



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
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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:	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
	Estimated Data:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
	Sampling Issues:	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> 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

	<u>Acceptable</u>	<u>Comment</u>
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.