovery of 11% was reported for the DMC 1,4-dioxane-d8 in sample Y3CP8, which is well below the QC limit of 50-150%. Since the result is nondetected, false negative may exist. Sample Y3CP8 was not reanalyzed.

Surrogates (e.g., deuterated monitoring compounds (DMCs)) are organic compounds which are similar to the target analytes in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. All samples are spiked with DMCs prior to purging. DMCs provide information about both the laboratory performance on individual samples and the possible effects of the sample matrix on the analytical results.

C. The following results, denoted with an "L" qualifier, are estimated and flagged "J" in Table 1A.

- All detected results below the contract required quantitation limits

Results below the contract required quantitation limits (CRQLs) are considered to be qualitatively acceptable, but quantitatively unreliable, due to the uncertainty in analytical precision near the limit of detection.

D. Detected results for the following analyte are qualified as estimated due to very low RRFs in initial and continuing calibrations and are flagged "J" in Table 1A.

- 1,4-Dioxane in samples Y3CN2 through Y3CN4, Y3CN7 through Y3CN9, and method blanks VBLK25, VBLK26, and VBLK31

RRFs below 0.01 were reported for 1,4-dioxane in initial and continuing calibrations (see Table 2). Detected results may be biased low.

DMC 1,4-dioxane-d8 also had RRFs below 0.01 in initial and continuing calibrations (see Table 2).

E. The following results are qualified as nondetected and estimated due to method blank contamination and are flagged "U,J" in Table 1A.

- 1,4-Dioxane in samples Y3CN1, Y3CN5, Y3CN6, Y3CP0, Y3CP5, Y3CP9, and Y3CQ0 and storage blanks VHBLK32 and VHBLK32RE

1,4-Dioxane was found in method blanks VBLK25, VBLK26, and VBLK31 (see Table 1A for concentrations). Results for the samples listed above are considered nondetected and estimated (U,J) and quantitation limits have been raised according to blank qualification rules presented below.

No positive results are reported unless the concentration of the compound in the sample exceeds 5 times the amount in any associated blank. If the sample result is greater than the CRQL, the quantitation limit is raised to the sample result and reported as nondetected. If the sample result is less than the CRQL, the result is reported as nondetected at the CRQL.

A laboratory method blank is laboratory reagent water or baked sand analyzed with all reagents, deuterated monitoring compounds, and internal standards and carried

through the same sample preparation and analytical procedures as the field samples. The laboratory method blank is used to determine the level of contamination introduced by the laboratory during analysis.

F. Results for the following analyte are qualified as estimated due to DMC recoveries above the QC limit and are flagged "J" in Table 1A.

{1,4-Dioxane-d8}
• 1,4-Dioxane in samples Y3CN2 and Y3CN4

DMC recoveries above the QC limit are shown below.

Sample	DMC	% Recovery	QC Limits
Y3CN2	1,4-Dioxane-d8	157	50-150
Y3CN4	1,4-Dioxane-d8	286	50-150
Y3CP1	1,4-Dioxane-d8	153	50-150
Y3CN4RE	1,4-Dioxane-d8	228	50-150
VHBLK32	1,4-Dioxane-d8	155	50-150

Qualified results may be biased high. Recoveries for DMC 1,4-dioxane-d8 in sample Y3CP1 and storage blank VHBLK32 exceeded the QC limit but associated results were not qualified because they were nondetects. The samples were not reanalyzed.

G. Detected results for the following analyte are qualified as estimated due to concentrations exceeding calibration range and are flagged "J" in Table 1A.

- 1,4-Dioxane in samples Y3CN2 and Y3CN4

Concentrations of 1,4-dioxane in undiluted analyses of samples Y3CN2 and Y3CN4 were 180 ug/L and 120 ug/L, respectively. These values exceed the 2.0-80 ug/L calibration range. The laboratory did not analyze samples Y3CN2 and Y3CN4 at dilutions due to insufficient volume.

Results reported in Table 1A for 1,4-dioxane in samples Y3CN2 and Y3CN4 are from the undiluted analysis. These concentrations are considered to be qualitatively acceptable but quantitatively questionable and should be considered as minimum concentrations at which 1,4-dioxane are present in the samples.

ANALYTICAL RESULTS
Table 1A

Case No. : 36520 SDG No. : Y3CN1
Site : Omega Chem OU2
Lab : Shealy Environmental Services, Inc.
Reviewer : Santiago Lee, ESAT/LDC
Date : 09/14/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Trace Level Water Samples for Volatiles SIM

Station Location :	Y3CN1			Y3CN2			Y3CN3			Y3CN4			Y3CN5			Y3CN6		
Sample ID :	Y3CN1			Y3CN2			Y3CN3			Y3CN4			Y3CN5		FB	Y3CN6		
Collection Date :	7/18/2007			7/18/2007			7/18/2007			7/18/2007			7/18/2007			7/19/2007		
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
Volatiles SIM	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
1,4-Dioxane	6.2U	J	DE	180	J	DFG	23	J	D	120	J	DFG	2.0U	R	AE	2.0U	R	AE
1,2-Dibromoethane	0.050U			0.050U			0.050U			0.0095L	J	C	0.050U			0.050U		
1,2-Dibromo-3-chloropropane	0.050U			0.050U			0.050U			0.050U			0.050U			0.050U		

Station Location :	Y3CN7			Y3CN8			Y3CN9			Y3CP0			Y3CP1			Y3CP2		
Sample ID :	Y3CN7			Y3CN8			Y3CN9			Y3CP0			Y3CP1		FB	Y3CP2		
Collection Date :	7/19/2007			7/19/2007			7/19/2007			7/19/2007			7/19/2007			7/20/2007		
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
Volatiles SIM	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
1,4-Dioxane	7.6	J	D	14	J	D	32	J	D	2.0U	R	AE	2.0U	R	A	2.0U	R	A
1,2-Dibromoethane	0.050U			0.050U			0.050U			0.050U			0.050U			0.050U		
1,2-Dibromo-3-chloropropane	0.050U			0.050U			0.050U			0.050U			0.050U			0.050U		

Station Location :	Y3CP3			Y3CP4			Y3CP5			Y3CP6			Y3CP7			Y3CP8		
Sample ID :	Y3CP3			Y3CP4			Y3CP5			Y3CP6		FB	Y3CP7			Y3CP8		
Collection Date :	7/20/2007			7/20/2007			7/20/2007			7/20/2007			7/23/2007			7/23/2007		
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
Volatiles SIM	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
1,4-Dioxane	2.0U	R	A	2.0U	R	A	3.0U	J	DE	2.0U	R	A	2.0U	R	A	2.0U	R	AB
1,2-Dibromoethane	0.050U			0.050U			0.050U			0.050U			0.050U			0.050U		
1,2-Dibromo-3-chloropropane	0.050U			0.050U			0.050U			0.050U			0.050U			0.050U		

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
CRQL - Contract Required Quantitation LImit
N/A - Not Applicable
NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample

ANALYTICAL RESULTS
Table 1A

Case No. : 36520 SDG No. : Y3CN1
Site : Omega Chem OU2
Lab : Shealy Environmental Services, Inc.
Reviewer : Santiago Lee, ESAT/LDC
Date : 09/14/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Trace Level Water Samples for Volatiles SIM

Station Location :	Y3CP9			Y3CQ0			Method Blank			Method Blank			Method Blank			Storage Blank		
Sample ID :	Y3CP9	D1		Y3CQ0	D1		VBLK25			VBLK26			VBLK31			VHBLK32		
Collection Date :	7/23/2007			7/23/2007														
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
Volatiles SIM	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
1,4-Dioxane	2.0U	R	AE	2.9U	J	DE	1.3L	J	CD	0.79L	J	CD	1.2L	J	CD	2.0U	R	AE
1,2-Dibromoethane	0.050U			0.050U			0.050U			0.050U			0.050U			0.050U		
1,2-Dibromo-3-chloropropane	0.050U			0.050U			0.050U			0.050U			0.050U			0.050U		

Station Location :	Storage Blank																	
Sample ID :	VHBLK32RE			CRQL														
Collection Date :																		
Dilution Factor :	1.0																	
Volatiles SIM	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
1,4-Dioxane	2.0U	R	AE	2.0														
1,2-Dibromoethane	0.050U			0.050														
1,2-Dibromo-3-chloropropane	0.050U			0.050														

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
CRQL - Contract Required Quantitation Limit
N/A - Not Applicable
NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review," January 2005.

U The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method.

L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

J The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the CRQL).

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.

R The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.

Table 2
Calibration Summary

Case No.: 36520
SDG No.: Y3CN1
Site: Omega Chem OU2
Laboratory: Shealy Environmental Services, Inc.
Reviewer: Santiago Lee, ESAT/LDC
Date: September 14, 2007

RELATIVE RESPONSE FACTORS

	RRF	RRF	RRF	RRF	RRF
Analysis date:	07/24/07	07/25/07	07/26/07	07/26/07	07/26/07
Analysis time:	17:25-	13:36	00:36	06:57	17:14
GC/MS I.D.:	MSD8	MSD8	MSD8	MSD8	MSD8
Analyte	Init.	Cont.	Cont.	Cont.	Cont.
1,4-Dioxane	0.0013	0.0015	0.0018	0.0018	0.0024
1,4-Dioxane-d8	0.0013	0.0015	0.0018	0.0015	0.0021

	RRF	RRF
Analysis date:	07/31/07	07/31/07
Analysis time:	09:00	11:34
GC/MS I.D.:	MSD8	MSD8
Analyte	Cont.	Cont.
1,4-Dioxane	0.0013	0.0021
1,4-Dioxane-d8	0.0012	0.0020

USEPA Contract Laboratory Program
Organic Traffic Report & Chain of Custody Record

Case No:	36520
DAS No:	
SDG No:	Y3CL1, Y3CN1

L

Date Shipped:	7/18/2007
Carrier Name:	FedEx
Airbill:	799177129103, 792380236[illegible]
Shipped to:	Shealy Environmental 106 Vantage Point Drive Cayce SC 29033 (803) 791-9700

Chain of Custody Record

Relinquished By	(Date / Time)	Received By	(Date / Time)
1	7-18-07 1400		
2			
3			
4		7/19/07 0930	

Sampler Signature:

For Lab Use Only

Lab Contract No:	EPW05031
Unit Price:	
Transfer To:	
Lab Contract No:	
Unit Price:	

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		INORGANIC SAMPLE No.	FOR LAB USE ONLY Sample Condition On Receipt
Y3CN0	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	255 (Ice Only), 256 (Ice Only), 257 (Ice Only), 258 (Ice Only), 259 (HCL), 260 (HCL), 261 (HCL), 262 (HCL), 263 (HCL), 264 (HCL), 265 (HCL), 266 (HCL) (12)	Y3CN0	S: 7/18/2007	8:25		OK
Y3CN1	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	267 (Ice Only), 268 (Ice Only), 269 (HCL), 270 (HCL), 271 (HCL), 272 (HCL) (6)	Y3CN1	S: 7/18/2007	9:15		
Y3CN2	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	273 (Ice Only), 274 (Ice Only), 275 (HCL), 276 (HCL), 277 (HCL), 278 (HCL) (6)	Y3CN2	S: 7/18/2007	10:10		
Y3CN3	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	279 (Ice Only), 280 (Ice Only), 281 (HCL), 282 (HCL), 283 (HCL), 284 (HCL) (6)	Y3CN3	S: 7/18/2007	11:15		
Y3CN4	Ground Water/ Robert Hernandez	M/G	SIM TVOA (21), SVOA (21)	285 (Ice Only), 286 (Ice Only), 287 (HCL), 288 (HCL), 289 (HCL), 290 (HCL) (6)	Y3CN4	S: 7/18/2007	12:12		
Y3CN5	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21)	291 (HCL), 292 (HCL), 293 (HCL), 294 (HCL) (4)	Y3CN5	S: 7/18/2007	13:00		

COPY
ORIGINAL DOCUMENTS INCLUDED IN CSF Y3CL1-3605
Signature
07/23/07
Date

Shipment for Case Complete?N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Cooler Temperature Upon Receipt	Chain of Custody Seal Number:
	Y3CN0		5.3, 4.6	NA

Analysis Key: Concentration: L = Low, M = Low/Medium, H = High Type/Designate: Composite = C, Grab = G

Custody Seal Intact? Y Shipment Iced? Y

SIM TVOA = CLP TCL Volatiles (including SIM), SVOA = 1,4-Dioxane

TR Number: 9-373659945-071807-0002

PR provides preliminary results. Requests for preliminary results will increase analytical costs.
Send Copy to: Sample Management Office, 2000 Edmund Halley Dr., Reston, VA. 20191-3400 Phone 703/264-9348 Fax 703/264-9222

LABORATORY COPY

USEPA Contract Laboratory Program
Organic Traffic Report & Chain of Custody Record

Case No:	36520
DAS No:	
SDG No:	Y3CN1

L

Date Shipped:	7/19/2007
Carrier Name:	FedEx
Airbill:	790294947320, 799177924[illegible]
Shipped to:	Shealy Environmental 106 Vantage Point Drive Cayce SC 29033 (803) 791-9700

Chain of Custody Record

Relinquished By	(Date / Time)	Received By	(Date / Time)
1	1400		
2			
3			
4			

Sampler Signature:

For Lab Use Only

Lab Contract No:	EPW05031
Unit Price:	
Transfer To:	
Lab Contract No:	
Unit Price:	

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		INORGANIC SAMPLE No.	FOR LAB USE ONLY Sample Condition On Receipt
Y3CN6	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	297 (Ice Only), 298 (Ice Only), 299 (HCL), 300 (HCL), 301 (HCL), 302 (HCL) (6)	Y3CN6	S: 7/19/2007	8:30		OK
Y3CN7	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	303 (Ice Only), 304 (Ice Only), 305 (HCL), 306 (HCL), 307 (HCL), 308 (HCL) (6)	Y3CN7	S: 7/19/2007	9:25		
Y3CN8	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	309 (Ice Only), 310 (Ice Only), 311 (HCL), 312 (HCL), 313 (HCL), 314 (HCL) (6)	Y3CN8	S: 7/19/2007	9:55		
Y3CN9	Ground Water/ Robert Hernandez	M/G	SIM TVOA (21), SVOA (21)	315 (Ice Only), 316 (Ice Only), 317 (HCL), 318 (HCL), 319 (HCL), 320 (HCL) (6)	Y3CN9	S: 7/19/2007	11:07		
Y3CP0	Ground Water/ Robert Hernandez	M/G	SIM TVOA (21), SVOA (21)	321 (Ice Only), 322 (Ice Only), 323 (HCL), 324 (HCL), 325 (HCL), 326 (HCL) (6)	Y3CP0	S: 7/19/2007	12:45		
Y3CP1	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21)	327 (HCL), 328 (HCL), 329 (HCL), 330 (HCL) (4)	Y3CP1	S: 7/19/2007	13:00		

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Cooler Temperature Upon Receipt: 3.8, 4.4	Chain of Custody Seal Number: NA
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Custody Seal Intact? Y	Shipment Iced? Y

SIM TVOA = CLP TCL Volatiles (including SIM), SVOA = 1,4-Dioxane

TR Number: 9-373659945-071907-0001

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USEPA Contract Laboratory Program
Organic Traffic Report & Chain of Custody Record

Case No:	36520
DAS No:	
SDG No:	Y3CN1

L

Date Shipped:	7/20/2007
Carrier Name:	FedEx
Airbill:	791726191401
Shipped to:	Shealy Environmental 106 Vantage Point Drive Cayce SC 29033 (803) 791-9700

Chain of Custody Record

Relinquished By	(Date / Time)	Received By	(Date / Time)
1	7-20-07 1200		
2			
3			
4			7/21/07 1100

Sampler Signature:

For Lab Use Only

Lab Contract No:	EPW05031 (5) SMW07/26/07
Unit Price:	
Transfer To:	
Lab Contract No:	
Unit Price:	

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		INORGANIC SAMPLE No.	FOR LAB USE ONLY Sample Condition On Receipt
Y3CP2	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	331 (Ice Only), 332 (Ice Only), 333 (HCL), 334 (HCL), 335 (HCL), 336 (HCL) (6)	Y3CP2	S: 7/20/2007	7:25		OK
Y3CP3	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	337 (Ice Only), 338 (Ice Only), 339 (HCL), 340 (HCL), 341 (HCL), 342 (HCL) (6)	Y3CP3	S: 7/20/2007	8:17		
Y3CP4	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	343 (Ice Only), 344 (Ice Only), 345 (HCL), 346 (HCL), 347 (HCL), 348 (HCL) (6)	Y3CP4	S: 7/20/2007	9:05		
Y3CP5	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	349 (Ice Only), 350 (Ice Only), 351 (HCL), 352 (HCL), 353 (HCL), 354 (HCL) (6)	Y3CP5	S: 7/20/2007	10:20		
Y3CP6	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21)	361 (HCL), 362 (HCL), 363 (HCL), 364 (HCL) (4)	Y3CP6	S: 7/20/2007	11:00		

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Cooler Temperature Upon Receipt 4.0	Chain of Custody Seal Number: NA
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G		Custody Seal Intact? Y / Shipment Iced? Y

SIM TVOA = CLP TCL Volatiles (including SIM), SVOA = 1,4-Dioxane

TR Number: 9-373659945-072007-0001

LABORATORY COPY

PR provides preliminary results. Requests for preliminary results will increase analytical costs.
Send Copy to: Sample Management Office, 2000 Edmund Halley Dr., Reston, VA. 20191-3400 Phone 703/264-9348 Fax 703/264-9222

ICF international / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
Phone: (510) 412-2300 Fax: (510) 412-2304

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM) RF
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager DL
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105077 Amendment 3

DATE: September 14, 2007

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID NO.:	CAD042245001
Case No.:	36520
SDG No.:	Y3CN1
Laboratory:	Shealy Environmental Services, Inc. (SHEALY)
Analysis:	Trace Volatiles
Samples:	20 Groundwater Samples (see Case Summary)
Collection Date:	July 18, 19, 20, and 23, 2007
Reviewer:	Kendra DeSantolo, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

cc: Cynthia Hurley, CLP PO USEPA Region 4
Steve Remaley, CLP PO USEPA Region 9

CLP PO: [X] Attention [X] Action

SAMPLING ISSUES: [X] Yes [ ] No

Data Validation Report

Case No.: 36520
SDG No.: Y3CN1
Site: Omega Chem OU2
Laboratory: Shealy Environmental Services, Inc.
Reviewer: Kendra DeSantolo, ESAT/LDC
Date: September 14, 2007

I. CASE SUMMARY

Sample Information

Samples:	Y3CN1 through Y3CN9 and Y3CP0 through Y3CQ0
Concentration and Matrix:	Low/Medium Concentration Water
Analysis:	Trace Volatiles
SOW:	SOM01.1 and Modification Reference No. 1363.2
Collection Date:	July 18, 19, 20, and 23, 2007
Sample Receipt Date:	July 19, 20, 21, and 24, 2007
Extraction Date:	Not Applicable
Analysis Date:	July 24 through 27, 2007

Field QC

Field Blanks (FB):	Y3CN5, Y3NP1, Y3CP6, and Y3CQ2 (in SDG Y3CQ1)
Equipment Blanks (EB):	Not provided
Trip Blank (TB):	Not provided
Background Samples (BG):	Not provided
Field Duplicates (D1):	Y3CP9 and Y3CQ0

Laboratory QC

Method Blanks & Associated Samples:

VBLK24:	Y3CN5
VBLK2X:	Y3CN6, Y3CN7, Y3CP0 through Y3CP4, Y3CP7 through Y3CQ0
VBLK25:	Y3CN6RE, Y3CN7RE, Y3CP0RE through Y3CP4RE, Y3CP7RE through Y3CQ0RE, Y3CN1 through Y3CN3, Y3CN8, Y3CP5, Y3CP6
VBLK26:	Y3CN1DL, Y3CN2DL, Y3CN3DL, Y3CN3DL2, Y3CN4, Y3CN4DL, Y3CN8DL, Y3CN9, Y3CN9DL
VBLK1D:	Y3CP5DL, storage blank VHBLK32

Tables

1A: Analytical Results with Qualifications
1B: Data Qualifier Definitions for Organic Data Review
2: Calibration Summary

CLP PO Action

Nondetected results for 1,4-dioxane in samples Y3CN1, Y3CN5 through Y3CN7, and Y3CP0 through Y3CQ0; all method blanks; and storage blank VHBLK32 are qualified as rejected (R) due to very low relative response factors (RRFs <0.01) in initial and continuing calibrations (see Comment A).

CLP PO Attention

1. Detected results for some analytes are qualified as nondetected and estimated (U,J) due to method blank and storage blank contamination (see Comment C).

2. Results for some analytes are qualified as estimated (J) due to calibration problems (see Comment D).

3. Results for some analytes are qualified as estimated (J) due to deuterated monitoring compound (DMC) recovery problems (see Comment E).

4. Detected results for trichlorofluoromethane, 1,1-dichloroethene, 1,1,2-trichloro-1,2,2-trifluoroethane, chloroform, trichloroethene, and tetrachloroethene in sample Y34L2 are qualified as estimated (J) due to concentrations exceeding calibration range (see Comment F).

Sampling Issues

The sampler signature is missing on traffic report & chain of custody records (TR/COCs) for samples collected on 07/18/07 through 07/20/07 (see attached TR/COCs, pp. 5 through 7 in data package).

Additional Comments

The ending CCV for 07/25/07 was not analyzed due to an instrument malfunction. The CCV analyzed on 07/26/07 06:07 was used as the 07/25/07 ending CCV for data qualification.

For sample Y3CN4, there were large discrepancies between results for the 5-fold dilution and 50-fold dilution. The SDG Narrative (attached) indicated that there may be "a one-time instrument malfunction that extra volume of the internal standard spiking solution was added" to the 50-fold diluted analysis. Only results for the 5-fold dilution are reported in Table 1A.

All surrogates did not pass acceptance limits in the method blank VBLK2X analyzed on 07/24/07 (see Comment E). The associated samples were reanalyzed the following day and both sets of data were included in the data package. Results for first analyses (on 07/24/07) were reviewed and reported in Table 1A since both sets of data are very similar.

Other than laboratory artifacts (approximate retention times of 2.4, 4.3, 5.8, 9.2, 11.6, 12.2-13.0, 13.4, 14.1, 15.0, 15.3, and 15.9 minutes), tentatively identified compounds (TICs) were found in samples Y3CN4 and Y3CN9 (see attached Form 1Js).

The laboratory performed manual integrations on calibrations due to incorrect auto integration. Manual integrations were reviewed and found to be satisfactory and in compliance with proper integration techniques.

This report was prepared in accordance with the following documents:

- ESAT Region 9 Standard Operating Procedure 901, *Guidelines for Data Review of Contract Laboratory Program Analytical Services Volatile and Semivolatile Data Packages*;

- *USEPA Contract Laboratory Program Statement of Work for Organics Analysis, Multi-Media, Multi-Concentration,* SOM01.1, May 2005; and

- *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review*, January 2005.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Holding Time/Preservation	Yes	
2.	GC/MS Tune/GC Performance	Yes	
3.	Initial Calibration	No	A, D
4.	Continuing Calibration	No	A, D
5.	Laboratory Blanks	No	C
6.	Field Blanks	Yes	
7.	Deuterated Monitoring Compounds	No	E
8.	Matrix Spike/Matrix Spike Duplicates	N/A	
9.	Laboratory Control Samples/Duplicates	N/A	
10.	Internal Standards	Yes	
11.	Compound Identification	Yes	
12.	Compound Quantitation	Yes	B, F, G, H
13.	System Performance	Yes	
14.	Field Duplicate Sample Analysis	Yes	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. Nondetected results for the following analyte are qualified as rejected due to very low RRFs in initial and continuing calibrations and are flagged "R" in Table 1A.

- 1,4-Dioxane in samples Y3CN1, Y3CN5 through Y3CN7, and Y3CP0 through Y3CQ0; all method blanks; and storage blank VHBLK32

RRFs below 0.01 were reported for 1,4-dioxane in initial and continuing calibrations (see Table 2). Since results are nondetected, false negatives may exist.

DMC 1,4-dioxane-d8 also had RRFs below 0.01 in initial and continuing calibrations (see Table 2).

The RRF evaluates instrument sensitivity and is used in the quantitation of target analytes.

B. The following results, denoted with an "L" qualifier, are estimated and flagged "J" in Table 1A.

- All detected results below the contract required quantitation limits

Results below the contract required quantitation limits (CRQLs) are considered to be qualitatively acceptable, but quantitatively unreliable, due to the uncertainty in analytical precision near the limit of detection.

C. The following results are qualified as nondetected and estimated due to method blank and storage blank contamination and are flagged "U,J" in Table 1A.

- 1,1-Dichloroethene in samples Y3CN5, Y3CP0 through Y3CP4, Y3CP6, Y3CP7, and storage blank VHBLK32

- Methylene chloride in all samples and storage blank VHBLK32

- Chloroform in samples Y3CN1 through Y3CN3, Y3CN7, Y3CN8, Y3CP1, Y3CP3 through Y3CP5, Y3CP7, and Y3CP8

Methylene chloride and 1,1-dichloroethene were found in method blanks VBLK24, VBLK2X, VBLK25, VBLK26, and VBLK1D and chloroform was found in method blank VBLK1D and storage blank VHBLK32 (see Table 1A for concentrations). Results for the samples listed above are considered nondetected and estimated (U,J) and quantitation limits have been raised according to the blank qualification rules presented below.

No positive results are reported unless the concentration of the compound in the sample exceeds 10 times the amount in any associated blank for common laboratory contaminants or 5 times the amount for other compounds. If the sample result is greater than the CRQL, the quantitation limit is raised to the sample result and reported as nondetected. If the sample result is less than the CRQL, the result is reported as nondetected at the CRQL.

Chloroform results for samples Y3CN4 (140 μg/L), Y3CN9 (19 μg/L), Y3CP9 (6.4 μg/L), and Y3CQ0 (6.0 μg/L) and 1,1-dichloroethene results for samples Y3CN1 (24 μg/L), Y3CN2 (220 μg/L), Y3CN3 (7.0 μg/L), Y3CN4 (580 μg/L), Y3CN6 (0.93 μg/L), Y3CN7 (5.7 μg/L), Y3CN8 (17 μg/L), Y3CN9 (230 μg/L), Y3CP5 (14 μg/L), Y3CP8 (1.2 μg/L), Y3CP9 (1.8 μg/L), and Y3CQ0 (1.9 μg/L) are not qualified as nondetected and estimated since their concentrations exceed 5 times the amount in the associated method blanks.

A laboratory method blank is laboratory reagent water or baked sand analyzed with all reagents, deuterated monitoring compounds, and internal standards and carried through the same sample preparation and analytical procedures as the field samples. The laboratory method blank is used to determine the level of contamination introduced by the laboratory during analysis.

A storage blank is laboratory reagent water stored in a vial in the same area as the field samples. The storage blank is used to determine the level of contamination introduced by the laboratory during sample storage prior to analysis.

D. Results for the following analytes are qualified as estimated due to low RRFs in initial and continuing calibrations and are flagged "J" in Table 1A.

- 1,4-Dioxane in samples Y3CN2 through Y3CN4, Y3CN8, and Y3CN9
- Acetone in all samples, method blanks, and storage blank VHBLK32
- 1,2-dibromo-3-chloropropane in method blank VBLK1D and storage blank VHBLK32

RRFs below 0.01 were reported for 1,4-dioxane in initial and continuing calibrations (see Table 2). An average RRF of 0.049 was reported for acetone in the initial calibration; RRFs were below the 0.05 validation criterion for acetone and 1,2-dibromo-3-chloropropane in continuing calibrations (see Table 2).

Detected results for the analytes listed above may be biased low and should be considered as the minimum concentrations at which these analytes are present in the samples. Where results are nondetected, false negatives may exist.

The initial calibration demonstrates that the instrument is capable of acceptable performance in the beginning of the analytical run and of producing a linear calibration curve.

The continuing calibration checks the instrument performance daily and produces the relative response factors (RRFs) for target analytes that are used for quantitation.

E. Results for the following analytes are qualified as estimated due to DMC recoveries outside QC limits and are flagged "J" in Table 1A.

{1,1-Dichloroethene-d2}
- trans-1,2-Dichloroethene and cis-1,2-dichloroethene in samples Y3CN1 through Y3CN4, Y3CN9
- cis-1,2-dichloroethene in sample Y3CN7, Y3CN8 and Y3CP5

{Chloroform-d}
- 1,1-Dichloroethane in sample Y3CN2

- 1,1-Dichloroethane and chloroform in sample Y3CN4

DMC recoveries outside QC limits are shown below.

Sample	DMC	% Recovery	QC Limits
Y3CN1DL	1,1-Dichloroethene-d2	115	55-104
Y3CN1	1,1-Dichloroethene-d2	310	55-104
Y3CN2	1,1-Dichloroethene-d2	2433	55-104
Y3CN2DL	1,1-Dichloroethene-d2	134	55-104
Y3CN3	1,1-Dichloroethene-d2	129	55-104
Y3CN4	1,1-Dichloroethene-d2	744	55-104
Y3CN7	1,1-Dichloroethene-d2	125	55-104
Y3CN8	1,1-Dichloroethene-d2	184	55-104
Y3CN8DL	1,1-Dichloroethene-d2	109	55-104
Y3CN9	1,1-Dichloroethene-d2	720	55-104
Y3CN9DL	1,1-Dichloroethene-d2	157	55-104
Y3CP5	1,1-Dichloroethene-d2	169	55-104
VBLK2X	2-Butanone-d5	162	49-155
Y3CN1DL	Chloroform-d	122	78-121
Y3CN2DL	Chloroform-d	122	78-121
Y3CN4	Chloroform-d	137	78-121
Y3CP7	Chloroform-d	122	78-121

Qualified results may be biased high. For DMC recoveries that exceeded QC limits, only detected results for associated analytes are qualified. The recovery for DMC chloroform-d in sample Y3CP7 exceeded QC limit but associated sample results were not qualified because they were nondetects. The samples were not reanalyzed.

Surrogates (e.g., deuterated monitoring compounds (DMCs)) are organic compounds which are similar to the target analytes in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. All samples are spiked with DMCs prior to purging. DMCs provide information about both the laboratory performance on individual samples and the possible effects of the sample matrix on the analytical results.

F. Detected results for the following analytes are qualified as estimated due to concentrations exceeding the calibration range and are flagged "J" in Table 1A.

- Trichlorofluoromethane, 1,1-dichloroethene, 1,1,2-trichloro-1,2,2-trifluoromethane, chloroform, trichloroethene, and tetrachloroethene in sample Y3CN4

Concentrations of trichlorofluoromethane, 1,1-dichloroethene, 1,1,2-trichloro-1,2,2-trifluoromethane, chloroform, trichloroethene, and tetrachloroethene in the undiluted analysis of sample Y3CN4 were 210 μg/L, 580 μg/L, 530 μg/L, 140 μg/L, 400 μg/L, and 1000 μg/L, respectively. These values exceed the 0.5-20 μg/L calibration

range. The laboratory reanalyzed sample Y3CN4 at a 50-fold dilution, but results differ widely from the undiluted results and are not reported in Table 1A (see Additional Comments section above).

Results reported in Table 1A for these analytes are from the undiluted analysis. These concentrations are considered to be qualitatively acceptable but quantitatively questionable and should be considered as the minimum concentrations at which the analytes are present in the sample.

G. Sample Y3CN1 was reanalyzed at a 10-fold dilution due to high levels of trichlorofluoromethane, 1,1-dichloroethene, 1,1,2-trichloro-1,2,2-trifluoromethane, trichloroethene, and tetrachloroethene that exceeded the calibration range. Results for these analytes in sample Y3CN1 are reported from the diluted analysis in Table 1A; results for other analytes are reported from the undiluted analysis.

Sample Y3CN2 was reanalyzed at a 40-fold dilution due to high levels of 1,1-dichloroethene, 1,1-dichloroethane, cis-1,2-dichloroethene, 1,1,1-trichloroethane, trichloroethene, and tetrachloroethene that exceeded the calibration range. Results for these analytes in sample Y3CN2 are reported from the diluted analyses in Table 1A; results for other analytes are reported from the undiluted analysis.

Sample Y3CN3 was reanalyzed at 2-fold and 20-fold dilutions, due to a high level of tetrachloroethene that exceeded the calibration range. The result for tetrachloroethene in sample Y3CN3 is reported from the 20-fold diluted analysis in Table 1A; results for other analytes are reported from the undiluted analysis.

Sample Y3CN8 was reanalyzed at a 5-fold dilution due to high levels of trichloroethene and tetrachloroethene that exceeded the calibration range. Results for trichloroethene and tetrachloroethene in sample Y3CN8 are reported from the diluted analysis in Table 1A; results for other analytes are reported from the undiluted analysis.

Sample Y3CN9 was reanalyzed at a 20-fold dilution due to high levels of trichlorofluoromethane, 1,1-dichloroethene, 1,1,2-trichloro-1,2,2-trifluoromethane, trichloroethene, and tetrachloroethene that exceeded the calibration range. Results for these analytes in sample Y3CN9 are reported from the 20-fold diluted analysis in Table 1A; results for other analytes are reported from the 2-fold diluted analysis.

Sample Y3CP5 was reanalyzed at a 5-fold dilution due to high levels of 1,1,2-trichloro-1,2,2-trifluoromethane, trichloroethene, and tetrachloroethene that exceeded the calibration range. Results for these analytes in sample Y3CP5 are reported from the diluted analysis in Table 1A; results for other analytes are reported from the undiluted analysis.

H. Samples Y3CN4 and Y3CN9 were analyzed at 5- and 2-fold dilutions, respectively, due high levels of target analytes. The CRQLs listed for these samples in Table 1A have been multiplied by the dilution factor.

ANALYTICAL RESULTS
Table 1A

Case No. : 36520 SDG No. : Y3CN1
Site : Omega Chem OU2
Lab : Shealy Environmental Services, Inc.
Reviewer : Kendra DeSantolo, ESAT/LDC
Date : 09/14/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Trace Level Water Samples for Trace Volatiles

Station Location :	Y3CN1			Y3CN2			Y3CN3			Y3CN4			Y3CN5			Y3CN6		
Sample ID :	Y3CN1			Y3CN2			Y3CN3			Y3CN4			Y3CN5		FB	Y3CN6		
Collection Date :	7/18/2007			7/18/2007			7/18/2007			7/18/2007			7/18/2007			7/19/2007		
Dilution Factor :	1.0			1.0			1.0			5.0			1.0			1.0		
Trace Volatiles	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Dichlorodifluoromethane	0.50U			0.50U			0.45L	J	B	2.5U			0.50U			0.50U		
Chloromethane	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
Vinyl chloride	0.50U			0.58			0.50U			2.5U			0.50U			0.50U		
Bromomethane	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
Chloroethane	0.50U			0.20L	J	B	0.50U			2.5U			0.50U			0.50U		
Trichlorofluoromethane	18		G	4.5			0.29L	J	B	210	J	F	0.50U			0.50U		
1,1-Dichloroethene	24		G	220		G	7.0			580	J	F	0.50U	J	C	0.93		
1,1,2-Trichloro-1,2,2-trifluoroethane	41		G	15			0.54			530	J	F	0.50U			0.50U		
Acetone	5.0U	J	D	1.7L	J	BD	5.0U	J	D	25U	J	D	5.0U	J	D	5.0U	J	D
Carbon Disulfide	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
Methyl acetate	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
Methylene chloride	0.50U	J	C	0.50U	J	C	0.50U	J	C	2.5U	J	C	0.56U	J	C	0.50U	J	C
trans-1,2-Dichloroethene	0.13L	J	BE	2.2	J	E	0.065L	J	BE	2.3L	J	BE	0.50U			0.50U		
Methyl tert-butyl ether	0.50U			0.58			0.13L	J	B	1.9L	J	B	0.50U			0.50U		
1,1-Dichloroethane	1.0			120	J	EG	0.74			3.2	J	E	0.50U			0.21L	J	B
cis-1,2-Dichloroethene	5.5	J	E	230	J	EG	2.2	J	E	11	J	E	0.50U			5.6		
2-Butanone	5.0U			5.0U			5.0U			25U			5.0U			5.0U		
Bromochloromethane	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
Chloroform	1.4U	J	C	2.6U	J	C	1.3U	J	C	140	J	EF	0.50U			0.50U		
1,1,1-Trichloroethane	0.76			17		G	0.50U			2.5U			0.50U			0.50U		
Cyclohexane	0.50U			0.13L	J	B	0.50U			2.5U			0.50U			0.50U		
Carbon tetrachloride	0.42L	J	B	0.50U			0.50U			2.5U			0.50U			0.50U		
Benzene	0.074L	J	B	0.20L	J	B	0.50U			0.53L	J	B	0.50U			0.50U		
1,2-Dichloroethane	0.50U			17			0.50U			19			0.50U			0.50U		
1,4-Dioxane	20U	R	A	100	J	D	14L	J	BD	82L	J	BD	20U	R	A	20U	R	A
Trichloroethene	110		G	100		G	15			400	J	F	0.50U			2.9		

ANALYTICAL RESULTS
Table 1A

Case No. : 36520 SDG No. : Y3CN1
Site : Omega Chem OU2
Lab : Shealy Environmental Services, Inc.
Reviewer : Kendra DeSantolo, ESAT/LDC
Date : 09/14/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Trace Level Water Samples for Trace Volatiles

Station Location :	Y3CN1			Y3CN2			Y3CN3			Y3CN4			Y3CN5			Y3CN6		
Sample ID :	Y3CN1			Y3CN2			Y3CN3			Y3CN4			Y3CN5		FB	Y3CN6		
Collection Date :	7/18/2007			7/18/2007			7/18/2007			7/18/2007			7/18/2007			7/19/2007		
Dilution Factor :	1.0			1.0			1.0			5.0			1.0			1.0		
Trace Volatiles	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Methylcyclohexane	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
1,2-Dichloropropane	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
Bromodichloromethane	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
cis-1,3-Dichloropropene	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
4-Methyl-2-pentanone	5.0U			5.0U			5.0U			25U			5.0U			5.0U		
Toluene	0.50U			0.079L	J	B	0.50U			2.5U			0.50U			0.50U		
trans-1,3-Dichloropropene	0.50U			0.50U			0.50U			2.5U			1.3			0.50U		
1,1,2-Trichloroethane	1.2			5.6			3.3			11			0.50U			0.50U		
Tetrachloroethene	80		G	290		G	210		G	1000	J	F	0.50U			0.26L	J	B
2-Hexanone	5.0U			5.0U			5.0U			25U			5.0U			5.0U		
Dibromochloromethane	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
1,2-Dibromoethane	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
Chlorobenzene	0.50U			0.19L	J	B	0.070L	J	B	2.5U			0.50U			0.50U		
Ethylbenzene	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
o-Xylene	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
m,p-Xylene	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
Styrene	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
Bromoform	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
Isopropylbenzene	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
1,1,2,2-Tetrachloroethane	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
1,3-Dichlorobenzene	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
1,4-Dichlorobenzene	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
1,2-Dichlorobenzene	0.50U			0.070L	J	B	0.43L	J	B	2.5U			0.50U			0.50U		
1,2-Dibromo-3-chloropropane	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
1,2,4-Trichlorobenzene	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
1,2,3-Trichlorobenzene	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
CRQL - Contract Required Quantitation LImit
N/A - Not Applicable
NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample

ANALYTICAL RESULTS
Table 1A

Case No. : 36520 SDG No. : Y3CN1
Site : Omega Chem OU2
Lab : Shealy Environmental Services, Inc.
Reviewer : Kendra DeSantolo, ESAT/LDC
Date : 09/14/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Trace Level Water Samples for Trace Volatiles

Station Location :	Y3CN7			Y3CN8			Y3CN9			Y3CP0			Y3CP1			Y3CP2		
Sample ID :	Y3CN7			Y3CN8			Y3CN9			Y3CP0			Y3CP1		FB	Y3CP2		
Collection Date :	7/19/2007			7/19/2007			7/19/2007			7/19/2007			7/19/2007			7/20/2007		
Dilution Factor :	1.0			1.0			2.0			1.0			1.0			1.0		
Trace Volatiles	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Dichlorodifluoromethane	0.38L	J	B	0.50U			1.7			0.50U			0.50U			0.50U		
Chloromethane	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
Vinyl chloride	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
Bromomethane	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
Chloroethane	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
Trichlorofluoromethane	1.2			6.1			120		G	0.50U			0.50U			0.50U		
1,1-Dichloroethene	5.7			17			230		G	0.50U	J	C	0.50U	J	C	0.50U	J	C
1,1,2-Trichloro-1,2,2-trifluoroethane	2.7			13			330		G	0.50U			0.50U			0.50U		
Acetone	5.0U	J	D	5.0U	J	D	10U	J	D	5.0U	J	D	5.0U	J	D	5.0U	J	D
Carbon Disulfide	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
Methyl acetate	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
Methylene chloride	0.50U	J	C	0.50U	J	C	1.0U	J	C	0.50U	J	C	0.50U	J	C	0.50U	J	C
trans-1,2-Dichloroethene	0.50U			0.50U			0.62L	J	BE	0.50U			0.50U			0.50U		
Methyl tert-butyl ether	0.081L	J	B	0.19L	J	B	0.53L	J	B	0.50U			0.50U			0.50U		
1,1-Dichloroethane	1.4			3.6			0.71L	J	B	0.50U			0.50U			0.50U		
cis-1,2-Dichloroethene	0.66	J	E	1.7	J	E	0.47L	J	BE	0.50U			0.50U			0.50U		
2-Butanone	5.0U			5.0U			10U			5.0U			5.0U			5.0U		
Bromochloromethane	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
Chloroform	0.73U	J	C	0.88U	J	C	19			0.50U			0.50U	J	C	0.50U		
1,1,1-Trichloroethane	0.50U			0.50U			0.19L	J	B	0.50U			0.50U			0.50U		
Cyclohexane	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
Carbon tetrachloride	0.13L	J	B	0.25L	J	B	1.0U			0.50U			0.50U			0.50U		
Benzene	0.50U			0.072L	J	B	1.0U			0.50U			0.50U			0.052L	J	B
1,2-Dichloroethane	1.8			0.50U			2.8			0.50U			0.50U			0.50U		
1,4-Dioxane	20U	R	A	7.7L	J	BD	16L	J	BD	20U	R	A	20U	R	A	20U	R	A
Trichloroethene	19			37		G	48		G	0.50U			0.50U			0.50U		

ANALYTICAL RESULTS
Table 1A

Case No. : 36520 SDG No. : Y3CN1
Site : Omega Chem OU2
Lab : Shealy Environmental Services, Inc.
Reviewer : Kendra DeSantolo, ESAT/LDC
Date : 09/14/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Trace Level Water Samples for Trace Volatiles

Station Location :	Y3CN7			Y3CN8			Y3CN9			Y3CP0			Y3CP1			Y3CP2		
Sample ID :	Y3CN7			Y3CN8			Y3CN9			Y3CP0			Y3CP1		FB	Y3CP2		
Collection Date :	7/19/2007			7/19/2007			7/19/2007			7/19/2007			7/19/2007			7/20/2007		
Dilution Factor :	1.0			1.0			2.0			1.0			1.0			1.0		
Trace Volatiles	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Methylcyclohexane	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
1,2-Dichloropropane	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
Bromodichloromethane	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
cis-1,3-Dichloropropene	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
4-Methyl-2-pentanone	5.0U			5.0U			10U			5.0U			5.0U			5.0U		
Toluene	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
trans-1,3-Dichloropropene	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
1,1,2-Trichloroethane	0.18L	J	B	0.37L	J	B	3.3			0.50U			0.50U			0.50U		
Tetrachloroethene	16			28		G	370		G	0.29L	J	B	0.50U			0.50U		
2-Hexanone	5.0U			5.0U			10U			5.0U			5.0U			5.0U		
Dibromochloromethane	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
1,2-Dibromoethane	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
Chlorobenzene	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
Ethylbenzene	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
o-Xylene	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
m,p-Xylene	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
Styrene	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
Bromoform	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
Isopropylbenzene	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
1,1,2,2-Tetrachloroethane	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
1,3-Dichlorobenzene	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
1,4-Dichlorobenzene	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
1,2-Dichlorobenzene	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
1,2-Dibromo-3-chloropropane	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
1,2,4-Trichlorobenzene	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
1,2,3-Trichlorobenzene	0.50U			0.50U			1.0U		H	0.50U			0.50U			0.50U		

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
CRQL - Contract Required Quantitation LImit
N/A - Not Applicable
NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample

ANALYTICAL RESULTS
Table 1A

Case No. : 36520 SDG No. : Y3CN1
Site : Omega Chem OU2
Lab : Shealy Environmental Services, Inc.
Reviewer : Kendra DeSantolo, ESAT/LDC
Date : 09/14/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Trace Level Water Samples for Trace Volatiles

Station Location :	Y3CP3			Y3CP4			Y3CP5			Y3CP6			Y3CP7			Y3CP8		
Sample ID :	Y3CP3			Y3CP4			Y3CP5			Y3CP6		FB	Y3CP7			Y3CP8		
Collection Date :	7/20/2007			7/20/2007			7/20/2007			7/20/2007			7/23/2007			7/23/2007		
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
Trace Volatiles	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Dichlorodifluoromethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Chloromethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Vinyl chloride	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Bromomethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Chloroethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Trichlorofluoromethane	0.50U			0.50U			13			0.50U			0.50U			2.1		
1,1-Dichloroethene	0.50U	J	C	0.50U	J	C	14			0.50U	J	C	0.50U	J	C	1.2		
1,1,2-Trichloro-1,2,2-trifluoroethane	0.42L	J	B	0.39L	J	B	19		G	0.50U			0.50U			4.7		
Acetone	5.0U	J	D	5.0U	J	D	5.0U	J	D	5.0U	J	D	5.0U	J	D	5.0U	J	D
Carbon Disulfide	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Methyl acetate	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Methylene chloride	0.50U	J	C	0.50U	J	C	0.50U	J	C	0.50U	J	C	0.50U	J	C	0.50U	J	C
trans-1,2-Dichloroethene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Methyl tert-butyl ether	0.50U			0.50U			0.25L	J	B	0.50U			0.50U			0.50U		
1,1-Dichloroethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
cis-1,2-Dichloroethene	0.50U			0.064L	J	B	1.6	J	E	0.50U			0.093L	J	B	0.50U		
2-Butanone	5.0U			5.0U			5.0U			5.0U			5.0U			5.0U		
Bromochloromethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Chloroform	0.50U	J	C	0.50U	J	C	0.91U	J	C	0.50U			0.50U	J	C	0.50U	J	C
1,1,1-Trichloroethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Cyclohexane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Carbon tetrachloride	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Benzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,2-Dichloroethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,4-Dioxane	20U	R	A	20U	R	A	20U	R	A	20U	R	A	20U	R	A	20U	R	A
Trichloroethene	0.82			1.2			43		G	0.50U			1.2			18		

ANALYTICAL RESULTS
Table 1A

Case No. : 36520 SDG No. : Y3CN1
Site : Omega Chem OU2
Lab : Shealy Environmental Services, Inc.
Reviewer : Kendra DeSantolo, ESAT/LDC
Date : 09/14/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Trace Level Water Samples for Trace Volatiles

Station Location :	Y3CP3			Y3CP4			Y3CP5			Y3CP6			Y3CP7			Y3CP8		
Sample ID :	Y3CP3			Y3CP4			Y3CP5			Y3CP6		FB	Y3CP7			Y3CP8		
Collection Date :	7/20/2007			7/20/2007			7/20/2007			7/20/2007			7/23/2007			7/23/2007		
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
Trace Volatiles	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Methylcyclohexane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,2-Dichloropropane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Bromodichloromethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
cis-1,3-Dichloropropene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
4-Methyl-2-pentanone	5.0U			5.0U			5.0U			5.0U			5.0U			5.0U		
Toluene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
trans-1,3-Dichloropropene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,1,2-Trichloroethane	0.50U			0.50U			0.58			0.50U			0.50U			0.50U		
Tetrachloroethene	3.0			9.0			43		G	0.50U			0.38L	J	B	5.5		
2-Hexanone	5.0U			5.0U			5.0U			5.0U			5.0U			5.0U		
Dibromochloromethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,2-Dibromoethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Chlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Ethylbenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
o-Xylene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
m,p-Xylene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Styrene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Bromoform	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Isopropylbenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,1,2,2-Tetrachloroethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,3-Dichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,4-Dichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,2-Dichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,2-Dibromo-3-chloropropane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,2,4-Trichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,2,3-Trichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
CRQL - Contract Required Quantitation LImit
N/A - Not Applicable
NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample

ANALYTICAL RESULTS
Table 1A

Case No. : 36520 SDG No. : Y3CN1
Site : Omega Chem OU2
Lab : Shealy Environmental Services, Inc.
Reviewer : Kendra DeSantolo, ESAT/LDC
Date : 09/14/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Trace Level Water Samples for Trace Volatiles

Station Location :	Y3CP9			Y3CQ0			Method Blank			Method Blank			Method Blank			Method Blank		
Sample ID :	Y3CP9		D1	Y3CQ0		D1	VBLK1D			VBLK24			VBLK25			VBLK26		
Collection Date :	7/23/2007			7/23/2007														
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
Trace Volatiles	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Dichlorodifluoromethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Chloromethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Vinyl chloride	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Bromomethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Chloroethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Trichlorofluoromethane	0.061L	J	B	0.077L	J	B	0.50U			0.50U			0.50U			0.50U		
1,1-Dichloroethene	1.8			1.9			0.072L	J	B	0.079L	J	B	0.072L	J	B	0.062L	J	B
1,1,2-Trichloro-1,2,2-trifluoroethane	0.22L	J	B	0.25L	J	B	0.50U			0.50U			0.50U			0.50U		
Acetone	5.0U	J	D	5.0U	J	D	5.0U	J	D	5.0U	J	D	5.0U	J	D	5.0U	J	D
Carbon Disulfide	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Methyl acetate	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Methylene chloride	0.50U	J	C	0.50U	J	C	0.17L	J	B	0.21L	J	B	0.14L	J	B	0.15L	J	B
trans-1,2-Dichloroethene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Methyl tert-butyl ether	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,1-Dichloroethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
cis-1,2-Dichloroethene	0.48L	J	B	0.51			0.50U			0.50U			0.50U			0.50U		
2-Butanone	5.0U			5.0U			5.0U			5.0U			5.0U			5.0U		
Bromochloromethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Chloroform	6.4			6.0			0.052L	J	B	0.50U			0.50U			0.50U		
1,1,1-Trichloroethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Cyclohexane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Carbon tetrachloride	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Benzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,2-Dichloroethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,4-Dioxane	20U	R	A	20U	R	A	20U	R	A	20U	R	A	20U	R	A	20U	R	A
Trichloroethene	1.2			1.2			0.50U			0.50U			0.50U			0.50U		

ANALYTICAL RESULTS
Table 1A

Case No. : 36520 SDG No. : Y3CN1
Site : Omega Chem OU2
Lab : Shealy Environmental Services, Inc.
Reviewer : Kendra DeSantolo, ESAT/LDC
Date : 09/14/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Trace Level Water Samples for Trace Volatiles

Station Location :	Y3CP9			Y3CQ0			Method Blank			Method Blank			Method Blank			Method Blank		
Sample ID :	Y3CP9		D1	Y3CQ0		D1	VBLK1D			VBLK24			VBLK25			VBLK26		
Collection Date :	7/23/2007			7/23/2007														
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
Trace Volatiles	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Methylcyclohexane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,2-Dichloropropane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Bromodichloromethane	1.0			0.90			0.50U			0.50U			0.50U			0.50U		
cis-1,3-Dichloropropene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
4-Methyl-2-pentanone	5.0U			5.0U			5.0U			5.0U			5.0U			5.0U		
Toluene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
trans-1,3-Dichloropropene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,1,2-Trichloroethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Tetrachloroethene	5.6			6.1			0.50U			0.50U			0.50U			0.50U		
2-Hexanone	5.0U			5.0U			5.0U			5.0U			5.0U			5.0U		
Dibromochloromethane	0.33L	J	B	0.31L	J	B	0.50U			0.50U			0.50U			0.50U		
1,2-Dibromoethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Chlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Ethylbenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
o-Xylene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
m,p-Xylene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Styrene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Bromoform	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Isopropylbenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,1,2,2-Tetrachloroethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,3-Dichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,4-Dichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,2-Dichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,2-Dibromo-3-chloropropane	0.50U			0.50U			0.50U	J	D	0.50U			0.50U			0.50U		
1,2,4-Trichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,2,3-Trichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
CRQL - Contract Required Quantitation LImit
N/A - Not Applicable
NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample

ANALYTICAL RESULTS
Table 1A

Case No. : 36520 SDG No. : Y3CN1
Site : Omega Chem OU2
Lab : Shealy Environmental Services, Inc.
Reviewer : Kendra DeSantolo, ESAT/LDC
Date : 09/14/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Trace Level Water Samples for Trace Volatiles

Station Location :	Method Blank			Storage Blank														
Sample ID :	VBLK2X			VHBLK32			CRQL											
Collection Date :																		
Dilution Factor :	1.0			1.0														
Trace Volatiles	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**							**Result**	**Val**	**Com**
Dichlorodifluoromethane	0.50U			0.50U			0.50											
Chloromethane	0.50U			0.50U			0.50											
Vinyl chloride	0.50U			0.50U			0.50											
Bromomethane	0.50U			0.50U			0.50											
Chloroethane	0.50U			0.50U			0.50											
Trichlorofluoromethane	0.50U			0.50U			0.50											
1,1-Dichloroethene	0.083L	J	B	0.50U	J	C	0.50											
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50U			0.50U			0.50											
Acetone	5.0U	J	D	5.0U	J	D	5.0											
Carbon Disulfide	0.50U			0.50U			0.50											
Methyl acetate	0.50U			0.50U			0.50											
Methylene chloride	0.18L	J	B	0.68U	J	C	0.50											
trans-1,2-Dichloroethene	0.50U			0.50U			0.50											
Methyl tert-butyl ether	0.50U			0.50U			0.50											
1,1-Dichloroethane	0.50U			0.50U			0.50											
cis-1,2-Dichloroethene	0.50U			0.50U			0.50											
2-Butanone	5.0U			5.0U			5.0											
Bromochloromethane	0.50U			0.50U			0.50											
Chloroform	0.50U			0.54			0.50											
1,1,1-Trichloroethane	0.50U			0.50U			0.50											
Cyclohexane	0.50U			0.50U			0.50											
Carbon tetrachloride	0.50U			0.50U			0.50											
Benzene	0.50U			0.50U			0.50											
1,2-Dichloroethane	0.50U			0.50U			0.50											
1,4-Dioxane	20U	R	A	20U	R	A	20											
Trichloroethene	0.50U			0.50U			0.50											

ANALYTICAL RESULTS
Table 1A

Case No. : 36520 SDG No. : Y3CN1
Site : Omega Chem OU2
Lab : Shealy Environmental Services, Inc.
Reviewer : Kendra DeSantolo, ESAT/LDC
Date : 09/14/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Trace Level Water Samples for Trace Volatiles

Station Location :	Method Blank			Storage Blank														
Sample ID :	VBLK2X			VHBLK32			CRQL											
Collection Date :																		
Dilution Factor :	1.0			1.0														
Trace Volatiles	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**							**Result**	**Val**	**Com**
Methylcyclohexane	0.50U			0.50U			0.50											
1,2-Dichloropropane	0.50U			0.50U			0.50											
Bromodichloromethane	0.50U			0.50U			0.50											
cis-1,3-Dichloropropene	0.50U			0.50U			0.50											
4-Methyl-2-pentanone	5.0U			5.0U			5.0											
Toluene	0.50U			0.50U			0.50											
trans-1,3-Dichloropropene	0.50U			0.060L	J	B	0.50											
1,1,2-Trichloroethane	0.50U			0.50U			0.50											
Tetrachloroethene	0.50U			0.50U			0.50											
2-Hexanone	5.0U			5.0U			5.0											
Dibromochloromethane	0.50U			0.50U			0.50											
1,2-Dibromoethane	0.50U			0.50U			0.50											
Chlorobenzene	0.50U			0.50U			0.50											
Ethylbenzene	0.50U			0.50U			0.50											
o-Xylene	0.50U			0.50U			0.50											
m,p-Xylene	0.50U			0.50U			0.50											
Styrene	0.50U			0.50U			0.50											
Bromoform	0.50U			0.50U			0.50											
Isopropylbenzene	0.50U			0.50U			0.50											
1,1,2,2-Tetrachloroethane	0.50U			0.50U			0.50											
1,3-Dichlorobenzene	0.50U			0.50U			0.50											
1,4-Dichlorobenzene	0.50U			0.50U			0.50											
1,2-Dichlorobenzene	0.50U			0.50U			0.50											
1,2-Dibromo-3-chloropropane	0.50U			0.50U	J	D	0.50											
1,2,4-Trichlorobenzene	0.50U			0.50U			0.50											
1,2,3-Trichlorobenzene	0.50U			0.50U			0.50											

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
CRQL - Contract Required Quantitation LImit
N/A - Not Applicable
NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review," January 2005.

U The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method.

L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

J The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the CRQL).

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.

R The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.

Table 2
Calibration Summary

Case No.: 36520
SDG No.: Y3CN1
Site: Omega Chem OU2
Laboratory: Shealy Environmental Services, Inc.
Reviewer: Kendra DeSantolo, ESAT/LDC
Date: September 13, 2007

RELATIVE RESPONSE FACTORS

	RRF	RRF	RRF	RRF
Analysis date:	7/23/07	7/24/07	7/24/07	7/24/07
Analysis time:	13:48-	05:47	17:28	23:51
GC/MS I.D.:	MSD9	MSD9	MSD9	MSD9
Analyte	Init.	Cont.	Cont.	Cont.
Acetone	0.049	0.048	0.048	0.049
1,4-Dioxane	0.0009	0.0008	0.0009	0.0009
1,4-Dioxane-d8	0.0007	0.0006	0.0007	0.0006

	RRF	RRF	RRF	RRF	RRF
Analysis date:	7/25/07	7/26/07	7/26/07	7/27/07	7/27/07
Analysis time:	06:21	06:07	17:35	06:24	17:34
GC/MS I.D.:	MSD9	MSD9	MSD9	MSD9	MSD9
Analyte	Cont.	Cont.	Cont.	Cont.	Cont.
Acetone	0.048	------	------	------	0.049
1,4-Dioxane	0.0007	0.0010	0.0009	0.0009	0.0008
1,2-dibromo-3-chloropropane	------	------	------	------	0.046
1,4-Dioxane-d8	0.0005	0.0007	0.0006	0.0006	0.0006

ASSOCIATED SAMPLES AND METHOD BLANKS

Initial 07/2307: All samples, method blanks, and storage blank VHBLK32
Cont., 07/24/07 (05:47): Y3CN5 and VBLK24
Cont., 07/24/07 (17:28): Closing standard for Y3CN5 and VBLK24, opening standard for Y3CN6, Y3CN7, Y3CP0 through Y3CP4, Y3CP7 through Y3CQ0 and VBLK2X
Cont., 07/24/07 (23:51): Closing standard for Y3CN6, Y3CN7, Y3CP0 through Y3CP4, Y3CP7 through Y3CQ0 and VBLK2X
Cont., 07/25/07 (06:21): Y3CN1 through Y3CN3, Y3CN8, Y3CP5, Y3CP6, and VBLK25
Cont., 07/26/07 (06:07): Y3CN1DL, Y3CN2DL, Y3CN3DL, Y3CN2DL2, Y3CN4, Y3CN4DL, Y3CN8DL, Y3CN9, Y3CN9DL, and VBLK26

Cont., 07/26/07 (17:36): Closing standard for Y3CN1DL, Y3CN2DL, Y3CN3DL, Y3CN2DL2, Y3CN4, Y3CN4DL, Y3CN8DL, Y3CN9, Y3CN9DL, and VBLK26
Cont., 07/27/07 (06:24): Y3CP5DL; storage blank VHBLK32; and VBLK1D
Cont., 07/27/07 (17:34): Y3CP5DL; storage blank VHBLK32; and VBLK1D

USEPA Contract Laboratory Program
Organic Traffic Report & Chain of Custody Record

Case No:	36520
DAS No:	
SDG No:	Y3CL1, Y3CN1

L

Date Shipped:	7/18/2007
Carrier Name:	FedEx
Airbill:	799177129103, 792380236[illegible]
Shipped to:	Shealy Environmental 106 Vantage Point Drive Cayce SC 29033 (803) 791-9700

Chain of Custody Record

Relinquished By	(Date / Time)	Received By	(Date / Time)
1 [signature]	7-18-07 1400		
2 [signature]			
3			
4		[signature]	7/19/07 0930

Sampler Signature:

For Lab Use Only

Lab Contract No:	EPW05031
Unit Price:	
Transfer To:	
Lab Contract No:	
Unit Price:	

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		INORGANIC SAMPLE No.	FOR LAB USE ONLY Sample Condition On Receipt
Y3CN0	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	255 (Ice Only), 256 (Ice Only), 257 (Ice Only), 258 (Ice Only), 259 (HCL), 260 (HCL), 261 (HCL), 262 (HCL), 263 (HCL), 264 (HCL), 265 (HCL), 266 (HCL) (12)	Y3CN0	S: 7/18/2007	8:25		O.K
Y3CN1	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	267 (Ice Only), 268 (Ice Only), 269 (HCL), 270 (HCL), 271 (HCL), 272 (HCL) (6)	Y3CN1	S: 7/18/2007	9:15		
Y3CN2	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	273 (Ice Only), 274 (Ice Only), 275 (HCL), 276 (HCL), 277 (HCL), 278 (HCL) (6)	Y3CN2	S: 7/18/2007	10:10		
Y3CN3	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	279 (Ice Only), 280 (Ice Only), 281 (HCL), 282 (HCL), 283 (HCL), 284 (HCL) (6)	Y3CN3	S: 7/18/2007	11:15		
Y3CN4	Ground Water/ Robert Hernandez	M/G	SIM TVOA (21), SVOA (21)	285 (Ice Only), 286 (Ice Only), 287 (HCL), 288 (HCL), 289 (HCL), 290 (HCL) (6)	Y3CN4	S: 7/18/2007	12:12		
Y3CN5	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21)	291 (HCL), 292 (HCL), 293 (HCL), 294 (HCL) (4)	Y3CN5	S: 7/18/2007	13:00		

COPY
ORIGINAL DOCUMENTS INCLUDED IN CSF Y3CL1-3165
[signature]
Signature
07/23/07
Date

Shipment for Case Complete?N	Sample(s) to be used for laboratory QC: Y3CN0	Additional Sampler Signature(s):	Cooler Temperature Upon Receipt: 5.3, 4.6	Chain of Custody Seal Number: NA
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G		Custody Seal Intact? Y Shipment Iced? Y

SIM TVOA = CLP TCL Volatiles (including SIM), SVOA = 1,4-Dioxane

TR Number: 9-373659945-071807-0002

LABORATORY COPY

PR provides preliminary results. Requests for preliminary results will increase analytical costs.
Send Copy to: Sample Management Office, 2000 Edmund Halley Dr., Reston, VA. 20191-3400 Phone 703/264-9348 Fax 703/264-9222

USEPA Contract Laboratory Program
Organic Traffic Report & Chain of Custody Record

EPA

Case No:	36520
DAS No:	
SDG No:	Y3CN1

L

Date Shipped:	7/19/2007
Carrier Name:	FedEx
Airbill:	790294947320, 799177924[illegible]
Shipped to:	Shealy Environmental 106 Vantage Point Drive Cayce SC 29033 (803) 791-9700

Chain of Custody Record

Relinquished By	(Date / Time)	Received By	(Date / Time)
1	1400		
2			
3			
4			

Sampler Signature:

For Lab Use Only

Lab Contract No:	EPW05031
Unit Price:	
Transfer To:	
Lab Contract No:	
Unit Price:	

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		INORGANIC SAMPLE No.	FOR LAB USE ONLY Sample Condition On Receipt
Y3CN6	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	297 (Ice Only), 298 (Ice Only), 299 (HCL), 300 (HCL), 301 (HCL), 302 (HCL) (6)	Y3CN6	S: 7/19/2007	8:30		OK
Y3CN7	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	303 (Ice Only), 304 (Ice Only), 305 (HCL), 306 (HCL), 307 (HCL), 308 (HCL) (6)	Y3CN7	S: 7/19/2007	9:25		
Y3CN8	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	309 (Ice Only), 310 (Ice Only), 311 (HCL), 312 (HCL), 313 (HCL), 314 (HCL) (6)	Y3CN8	S: 7/19/2007	9:55		
Y3CN9	Ground Water/ Robert Hernandez	M/G	SIM TVOA (21), SVOA (21)	315 (Ice Only), 316 (Ice Only), 317 (HCL), 318 (HCL), 319 (HCL), 320 (HCL) (6)	Y3CN9	S: 7/19/2007	11:07		
Y3CP0	Ground Water/ Robert Hernandez	M/G	SIM TVOA (21), SVOA (21)	321 (Ice Only), 322 (Ice Only), 323 (HCL), 324 (HCL), 325 (HCL), 326 (HCL) (6)	Y3CP0	S: 7/19/2007	12:45		
Y3CP1	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21)	327 (HCL), 328 (HCL), 329 (HCL), 330 (HCL) (4)	Y3CP1	S: 7/19/2007	13:00		

Shipment for Case Complete?N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Cooler Temperature Upon Receipt 3.8, 4.4	Chain of Custody Seal Number: NA
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G		Custody Seal Intact? Y / Shipment Iced? Y

SIM TVOA = CLP TCL Volatiles (including SIM), SVOA = 1,4-Dioxane

6 of 1579

TR Number: 9-373659945-071907-0001

PR provides preliminary results. Requests for preliminary results will increase analytical costs.
Send Copy to: Sample Management Office, 2000 Edmund Halley Dr., Reston, VA. 20191-3400 Phone 703/264-9348 Fax 703/264-9222

LABORATORY COPY

USEPA Contract Laboratory Program
Organic Traffic Report & Chain of Custody Record

Case No:	36520
DAS No:	
SDG No:	Y3CN1

L

Date Shipped:	7/20/2007
Carrier Name:	FedEx
Airbill:	791726191401
Shipped to:	Shealy Environmental 106 Vantage Point Drive Cayce SC 29033 (803) 791-9700

Chain of Custody Record

Relinquished By	(Date / Time)	Received By	(Date / Time)
1	7-20-07 1200		
2			
3			
4			7/20/07 1100

Sampler Signature:

For Lab Use Only

Lab Contract No:	EPW05031
Unit Price:	SMV07/26/07
Transfer To:	
Lab Contract No:	
Unit Price:	

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	FOR LAB USE ONLY Sample Condition On Receipt
Y3CP2	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	331 (Ice Only), 332 (Ice Only), 333 (HCL), 334 (HCL), 335 (HCL), 336 (HCL) (6)	Y3CP2	S: 7/20/2007 7:25		OK
Y3CP3	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	337 (Ice Only), 338 (Ice Only), 339 (HCL), 340 (HCL), 341 (HCL), 342 (HCL) (6)	Y3CP3	S: 7/20/2007 8:17		
Y3CP4	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	343 (Ice Only), 344 (Ice Only), 345 (HCL), 346 (HCL), 347 (HCL), 348 (HCL) (6)	Y3CP4	S: 7/20/2007 9:05		
Y3CP5	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	349 (Ice Only), 350 (Ice Only), 351 (HCL), 352 (HCL), 353 (HCL), 354 (HCL) (6)	Y3CP5	S: 7/20/2007 10:20		
Y3CP6	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21)	361 (HCL), 362 (HCL), 363 (HCL), 364 (HCL) (4)	Y3CP6	S: 7/20/2007 11:00		

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Cooler Temperature Upon Receipt 4.0	Chain of Custody Seal Number: NA
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G		Custody Seal Intact? Y Shipment Iced? Y

SIM TVOA = CLP TCL Volatiles (including SIM), SVOA = 1,4-Dioxane

7 of 1573

TR Number: 9-373659945-072007-0001

LABORATORY COPY

PR provides preliminary results. Requests for preliminary results will increase analytical costs.
Send Copy to: Sample Management Office, 2000 Edmund Halley Dr., Reston, VA. 20191-3400 Phone 703/264-9348 Fax 703/264-9222

Shealy Environmental Services, Inc.

Contract Number: EPW05031
Date: 08/06/2007
Revision Date: 09/10/07

SDG Narrative

Case 36520
SDG Y3CN1
EPA Sample Numbers

EPA Sample Number	TVOA Fraction	Dilution/ Reanalysis	TVOA SIM Fraction	Dilution/ Reanalysis	BNA SIM Fraction	Dilution/ Reanalysis	Aqueous VOA Sample pH Value
Y3CN1	Yes	Yes	Yes	No	Yes	No	<2
Y2CN2	Yes	Yes	Yes	No	Yes	No	<2
Y3CN3	Yes	Yes	Yes	No	Yes	No	<2
Y3CN4	Yes	Yes	Yes	Yes	Yes	No	<2
Y3CN5	Yes	No	Yes	No	No	No	<2
Y3CN6	Yes	Yes	Yes	No	Yes	No	<2
Y3CN7	Yes	Yes	Yes	No	Yes	No	<2
Y3CN8	Yes	Yes	Yes	No	Yes	No	<2
Y3CN9	Yes	Yes	Yes	No	Yes	No	<2
Y3CP0	Yes	Yes	Yes	No	Yes	No	<2
Y3CP1	Yes	Yes	Yes	No	No	No	<2
Y3CP2	Yes	Yes	Yes	No	Yes	No	<2
Y3CP3	Yes	Yes	Yes	No	Yes	No	<2
Y3CP4	Yes	Yes	Yes	No	Yes	No	<2
Y3CP5	Yes	Yes	Yes	No	Yes	No	<2
Y3CP6	Yes	No	Yes	No	No	No	<2
Y3CP7	Yes	Yes	Yes	No	Yes	No	<2
Y3CP8	Yes	Yes	Yes	No	Yes	No	<2
Y3CP9	Yes	Yes	Yes	No	Yes	No	<2
Y3CQ0	Yes	No	Yes	No	Yes	No	<2

Columns	TVOA DB-624, 30m x 0.25mm x 1.4um BNA DB-5.625ms, 20m x 0.18mm x 0.36um
Trap	OI Trap #10
VOA Equation	$$\text{Water sample concentration (ug/L)} = \frac{(A_x)(I_s)(DF)}{(A_{is})(\overline{RRF})(V_o)}$$ Where Ax is the area of the characteristic ion (EICP) for the compound to be measured. Ais is the area of the characteristic ion (EICP) for the internal standard. Is is the amount of internal standard added, in ng. $\overline{RRF}$ is the mean relative response factor from the initial calibration. DF is the dilution factor. Vo is total volume of water purged, in mL.

BNA Equation	Water sample concentration ug/L = $\frac{(A_x)(I_s)(V_t)(DF)(GPC)}{(A_{is})(\overline{RRF})(V_o)(V_i)}$ Where Ax is the area of the characteristic ion (EICP) for the compound to be measured. Ais is the area of the characteristic ion (EICP) for the internal standard. Is is the amount of internal standard added, in ng. $\overline{RRF}$ is the mean relative response factor from the initial calibration. DF is the dilution factor. GPC = Vin/Vout : GPC factor. Vin is the volume of extract loaded onto GPC column. Vout is the volume of extract collected after GPC cleanup. Vt is volume of the concentrated extract in uL. (If no GPC cleanup is performed, then Vt = 1000uL. If GPC cleanup is performed, then Vt = Vout.). Vi is the volume of the extract injected in uL. Vo: Volume of water extracted in mL

Sample Receiving

The cooler temperatures associated with these samples were 5.3, 4.6, 4.4, 3.8, 4.6, 3.7, and 4.7°C.

The TR/CoC listed the samples as having a 21 day turn around time. Per the scheduling notification the samples were requested by SMO for 14 day turn and were processed by the lab in this manner.

TVOA Fraction

The peak eluting at ~5.78min on MSD9 in all analyses is pentafluorobenzene. This is an internal standard compound that is not being used for quantitation. This compound is not being identified as a TIC.

Manual integration was performed on 1,4-dioxane and/or 1,4-dioxane-d8 for some standards due to incorrect auto integration.

Manual integration was performed on toluene-d8 for standard VSTD00123 due to incorrect auto integration.

Manual integration was performed on 1,4-dioxane for sample Y3CN4 due to incorrect auto integration.

Samples Y3CN4 and Y3CN9 were only analyzed at dilutions of 2x or greater due to multiple compounds detected over the calibration range.

The ending CCV for MSD 9 on 07/25/07 was not analyzed due to an instrument malfunction. There was insufficient sample volume remaining to perform another analysis.

The CCV VSTD0052B passed both opening and closing criteria. Therefore, data collection continued without analyzing a new tune standard.

The Internal Standard area in sample Y3CN4DL is outside of limits. The sample was not re-analyzed due to insufficient sample volume remaining.

All surrogates did not pass acceptance limits in the blank, VBLK2X run on 07/24/07. The associated samples were re-analyzed the next day and both sets of data are included.

The internal standard recoveries for sample Y3CN4DL (50-fold dilution) were high and outside the acceptance limits. It was probably due to a one-time instrument malfunction that extra volume of the internal standard spiking solution was added during the analysis. This extra amount of internal standard caused the large discrepancies

between the 5 (reported as Y3CN4) and 50-fold dilution analyses. Total of 4 vials were received for sample Y3CN4. One was used for screening; two were used for the TVSIM analysis. The last one was used for the 5 and 50-fold dilutions. There was insufficient volume of sample to perform another 50-fold dilution.

TVOA SIM Fraction

Manual integration was performed on 1,4-dioxane for samples Y3CP0, Y3CP5, Y3CP9, Y3CN5, Y3CN6, Y3CN7, Y3CN9, and blanks VBLK25, VBLK26, VBLK31, VHBLK32, VHBLK32RE due to incorrect auto integration.

Manual integration was performed on 1,4-dioxane-d8 for sample Y3CN4 due to incorrect auto integration.

Sample Y3CN4 was re-analyzed due to the possibility of carryover in the first analysis. Both sets of data are included.

The 1,4-dioxane results for samples Y3CN2 and Y3CN4 were over the calibration range however, samples could not be re-analyzed due to insufficient volume remaining.

BNA SIM Fraction

None.

I certify that this Sample Data Package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy Sample Data Package and in the electronic data deliverable has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Robert Slee for DJW
9/10/07

Daniel J. Wright
Laboratory Director

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
Y3CN4

Lab Name: Shealy Environmental Services, Inc. Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 36520 Mod. Ref No.: _____ SDG No.: Y3CN1

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: IG19018-004

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 90726A10

Level: (TRACE or LOW/MED) TRACE Date Received: 07/19/2007

% Moisture: not dec. _____ Date Analyzed: 07/26/2007

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 5.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	2.857	4.9	J D
02	~~541-05-9~~	~~Cyclotrisiloxane, hexamethyl~~	~~9.176~~	~~14~~	~~NJ DB~~
03	~~556-67-2~~	~~Cyclotetrasiloxane, octameth~~	~~11.566~~	~~13~~	~~NJ DB~~
04		~~Unknown-02~~	~~12.181~~	~~14~~	~~J DB~~
05		~~Unknown-03~~	~~12.312~~	~~5.9~~	~~J DB~~
06		~~Unknown-04~~	~~12.560~~	~~15~~	~~J DB~~
07		~~Unknown-05~~	~~12.962~~	~~5.2~~	~~J D~~
08		~~Unknown-06~~	~~15.033~~	~~3.9~~	~~J D~~
09					
10		SC, 9/4/07.			
11					
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25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

SOM01.1 (5/2005)

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
Y3CN9

Lab Name: Shealy Environmental Services, Inc. Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 36520 Mod. Ref No.: _____ SDG No.: Y3CN1

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: IG20012-004

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 90726A09

Level: (TRACE or LOW/MED) TRACE Date Received: 07/20/2007

% Moisture: not dec. _____ Date Analyzed: 07/26/2007

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 2.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	2.869	5.4	J D
02	~~541-05-9~~	~~Cyclotrisiloxane, hexamethyl~~	~~9.176~~	~~7.0~~	~~NJ DB~~
03	~~556-67-2~~	~~Cyclotetrasiloxane, octameth~~	~~11.566~~	~~6.4~~	~~NJ DB~~
04		~~Unknown-02~~	~~12.181~~	~~5.6~~	~~J DB~~
05		~~Unknown-03~~	~~12.311~~	~~2.3~~	~~J DB~~
06		~~Unknown-04~~	~~12.560~~	~~7.0~~	~~J DB~~
07		~~Unknown-05~~	~~12.962~~	~~2.7~~	~~J D~~
08					
09		SL, 9/4/07			
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

SOM01.1 (5/2005)

ANALYTICAL RESULTS
Table 1A

Case No. : 36520 SDG No. : Y3CN1
Site : Omega Chem OU2
Lab : Shealy Environmental Services, Inc.
Reviewer : Santiago Lee, ESAT/LDC
Date : 09/13/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Low Level Water Samples for Semivolatiles SIM

Station Location :	Y3CN1			Y3CN2			Y3CN3			Y3CN4			Y3CN6			Y3CN7		
Sample ID :	Y3CN1			Y3CN2			Y3CN3			Y3CN4			Y3CN6			Y3CN7		
Collection Date :	7/18/2007			7/18/2007			7/18/2007			7/18/2007			7/19/2007			7/19/2007		
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
Semivolatiles SIM	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
1,4-Dioxane	2.0U	J	B	44	J	BC	7.5	J	B	27	J	B	2.0U	J	B	1.7L	J	AB

Station Location :	Y3CN8			Y3CN9			Y3CP0			Y3CP2			Y3CP3			Y3CP4		
Sample ID :	Y3CN8			Y3CN9			Y3CP0			Y3CP2			Y3CP3			Y3CP4		
Collection Date :	7/19/2007			7/19/2007			7/19/2007			7/20/2007			7/20/2007			7/20/2007		
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
Semivolatiles SIM	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
1,4-Dioxane	2.1	J	B	8.5	J	B	2.0U	J	B	2.0U	J	B	2.0U	J	B	2.0U	J	B

Station Location :	Y3CP5			Y3CP7			Y3CP8			Y3CP9			Y3CQ0			Method Blank		
Sample ID :	Y3CP5			Y3CP7			Y3CP8			Y3CP9		D1	Y3CQ0		D1	SBLK17		
Collection Date :	7/20/2007			7/23/2007			7/23/2007			7/23/2007			7/23/2007					
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
Semivolatiles SIM	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
1,4-Dioxane	2.0U	J	B	2.0U	J	B	2.0U			2.0U			2.0U			2.0U		

Station Location :	Method Blank			Method Blank														
Sample ID :	SBLK48			SBLK81			CRQL											
Collection Date :																		
Dilution Factor :	1.0			1.0														
Semivolatiles SIM	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
1,4-Dioxane	2.0U	J	B	2.0U	J	B	2.0											

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
CRQL - Contract Required Quantitation LImit
N/A - Not Applicable
NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample

ANALYTICAL RESULTS
Table 1A

Case No. : 36520 SDG No. : Y3CN1
Site : Omega Chem OU2
Lab : Shealy Environmental Services, Inc.
Reviewer : Kendra DeSantolo, ESAT/LDC
Date : 09/14/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Trace Level Water Samples for Trace Volatiles

Station Location :	Y3CN1			Y3CN2			Y3CN3			Y3CN4			Y3CN5			Y3CN6		
Sample ID :	Y3CN1			Y3CN2			Y3CN3			Y3CN4			Y3CN5		FB	Y3CN6		
Collection Date :	7/18/2007			7/18/2007			7/18/2007			7/18/2007			7/18/2007			7/19/2007		
Dilution Factor :	1.0			1.0			1.0			5.0			1.0			1.0		
Trace Volatiles	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Dichlorodifluoromethane	0.50U			0.50U			0.45L	J	B	2.5U			0.50U			0.50U		
Chloromethane	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
Vinyl chloride	0.50U			0.58			0.50U			2.5U			0.50U			0.50U		
Bromomethane	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
Chloroethane	0.50U			0.20L	J	B	0.50U			2.5U			0.50U			0.50U		
Trichlorofluoromethane	18		G	4.5			0.29L	J	B	210	J	F	0.50U			0.50U		
1,1-Dichloroethene	24		G	220		G	7.0			580	J	F	0.50U	J	C	0.93		
1,1,2-Trichloro-1,2,2-trifluoroethane	41		G	15			0.54			530	J	F	0.50U			0.50U		
Acetone	5.0U	J	D	1.7L	J	BD	5.0U	J	D	25U	J	D	5.0U	J	D	5.0U	J	D
Carbon Disulfide	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
Methyl acetate	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
Methylene chloride	0.50U	J	C	0.50U	J	C	0.50U	J	C	2.5U	J	C	0.56U	J	C	0.50U	J	C
trans-1,2-Dichloroethene	0.13L	J	BE	2.2	J	E	0.065L	J	BE	2.3L	J	BE	0.50U			0.50U		
Methyl tert-butyl ether	0.50U			0.58			0.13L	J	B	1.9L	J	B	0.50U			0.50U		
1,1-Dichloroethane	1.0			120	J	EG	0.74			3.2	J	E	0.50U			0.21L	J	B
cis-1,2-Dichloroethene	5.5	J	E	230	J	EG	2.2	J	E	11	J	E	0.50U			5.6		
2-Butanone	5.0U			5.0U			5.0U			25U			5.0U			5.0U		
Bromochloromethane	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
Chloroform	1.4U	J	C	2.6U	J	C	1.3U	J	C	140	J	EF	0.50U			0.50U		
1,1,1-Trichloroethane	0.76			17		G	0.50U			2.5U			0.50U			0.50U		
Cyclohexane	0.50U			0.13L	J	B	0.50U			2.5U			0.50U			0.50U		
Carbon tetrachloride	0.42L	J	B	0.50U			0.50U			2.5U			0.50U			0.50U		
Benzene	0.074L	J	B	0.20L	J	B	0.50U			0.53L	J	B	0.50U			0.50U		
1,2-Dichloroethane	0.50U			17			0.50U			19			0.50U			0.50U		
1,4-Dioxane	20U	R	A	100	J	D	14L	J	BD	82L	J	BD	20U	R	A	20U	R	A
Trichloroethene	110		G	100		G	15			400	J	F	0.50U			2.9		

ANALYTICAL RESULTS
Table 1A

Case No. : 36520 SDG No. : Y3CN1
Site : Omega Chem OU2
Lab : Shealy Environmental Services, Inc.
Reviewer : Kendra DeSantolo, ESAT/LDC
Date : 09/14/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Trace Level Water Samples for Trace Volatiles

Station Location :	Y3CN1			Y3CN2			Y3CN3			Y3CN4			Y3CN5			Y3CN6		
Sample ID :	Y3CN1			Y3CN2			Y3CN3			Y3CN4			Y3CN5		FB	Y3CN6		
Collection Date :	7/18/2007			7/18/2007			7/18/2007			7/18/2007			7/18/2007			7/19/2007		
Dilution Factor :	1.0			1.0			1.0			5.0			1.0			1.0		
Trace Volatiles	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Methylcyclohexane	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
1,2-Dichloropropane	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
Bromodichloromethane	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
cis-1,3-Dichloropropene	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
4-Methyl-2-pentanone	5.0U			5.0U			5.0U			25U			5.0U			5.0U		
Toluene	0.50U			0.079L	J	B	0.50U			2.5U			0.50U			0.50U		
trans-1,3-Dichloropropene	0.50U			0.50U			0.50U			2.5U			1.3			0.50U		
1,1,2-Trichloroethane	1.2			5.6			3.3			11			0.50U			0.50U		
Tetrachloroethene	80		G	290		G	210		G	1000	J	F	0.50U			0.26L	J	B
2-Hexanone	5.0U			5.0U			5.0U			25U			5.0U			5.0U		
Dibromochloromethane	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
1,2-Dibromoethane	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
Chlorobenzene	0.50U			0.19L	J	B	0.070L	J	B	2.5U			0.50U			0.50U		
Ethylbenzene	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
o-Xylene	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
m,p-Xylene	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
Styrene	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
Bromoform	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
Isopropylbenzene	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
1,1,2,2-Tetrachloroethane	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
1,3-Dichlorobenzene	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
1,4-Dichlorobenzene	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
1,2-Dichlorobenzene	0.50U			0.070L	J	B	0.43L	J	B	2.5U			0.50U			0.50U		
1,2-Dibromo-3-chloropropane	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
1,2,4-Trichlorobenzene	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		
1,2,3-Trichlorobenzene	0.50U			0.50U			0.50U			2.5U			0.50U			0.50U		

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
CRQL - Contract Required Quantitation LImit
N/A - Not Applicable
NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample

ANALYTICAL RESULTS
Table 1A

Case No. : 36520 SDG No. : Y3CN1
Site : Omega Chem OU2
Lab : Shealy Environmental Services, Inc.
Reviewer : Kendra DeSantolo, ESAT/LDC
Date : 09/14/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Trace Level Water Samples for Trace Volatiles

Station Location :	Y3CN7			Y3CN8			Y3CN9			Y3CP0			Y3CP1			Y3CP2		
Sample ID :	Y3CN7			Y3CN8			Y3CN9			Y3CP0			Y3CP1		FB	Y3CP2		
Collection Date :	7/19/2007			7/19/2007			7/19/2007			7/19/2007			7/19/2007			7/20/2007		
Dilution Factor :	1.0			1.0			2.0			1.0			1.0			1.0		
Trace Volatiles	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Dichlorodifluoromethane	0.38L	J	B	0.50U			1.7			0.50U			0.50U			0.50U		
Chloromethane	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
Vinyl chloride	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
Bromomethane	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
Chloroethane	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
Trichlorofluoromethane	1.2			6.1			120		G	0.50U			0.50U			0.50U		
1,1-Dichloroethene	5.7			17			230		G	0.50U	J	C	0.50U	J	C	0.50U	J	C
1,1,2-Trichloro-1,2,2-trifluoroethane	2.7			13			330		G	0.50U			0.50U			0.50U		
Acetone	5.0U	J	D	5.0U	J	D	10U	J	D	5.0U	J	D	5.0U	J	D	5.0U	J	D
Carbon Disulfide	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
Methyl acetate	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
Methylene chloride	0.50U	J	C	0.50U	J	C	1.0U	J	C	0.50U	J	C	0.50U	J	C	0.50U	J	C
trans-1,2-Dichloroethene	0.50U			0.50U			0.62L	J	BE	0.50U			0.50U			0.50U		
Methyl tert-butyl ether	0.081L	J	B	0.19L	J	B	0.53L	J	B	0.50U			0.50U			0.50U		
1,1-Dichloroethane	1.4			3.6			0.71L	J	B	0.50U			0.50U			0.50U		
cis-1,2-Dichloroethene	0.66	J	E	1.7	J	E	0.47L	J	BE	0.50U			0.50U			0.50U		
2-Butanone	5.0U			5.0U			10U			5.0U			5.0U			5.0U		
Bromochloromethane	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
Chloroform	0.73U	J	C	0.88U	J	C	19			0.50U			0.50U	J	C	0.50U		
1,1,1-Trichloroethane	0.50U			0.50U			0.19L	J	B	0.50U			0.50U			0.50U		
Cyclohexane	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
Carbon tetrachloride	0.13L	J	B	0.25L	J	B	1.0U			0.50U			0.50U			0.50U		
Benzene	0.50U			0.072L	J	B	1.0U			0.50U			0.50U			0.052L	J	B
1,2-Dichloroethane	1.8			0.50U			2.8			0.50U			0.50U			0.50U		
1,4-Dioxane	20U	R	A	7.7L	J	BD	16L	J	BD	20U	R	A	20U	R	A	20U	R	A
Trichloroethene	19			37		G	48		G	0.50U			0.50U			0.50U		

ANALYTICAL RESULTS
Table 1A

Case No. : 36520 SDG No. : Y3CN1
Site : Omega Chem OU2
Lab : Shealy Environmental Services, Inc.
Reviewer : Kendra DeSantolo, ESAT/LDC
Date : 09/14/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Trace Level Water Samples for Trace Volatiles

Station Location :	Y3CN7			Y3CN8			Y3CN9			Y3CP0			Y3CP1			Y3CP2		
Sample ID :	Y3CN7			Y3CN8			Y3CN9			Y3CP0			Y3CP1		FB	Y3CP2		
Collection Date :	7/19/2007			7/19/2007			7/19/2007			7/19/2007			7/19/2007			7/20/2007		
Dilution Factor :	1.0			1.0			2.0			1.0			1.0			1.0		
Trace Volatiles	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Methylcyclohexane	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
1,2-Dichloropropane	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
Bromodichloromethane	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
cis-1,3-Dichloropropene	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
4-Methyl-2-pentanone	5.0U			5.0U			10U			5.0U			5.0U			5.0U		
Toluene	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
trans-1,3-Dichloropropene	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
1,1,2-Trichloroethane	0.18L	J	B	0.37L	J	B	3.3			0.50U			0.50U			0.50U		
Tetrachloroethene	16			28		G	370		G	0.29L	J	B	0.50U			0.50U		
2-Hexanone	5.0U			5.0U			10U			5.0U			5.0U			5.0U		
Dibromochloromethane	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
1,2-Dibromoethane	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
Chlorobenzene	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
Ethylbenzene	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
o-Xylene	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
m,p-Xylene	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
Styrene	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
Bromoform	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
Isopropylbenzene	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
1,1,2,2-Tetrachloroethane	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
1,3-Dichlorobenzene	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
1,4-Dichlorobenzene	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
1,2-Dichlorobenzene	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
1,2-Dibromo-3-chloropropane	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
1,2,4-Trichlorobenzene	0.50U			0.50U			1.0U			0.50U			0.50U			0.50U		
1,2,3-Trichlorobenzene	0.50U			0.50U			1.0U		H	0.50U			0.50U			0.50U		

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
CRQL - Contract Required Quantitation LImit
N/A - Not Applicable
NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample

ANALYTICAL RESULTS
Table 1A

Case No. : 36520 SDG No. : Y3CN1
Site : Omega Chem OU2
Lab : Shealy Environmental Services, Inc.
Reviewer : Kendra DeSantolo, ESAT/LDC
Date : 09/14/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Trace Level Water Samples for Trace Volatiles

Station Location :	Y3CP3			Y3CP4			Y3CP5			Y3CP6			Y3CP7			Y3CP8		
Sample ID :	Y3CP3			Y3CP4			Y3CP5			Y3CP6		FB	Y3CP7			Y3CP8		
Collection Date :	7/20/2007			7/20/2007			7/20/2007			7/20/2007			7/23/2007			7/23/2007		
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
Trace Volatiles	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Dichlorodifluoromethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Chloromethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Vinyl chloride	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Bromomethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Chloroethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Trichlorofluoromethane	0.50U			0.50U			13			0.50U			0.50U			2.1		
1,1-Dichloroethene	0.50U	J	C	0.50U	J	C	14			0.50U	J	C	0.50U	J	C	1.2		
1,1,2-Trichloro-1,2,2-trifluoroethane	0.42L	J	B	0.39L	J	B	19		G	0.50U			0.50U			4.7		
Acetone	5.0U	J	D	5.0U	J	D	5.0U	J	D	5.0U	J	D	5.0U	J	D	5.0U	J	D
Carbon Disulfide	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Methyl acetate	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Methylene chloride	0.50U	J	C	0.50U	J	C	0.50U	J	C	0.50U	J	C	0.50U	J	C	0.50U	J	C
trans-1,2-Dichloroethene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Methyl tert-butyl ether	0.50U			0.50U			0.25L	J	B	0.50U			0.50U			0.50U		
1,1-Dichloroethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
cis-1,2-Dichloroethene	0.50U			0.064L	J	B	1.6	J	E	0.50U			0.093L	J	B	0.50U		
2-Butanone	5.0U			5.0U			5.0U			5.0U			5.0U			5.0U		
Bromochloromethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Chloroform	0.50U	J	C	0.50U	J	C	0.91U	J	C	0.50U			0.50U	J	C	0.50U	J	C
1,1,1-Trichloroethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Cyclohexane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Carbon tetrachloride	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Benzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,2-Dichloroethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,4-Dioxane	20U	R	A	20U	R	A	20U	R	A	20U	R	A	20U	R	A	20U	R	A
Trichloroethene	0.82			1.2			43		G	0.50U			1.2			18		

ANALYTICAL RESULTS
Table 1A

Case No. : 36520 SDG No. : Y3CN1
Site : Omega Chem OU2
Lab : Shealy Environmental Services, Inc.
Reviewer : Kendra DeSantolo, ESAT/LDC
Date : 09/14/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Trace Level Water Samples for Trace Volatiles

Station Location :	Y3CP3			Y3CP4			Y3CP5			Y3CP6			Y3CP7			Y3CP8		
Sample ID :	Y3CP3			Y3CP4			Y3CP5			Y3CP6		FB	Y3CP7			Y3CP8		
Collection Date :	7/20/2007			7/20/2007			7/20/2007			7/20/2007			7/23/2007			7/23/2007		
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
Trace Volatiles	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Methylcyclohexane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,2-Dichloropropane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Bromodichloromethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
cis-1,3-Dichloropropene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
4-Methyl-2-pentanone	5.0U			5.0U			5.0U			5.0U			5.0U			5.0U		
Toluene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
trans-1,3-Dichloropropene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,1,2-Trichloroethane	0.50U			0.50U			0.58			0.50U			0.50U			0.50U		
Tetrachloroethene	3.0			9.0			43		G	0.50U			0.38L	J	B	5.5		
2-Hexanone	5.0U			5.0U			5.0U			5.0U			5.0U			5.0U		
Dibromochloromethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,2-Dibromoethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Chlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Ethylbenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
o-Xylene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
m,p-Xylene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Styrene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Bromoform	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Isopropylbenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,1,2,2-Tetrachloroethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,3-Dichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,4-Dichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,2-Dichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,2-Dibromo-3-chloropropane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,2,4-Trichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,2,3-Trichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
CRQL - Contract Required Quantitation LImit
N/A - Not Applicable
NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample

ANALYTICAL RESULTS
Table 1A

Case No. : 36520 SDG No. : Y3CN1
Site : Omega Chem OU2
Lab : Shealy Environmental Services, Inc.
Reviewer : Kendra DeSantolo, ESAT/LDC
Date : 09/14/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Trace Level Water Samples for Trace Volatiles

Station Location :	Y3CP9			Y3CQ0			Method Blank			Method Blank			Method Blank			Method Blank		
Sample ID :	Y3CP9		D1	Y3CQ0		D1	VBLK1D			VBLK24			VBLK25			VBLK26		
Collection Date :	7/23/2007			7/23/2007														
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
Trace Volatiles	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Dichlorodifluoromethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Chloromethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Vinyl chloride	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Bromomethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Chloroethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Trichlorofluoromethane	0.061L	J	B	0.077L	J	B	0.50U			0.50U			0.50U			0.50U		
1,1-Dichloroethene	1.8			1.9			0.072L	J	B	0.079L	J	B	0.072L	J	B	0.062L	J	B
1,1,2-Trichloro-1,2,2-trifluoroethane	0.22L	J	B	0.25L	J	B	0.50U			0.50U			0.50U			0.50U		
Acetone	5.0U	J	D	5.0U	J	D	5.0U	J	D	5.0U	J	D	5.0U	J	D	5.0U	J	D
Carbon Disulfide	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Methyl acetate	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Methylene chloride	0.50U	J	C	0.50U	J	C	0.17L	J	B	0.21L	J	B	0.14L	J	B	0.15L	J	B
trans-1,2-Dichloroethene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Methyl tert-butyl ether	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,1-Dichloroethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
cis-1,2-Dichloroethene	0.48L	J	B	0.51			0.50U			0.50U			0.50U			0.50U		
2-Butanone	5.0U			5.0U			5.0U			5.0U			5.0U			5.0U		
Bromochloromethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Chloroform	6.4			6.0			0.052L	J	B	0.50U			0.50U			0.50U		
1,1,1-Trichloroethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Cyclohexane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Carbon tetrachloride	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Benzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,2-Dichloroethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,4-Dioxane	20U	R	A	20U	R	A	20U	R	A	20U	R	A	20U	R	A	20U	R	A
Trichloroethene	1.2			1.2			0.50U			0.50U			0.50U			0.50U		

ANALYTICAL RESULTS
Table 1A

Case No. : 36520 SDG No. : Y3CN1
Site : Omega Chem OU2
Lab : Shealy Environmental Services, Inc.
Reviewer : Kendra DeSantolo, ESAT/LDC
Date : 09/14/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Trace Level Water Samples for Trace Volatiles

Station Location :	Y3CP9			Y3CQ0			Method Blank			Method Blank			Method Blank			Method Blank		
Sample ID :	Y3CP9	D1		Y3CQ0	D1		VBLK1D			VBLK24			VBLK25			VBLK26		
Collection Date :	7/23/2007			7/23/2007														
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
Trace Volatiles	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
Methylcyclohexane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,2-Dichloropropane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Bromodichloromethane	1.0			0.90			0.50U			0.50U			0.50U			0.50U		
cis-1,3-Dichloropropene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
4-Methyl-2-pentanone	5.0U			5.0U			5.0U			5.0U			5.0U			5.0U		
Toluene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
trans-1,3-Dichloropropene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,1,2-Trichloroethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Tetrachloroethene	5.6			6.1			0.50U			0.50U			0.50U			0.50U		
2-Hexanone	5.0U			5.0U			5.0U			5.0U			5.0U			5.0U		
Dibromochloromethane	0.33L	J	B	0.31L	J	B	0.50U			0.50U			0.50U			0.50U		
1,2-Dibromoethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Chlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Ethylbenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
o-Xylene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
m,p-Xylene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Styrene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Bromoform	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Isopropylbenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,1,2,2-Tetrachloroethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,3-Dichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,4-Dichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,2-Dichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,2-Dibromo-3-chloropropane	0.50U			0.50U			0.50U	J	D	0.50U			0.50U			0.50U		
1,2,4-Trichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,2,3-Trichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
CRQL - Contract Required Quantitation LImit
N/A - Not Applicable
NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample

ANALYTICAL RESULTS
Table 1A

Case No. : 36520 SDG No. : Y3CN1
Site : Omega Chem OU2
Lab : Shealy Environmental Services, Inc.
Reviewer : Kendra DeSantolo, ESAT/LDC
Date : 09/14/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Trace Level Water Samples for Trace Volatiles

Station Location :	Method Blank			Storage Blank														
Sample ID :	VBLK2X			VHBLK32			CRQL											
Collection Date :																		
Dilution Factor :	1.0			1.0														
Trace Volatiles	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**							**Result**	**Val**	**Com**
Dichlorodifluoromethane	0.50U			0.50U			0.50											
Chloromethane	0.50U			0.50U			0.50											
Vinyl chloride	0.50U			0.50U			0.50											
Bromomethane	0.50U			0.50U			0.50											
Chloroethane	0.50U			0.50U			0.50											
Trichlorofluoromethane	0.50U			0.50U			0.50											
1,1-Dichloroethene	0.083L	J	B	0.50U	J	C	0.50											
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50U			0.50U			0.50											
Acetone	5.0U	J	D	5.0U	J	D	5.0											
Carbon Disulfide	0.50U			0.50U			0.50											
Methyl acetate	0.50U			0.50U			0.50											
Methylene chloride	0.18L	J	B	0.68U	J	C	0.50											
trans-1,2-Dichloroethene	0.50U			0.50U			0.50											
Methyl tert-butyl ether	0.50U			0.50U			0.50											
1,1-Dichloroethane	0.50U			0.50U			0.50											
cis-1,2-Dichloroethene	0.50U			0.50U			0.50											
2-Butanone	5.0U			5.0U			5.0											
Bromochloromethane	0.50U			0.50U			0.50											
Chloroform	0.50U			0.54			0.50											
1,1,1-Trichloroethane	0.50U			0.50U			0.50											
Cyclohexane	0.50U			0.50U			0.50											
Carbon tetrachloride	0.50U			0.50U			0.50											
Benzene	0.50U			0.50U			0.50											
1,2-Dichloroethane	0.50U			0.50U			0.50											
1,4-Dioxane	20U	R	A	20U	R	A	20											
Trichloroethene	0.50U			0.50U			0.50											

ANALYTICAL RESULTS
Table 1A

Case No. : 36520 SDG No. : Y3CN1
Site : Omega Chem OU2
Lab : Shealy Environmental Services, Inc.
Reviewer : Kendra DeSantolo, ESAT/LDC
Date : 09/14/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Trace Level Water Samples for Trace Volatiles

Station Location :	Method Blank			Storage Blank														
Sample ID :	VBLK2X			VHBLK32			CRQL											
Collection Date :																		
Dilution Factor :	1.0			1.0														
Trace Volatiles	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**							**Result**	**Val**	**Com**
Methylcyclohexane	0.50U			0.50U			0.50											
1,2-Dichloropropane	0.50U			0.50U			0.50											
Bromodichloromethane	0.50U			0.50U			0.50											
cis-1,3-Dichloropropene	0.50U			0.50U			0.50											
4-Methyl-2-pentanone	5.0U			5.0U			5.0											
Toluene	0.50U			0.50U			0.50											
trans-1,3-Dichloropropene	0.50U			0.060L	J	B	0.50											
1,1,2-Trichloroethane	0.50U			0.50U			0.50											
Tetrachloroethene	0.50U			0.50U			0.50											
2-Hexanone	5.0U			5.0U			5.0											
Dibromochloromethane	0.50U			0.50U			0.50											
1,2-Dibromoethane	0.50U			0.50U			0.50											
Chlorobenzene	0.50U			0.50U			0.50											
Ethylbenzene	0.50U			0.50U			0.50											
o-Xylene	0.50U			0.50U			0.50											
m,p-Xylene	0.50U			0.50U			0.50											
Styrene	0.50U			0.50U			0.50											
Bromoform	0.50U			0.50U			0.50											
Isopropylbenzene	0.50U			0.50U			0.50											
1,1,2,2-Tetrachloroethane	0.50U			0.50U			0.50											
1,3-Dichlorobenzene	0.50U			0.50U			0.50											
1,4-Dichlorobenzene	0.50U			0.50U			0.50											
1,2-Dichlorobenzene	0.50U			0.50U			0.50											
1,2-Dibromo-3-chloropropane	0.50U			0.50U	J	D	0.50											
1,2,4-Trichlorobenzene	0.50U			0.50U			0.50											
1,2,3-Trichlorobenzene	0.50U			0.50U			0.50											

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
CRQL - Contract Required Quantitation LImit
N/A - Not Applicable
NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample

ANALYTICAL RESULTS
Table 1A

Case No. : 36520 SDG No. : Y3CN1
Site : Omega Chem OU2
Lab : Shealy Environmental Services, Inc.
Reviewer : Santiago Lee, ESAT/LDC
Date : 09/14/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Trace Level Water Samples for Volatiles SIM

Station Location :	Y3CN1			Y3CN2			Y3CN3			Y3CN4			Y3CN5			Y3CN6		
Sample ID :	Y3CN1			Y3CN2			Y3CN3			Y3CN4			Y3CN5		FB	Y3CN6		
Collection Date :	7/18/2007			7/18/2007			7/18/2007			7/18/2007			7/18/2007			7/19/2007		
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
Volatiles SIM	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
1,4-Dioxane	6.2U	J	DE	180	J	DFG	23	J	D	120	J	DFG	2.0U	R	AE	2.0U	R	AE
1,2-Dibromoethane	0.050U			0.050U			0.050U			0.0095L	J	C	0.050U			0.050U		
1,2-Dibromo-3-chloropropane	0.050U			0.050U			0.050U			0.050U			0.050U			0.050U		

Station Location :	Y3CN7			Y3CN8			Y3CN9			Y3CP0			Y3CP1			Y3CP2		
Sample ID :	Y3CN7			Y3CN8			Y3CN9			Y3CP0			Y3CP1		FB	Y3CP2		
Collection Date :	7/19/2007			7/19/2007			7/19/2007			7/19/2007			7/19/2007			7/20/2007		
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
Volatiles SIM	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
1,4-Dioxane	7.6	J	D	14	J	D	32	J	D	2.0U	R	AE	2.0U	R	A	2.0U	R	A
1,2-Dibromoethane	0.050U			0.050U			0.050U			0.050U			0.050U			0.050U		
1,2-Dibromo-3-chloropropane	0.050U			0.050U			0.050U			0.050U			0.050U			0.050U		

Station Location :	Y3CP3			Y3CP4			Y3CP5			Y3CP6			Y3CP7			Y3CP8		
Sample ID :	Y3CP3			Y3CP4			Y3CP5			Y3CP6		FB	Y3CP7			Y3CP8		
Collection Date :	7/20/2007			7/20/2007			7/20/2007			7/20/2007			7/23/2007			7/23/2007		
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
Volatiles SIM	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
1,4-Dioxane	2.0U	R	A	2.0U	R	A	3.0U	J	DE	2.0U	R	A	2.0U	R	A	2.0U	R	AB
1,2-Dibromoethane	0.050U			0.050U			0.050U			0.050U			0.050U			0.050U		
1,2-Dibromo-3-chloropropane	0.050U			0.050U			0.050U			0.050U			0.050U			0.050U		

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
CRQL - Contract Required Quantitation LImit
N/A - Not Applicable
NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample

ANALYTICAL RESULTS
Table 1A

Case No. : 36520 SDG No. : Y3CN1
Site : Omega Chem OU2
Lab : Shealy Environmental Services, Inc.
Reviewer : Santiago Lee, ESAT/LDC
Date : 09/14/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Trace Level Water Samples for Volatiles SIM

Station Location :	Y3CP9			Y3CQ0			Method Blank			Method Blank			Method Blank			Storage Blank		
Sample ID :	Y3CP9	D1		Y3CQ0	D1		VBLK25			VBLK26			VBLK31			VHBLK32		
Collection Date :	7/23/2007			7/23/2007														
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
Volatiles SIM	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
1,4-Dioxane	2.0U	R	AE	2.9U	J	DE	1.3L	J	CD	0.79L	J	CD	1.2L	J	CD	2.0U	R	AE
1,2-Dibromoethane	0.050U			0.050U			0.050U			0.050U			0.050U			0.050U		
1,2-Dibromo-3-chloropropane	0.050U			0.050U			0.050U			0.050U			0.050U			0.050U		

Station Location :	Storage Blank																	
Sample ID :	VHBLK32RE			CRQL														
Collection Date :																		
Dilution Factor :	1.0																	
Volatiles SIM	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
1,4-Dioxane	2.0U	R	AE	2.0														
1,2-Dibromoethane	0.050U			0.050														
1,2-Dibromo-3-chloropropane	0.050U			0.050														

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
CRQL - Contract Required Quantitation LImit
N/A - Not Applicable
NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample

ICF International / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
Phone: (510) 412-2300; Fax: (510) 412-2304.

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM) RF
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105113

DATE: February 22, 2008

SUBJECT: Review of Analytical Data, **Tier 2**

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC QB02
CERCLIS ID No.:	CAD042245001
Case No.:	Not Provided
SDG No.:	IQG0718, IQG1348, IQG1624, IQG1948, IQG2103, IQG2320, and IQG2442
Laboratory:	Test America Analytical Testing Corp.
Analysis:	n-Nitrosodimethylamine (NDMA)
Samples:	30 Water Samples (see Case Summary)
Collection Dates:	July 10, 16, 18, 20, 23, 25, and 26, 2007
Reviewer:	April Martinez, ESAT/Laboratory Data Consultants (LDC)

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

SAMPLING ISSUES: [X] Yes [ ] No

Data Validation Report - **Tier 2**

Case No.: Not Provided
SDG No.: IQG0718, IQG1348, IQG1624, IQG1948, IQG2103, IQG2320, and IQG2442
Site: Omega Chem OU2
Laboratory: Test America Analytical Testing Corp.
Reviewer: April Martinez, ESAT/LDC
Date: February 22, 2008

I. CASE SUMMARY

Sample Information

Samples: (SDG IQG0718) OC2-MW25D-W-0-582, OC2-MW25C-W-0-583, OC2-MW25B-W-0-584, OC2-MW25A-W-0-585
(SDG IQG1348) OC2-MW30-W-0-600, OC2-MW28-W-0-601, OC2-MW7-W-0-602
(SDG IQG1624) OC2-MW17C-W-5-609, OC2-MW17B-W-0-610, OC2-MW17A-W-0-611, OC2-MW6-W-0-612, OC2-MW5-W-0-613
(SDG IQG1948) OC2-MW18C-W-0-619, OC2-MW18B-W-0-620, OC2-MW18A-W-0-621, OC2-MW10-W-0-622
(SDG IQG2103) OC2-MW16C-W-0-623, OC2-MW16B-W-0-624, OC2-MW16A-W-0-625, OC2-MW16A-W-1-626, OC2-MW11-W-0-627
(SDG IQG2320) OC2-MW1B-W-5-632, OC2-MW1A-W-0-633, OC2-MW9B-W-0-634, OC2-MW9A-W-0-635, OC2-MW19-W-0-636
(SDG IQG2442) OC2-MW13B-W-0-637, OC2-MW2-W-0-639, OC2-MW22-W-0-640, OC2-MW21-W-0-641

Concentration and Matrix: Low Concentration Water
Analysis: NDMA (GC/MS/MS CI)
SOW: 1625 Modified
Collection Date: July 10, 16, 18, 20, 23, 25, and 26, 2007
Sample Receipt Date: July 10, 16, 17, 20, 23, 25, and 28, 2007
Extraction Date: July 12, 17, 23, 24, 26, 29, 31, 2007 and August 1 and 2, 2007
Analysis Date: July 14, 19, 25, 28, 31, 2007 and August 1, 3, and 4, 2007

Field QC

Field Blanks (FB): Not Provided
Trip Blanks (TB): Not Provided
Equipment Blanks (EB): Not Provided
Background Samples (BG): Not Provided
Field Duplicates (D1): OC2-MW16A-W-0-625 and OC2-MW16A-W-1-626

Laboratory QC

Method Blanks & Associated Samples:

7G12056-BLK1: OC2-MW25D-W-0-582, OC2-MW25C-W-0-583, OC2-MW25B-W-0-584, OC2-MW25A-W-0-585
7G17059-BLK1: OC2-MW28-W-0-601, OC2-MW7-W-0-602
7G23092-BLK1: OC2-MW30-W-0-600

7G24063-BLK1:	OC2-MW17C-W-5-609, OC2-MW17B-W-0-610, OC2-MW17A-W-0-611, OC2-MW6-W-0-612, OC2-MW5-W-0-613
7G26157-BLK1:	OC2-MW18C-W-0-619, OC2-MW18B-W-0-620, OC2-MW18A-W-0-621, OC2-MW10-W-0-622
7G29035-BLK1:	OC2-MW16C-W-0-623, OC2-MW16B-W-0-624, OC2-MW16A-W-0-625, OC2-MW16A-W-1-626, OC2-MW11-W-0-627
7G31069-BLK1:	OC2-MW1B-W-5-632
7H01065-BLK1:	OC2-MW1A-W-0-633, OC2-MW9B-W-0-634, OC2-MW9A-W-0-635, OC2-MW19-W-0-636
7H02078-BLK1:	OC2-MW13B-W-0-637, OC2-MW2-W-0-639, OC2-MW22-W-0-640, OC2-MW21-W-0-641

Tables

1B: Data Qualifier Definitions for Organic Data Review

Sampling Issues

Samples collected on 07/16/07 were received by the laboratory with a cooler temperature of 6.8°C which exceeds the 4±2°C sample preservation criterion. No adverse effect on data quality is expected since the cooler temperature is below 10°C.

Additional Comments

As directed by the TOM, a Tier 2 validation (i.e., review all QC results and calibrations, minus calculation check) was performed. A Table 1A is not requested.

Decafluorotriphenylphosphine (DFTPP) was not analyzed. Since NDMA is analyzed by the chemical ionization (CI) technique, no adverse effect is expected.

Although the laboratory control sample (LCS) 7G31069-BS1 recovery (166%) was above the laboratory QC limit of 60-140%, no data should be qualified since the result for the associated sample OC2-MW1B-W-5-632 was a nondetect.

This report was prepared in accordance with the following documents:

- ESAT Region 9 Standard Operating Procedure 901, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Volatile and Semivolatile Data Packages*;
- EPA Method 1625C, *Semivolatile Organic Compounds by Isotope dilution GC/MS*, June 1989; and
- *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review*, July 2007.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Holding Time/Preservation	Yes	
2.	GC/MS and GC Performance	Yes	
3.	Initial Calibration	Yes	
4.	Continuing Calibration	Yes	
5.	Laboratory Blanks	Yes	
6.	Field Blanks	N/A	
7.	Labeled Compound (Method 1625)	No	B
8.	Matrix Spike/Matrix Spike Duplicate	Yes	
9.	Laboratory Control Samples/Duplicate	Yes	
10.	Internal Standard	No	A
11.	Compound Identification	Yes	
12.	Compound Quantitation	Yes	
13.	System Performance	Yes	
14.	Field Duplicate Sample Analysis	Yes	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. The following results are qualified as estimated due to low internal standard areas and should be flagged "J".

- NDMA in samples OC2-MW1A-W-0-633, OC2-MW9B-W-0-634, OC2-MW9A-W-0-635, OC2-MW13B-W-0-637, OC2-MW2-W-0-639, OC2-MW22-W-0-640, and OC2-MW21-W-0-641

Internal standard areas outside QC limits are shown below.

Sample	Internal Standard	Area	QC Limit
OC2-MW1A-W-0-633	NDMA-d6	666	855-3418
OC2-MW9B-W-0-634	NDMA-d6	774	855-3418
OC2-MW9A-W-0-635	NDMA-d6	783	855-3418
OC2-MW13B-W-0-637	NDMA-d6	964	1234-4934
OC2-MW2-W-0-639	NDMA-d6	877	1234-4934
OC2-MW22-W-0-640	NDMA-d6	897	1234-4934
OC2-MW21-W-0-641	NDMA-d6	787	1234-4934

Where results are nondetected, false negatives may exist. The samples were not reanalyzed.

Internal standards, introduced into every calibration standard, blank, sample, and QC sample, monitor changes in analyte response due to matrix effects and fluctuations in instrument sensitivity throughout the analytical sequence. Internal standards are used to quantitate the concentration of target analytes and surrogate standards.

B. The laboratory did not spike the samples, QC samples, and method blanks with a labeled compound (i.e., surrogate; see Method 1625C Sections 6.8, 10.2.1.3, and 10.2.3.2 and Figure 4). Consequently, the extraction efficiency (surrogate recovery) cannot be evaluated. The NDMA-d6 spiked by the laboratory was used as an internal standard.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review," July 2007.

U The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method.

L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

J The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the CRQL).

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.

R The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.

ICF International / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
Phone: (510) 412-2300; Fax: (510) 412-2304.

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM) RF
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105113

DATE: February 22, 2008

SUBJECT: Review of Analytical Data, **Tier 2**

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC QB02
CERCLIS ID No.:	CAD042245001
Case No.:	Not Provided
SDG No.:	IQG0718, IQG1348, IQG1624, IQG1948, IQG2103, IQG2320, and IQG2442
Laboratory:	Test America Analytical Testing Corp.
Analysis:	1,2,3-Trichloropropane (1,2,3-TCP)
Samples:	30 Water Samples (see Case Summary)
Collection Dates:	July 10, 16, 18, 20, 23, 25, and 26, 2007
Reviewer:	April Martinez, ESAT/Laboratory Data Consultants (LDC)

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

SAMPLING ISSUES: [X] Yes [ ] No

Data Validation Report - **Tier 2**

Case No.: Not Provided
SDG No.: IQG0718, IQG1348, IQG1624, IQG1948, IQG2103, IQG2320, and IQG2442
Site: Omega Chem OU2
Laboratory: Test America Analytical Testing Corp.
Reviewer: April Martinez, ESAT/LDC
Date: February 22, 2008

I. CASE SUMMARY

Sample Information

Samples: (SDG IQG0718) OC2-MW25D-W-0-582, OC2-MW25C-W-0-583, OC2-MW25B-W-0-584, OC2-MW25A-W-0-585
(SDG IQG1348) OC2-MW30-W-0-600, OC2-MW28-W-0-601, OC2-MW7-W-0-602
(SDG IQG1624) OC2-MW17C-W-5-609, OC2-MW17B-W-0-610, OC2-MW17A-W-0-611, OC2-MW6-W-0-612, OC2-MW5-W-0-613
(SDG IQG1948) OC2-MW18C-W-0-619, OC2-MW18B-W-0-620, OC2-MW18A-W-0-621, OC2-MW10-W-0-622
(SDG IQG2103) OC2-MW16C-W-0-623, OC2-MW16B-W-0-624, OC2-MW16A-W-0-625, OC2-MW16A-W-1-626, OC2-MW11-W-0-627
(SDG IQG2320) OC2-MW1B-W-5-632, OC2-MW1A-W-0-633, OC2-MW9B-W-0-634, OC2-MW9A-W-0-635, OC2-MW19-W-0-636
(SDG IQG2442) OC2-MW13B-W-0-637, OC2-MW2-W-0-639, OC2-MW22-W-0-640, OC2-MW21-W-0-641

Concentration and Matrix: Low Concentration Water
Analysis: 1,2,3-TCP (GC/MS)
SOW: EPA Method 524.2
Collection Date: July 10, 16, 18, 20, 23, 25, and 26, 2007
Sample Receipt Date: July 10, 16, 17, 20, 23, 25, and 28, 2007
Analysis Date: July 16, 18, 26, 31, 2007 and August 1, 2, 3, and 7, 2007

Field QC

Field Blanks (FB): Not Provided
Trip Blanks (TB): Not Provided
Equipment Blanks (EB): Not Provided
Background Samples (BG): Not Provided
Field Duplicates (D1): OC2-MW16A-W-0-625 and OC2-MW16A-W-1-626

Laboratory QC

Method Blanks & Associated Samples:

C7G1605-BLK1: OC2-MW25D-W-0-582, OC2-MW25C-W-0-583, OC2-MW25B-W-0-584, OC2-MW25A-W-0-585
C7G1807-BLK1: OC2-MW30-W-0-600, OC2-MW28-W-0-601, OC2-MW7-W-0-602
C7G2611-BLK1: OC2-MW17C-W-5-609, OC2-MW17B-W-0-610, OC2-MW17A-W-0-611, OC2-MW6-W-0-612,

	OC2-MW5-W-0-613
C7G3104-BLK1:	OC2-MW18C-W-0-619, OC2-MW18B-W-0-620, OC2-MW18A-W-0-621, OC2-MW10-W-0-622, OC2-MW16C-W-0-623, OC2-MW16B-W-0-624, OC2-MW16A-W-0-625, OC2-MW16A-W-1-626, OC2-MW11-W-0-627
C7H0104-BLK1:	OC2-MW1B-W-5-632, OC2-MW1A-W-0-633, OC2-MW9B-W-0-634
C7H0208-BLK1:	OC2-MW9A-W-0-635, OC2-MW19-W-0-636
C7H0307-BLK1:	OC2-MW13B-W-0-637, OC2-MW2-W-0-639, OC2-MW22-W-0-640
C7H0703-BLK1:	OC2-MW21-W-0-641

Tables

1B: Data Qualifier Definitions for Organic Data Review

Sampling Issues

Samples collected on 07/16/07 were received by the laboratory with a cooler temperature of 6.8°C which exceeds the 4±2°C sample preservation criterion. No adverse effect on data quality is expected since the cooler temperature is below 10°C.

Additional Comments

As directed by the TOM, a Tier 2 validation (i.e., review all QC results and calibrations, minus calculation check) was performed. A Table 1A is not requested.

4-Bromofluorobenzene (BFB) was not analyzed. Since 1,2,3-TCP is analyzed by the selected ion monitoring (SIM) technique, no adverse effect is expected.

This report was prepared in accordance with the following documents:

- ESAT Region 9 Standard Operating Procedure 901, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Volatile and Semivolatile Data Packages*;
- EPA Method 524.2, *Measurement of Purgeable Organic Compounds in Water by Capillary Column Gas Chromatography/Mass Spectrometry*, Revision 4.1, 1995; and
- *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review*, July 2007.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Holding Time/Preservation	Yes	
2.	GC/MS and GC Performance	Yes	

3.	Initial Calibration	Yes	
4.	Continuing Calibration	Yes	
5.	Laboratory Blanks	Yes	
6.	Field Blanks	N/A	
7.	Surrogate (Method 524.2)	No	A
8.	Matrix Spike/Matrix Spike Duplicates	Yes	
9.	Laboratory Control Samples/Duplicates	Yes	
10.	Internal Standard	Yes	
11.	Compound Identification	Yes	
12.	Compound Quantitation	Yes	
13.	System Performance	Yes	
14.	Field Duplicate Sample Analysis	N/A	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. The laboratory did not spike the samples, QC samples, and method blanks with a surrogate (see Method 524.2 Sections 3.2, 7.5, 11.1.2, and 12.1.1 and Table 1). Consequently, the extraction efficiency (surrogate recovery) cannot be evaluated. The 1,2,3-trichloropropane-d5 spiked by the laboratory was used as an internal standard.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review," July 2007.

U The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method.

L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

J The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the CRQL).

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.

R The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.

ICF International / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
Phone: (510) 412-2300; Fax: (510) 412-2304.

MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM)
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105083

DATE: October 1, 2007

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	Not Provided
SDG No.:	IQG0879
Laboratory:	Test America Analytical Testing Corp.
Analysis:	1,2,3-Trichloropropane (1,2,3-TCP) and n-Nitrosodimethylamine (NDMA)
Samples:	4 Water Samples (see Case Summary)
Collection Date:	July 11, 2007
Reviewer:	Calvin Tanaka, ESAT/Laboratory Data Consultants (LDC)

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

SAMPLING ISSUES: [ ] Yes [X] No

Data Validation Report – Tier 3

Case No.: Not Provided
SDG No.: IQG0879
Site: Omega Chem OU2
Laboratory: Test America Analytical Testing Corp.
Reviewer: Calvin Tanaka, ESAT/LDC
Date: October 1, 2007

I. CASE SUMMARY

Sample Information

Samples:	OC2-MW26D-W-5-586, OC2-MW26C-W-0-587, OC2-MW26B-W-0-588, and OC2-MW26A-W-0-589
Concentration and Matrix:	Low Concentration Water
Analysis:	1,2,3-TCP (GC/MS) and NDMA (GC/MS/MS CI)
Methods:	EPA Methods 524.2 and 1625 Modified
Collection Date:	July 11, 2007
Sample Receipt Date:	July 11, 2007
Extraction Date:	July 16 through 18, 2006
Analysis Date:	July 16 through 18, 2006

Field QC

Field Blanks (FB):	Not Provided
Trip Blanks (TB):	Not Provided
Equipment Blanks (EB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	Not Provided

Laboratory QC

Method Blanks & Associated Samples:

7G16057-BLK1:	(NDMA) All samples
C7G1605-BLK1:	(1,2,3-TCP) OC2-MW26C-W-0-587 and OC2-MW26B-W-0-588
C7G1703-BLK1:	(1,2,3-TCP) OC2-MW26A-W-0-589
C7G1807-BLK1:	(1,2,3-TCP) OC2-MW26D-W-5-586

Tables

1B:	Data Qualifier Definitions for Organic Data Review

Sampling Issues

None.

Additional Comments

For the NDMA analysis, decafluorotriphenylphosphine (DFTPP) was not analyzed. Since NDMA is analyzed by the chemical ionization (CI) technique, no adverse effect is expected.

For the 1,2,3-TCP analysis, 4-bromofluorobenzene (BFB) was not analyzed. Since 1,2,3-TCP is analyzed by the selected ion monitoring (SIM) technique, no adverse effect is expected.

This report was prepared in accordance with the following documents:

- ESAT Region 9 Standard Operating Procedure 901, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Volatile and Semivolatile Data Packages*;

- EPA Method 524.2, *Measurement of Purgeable Organic Compounds in Water by Capillary Column Gas Chromatography/Mass Spectrometry*, Revision 4.1, 1995;

- EPA Method 1625C, *Semivolatile Organic Compounds by Isotope dilution GC/MS*, June 1989; and

- *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review*, October 1999.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Holding Time/Preservation	Yes	
2.	GC/MS and GC Performance	Yes	
3.	Initial Calibration	Yes	
4.	Continuing Calibration	Yes	
5.	Laboratory Blanks	Yes	
6.	Field Blanks	N/A	
7.	Surrogate (Method 524.2)	No	A
8.	Labeled Compound (Method 1625)	No	B
9.	Matrix Spike/Matrix Spike Duplicates	Yes	
10.	Laboratory Control Samples/Duplicates	Yes	
11.	Internal Standard	Yes	
12.	Compound Identification	Yes	
13.	Compound Quantitation	Yes	
14.	System Performance	Yes	
15.	Field Duplicate Sample Analysis	N/A	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. For the 1,2,3-TCP analysis, the laboratory did not spike the samples, QC samples, and method blanks with a surrogate (see Method 524.2 Sections 3.2, 7.5, 11.1.2, and 12.1.1 and Table 1). Consequently, the extraction efficiency (surrogate recovery) cannot be evaluated. The 1,2,3-trichloropropane-d5 spiked by the laboratory was used as an internal standard.

B. For the NDMA analysis, the laboratory did not spike the samples, QC samples, and method blank with a labeled compound (i.e., surrogate; see Method 1625C Sections 6.8, 10.2.1.3, and 10.2.3.2 and Figure 4). Consequently, the extraction efficiency (surrogate recovery) cannot be evaluated. The NDMA-d6 spiked by the laboratory was used as an internal standard.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," October 1999.

U The analyte was analyzed for but was not detected above the reported sample quantitation limit.

L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ICF International / Laboratory Data Consultants
Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
Phone: (510) 412-2300 Fax: (510) 412-2304

MEMORANDUM

TO: Lynda Deschambault, Remedial Project Manager
Site Cleanup Section 1, SFD-7-1

THROUGH: Rose Fong, ESAT Task Order Manager (TOM)
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00405115

DATE: March 11, 2010

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC QB02
CERCLIS ID No.:	CAD042245001
Case No.:	39375
SDG No.:	MY5QZ2
Laboratory:	Bonner Analytical Testing Co. (BONNER)
Analysis:	Select CLP Dissolved Metals by ICP-AES
Samples:	4 Groundwaters (see Case Summary)
Collection Date:	February 17, 2010
Reviewer:	Stan Kott, ESAT/Laboratory Data Consultants (LDC)

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

cc: Cynthia Gurley, CLP PO USEPA Region 4
Steve Remaley, CLP PO USEPA Region 9

CLP PO: [X] FYI [ ] Action

SAMPLING ISSUES: [X] Yes [ ] No

Data Validation Report-Tier 3

Case No.: 39375
SDG No.: MY5QZ2
Site: Omega Chem OU2
Laboratory: Bonner Analytical Testing Co. (BONNER)
Reviewer: Stan Kott, ESAT/LDC
Date: March 11, 2010

I. CASE SUMMARY

Sample Information

Samples:	MY5QZ2, MY5QZ3, MY5QZ4, and MY5QZ5
Concentration and Matrix:	Low and Medium Concentration Groundwater
Analysis:	Select CLP Dissolved Metals by ICP-AES
SOW:	ILM05.4
Collection Date:	February 17, 2010
Sample Receipt Date:	February 18, 2010
Preparation Date:	February 18, 2010
Analysis Date:	February 18, 2010

Field QC

Field Blanks (FB):	None Provided
Equipment Blanks (EB):	None Provided
Background Samples (BG):	None Provided
Field Duplicates (D1):	MY5QZ4 and MY5QZ5

Laboratory QC

Method Blank & Associated Samples:	Preparation Blank-Water (PBW) and samples listed above
Matrix Spike:	Not required for requested analytes
Duplicate:	MY5QZ2D
ICP Serial Dilution:	MY5QZ2L
Analysis:	Select CLP Dissolved Metals by ICP-AES

Analytes	Sample Preparation and Digestion Date	Analysis Date
ICP-AES Metals	February 18, 2010	February 18, 2010

CLP PO Action

None.

Sampling Issues

1. The field duplicate quality control (QC) sample MY5QZ5 was not sent blind to the laboratory.

2. The samples of this SDG were not adequately preserved in the field to a pH of less than 2 as specified in the SOW. See Validity and Comments section, Comment A.

Additional Comments

The samples of this SDG were analyzed for dissolved calcium, magnesium, potassium, and sodium by inductively coupled plasma-atomic emission spectroscopy (ICP-AES).

Laboratory Form DC-1, Sample Log-in Sheet, indicates the samples of this SDG were received at a pH of 2. Since these sample pHs are outside the less than 2 pH limit specified in the SOW, a request was sent to the laboratory to confirm the reported sample pHs. A laboratory response to this request has not been received to date. Refer to the attached Communication Record Log (CRL) for details.

All method requirements specified in the EPA Contract Laboratory Program (CLP) Inorganic Statement of Work (SOW), except as noted, have been met.

Analytical results are listed in Table 1A with qualifications. Definitions of data qualifiers used in Table 1A are provided in Table 1B.

This report was prepared in accordance with the following documents:

- Region 9 Standard Operating Procedure 906, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Inorganic Data Packages*;
- *USEPA Contract Laboratory Program Statement of Work For Inorganic Analysis Multi-Media, Multi-Concentration* ILM05.3, March 2004;
- *ILM05.3 to ILM05.4 Summary of Changes*, December 1, 2006; and
- *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Data Completeness	Yes	
2.	Sample Preservation and Holding Times	No	A
3.	Calibration	Yes	
	a. Initial		
	b. Initial and Continuing Calibration Verification		
	c. CRQL Check Standard (CRI)		
4.	Blanks	Yes	
5.	ICP Interference Check Sample (ICS)	Yes	
6.	Laboratory Control Sample (LCS)	Yes	
7.	Duplicate Sample Analysis	Yes	
8.	Matrix Spike Sample Analysis	Yes	
9.	ICP Serial Dilution Analysis	No	B
10.	Field Duplicate Sample Analysis	Yes	
11.	Sample Quantitation	Yes	
12.	Overall Assessment	Yes	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. The following results are estimated and flagged "J-" in Table 1A due to inadequate sample preservation.

- All analytes in all samples

These samples did not meet SOW sample preservation criterion. The samples were not adequately preserved in the field to a pH of less than 2 as shown below.

Sample Number	pH
MY5QZ2	2
MY5QZ3	2
MY5QZ4	2
MY5QZ5	2

Sample results may be biased low.

B. The following results are estimated and flagged "J" in Table 1A because an ICP serial dilution result is outside method QC limits.

- Potassium in all samples

The percent difference for the ICP serial dilution analysis of sample MY5QZ2L did not meet the ±10% criterion for the analytes shown below.

Analyte	% Difference
Potassium	+50

Results reported for potassium in all samples are considered quantitatively uncertain. Chemical and physical interferences may exist due to sample matrix effects. The result for the diluted sample was higher than the original. Therefore, the reported sample results reported for potassium may be biased low.

A five-fold dilution of the laboratory QC sample is performed in association with the ICP procedure to indicate whether interference exists due to sample matrix effects. If the analyte concentration is sufficiently high (minimally a factor of 50 above the MDL in the original sample), the five fold serial dilution must agree within 10% of the original results after correction for dilution.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR INORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared in accordance with the document *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004.

U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

In Reference to
Case: 39375 SDG No.: MY5QZ2

Contract Laboratory Program
REGIONAL/LABORATORY COMMUNICATION SYSTEM

Communication Record Log

Date of Call: March 4, 2010

Laboratory Name: Bonner Analytical Testing Co. (BONNER)

Lab Contact: Chris Bonner or Brandon Beck

Region: 9

Regional Contact: Steve Remaley, CLP PO

ESAT Reviewer: Stan Kott, ESAT/LDC

Call Initiated By: ____ Laboratory __X__ Region

In reference to data for the following samples: MY5QZ2 through MY5QZ5

Summary of Questions/issues Discussed:

The following items were noted during the review of this sample delivery group (SDG) data package. Please respond within 4 days as specified in ILM05.4 Statement of Work (SOW), Exhibit B, Section 2, 2.2. Send response and resubmissions to:

ICF International/Laboratory Data Consultants, Inc.,
Environmental Services Assistance Team, USEPA Region 9 Laboratory
1337 S. 46th Street, Building 201, Richmond, CA 94804, FAX 510 412-2304.

SDG: MY5QZ2

1. ILM05.4, Exhibit D, Section 8, Item: 8.1, specifies water/aqueous samples must be preserved to a pH of *less than* 2 (<2) in the field. However, Form DC-1, Sample Log-In Sheet (page 3), indicates the aqueous samples were received with a pH of 2. Review of the laboratory e-mails indicates the Sample Management Office was not notified about the received sample pH. Please review the sample receipt data and indicate if the sample pHs were less than 2 (<2) or 2. Please provide a corrected Form DC-1 only if the pHs were less than 2.

Summary of Resolution: To be determined.

ANALYTICAL RESULTS
Table 1A

Case No. : 39375 SDG No. : MY5QZ2
Site : OMEGA CHEMICAL CORPORATION
Lab : BONNER ANALYTICAL TESTING (BONNER)
Reviewer : Stan Kott, ESAT/LDC
Date : March 11, 2010

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Low and Medium Concentration Groundwater Samples for Select CLP Dissolved Metals by ICP-AES

Station Location :	Dace 1			Pioneer 1			Pioneer 3			Pioneer 3FD								
Sample ID :	MY5QZ2			MY5QZ3			MY5QZ4		D1	MY5QZ5		D1	MDL			CRQL		
Collection Date :	2/17/2010			2/17/2010			2/17/2010			2/17/2010								
PARAMETER	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
CALCIUM	181000	J-	A	195000	J-	A	169000	J-	A	173000	J-	A	78.6			5000		
MAGNESIUM	40800	J-	A	36000	J-	A	31800	J-	A	32200	J-	A	61.7			5000		
POTASSIUM	7030	J-	AB	6670	J-	AB	6890	J-	AB	7010	J-	AB	106			5000		
SODIUM	151000	J-	A	107000	J-	A	115000	J-	A	117000	J-	A	51.6			5000		

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
MDL - Method Detection Limit
N/A - Not Applicable NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample
CRQL - Contract Required Quantitation Limit