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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX LABORATORY
1337 S. 46TH STREET
BLDG. 201
RICHMOND, CA 94804-4698

SEP 2 1 1999

MEMORANDUM

SUBJECT: Case R99S49
Results of Volatile Organic Compounds Analysis

FROM: Brenda Bettencourt, Director
Region 9 Laboratory (PMD-2)

TO: Doug Frazer, Remedial Project Manager
Southern California Cleanup Section (SFD-7-3)

Attached are the report narratives and results spreadsheets from analysis of water samples from the Whittier Narrows Superfund site. These data have been reviewed in accordance with EPA Region 9 Laboratory policy. Summary information for the data included in this report is as follows:

SITE/PROJECT:	Whittier Narrows
CASE:	R99S49
SAMPLE DELIVERY GROUPS:	99229A
LABORATORY:	U. S. EPA Region 9 Laboratory
ANALYSIS:	Low Level Volatile Organic Compounds (R9 Lab SOP 305)

Full documentation packages for these data, including raw data and sample custody documentation, have been prepared and sent to the Quality Assurance Program (PMD-3). Please contact Vance Fong for information regarding third-party review and/or validation of the data.

If you have any questions please contact Rich Bauer at (510) 412-2312, or Ken Hendrix at (510) 412-2321.

ATTACHMENTS: Analytical Reports

USEPA REGION 9 LABORATORY REPORT NARRATIVE

CASE NUMBER:	**R99S49**
SAMPLE DELIVERY GROUP:	**99229A**
PROGRAM:	**Superfund**
DOCUMENT CONTROL #:	**ESTW-9B-2465**
ANALYSIS PERFORMED:	**GC/MS Volatiles**
DATE SUBMITTED:	**September 8, 1999**
SAMPLE NUMBERS:	

Sample ID	Laboratory Sample ID	Sample ID	Laboratory Sample ID
WN99135	AB23566	WN99145	AB23583
WN99136	AB23567	WN99146	AB23584
WN99137	AB23568	WN99147	AB23585
WN99138	AB23569	WN99148	AB23586
WN99139	AB23570	WN99149	AB23587
WN99140	AB23578	WN99150	AB23588
WN99141	AB23579	WN99151	AB23589
WN99142	AB23580	WN99152	AB23590
WN99143	AB23581	WN99153	AB23591
WN99144	AB23582	WN99154	AB23592

GENERAL COMMENTS

Twenty (20) water samples were received at the EPA Region 9 laboratory on 8/17/99, 8/18/99 and 8/19/99 from the Whittier Narrows Superfund project.

These samples were analyzed for volatile organics in accordance with the USEPA Region 9 Laboratory SOP 305, Volatile Organics Analysis. Methylene chloride and acetone are common laboratory contaminants. Positive results for these two compounds that are at or below the quantitation limit could be a result of laboratory contamination.

SAMPLE RECEIPT AND PRESERVATION

The following samples were outside of the 2 - 6 ° C temperature range when received:

Sample ID	Laboratory Sample ID	Date Received	Temperature
WN99135	AB23566	8/17/99	6.4° C
WN99136	AB23566	8/17/99	6.4° C
WN99137	AB23567	8/17/99	6.4° C
WN99138	AB23568	8/17/99	6.4° C
WN99139	AB23570	8/17/99	6.4° C

QA/QC AND ANALYTICAL COMMENTS

Method Blanks

A laboratory method blank is laboratory reagent water or sand with all reagents, surrogates, and internal standards added 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.

No target analytes were detected in the method blanks associated with these samples.

Storage Blanks

A storage blank is laboratory reagent water that is stored in the laboratory refrigerator for one week. All reagents, surrogates, and internal standards are added at the time of analysis and it is processed through the same sample preparation and analytical procedures as the other blanks. The storage blank is used to determine the level of contamination introduced by the laboratory during sample storage.

No target analytes were detected in the storage blanks associated with these samples.

Surrogates

Surrogates 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 surrogate compounds prior to analysis. Surrogate percent recovery (%R) provides information about both the laboratory performance on individual samples and the possible effects of the sample matrix on the analytical results.

All surrogate recoveries were within QC limits.

Matrix Spike and Spike Duplicate Analysis (QC Sample:WN99136)

Matrix spike sample and spike duplicate analyses provide information about the effect of the sample matrix on sample preparation and measurement. Poor percent recovery (%R) results and large relative percent difference (RPD) between duplicates may indicate inconsistent laboratory technique, sample nonhomogeneity in soils, or matrix effects which may interfere with analysis.

All MS/MSD results were within QC limits with the following exception:

Sample ID	Laboratory Sample ID	Analyte	MS %Rec	MSD % Rec	QC Limit
WN99136MS	AB23567MS	1,2-Dibromo-3-chloropropane	63	77	75 - 125

Internal Standards

Internal standards are organic compounds which are similar to the target analytes in chemical composition and behavior in the analytical process, but not normally found in environmental samples. All samples are spiked with internal standard compounds prior to analysis. Internal standard recoveries and retention times provide information about both the instrument performance on individual samples and the possible effects of the sample matrix on the analytical results.

All internal standard areas and retention times were within QC limits.

Laboratory Control Samples

Laboratory control samples (LCSs) are analyzed daily to demonstrate comparability of the continuing calibration standard. It is equivalent to the continuing calibration standard, but it is obtained from an independent source.

All LCS results were within QC limits.

Technical Holding Times:

All samples were analyzed within the technical holding time. The technical holding time for water samples is 14 days if preserved to a pH of less than or equal to 2 or 7 days if the sample is not acid preserved.

RESULTS SUMMARY

The results can be found on the Summary of Results report. On the report, the following qualifiers are used.

B	This analyte was detected in the associated method blank.
E	The amount detected exceeds the calibration range of the instrument.
J	The amount detected is less than quantitation limit and is only an estimated value.
U	This compound was analyzed for, but not detected.

Any questions in reference to this data package may be addressed to Joseph Naughten at (510) 412-2358.

EPA REGION 9 - LABORATORY - RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS

Case Number: R99S49
Site: WHITTIER NARROWS
SDG: 99229A
Date: 09/02/99

Analysis: GC/MS Volatiles
Matrix: Water

Sample No.	1		2		3		4		5	
Sample ID	WN99135		WN99136		WN99137		WN99138		WN99139	
Lab Sample ID	AB23566		AB23567		AB23568		AB23569		AB23570	
Date of Collection	08/16/99		08/16/99		08/16/99		08/16/99		08/16/99	
Units	ug/L		ug/L		ug/L		ug/L		ug/L	
Analyte	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Dichlorodifluoromethane	1	U	1	U	1	U	1	U	1	U
Chloromethane	1	U	1	U	1	U	1	U	1	U
Vinyl Chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	1	U	1	U	1	U	1	U	1	U
Chloroethane	1	U	1	U	1	U	1	U	1	U
Trichlorofluoromethane	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Carbon Disulfide	1	U	1	U	1	U	1	U	1	U
Acetone	10	U	10	U	10	U	10	U	10	U
Methylene Chloride	1	U	1	U	1	U	1	U	1	U
trans-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Methyl-t-Butyl Ether	1	U	1	U	1	U	0.8	J	1	U
1,1-Dichloroethane	1	U	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
2-Butanone	10	U	10	U	10	U	10	U	10	U
Chloroform	1	U	1	U	1	U	1	U	0.5	J
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Carbon Tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	1	U	1	U	1	U	1	U	1	U
Trichloroethene	1	U	2		1		1	U	1	U
1,2-Dichloropropane	1	U	1	U	1	U	1	U	1	U
Bromodichloromethane	1	U	1	U	1	U	1	U	1	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Dibromochloromethane	1	U	1	U	1	U	1	U	1	U
4-Methyl-2-pentanone	10	U	10	U	10	U	10	U	10	U
Toluene	1	U	1	U	1	U	1	U	1	U
1,3-Dichloropropane	1	U	1	U	1	U	1	U	1	U
2-Hexanone	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene	1	U	6		4		1	U	1	U
1,2-Dibromoethane	1	U	1	U	1	U	1	U	1	U
Chlorobenzene	1	U	1	U	1	U	1	U	1	U
Ethyl Benzene	1	U	1	U	1	U	1	U	1	U
Xylene (para & meta-)	1	U	1	U	1	U	1	U	1	U
Xylene (ortho-)	1	U	1	U	1	U	1	U	1	U
Styrene	1	U	1	U	1	U	1	U	1	U
Bromoform	1	U	1	U	1	U	1	U	1	U
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U	1	U	1	U
1,2,3-Trichloropropane	1	U	1	U	1	U	1	U	1	U
1,3-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dibromo-3-chloropropane	2	U	2	U	2	U	2	U	2	U

Q-Laboratory Data Qualifiers

EPA REGION 9 - LABORATORY - RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS

Case Number: R99S49
Site: WHITTIER NARROWS
SDG: 99229A
Date: 09/02/99

Analysis: GC/MS Volatiles
Matrix: Water

Sample No.	6		7		8		9		10	
Sample ID	WN99140		WN99141		WN99142		WN99143		WN99144	
Lab Sample ID	AB23578		AB23579		AB23580		AB23581		AB23582	
Date of Collection	08/17/99		08/17/99		08/17/99		08/17/99		08/17/99	
Units	ug/L		ug/L		ug/L		ug/L		ug/L	
Analyte	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Dichlorodifluoromethane	1	U	1	U	1	U	1	U	1	U
Chloromethane	1	U	1	U	1	U	1	U	1	U
Vinyl Chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	1	U	1	U	1	U	1	U	1	U
Chloroethane	1	U	1	U	1	U	1	U	1	U
Trichlorofluoromethane	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Carbon Disulfide	1	U	1	U	1	U	1	U	1	U
Acetone	10	U	10	U	10	U	10	U	10	U
Methylene Chloride	1	U	1	U	1	U	1	U	1	U
trans-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Methyl-t-Butyl Ether	1	U	1	U	1	U	1	U	0.5	J
1,1-Dichloroethane	1	U	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	
2-Butanone	10	U	10	U	10	U	10	U	10	U
Chloroform	1	U	1	U	1	U	1	U	1	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Carbon Tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	1	U	1	U	1	U	1	U	1	U
Trichloroethene	0.9	J	1		1		1	U	1	U
1,2-Dichloropropane	1	U	1	U	1	U	1	U	1	U
Bromodichloromethane	1	U	1	U	1	U	1	U	1	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Dibromochloromethane	1	U	1	U	1	U	1	U	1	U
4-Methyl-2-pentanone	10	U	10	U	10	U	10	U	10	U
Toluene	1	U	1	U	1	U	1	U	1	U
1,3-Dichloropropane	1	U	1	U	1	U	1	U	1	U
2-Hexanone	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene	9		10		8		0.8	J	0.9	J
1,2-Dibromoethane	1	U	1	U	1	U	1	U	1	U
Chlorobenzene	1	U	1	U	1	U	1	U	1	U
Ethyl Benzene	1	U	1	U	1	U	1	U	1	U
Xylene (para & meta-)	1	U	1	U	1	U	1	U	1	U
Xylene (ortho-)	1	U	1	U	1	U	1	U	1	U
Styrene	1	U	1	U	1	U	1	U	1	U
Bromoform	1	U	1	U	1	U	1	U	1	U
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U	1	U	1	U
1,2,3-Trichloropropane	1	U	1	U	1	U	1	U	1	U
1,3-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dibromo-3-chloropropane	2	U	2	U	2	U	2	U	2	U

Q-Laboratory Data Qualifiers

EPA REGION 9 - LABORATORY - RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS

Case Number: R99S49
Site: WHITTIER NARROWS
SDG: 99229A
Date: 09/02/99

Analysis: GC/MS Volatiles
Matrix: Water

Sample No.	11		12		13		14		15	
Sample ID	WN99145		WN99146		WN99147		WN99148		WN99149	
Lab Sample ID	AB23583		AB23584		AB23585		AB23586		AB23587	
Date of Collection	08/17/99		08/17/99		08/17/99		08/18/99		08/18/99	
Units	ug/L		ug/L		ug/L		ug/L		ug/L	
Analyte	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Dichlorodifluoromethane	1	U	1	U	1	U	1	U	1	U
Chloromethane	1	U	1	U	1	U	1	U	1	U
Vinyl Chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	1	U	1	U	1	U	1	U	1	U
Chloroethane	1	U	1	U	1	U	1	U	1	U
Trichlorofluoromethane	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Carbon Disulfide	1	U	1	U	1	U	1	U	1	U
Acetone	10	U	10	U	10	U	10	U	10	U
Methylene Chloride	1	U	1	U	1	U	1	U	1	U
trans-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Methyl-t-Butyl Ether	1	U	1	U	1	U	0.7	J	0.9	J
1,1-Dichloroethane	1	U	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
2-Butanone	10	U	10	U	10	U	10	U	10	U
Chloroform	1	U	1	U	0.5	J	1	U	1	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Carbon Tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	1	U	1	U	1	U	1	U	1	U
Trichloroethene	1	U	1	U	1	U	1		2	
1,2-Dichloropropane	1	U	1	U	1	U	1	U	1	U
Bromodichloromethane	1	U	1	U	1	U	1	U	1	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Dibromochloromethane	1	U	1	U	1	U	1	U	1	U
4-Methyl-2-pentanone	10	U	10	U	10	U	10	U	10	U
Toluene	1	U	1	U	1	U	1	U	1	U
1,3-Dichloropropane	1	U	1	U	1	U	1	U	1	U
2-Hexanone	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene	0.9	J	2		1	U	29		36	
1,2-Dibromoethane	1	U	1	U	1	U	1	U	1	U
Chlorobenzene	1	U	1	U	1	U	1	U	1	U
Ethyl Benzene	1	U	1	U	1	U	1	U	1	U
Xylene (para & meta-)	1	U	1	U	1	U	1	U	1	U
Xylene (ortho-)	1	U	1	U	1	U	1	U	1	U
Styrene	1	U	1	U	1	U	1	U	1	U
Bromoform	1	U	1	U	1	U	1	U	1	U
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U	1	U	1	U
1,2,3-Trichloropropane	1	U	1	U	1	U	1	U	1	U
1,3-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dibromo-3-chloropropane	2	U	2	U	2	U	2	U	2	U

Q-Laboratory Data Qualifiers

EPA REGION 9 - LABORATORY - RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS

Case Number: R99S49
Site: WHITTIER NARROWS
SDG: 99229A
Date: 09/02/99

Analysis: GC/MS Volatiles
Matrix: Water

Sample No.	16		17		18		19		20	
Sample ID	WN99150		WN99151		WN99152		WN99153		WN99154	
Lab Sample ID	AB23588		AB23589		AB23590		AB23591		AB23592	
Date of Collection	08/18/99		08/18/99		08/18/99		08/18/99		08/18/99	
Units	ug/L		ug/L		ug/L		ug/L		ug/L	
Analyte	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Dichlorodifluoromethane	1	U	1	U	1	U	1	U	1	U
Chloromethane	1	U	1	U	1	U	1	U	1	U
Vinyl Chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	1	U	1	U	1	U	1	U	1	U
Chloroethane	1	U	1	U	1	U	1	U	1	U
Trichlorofluoromethane	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	1	U	1	U	1	U	0.5	J	1	U
Carbon Disulfide	1	U	1	U	1	U	1	U	1	U
Acetone	10	U	10	U	10	U	10	U	10	U
Methylene Chloride	1	U	1	U	1	U	1	U	1	U
trans-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Methyl-t-Butyl Ether	0.8	J	1	U	1	U	1	U	0.5	J
1,1-Dichloroethane	1	U	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	1	U	1	U	1	U	0.5	J	1	U
2-Butanone	10	U	10	U	10	U	10	U	10	U
Chloroform	1	U	1	U	1	U	1	U	1	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Carbon Tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	1	U	1	U	1	U	1	U	1	U
Trichloroethene	2		1	U	1	U	4		2	
1,2-Dichloropropane	1	U	1	U	1	U	1	U	1	U
Bromodichloromethane	1	U	1	U	1	U	1	U	1	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Dibromochloromethane	1	U	1	U	1	U	1	U	1	U
4-Methyl-2-pentanone	10	U	10	U	10	U	10	U	10	U
Toluene	1	U	1	U	1	U	1	U	1	U
1,3-Dichloropropane	1	U	1	U	1	U	1	U	1	U
2-Hexanone	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene	44		1	U	1		16		14	
1,2-Dibromoethane	1	U	1	U	1	U	1	U	1	U
Chlorobenzene	1	U	1	U	1	U	1	U	1	U
Ethyl Benzene	1	U	1	U	1	U	1	U	1	U
Xylene (para & meta-)	1	U	1	U	1	U	1	U	1	U
Xylene (ortho-)	1	U	1	U	1	U	1	U	1	U
Styrene	1	U	1	U	1	U	1	U	1	U
Bromoform	1	U	1	U	1	U	1	U	1	U
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U	1	U	1	U
1,2,3-Trichloropropane	1	U	1	U	1	U	1	U	1	U
1,3-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dibromo-3-chloropropane	2	U	2	U	2	U	2	U	2	U

Q-Laboratory Data Qualifiers

EPA REGION 9 - LABORATORY - RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS

Case Number: R99S49
Site: WHITTIER NARROWS
SDG: 99229A
Date: 09/02/99

Analysis: GC/MS Volatiles
Matrix: Water

Sample No.	Method Blank		Method Blank		Method Blank		Method Blank		Method Blank	
Sample ID	MWH0817A		MWH0818A		MWH0819A		MWH0826A		MWH0827A	
Lab Sample ID	N/A		N/A		N/A		N/A		N/A	
Date of Collection	N/A		N/A		N/A		N/A		N/A	
Units	ug/L		ug/L		ug/L		ug/L		ug/L	
Analyte	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Dichlorodifluoromethane	1	U	1	U	1	U	1	U	1	U
Chloromethane	1	U	1	U	1	U	1	U	1	U
Vinyl Chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	1	U	1	U	1	U	1	U	1	U
Chloroethane	1	U	1	U	1	U	1	U	1	U
Trichlorofluoromethane	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Carbon Disulfide	1	U	1	U	1	U	1	U	1	U
Acetone	10	U	10	U	10	U	10	U	10	U
Methylene Chloride	1	U	1	U	1	U	1	U	1	U
trans-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Methyl-t-Butyl Ether	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethane	1	U	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
2-Butanone	10	U	10	U	10	U	10	U	10	U
Chloroform	1	U	1	U	1	U	1	U	1	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Carbon Tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	1	U	1	U	1	U	1	U	1	U
Trichloroethene	1	U	1	U	1	U	1	U	1	U
1,2-Dichloropropane	1	U	1	U	1	U	1	U	1	U
Bromodichloromethane	1	U	1	U	1	U	1	U	1	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Dibromochloromethane	1	U	1	U	1	U	1	U	1	U
4-Methyl-2-pentanone	10	U	10	U	10	U	10	U	10	U
Toluene	1	U	1	U	1	U	1	U	1	U
1,3-Dichloropropane	1	U	1	U	1	U	1	U	1	U
2-Hexanone	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene	1	U	1	U	1	U	1	U	1	U
1,2-Dibromoethane	1	U	1	U	1	U	1	U	1	U
Chlorobenzene	1	U	1	U	1	U	1	U	1	U
Ethyl Benzene	1	U	1	U	1	U	1	U	1	U
Xylene (para & meta-)	1	U	1	U	1	U	1	U	1	U
Xylene (ortho-)	1	U	1	U	1	U	1	U	1	U
Styrene	1	U	1	U	1	U	1	U	1	U
Bromoform	1	U	1	U	1	U	1	U	1	U
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U	1	U	1	U
1,2,3-Trichloropropane	1	U	1	U	1	U	1	U	1	U
1,3-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dibromo-3-chloropropane	2	U	2	U	2	U	2	U	2	U

Q-Laboratory Data Qualifiers

EPA REGION 9 - LABORATORY - RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS

Case Number: R99S49
Site: WHITTIER NARROWS
SDG: 99229A
Date: 09/02/99

Analysis: GC/MS Volatiles
Matrix: Water

Sample No.	Storage Blanks		Storage Blanks		Quantitation
Sample ID	VHBLK0816		VHBLK0823		Limits
Lab Sample ID	SB0826		SB0830		N/A
Date of Collection	08/16/99		08/23/99		N/A
Units	ug/L		ug/L		ug/L
Analyte	Result	Q	Result	Q	Result
Dichlorodifluoromethane	1	U	1	U	1
Chloromethane	1	U	1	U	1
Vinyl Chloride	0.5	U	0.5	U	0.5
Bromomethane	1	U	1	U	1
Chloroethane	1	U	1	U	1
Trichlorofluoromethane	1	U	1	U	1
1,1-Dichloroethene	1	U	1	U	1
Carbon Disulfide	1	U	1	U	1
Acetone	10	U	10	U	10
Methylene Chloride	1	U	1	U	1
trans-1,2-Dichloroethene	1	U	1	U	1
Methyl-t-Butyl Ether	1	U	1	U	1
1,1-Dichloroethane	1	U	1	U	1
cis-1,2-Dichloroethene	1	U	1	U	1
2-Butanone	10	U	10	U	10
Chloroform	1	U	1	U	1
1,2-Dichloroethane	0.5	U	0.5	U	0.5
1,1,1-Trichloroethane	1	U	1	U	1
Carbon Tetrachloride	0.5	U	0.5	U	0.5
Benzene	1	U	1	U	1
Trichloroethene	1	U	1	U	1
1,2-Dichloropropane	1	U	1	U	1
Bromodichloromethane	1	U	1	U	1
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5
1,1,2-Trichloroethane	1	U	1	U	1
Dibromochloromethane	1	U	1	U	1
4-Methyl-2-pentanone	10	U	10	U	10
Toluene	1	U	1	U	1
1,3-Dichloropropane	1	U	1	U	1
2-Hexanone	10	U	10	U	10
Tetrachloroethene	1	U	1	U	1
1,2-Dibromoethane	1	U	1	U	1
Chlorobenzene	1	U	1	U	1
Ethyl Benzene	1	U	1	U	1
Xylene (para & meta-)	1	U	1	U	1
Xylene (ortho-)	1	U	1	U	1
Styrene	1	U	1	U	1
Bromoform	1	U	1	U	1
1,1,2,2-Tetrachloroethane	1	U	1	U	1
1,2,3-Trichloropropane	1	U	1	U	1
1,3-Dichlorobenzene	1	U	1	U	1
1,4-Dichlorobenzene	1	U	1	U	1
1,2-Dichlorobenzene	1	U	1	U	1
1,2-Dibromo-3-chloropropane	2	U	2	U	2

Q-Laboratory Data Qualifiers Refer to EPA Region 9 Laboratory Qualifier Definitions

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX LABORATORY
1337 S. 46TH STREET
BLDG. 201
RICHMOND, CA 94804-4698

SEP 27 1999

MEMORANDUM

SUBJECT: Case R99S49
Results of Volatile Organic Compounds Analysis

FROM: for Brenda Bettencourt, Director
Region 9 Laboratory (PMD-2)

TO: Doug Frazer, Remedial Project Manager
Southern California Cleanup Section (SFD-7-3)

Attached are the report narratives and results spreadsheets from analysis of eighteen water samples from the Whittier Narrows Superfund site. These data have been reviewed in accordance with EPA Region 9 Laboratory policy. Summary information for the data included in this report is as follows:

SITE/PROJECT:	Whittier Narrows
CASE:	R99S49
SAMPLE DELIVERY GROUPS:	99231A
LABORATORY:	U. S. EPA Region 9 Laboratory
ANALYSIS:	Low Level Volatile Organic Compounds (R9 Lab SOP 305)

Full documentation packages for these data, including raw data and sample custody documentation, have been prepared and sent to the Quality Assurance Program (PMD-3). Please contact Vance Fong for information regarding third-party review and/or validation of the data.

If you have any questions please contact Rich Bauer at (510) 412-2312, or Ken Hendrix at (510) 412-2321.

ATTACHMENTS: Analytical Reports

USEPA REGION 9 LABORATORY
REPORT NARRATIVE

CASE NUMBER:	**R99S49**
SAMPLE DELIVERY GROUP:	**99231A**
PROGRAM:	**Superfund**
DOCUMENT CONTROL #:	**ESTW-9B-2469**
ANALYSIS PERFORMED:	**GC/MS Volatiles**
DATE SUBMITTED:	**September 20, 1999**
SAMPLE NUMBERS:	

Client Sample ID	Laboratory Sample ID	Client Sample ID	Laboratory Sample ID
WN99155	AB23593	WN99156	AB23594
WN99157	AB23595	WN99158	AB23609
WN99159	AB23610	WN99160	AB23611
WN99161	AB23612	WN99162	AB23613
WN99163	AB23614	WN99164	AB23615
WN99165	AB23616	WN99166	AB23617
WN99167	AB23618	WN99168	AB23619
WN99169	AB23624	WN99170	AB23625
WN99171	AB23626	WN99172	AB23627

GENERAL COMMENTS

Eighteen (18) water samples were received at the EPA Region 9 laboratory on 08/19/99, 08/20/99, and 08/23/99 from the Whittier Narrows Superfund project.

These samples were analyzed for volatile organics in accordance with the USEPA Region 9 Laboratory SOP 305, Volatile Organics Analysis. Methylene chloride and acetone are common laboratory contaminants. Positive results for these two compounds that are at or below the quantitation limit could be a result of laboratory contamination.

SAMPLE RECEIPT AND PRESERVATION

No shipping or preservation problems were encountered with these samples.

QA/QC AND ANALYTICAL COMMENTS

Method Blanks

A laboratory method blank is laboratory reagent water or sand with all reagents, surrogates, and internal standards added 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.

No target compounds were detected in the method blanks associated with these samples.

Storage Blanks

A storage blank is laboratory reagent water that is stored in the laboratory refrigerator for one week. All reagents, surrogates, and internal standards are added at the time of analysis and it is processed through the same sample preparation and analytical procedures as the other blanks. The storage blank is used to determine the level of contamination introduced by the laboratory during sample storage.

No target compounds were detected in the storage blanks associated with these samples.

Surrogates

Surrogates 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 surrogate compounds prior to analysis. Surrogate percent recovery (%R) provides information about both the laboratory performance on individual samples and the possible effects of the sample matrix on the analytical results.

All surrogate recoveries were within QC limits.

Matrix Spike and Spike Duplicate Analysis (QC Sample: WN99162)

Matrix spike sample and spike duplicate analyses provide information about the effect of the sample matrix on sample preparation and measurement. Poor percent recovery (%R) results and large relative percent difference (RPD) between duplicates may indicate inconsistent laboratory technique, sample nonhomogeneity in soils, or matrix effects which may interfere with analysis.

All MS/MSD results were within QC limits.

Internal Standards

Internal standards are organic compounds which are similar to the target analytes in chemical composition and behavior in the analytical process, but not normally found in environmental samples. All samples are spiked with internal standard compounds prior to analysis. Internal standard recoveries and retention times provide information about both the instrument performance on individual samples and the possible effects of the sample matrix on the analytical results.

All internal standard areas and retention times were within QC limits.

Laboratory control samples (LCSs) are analyzed daily to demonstrate comparability of the continuing calibration standard. It is equivalent to the continuing calibration standard, but it is obtained from an independent source.

All LCS results were within QC limits.

Technical Holding Times:

All samples were analyzed within the technical holding time.

All other method criteria were met.

RESULTS SUMMARY

The results can be found on the Summary of Results report. On the report, the following qualifiers are used.

B	This analyte was detected in the associated method blank.
E	The amount detected exceeds the calibration range of the instrument.
J	The amount detected is less than quantitation limit and is only an estimated value.
U	This compound was analyzed for, but not detected.

Any questions in reference to this data package may be addressed to Joseph Naughten at (510) 412-2358.

EPA REGION 9 - LABORATORY - RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS

Case Number: R99S49 **Analysis:** GC/MS Volatiles
Site: Whittier Narrows **Matrix:** Water
SDG: 99231A
Date: 09/20/99

Sample No.	21		22		23		24		25	
Sample ID	WN99155		WN99156		WN99157		WN99158		WN99159	
Lab Sample ID	AB23593		AB23594		AB23595		AB23609		AB23610	
Date of Collection	08/18/99		08/18/99		08/18/99		08/19/99		08/19/99	
Units	ug/L		ug/L		ug/L		ug/L		ug/L	
Analyte	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Dichlorodifluoromethane	1	U	1	U	1	U	1	U	1	U
Chloromethane	1	U	1	U	1	U	1	U	1	U
Vinyl Chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	1	U	1	U	1	U	1	U	1	U
Chloroethane	1	U	1	U	1	U	1	U	1	U
Trichlorofluoromethane	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Carbon Disulfide	1	U	1	U	1	U	1	U	1	U
Acetone	10	U	10	U	10	U	10	U	10	U
Methylene Chloride	1	U	1	U	1	U	1	U	1	U
trans-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Methyl-t-Butyl Ether	1	U	1	U	1	U	1	U	0.6	J
1,1-Dichloroethane	1	U	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
2-Butanone	10	U	10	U	10	U	10	U	10	U
Chloroform	1	U	1	U	0.5	J	1	U	1	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Carbon Tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	1	U	1	U	1	U	1	U	1	U
Trichloroethene	4		4		1	U	3		2	
1,2-Dichloropropane	1	U	1	U	1	U	1	U	1	U
Bromodichloromethane	1	U	1	U	1	U	1	U	1	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Dibromochloromethane	1	U	1	U	1	U	1	U	1	U
4-Methyl-2-pentanone	10	U	10	U	10	U	10	U	10	U
Toluene	1	U	1	U	1	U	1	U	1	U
1,3-Dichloropropane	1	U	1	U	1	U	1	U	1	U
2-Hexanone	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene	16		13		1	U	2		3	
1,2-Dibromoethane	1	U	1	U	1	U	1	U	1	U
Chlorobenzene	1	U	1	U	1	U	1	U	1	U
Ethyl Benzene	1	U	1	U	1	U	1	U	1	U
Xylene (para & meta-)	1	U	1	U	1	U	1	U	1	U
Xylene (ortho-)	1	U	1	U	1	U	1	U	1	U
Styrene	1	U	1	U	1	U	1	U	1	U
Bromoform	1	U	1	U	1	U	1	U	1	U
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U	1	U	1	U
1,2,3-Trichloropropane	1	U	1	U	1	U	1	U	1	U
1,3-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dibromo-3-chloropropane	2	U	2	U	2	U	2	U	2	U

Q-Laboratory Data Qualifiers

EPA REGION 9 - LABORATORY - RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS

Case Number: R99S49 **Analysis:** GC/MS Volatiles
Site: Whittier Narrows **Matrix:** Water
SDG: 99231A
Date: 09/20/99

Sample No.	26		27		28		29		30	
Sample ID	WN99160		WN99161		WN99162		WN99163		WN99164	
Lab Sample ID	AB23611		AB23612		AB23613		AB23614		AB23615	
Date of Collection	08/19/99		08/19/99		08/19/99		08/19/99		08/19/99	
Units	ug/L		ug/L		ug/L		ug/L		ug/L	
Analyte	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Dichlorodifluoromethane	1	U	1	U	1	U	1	U	1	U
Chloromethane	1	U	1	U	1	U	1	U	1	U
Vinyl Chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	1	U	1	U	1	U	1	U	1	U
Chloroethane	1	U	1	U	1	U	1	U	1	U
Trichlorofluoromethane	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Carbon Disulfide	1	U	1	U	1	U	1	U	1	U
Acetone	10	U	10	U	10	U	10	U	10	U
Methylene Chloride	1	U	1	U	1	U	1	U	1	U
trans-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Methyl-t-Butyl Ether	0.5	J	1	U	1	U	1	U	0.8	J
1,1-Dichloroethane	1	U	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
2-Butanone	10	U	10	U	10	U	10	U	10	U
Chloroform	1	U	1	U	1	U	1	U	1	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Carbon Tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	1	U	1	U	1	U	1	U	1	U
Trichloroethene	1		0.9	J	4		2		1	U
1,2-Dichloropropane	1	U	1	U	1	U	1	U	1	U
Bromodichloromethane	1	U	1	U	1	U	1	U	1	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Dibromochloromethane	1	U	1	U	1	U	1	U	1	U
4-Methyl-2-pentanone	10	U	10	U	10	U	10	U	10	U
Toluene	1	U	1	U	1	U	1	U	1	U
1,3-Dichloropropane	1	U	1	U	1	U	1	U	1	U
2-Hexanone	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene	3		2		11		6		0.9	J
1,2-Dibromoethane	1	U	1	U	1	U	1	U	1	U
Chlorobenzene	1	U	1	U	1	U	1	U	1	U
Ethyl Benzene	1	U	1	U	1	U	1	U	1	U
Xylene (para & meta-)	1	U	1	U	1	U	1	U	1	U
Xylene (ortho-)	1	U	1	U	1	U	1	U	1	U
Styrene	1	U	1	U	1	U	1	U	1	U
Bromoform	1	U	1	U	1	U	1	U	1	U
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U	1	U	1	U
1,2,3-Trichloropropane	1	U	1	U	1	U	1	U	1	U
1,3-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dibromo-3-chloropropane	2	U	2	U	2	U	2	U	2	U

Q-Laboratory Data Qualifiers

EPA REGION 9 - LABORATORY - RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS

Case Number: R99S49 **Analysis:** GC/MS Volatiles
Site: Whittier Narrows **Matrix:** Water
SDG: 99231A
Date: 09/20/99

Sample No.	31		32		33		34		35	
Sample ID	WN99165		WN99166		WN99167		WN99168		WN99169	
Lab Sample ID	AB23616		AB23617		AB23618		AB23623		AB23624	
Date of Collection	08/19/99		08/19/99		08/19/99		08/20/99		08/20/99	
Units	ug/L		ug/L		ug/L		ug/L		ug/L	
Analyte	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Dichlorodifluoromethane	1	U	1	U	1	U	1	U	1	U
Chloromethane	1	U	1	U	1	U	1	U	1	U
Vinyl Chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	1	U	1	U	1	U	1	U	1	U
Chloroethane	1	U	1	U	1	U	1	U	1	U
Trichlorofluoromethane	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Carbon Disulfide	1	U	1	U	1	U	1	U	1	U
Acetone	10	U	10	U	10	U	10	U	10	U
Methylene Chloride	1	U	1	U	1	U	1	U	1	U
trans-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Methyl-t-Butyl Ether	1		2		1	U	1		1	U
1,1-Dichloroethane	1	U	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	1	U	1	U	1	U	1	U	0.8	J
2-Butanone	10	U	10	U	10	U	10	U	10	U
Chloroform	1	U	1	U	1	U	1	U	1	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Carbon Tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	1	U	1	U	1	U	1	U	1	U
Trichloroethene	1	U	1	U	1	U	0.9	J	1	
1,2-Dichloropropane	1	U	1	U	1	U	1	U	1	U
Bromodichloromethane	1	U	1	U	1	U	1	U	1	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Dibromochloromethane	1	U	1	U	1	U	1	U	1	U
4-Methyl-2-pentanone	10	U	10	U	10	U	10	U	10	U
Toluene	1	U	1	U	1	U	1	U	1	U
1,3-Dichloropropane	1	U	1	U	1	U	1	U	1	U
2-Hexanone	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene	1	U	0.5	J	1	U	15		2	
1,2-Dibromoethane	1	U	1	U	1	U	1	U	1	U
Chlorobenzene	1	U	1	U	1	U	1	U	1	U
Ethyl Benzene	1	U	1	U	1	U	1	U	1	U
Xylene (para & meta-)	1	U	1	U	1	U	1	U	1	U
Xylene (ortho-)	1	U	1	U	1	U	1	U	1	U
Styrene	1	U	1	U	1	U	1	U	1	U
Bromoform	1	U	1	U	1	U	1	U	1	U
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U	1	U	1	U
1,2,3-Trichloropropane	1	U	1	U	1	U	1	U	1	U
1,3-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dibromo-3-chloropropane	2	U	2	U	2	U	2	U	2	U

Q-Laboratory Data Qualifiers

EPA REGION 9 - LABORATORY - RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS

Case Number: R99S49
Site: Whittier Narrows
SDG: 99231A
Date: 09/20/99

Analysis: GC/MS Volatiles
Matrix: Water

Sample No.	36		37		38		Method Blank		Method Blank	
Sample ID	WN99170		WN99171		WN99172		MWH0826A		MWHO827A	
Lab Sample ID	AB23625		AB23626		AB23627		N/A		N/A	
Date of Collection	08/20/99		08/20/99		08/20/99		N/A		N/A	
Units	ug/L		ug/L		ug/L		ug/L		ug/L	
Analyte	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Dichlorodifluoromethane	1	U	1	U	1	U	1	U	1	U
Chloromethane	1	U	1	U	1	U	1	U	1	U
Vinyl Chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	1	U	1	U	1	U	1	U	1	U
Chloroethane	1	U	1	U	1	U	1	U	1	U
Trichlorofluoromethane	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Carbon Disulfide	1	U	1	U	1	U	1	U	1	U
Acetone	10	U	10	U	10	U	10	U	10	U
Methylene Chloride	1	U	1	U	1	U	1	U	1	U
trans-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Methyl-t-Butyl Ether	0.8	J	1	U	1	U	1	U	1	U
1,1-Dichloroethane	1	U	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
2-Butanone	10	U	10	U	10	U	10	U	10	U
Chloroform	1	U	1	U	1	U	1	U	1	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Carbon Tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	1	U	1	U	1	U	1	U	1	U
Trichloroethene	1	U	1	U	1	U	1	U	1	U
1,2-Dichloropropane	1	U	1	U	1	U	1	U	1	U
Bromodichloromethane	1	U	1	U	1	U	1	U	1	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Dibromochloromethane	1	U	1	U	1	U	1	U	1	U
4-Methyl-2-pentanone	10	U	10	U	10	U	10	U	10	U
Toluene	1	U	1	U	1	U	1	U	1	U
1,3-Dichloropropane	1	U	1	U	1	U	1	U	1	U
2-Hexanone	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene	1	U	1	U	1	U	1	U	1	U
1,2-Dibromoethane	1	U	1	U	1	U	1	U	1	U
Chlorobenzene	1	U	1	U	1	U	1	U	1	U
Ethyl Benzene	1	U	1	U	1	U	1	U	1	U
Xylene (para & meta-)	1	U	1	U	1	U	1	U	1	U
Xylene (ortho-)	1	U	1	U	1	U	1	U	1	U
Styrene	1	U	1	U	1	U	1	U	1	U
Bromoform	1	U	1	U	1	U	1	U	1	U
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U	1	U	1	U
1,2,3-Trichloropropane	1	U	1	U	1	U	1	U	1	U
1,3-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dibromo-3-chloropropane	2	U	2	U	2	U	2	U	2	U

Q-Laboratory Data Qualifiers

EPA REGION 9 - LABORATORY - RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS

Case Number: R99S49
Site: Whittier Narrows
SDG: 99231A
Date: 09/20/99

Analysis: GC/MS Volatiles
Matrix: Water

Sample No.	Method Blank		Storage Blank		Storage Blank		Quantitation
Sample ID	MWHO830A		VHBLK0816		VHBLK0823		Limits
Lab Sample ID	N/A		SB0826		SB0830		N/A
Date of Collection	N/A		08/16/99		08/23/99		N/A
Units	ug/L		ug/L		ug/L		ug/L
Analyte	Result	Q	Result	Q	Result	Q	Result
Dichlorodifluoromethane	1	U	1	U	1	U	1
Chloromethane	1	U	1	U	1	U	1
Vinyl Chloride	0.5	U	0.5	U	0.5	U	0.5
Bromomethane	1	U	1	U	1	U	1
Chloroethane	1	U	1	U	1	U	1
Trichlorofluoromethane	1	U	1	U	1	U	1
1,1-Dichloroethene	1	U	1	U	1	U	1
Carbon Disulfide	1	U	1	U	1	U	1
Acetone	10	U	10	U	10	U	10
Methylene Chloride	1	U	1	U	1	U	1
trans-1,2-Dichloroethene	1	U	1	U	1	U	1
Methyl-t-Butyl Ether	1	U	1	U	1	U	1
1,1-Dichloroethane	1	U	1	U	1	U	1
cis-1,2-Dichloroethene	1	U	1	U	1	U	1
2-Butanone	10	U	10	U	10	U	10
Chloroform	1	U	1	U	1	U	1
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5
1,1,1-Trichloroethane	1	U	1	U	1	U	1
Carbon Tetrachloride	0.5	U	0.5	U	0.5	U	0.5
Benzene	1	U	1	U	1	U	1
Trichloroethene	1	U	1	U	1	U	1
1,2-Dichloropropane	1	U	1	U	1	U	1
Bromodichloromethane	1	U	1	U	1	U	1
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5
1,1,2-Trichloroethane	1	U	1	U	1	U	1
Dibromochloromethane	1	U	1	U	1	U	1
4-Methyl-2-pentanone	10	U	10	U	10	U	10
Toluene	1	U	1	U	1	U	1
1,3-Dichloropropane	1	U	1	U	1	U	1
2-Hexanone	10	U	10	U	10	U	10
Tetrachloroethene	1	U	1	U	1	U	1
1,2-Dibromoethane	1	U	1	U	1	U	1
Chlorobenzene	1	U	1	U	1	U	1
Ethyl Benzene	1	U	1	U	1	U	1
Xylene (para & meta-)	1	U	1	U	1	U	1
Xylene (ortho-)	1	U	1	U	1	U	1
Styrene	1	U	1	U	1	U	1
Bromoform	1	U	1	U	1	U	1
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U	1
1,2,3-Trichloropropane	1	U	1	U	1	U	1
1,3-Dichlorobenzene	1	U	1	U	1	U	1
1,4-Dichlorobenzene	1	U	1	U	1	U	1
1,2-Dichlorobenzene	1	U	1	U	1	U	1
1,2-Dibromo-3-chloropropane	2	U	2	U	2	U	2

Q-Laboratory Data Qualifiers Refer to EPA Region 9 Laboratory Qualifier Definitions

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX LABORATORY
1337 S. 46TH STREET
BLDG. 201
RICHMOND, CA 94804-4698

SEP 27 1999

MEMORANDUM

SUBJECT: Case R99S49
Results of Perchlorate Analysis

FROM: for Brenda Bettencourt, Director
Region 9 Laboratory (PMD-2)

TO: Doug Frazer, Remedial Project Manager
Southern California Cleanup Section (SFD-7-3)

Attached are the report narratives and results spreadsheets from analysis of water samples from the Whittier Narrows Superfund site. These data have been reviewed in accordance with EPA Region 9 Laboratory policy. Summary information for the data included in this report is as follows:

SITE/PROJECT:	Whittier Narrows
CASE:	R99S49
SAMPLE DELIVERY GROUPS:	99231A, 99236A
LABORATORY:	U. S. EPA Region 9 Laboratory
ANALYSIS:	Perchlorate (R9 Lab SOP 531)

A full documentation package for these data, including raw data and sample custody documentation, has been prepared and sent to the Quality Assurance Program (PMD-3). Please contact Vance Fong for information regarding third-party review and/or validation of the data.

If you have any questions please contact Rich Bauer at (510) 412-2312, or Ken Hendrix at (510) 412-2321.

ATTACHMENTS: Analytical Report

USEPA REGION 9 LABORATORY
REPORT NARRATIVE

CASE NUMBER:	**R99S49**
SAMPLE DELIVERY GROUP:	**99231A / 99236A**
PROGRAM:	**SUPERFUND**
DOCUMENT CONTROL #:	**ESTW-9B-2482**
DATE:	**09/23/99**
ANALYSIS:	**PERCHLORATE**

SAMPLE NUMBERS:

SAMPLE ID	LABORATORY SAMPLE ID
WN99173	AB23628
WN99174	AB23329
WN99175	AB23630
WN99176	AB23631
WN99177	AB23632
WN99178	AB23633
WN99179	AB23634
WN99180	AB23635
WN99181	AB23636
WN99182	AB23637
WN99183	AB23638

GENERAL COMMENTS

Eleven water samples were received from the Whittier Narrows Superfund project on 08/24/99.

The requested analysis was perchlorate following Region 9 Laboratory SOP 531.

SAMPLE RECEIPT AND PRESERVATION

No shipping or preservation problems were encountered with these samples.

ANALYTICAL COMMENTS

The requirements of the method were adhered to for perchlorate following Region 9 Lab SOP 531.

All samples were analyzed within the required technical holding time.

QA/QC SUMMARY

Laboratory Reagent Blanks (LRB)

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

No analytes were detected in the blanks associated with this SDG.

Laboratory Fortified Matrix Spike (LFM) and Laboratory Duplicate Analysis (QC Sample: WN99181)

The laboratory fortified matrix spike sample and laboratory duplicate analyses provide information about the effect of the sample matrix on sample preparation and measurement. Poor percent recovery (%R) results and large relative percent difference (RPD) between duplicates may indicate inconsistent laboratory technique, sample nonhomogeneity in soils, or matrix effects which may interfere with analysis.

The LFM recovery was within the 75-125% method QC limits. The sample and duplicate were both less than the quantitation limit. No RPD was calculated.

Laboratory Fortified Blank (LFB) Analysis

The laboratory fortified blank is laboratory reagent water or baked sand with a known concentration of the analytes of interest added by the laboratory with all reagents added and carried through the same sample preparation and analytical procedures as the field samples. Poor percent recovery (%R) results may indicate inconsistent laboratory technique.

The LFB recovery was within the method QC limits.

All other method QC criteria were met.

Questions concerning the data can be answered by Patrick Hirata at (510) 412-2354.

USEPA REGION 9 LABORATORY
QUALIFIER DEFINITIONS FOR INORGANIC SAMPLE RESULTS

U The analyte was analyzed for, but was not detected above one half the Quantitation Limit (QL). The reported value is the QL for all analytes.

J The reported value was obtained from a reading that was less than the Quantitation Limit (QL) but greater than or equal to one half 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.

N LFM sample recovery not within control limits. The reported value is estimated because the LFM recovery result did not meet the 75-125% criteria for accuracy. The result is considered quantitatively uncertain. The LFM analysis provides information about the effect of the sample matrix on the digestion and measurement methodology.

***** Duplicate analysis not within control limits. Duplicated analyses demonstrate the analytical precision obtained for each sample matrix. The result is estimated and considered quantitatively uncertain. The imprecision between duplicate results may be due to sample non-homogeneity for soil sample, high levels of solids in the sample for water samples, inconsistent laboratory technique, or method defects.

EPA REGION 9 LABORATORY-RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS

Case Number: R99S49 **Analysis:** Perchlorate
Site: Whittier Narrows Quarterly **Matrix:** Water
SDG: 99231A / 99236A
Date: 09/22/99

Sample No.	39		40		41		42		43		44		45	
Sample I.D.	WN99173		WN99174		WN99175		WN99176		WN99177		WN99178		WN99179	
Lab Sample I.D.	AB23628		AB23629		AB23630		AB23631		AB23632		AB23633		AB23634	
Date of Collection	08/23/99		08/23/99		08/23/99		08/23/99		08/23/99		08/23/99		08/23/99	
Units	ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L	
Analyte	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Perchlorate	5	U	8		5	U	5	U	5	U	5	U	5	U

Q - Laboratory Data Qualifiers; Refer to EPA Region 9 Laboratory Qualifier Definitions
QL - Quantitation Limit

Sample No.	46		47		48		49		N/A		N/A
Sample I.D.	WN99180		WN99181		WN99182		WN99183		Reagent Blank		Quant.Limit
Lab Sample I.D.	AB23635		AB23636		AB23637		AB23638		N/A		N/A
Date of Collection	08/23/99		08/23/99		08/23/99		08/23/99		N/A		N/A
Units	ug/L		ug/L		ug/L		ug/L		ug/L		ug/L
Analyte	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result
Perchlorate	5	U	5	U	5	U	5	U	5	U	5

Q - Laboratory Data Qualifiers; Refer to EPA Region 9 Laboratory Qualifier Definitions
QL - Quantitation Limit

Surrogates

Surrogates 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 surrogate compounds prior to analysis. Surrogate percent recovery (%R) provides information about both the laboratory performance on individual samples and the possible effects of the sample matrix on the analytical results.

All surrogate recoveries were within QC limits.

Matrix Spike and Spike Duplicate Analysis (QC Sample: WN99162)

Matrix spike sample and spike duplicate analyses provide information about the effect of the sample matrix on sample preparation and measurement. Poor percent recovery (%R) results and large relative percent difference (RPD) between duplicates may indicate inconsistent laboratory technique, sample nonhomogeneity in soils, or matrix effects which may interfere with analysis.

All MS/MSD results were within QC limits.

Internal Standards

Internal standards are organic compounds which are similar to the target analytes in chemical composition and behavior in the analytical process, but not normally found in environmental samples. All samples are spiked with internal standard compounds prior to analysis. Internal standard recoveries and retention times provide information about both the instrument performance on individual samples and the possible effects of the sample matrix on the analytical results.

All internal standard areas and retention times were within QC limits.

Laboratory control samples (LCSs) are analyzed daily to demonstrate comparability of the continuing calibration standard. It is equivalent to the continuing calibration standard, but it is obtained from an independent source.

All LCS results were within QC limits.

Technical Holding Times:

All samples were analyzed within the technical holding time.

All other method criteria were met.

RESULTS SUMMARY

The results can be found on the Summary of Results report. On the report, the following qualifiers are used.

B	This analyte was detected in the associated method blank.
E	The amount detected exceeds the calibration range of the instrument.
J	The amount detected is less than quantitation limit and is only an estimated value.
U	This compound was analyzed for, but not detected.

Any questions in reference to this data package may be addressed to Joseph Naughten at (510) 412-2358.

EPA REGION 9 - LABORATORY - RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS

Case Number: R99S49
Site: Whittier Narrows
SDG: 99231A
Date: 09/20/99

Analysis: GC/MS Volatiles
Matrix: Water

Sample No.	21		22		23		24		25	
Sample ID	WN99155		WN99156		WN99157		WN99158		WN99159	
Lab Sample ID	AB23593		AB23594		AB23595		AB23609		AB23610	
Date of Collection	08/18/99		08/18/99		08/18/99		08/19/99		08/19/99	
Units	ug/L		ug/L		ug/L		ug/L		ug/L	
Analyte	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Dichlorodifluoromethane	1	U	1	U	1	U	1	U	1	U
Chloromethane	1	U	1	U	1	U	1	U	1	U
Vinyl Chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	1	U	1	U	1	U	1	U	1	U
Chloroethane	1	U	1	U	1	U	1	U	1	U
Trichlorofluoromethane	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Carbon Disulfide	1	U	1	U	1	U	1	U	1	U
Acetone	10	U	10	U	10	U	10	U	10	U
Methylene Chloride	1	U	1	U	1	U	1	U	1	U
trans-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Methyl-t-Butyl Ether	1	U	1	U	1	U	1	U	0.6	J
1,1-Dichloroethane	1	U	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
2-Butanone	10	U	10	U	10	U	10	U	10	U
Chloroform	1	U	1	U	0.5	J	1	U	1	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Carbon Tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	1	U	1	U	1	U	1	U	1	U
Trichloroethene	4		4		1	U	3		2	
1,2-Dichloropropane	1	U	1	U	1	U	1	U	1	U
Bromodichloromethane	1	U	1	U	1	U	1	U	1	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Dibromochloromethane	1	U	1	U	1	U	1	U	1	U
4-Methyl-2-pentanone	10	U	10	U	10	U	10	U	10	U
Toluene	1	U	1	U	1	U	1	U	1	U
1,3-Dichloropropane	1	U	1	U	1	U	1	U	1	U
2-Hexanone	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene	16		13		1	U	2		3	
1,2-Dibromoethane	1	U	1	U	1	U	1	U	1	U
Chlorobenzene	1	U	1	U	1	U	1	U	1	U
Ethyl Benzene	1	U	1	U	1	U	1	U	1	U
Xylene (para & meta-)	1	U	1	U	1	U	1	U	1	U
Xylene (ortho-)	1	U	1	U	1	U	1	U	1	U
Styrene	1	U	1	U	1	U	1	U	1	U
Bromoform	1	U	1	U	1	U	1	U	1	U
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U	1	U	1	U
1,2,3-Trichloropropane	1	U	1	U	1	U	1	U	1	U
1,3-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dibromo-3-chloropropane	2	U	2	U	2	U	2	U	2	U

Q-Laboratory Data Qualifiers

EPA REGION 9 - LABORATORY - RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS

Case Number: R99S49 **Analysis:** GC/MS Volatiles
Site: Whittier Narrows **Matrix:** Water
SDG: 99231A
Date: 09/20/99

Sample No.	26		27		28		29		30	
Sample ID	WN99160		WN99161		WN99162		WN99163		WN99164	
Lab Sample ID	AB23611		AB23612		AB23613		AB23614		AB23615	
Date of Collection	08/19/99		08/19/99		08/19/99		08/19/99		08/19/99	
Units	ug/L		ug/L		ug/L		ug/L		ug/L	
Analyte	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Dichlorodifluoromethane	1	U	1	U	1	U	1	U	1	U
Chloromethane	1	U	1	U	1	U	1	U	1	U
Vinyl Chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	1	U	1	U	1	U	1	U	1	U
Chloroethane	1	U	1	U	1	U	1	U	1	U
Trichlorofluoromethane	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Carbon Disulfide	1	U	1	U	1	U	1	U	1	U
Acetone	10	U	10	U	10	U	10	U	10	U
Methylene Chloride	1	U	1	U	1	U	1	U	1	U
trans-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Methyl-t-Butyl Ether	0.5	J	1	U	1	U	1	U	0.8	J
1,1-Dichloroethane	1	U	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
2-Butanone	10	U	10	U	10	U	10	U	10	U
Chloroform	1	U	1	U	1	U	1	U	1	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Carbon Tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	1	U	1	U	1	U	1	U	1	U
Trichloroethene	1		0.9	J	4		2		1	U
1,2-Dichloropropane	1	U	1	U	1	U	1	U	1	U
Bromodichloromethane	1	U	1	U	1	U	1	U	1	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Dibromochloromethane	1	U	1	U	1	U	1	U	1	U
4-Methyl-2-pentanone	10	U	10	U	10	U	10	U	10	U
Toluene	1	U	1	U	1	U	1	U	1	U
1,3-Dichloropropane	1	U	1	U	1	U	1	U	1	U
2-Hexanone	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene	3		2		11		6		0.9	J
1,2-Dibromoethane	1	U	1	U	1	U	1	U	1	U
Chlorobenzene	1	U	1	U	1	U	1	U	1	U
Ethyl Benzene	1	U	1	U	1	U	1	U	1	U
Xylene (para & meta-)	1	U	1	U	1	U	1	U	1	U
Xylene (ortho-)	1	U	1	U	1	U	1	U	1	U
Styrene	1	U	1	U	1	U	1	U	1	U
Bromoform	1	U	1	U	1	U	1	U	1	U
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U	1	U	1	U
1,2,3-Trichloropropane	1	U	1	U	1	U	1	U	1	U
1,3-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dibromo-3-chloropropane	2	U	2	U	2	U	2	U	2	U

Q-Laboratory Data Qualifiers

EPA REGION 9 - LABORATORY - RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS

Case Number: R99S49
Site: Whittier Narrows
SDG: 99231A
Date: 09/20/99

Analysis: GC/MS Volatiles
Matrix: Water

Sample No.	31		32		33		34		35	
Sample ID	WN99165		WN99166		WN99167		WN99168		WN99169	
Lab Sample ID	AB23616		AB23617		AB23618		AB23623		AB23624	
Date of Collection	08/19/99		08/19/99		08/19/99		08/20/99		08/20/99	
Units	ug/L		ug/L		ug/L		ug/L		ug/L	
Analyte	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Dichlorodifluoromethane	1	U	1	U	1	U	1	U	1	U
Chloromethane	1	U	1	U	1	U	1	U	1	U
Vinyl Chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	1	U	1	U	1	U	1	U	1	U
Chloroethane	1	U	1	U	1	U	1	U	1	U
Trichlorofluoromethane	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Carbon Disulfide	1	U	1	U	1	U	1	U	1	U
Acetone	10	U	10	U	10	U	10	U	10	U
Methylene Chloride	1	U	1	U	1	U	1	U	1	U
trans-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Methyl-t-Butyl Ether	1		2		1	U	1		1	U
1,1-Dichloroethane	1	U	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	1	U	1	U	1	U	1	U	0.8	J
2-Butanone	10	U	10	U	10	U	10	U	10	U
Chloroform	1	U	1	U	1	U	1	U	1	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Carbon Tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	1	U	1	U	1	U	1	U	1	U
Trichloroethene	1	U	1	U	1	U	0.9	J	1	
1,2-Dichloropropane	1	U	1	U	1	U	1	U	1	U
Bromodichloromethane	1	U	1	U	1	U	1	U	1	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Dibromochloromethane	1	U	1	U	1	U	1	U	1	U
4-Methyl-2-pentanone	10	U	10	U	10	U	10	U	10	U
Toluene	1	U	1	U	1	U	1	U	1	U
1,3-Dichloropropane	1	U	1	U	1	U	1	U	1	U
2-Hexanone	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene	1	U	0.5	J	1	U	15		2	
1,2-Dibromoethane	1	U	1	U	1	U	1	U	1	U
Chlorobenzene	1	U	1	U	1	U	1	U	1	U
Ethyl Benzene	1	U	1	U	1	U	1	U	1	U
Xylene (para & meta-)	1	U	1	U	1	U	1	U	1	U
Xylene (ortho-)	1	U	1	U	1	U	1	U	1	U
Styrene	1	U	1	U	1	U	1	U	1	U
Bromoform	1	U	1	U	1	U	1	U	1	U
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U	1	U	1	U
1,2,3-Trichloropropane	1	U	1	U	1	U	1	U	1	U
1,3-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dibromo-3-chloropropane	2	U	2	U	2	U	2	U	2	U

Q-Laboratory Data Qualifiers

EPA REGION 9 - LABORATORY - RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS

Case Number: R99S49
Site: Whittier Narrows
SDG: 99231A
Date: 09/20/99

Analysis: GC/MS Volatiles
Matrix: Water

Sample No.	36		37		38		Method Blank		Method Blank	
Sample ID	WN99170		WN99171		WN99172		MWH0826A		MWHO827A	
Lab Sample ID	AB23625		AB23626		AB23627		N/A		N/A	
Date of Collection	08/20/99		08/20/99		08/20/99		N/A		N/A	
Units	ug/L		ug/L		ug/L		ug/L		ug/L	
Analyte	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Dichlorodifluoromethane	1	U	1	U	1	U	1	U	1	U
Chloromethane	1	U	1	U	1	U	1	U	1	U
Vinyl Chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	1	U	1	U	1	U	1	U	1	U
Chloroethane	1	U	1	U	1	U	1	U	1	U
Trichlorofluoromethane	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Carbon Disulfide	1	U	1	U	1	U	1	U	1	U
Acetone	10	U	10	U	10	U	10	U	10	U
Methylene Chloride	1	U	1	U	1	U	1	U	1	U
trans-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Methyl-t-Butyl Ether	0.8	J	1	U	1	U	1	U	1	U
1,1-Dichloroethane	1	U	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
2-Butanone	10	U	10	U	10	U	10	U	10	U
Chloroform	1	U	1	U	1	U	1	U	1	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Carbon Tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	1	U	1	U	1	U	1	U	1	U
Trichloroethene	1	U	1	U	1	U	1	U	1	U
1,2-Dichloropropane	1	U	1	U	1	U	1	U	1	U
Bromodichloromethane	1	U	1	U	1	U	1	U	1	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Dibromochloromethane	1	U	1	U	1	U	1	U	1	U
4-Methyl-2-pentanone	10	U	10	U	10	U	10	U	10	U
Toluene	1	U	1	U	1	U	1	U	1	U
1,3-Dichloropropane	1	U	1	U	1	U	1	U	1	U
2-Hexanone	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene	1	U	1	U	1	U	1	U	1	U
1,2-Dibromoethane	1	U	1	U	1	U	1	U	1	U
Chlorobenzene	1	U	1	U	1	U	1	U	1	U
Ethyl Benzene	1	U	1	U	1	U	1	U	1	U
Xylene (para & meta-)	1	U	1	U	1	U	1	U	1	U
Xylene (ortho-)	1	U	1	U	1	U	1	U	1	U
Styrene	1	U	1	U	1	U	1	U	1	U
Bromoform	1	U	1	U	1	U	1	U	1	U
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U	1	U	1	U
1,2,3-Trichloropropane	1	U	1	U	1	U	1	U	1	U
1,3-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dibromo-3-chloropropane	2	U	2	U	2	U	2	U	2	U

Q-Laboratory Data Qualifiers

EPA REGION 9 - LABORATORY - RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS

Case Number: R99S49
Site: Whittier Narrows
SDG: 99231A
Date: 09/20/99

Analysis: GC/MS Volatiles
Matrix: Water

Sample No.	Method Blank		Storage Blank		Storage Blank		Quantitation
Sample ID	MWHO830A		VHBLK0816		VHBLK0823		Limits
Lab Sample ID	N/A		SB0826		SB0830		N/A
Date of Collection	N/A		08/16/99		08/23/99		N/A
Units	ug/L		ug/L		ug/L		ug/L
Analyte	Result	Q	Result	Q	Result	Q	Result
Dichlorodifluoromethane	1	U	1	U	1	U	1
Chloromethane	1	U	1	U	1	U	1
Vinyl Chloride	0.5	U	0.5	U	0.5	U	0.5
Bromomethane	1	U	1	U	1	U	1
Chloroethane	1	U	1	U	1	U	1
Trichlorofluoromethane	1	U	1	U	1	U	1
1,1-Dichloroethene	1	U	1	U	1	U	1
Carbon Disulfide	1	U	1	U	1	U	1
Acetone	10	U	10	U	10	U	10
Methylene Chloride	1	U	1	U	1	U	1
trans-1,2-Dichloroethene	1	U	1	U	1	U	1
Methyl-t-Butyl Ether	1	U	1	U	1	U	1
1,1-Dichloroethane	1	U	1	U	1	U	1
cis-1,2-Dichloroethene	1	U	1	U	1	U	1
2-Butanone	10	U	10	U	10	U	10
Chloroform	1	U	1	U	1	U	1
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5
1,1,1-Trichloroethane	1	U	1	U	1	U	1
Carbon Tetrachloride	0.5	U	0.5	U	0.5	U	0.5
Benzene	1	U	1	U	1	U	1
Trichloroethene	1	U	1	U	1	U	1
1,2-Dichloropropane	1	U	1	U	1	U	1
Bromodichloromethane	1	U	1	U	1	U	1
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5
1,1,2-Trichloroethane	1	U	1	U	1	U	1
Dibromochloromethane	1	U	1	U	1	U	1
4-Methyl-2-pentanone	10	U	10	U	10	U	10
Toluene	1	U	1	U	1	U	1
1,3-Dichloropropane	1	U	1	U	1	U	1
2-Hexanone	10	U	10	U	10	U	10
Tetrachloroethene	1	U	1	U	1	U	1
1,2-Dibromoethane	1	U	1	U	1	U	1
Chlorobenzene	1	U	1	U	1	U	1
Ethyl Benzene	1	U	1	U	1	U	1
Xylene (para & meta-)	1	U	1	U	1	U	1
Xylene (ortho-)	1	U	1	U	1	U	1
Styrene	1	U	1	U	1	U	1
Bromoform	1	U	1	U	1	U	1
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U	1
1,2,3-Trichloropropane	1	U	1	U	1	U	1
1,3-Dichlorobenzene	1	U	1	U	1	U	1
1,4-Dichlorobenzene	1	U	1	U	1	U	1
1,2-Dichlorobenzene	1	U	1	U	1	U	1
1,2-Dibromo-3-chloropropane	2	U	2	U	2	U	2

Q-Laboratory Data Qualifiers Refer to EPA Region 9 Laboratory Qualifier Definitions

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX LABORATORY
1337 S. 46TH STREET
BLDG. 201
RICHMOND, CA 94804-4698

OCT - 8 1999

MEMORANDUM

SUBJECT: Case R99S49, SDGs 99236A, 99238B, 99242A
Results of Volatile Organic Compounds Analysis

FROM: Brenda Bettencourt, Director
Region 9 Laboratory (PMD-2)

TO: Doug Frazer, Remedial Project Manager
Southern California Cleanup Section (SFD-7-3)

Attached are the report narratives and results spreadsheets from analysis of water samples from the Whittier Narrows Superfund site. These data have been reviewed in accordance with EPA Region 9 Laboratory policy. Summary information for the data included in this report is as follows:

SITE/PROJECT:	Whittier Narrows
CASE:	R99S49
SAMPLE DELIVERY GROUPS:	99236A, 99238B, 99242A
LABORATORY:	U. S. EPA Region 9 Laboratory
ANALYSIS:	Low Level Volatile Organic Compounds (R9 Lab SOP 305)

Full documentation packages for these data, including raw data and sample custody documentation, have been prepared and sent to the Quality Assurance Program (PMD-3). Please contact Vance Fong for information regarding third-party review and/or validation of the data.

If you have any questions please contact Rich Bauer at (510) 412-2312, or Ken Hendrix at (510) 412-2321.

ATTACHMENTS: Analytical Reports

USEPA REGION 9 LABORATORY REPORT NARRATIVE

CASE NUMBER:	**R99S49**
SAMPLE DELIVERY GROUP:	**99236A**
PROGRAM:	**Superfund**
DOCUMENT CONTROL #:	**ESTW-9B-2511**
ANALYSIS PERFORMED:	**GC/MS Volatiles**
DATE SUBMITTED:	**September 22, 1999**
SAMPLE NUMBERS:	

Client Sample ID	Laboratory Sample ID	Client Sample ID	Laboratory Sample ID
WN99179	AB23634	WN99180	AB23635
WN99181	AB23636	WN99182	AB23637
WN99183	AB23638	WN99184	AB23644
WN99185	AB23645	WN99186	AB23646
WN99187	AB23647	WN99188	AB23648
WN99189	AB23649	WN99190	AB23650
WN99191	AB23651	WN99192	AB23652
WN99193	AB23653	WN99194	AB23654

GENERAL COMMENTS

Sixteen (16) water samples were received at the EPA Region 9 laboratory on 08/24/99 and 08/25/99 from the Whittier Narrows Superfund project.

These samples were analyzed for volatile organics in accordance with the USEPA Region 9 Laboratory SOP 305, Volatile Organics Analysis. Methylene chloride and acetone are common laboratory contaminants. Positive results for these two compounds that are at or below the quantitation limit could be a result of laboratory contamination.

SAMPLE RECEIPT AND PRESERVATION

No shipping or preservation problems were encountered with these samples.

QA/QC AND ANALYTICAL COMMENTS

Method Blanks

A laboratory method blank is laboratory reagent water or sand with all reagents, surrogates, and internal standards added 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.

No target compounds were detected in the method blanks associated with these samples.

Storage Blanks

A storage blank is laboratory reagent water that is stored in the laboratory refrigerator for one week. All reagents, surrogates, and internal standards are added at the time of analysis and it is processed through the same sample preparation and analytical procedures as the other blanks. The storage blank is used to determine the level of contamination introduced by the laboratory during sample storage.

No target compounds were detected in the storage blanks associated with these samples.

Surrogates

Surrogates 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 surrogate compounds prior to analysis. Surrogate percent recovery (%R) provides information about both the laboratory performance on individual samples and the possible effects of the sample matrix on the analytical results.

All surrogate recoveries were within method QC limits with the following exceptions:

Client Sample ID	Laboratory Sample ID	Surrogate	Percent Recovery	QC Limit Percent Recovery
WN99181MS	AB23636MS	Bromofluorobenzene	116	86 - 115
WN99181MSD	AB23636MSD	1,2-dichloroethane-d4	117	76 - 114

Matrix Spike and Spike Duplicate Analysis (QC Sample: WN99181)
Matrix spike sample and spike duplicate analyses provide information about the effect of the sample matrix on sample preparation and measurement. Poor percent recovery (%R) results and large relative percent difference (RPD) between duplicates may indicate inconsistent laboratory technique, sample nonhomogeneity in soils, or matrix effects which may interfere with analysis.

All MS/MSD results were within QC limits.

Internal Standards
Internal standards are organic compounds which are similar to the target analytes in chemical composition and behavior in the analytical process, but not normally found in environmental samples. All samples are spiked with internal standard compounds prior to analysis. Internal standard recoveries and retention times provide information about both the instrument performance on individual samples and the possible effects of the sample matrix on the analytical results.

All internal standard areas and retention times were within QC limits.

Laboratory control samples (LCSs) are analyzed daily to demonstrate comparability of the continuing calibration standard. It is equivalent to the continuing calibration standard, but it is obtained from an independent source.

All LCS results were within QC limits.

Technical Holding Times:
All samples were analyzed within the technical holding time.

RESULTS SUMMARY

The results can be found on the Summary of Results report. On the report, the following qualifiers are used.

- B This analyte was detected in the associated method blank.
- E The amount detected exceeds the calibration range of the instrument.
- J The amount detected is less than quantitation limit and is only an estimated value.
- U This compound was analyzed for, but not detected.

Any questions in reference to this data package may be addressed to Joseph Naughten at (510) 412-2358.

EPA REGION 9 - LABORATORY - RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS

Case Number: R99S49 **Analysis:** GC/MS Volatiles
Site: Whittier Narrows Quarterly **Matrix:** Water
SDG: 99236A
Date: 09/22/99

Sample No.	45		46		47		48		49	
Sample ID	WN99179		WN99180		WN99181		WN99182		WN99183	
Lab Sample ID	AB23634		AB23635		AB23636		AB23637		AB23638	
Date of Collection	08/23/99		08/23/99		08/23/99		08/23/99		08/23/99	
Units	ug/L		ug/L		ug/L		ug/L		ug/L	
Analyte	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Dichlorodifluoromethane	1	U	1	U	1	U	1	U	1	U
Chloromethane	1	U	1	U	1	U	1	U	1	U
Vinyl Chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	1	U	1	U	1	U	1	U	1	U
Chloroethane	1	U	1	U	1	U	1	U	1	U
Trichlorofluoromethane	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Carbon Disulfide	1	U	1	U	1	U	1	U	1	U
Acetone	10	U	10	U	10	U	10	U	10	U
Methylene Chloride	1	U	1	U	1	U	1	U	1	U
trans-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Methyl-t-Butyl Ether	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethane	1	U	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
2-Butanone	10	U	10	U	10	U	10	U	10	U
Chloroform	1	U	1	U	1	U	1	U	1	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Carbon Tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	1	U	1	U	1	U	1	U	1	U
Trichloroethene	1	U	1	U	1	U	2		1	U
1,2-Dichloropropane	1	U	1	U	1	U	1	U	1	U
Bromodichloromethane	1	U	1	U	1	U	1	U	1	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Dibromochloromethane	1	U	1	U	1	U	1	U	1	U
4-Methyl-2-pentanone	10	U	10	U	10	U	10	U	10	U
Toluene	1	U	1	U	1	U	1	U	1	U
1,3-Dichloropropane	1	U	1	U	1	U	1	U	1	U
2-Hexanone	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene	1	U	0.6	J	6		0.8	J	1	U
1,2-Dibromoethane	1	U	1	U	1	U	1	U	1	U
Chlorobenzene	1	U	1	U	1	U	1	U	1	U
Ethyl Benzene	1	U	1	U	1	U	1	U	1	U
Xylene (para & meta-)	1	U	1	U	1	U	1	U	1	U
Xylene (ortho-)	1	U	1	U	1	U	1	U	1	U
Styrene	1	U	1	U	1	U	1	U	1	U
Bromoform	1	U	1	U	1	U	1	U	1	U
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U	1	U	1	U
1,2,3-Trichloropropane	1	U	1	U	1	U	1	U	1	U
1,3-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dibromo-3-chloropropane	2	U	2	U	2	U	2	U	2	U

Q-Laboratory Data Qualifiers

MASTER FILE: voa_h2ob.wk4, version 0, 9/10/99, Lotus 123 v. 5

EPA REGION 9 - LABORATORY - RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS

Case Number: R99S49 **Analysis:** GC/MS Volatiles
Site: Whittier Narrows Quarterly **Matrix:** Water
SDG: 99236A
Date: 09/22/99

Sample No.	50		51		52		53		54	
Sample ID	WN99184		WN99185		WN99186		WN99187		WN99188	
Lab Sample ID	AB23644		AB23645		AB23646		AB23647		AB23648	
Date of Collection	08/24/99		08/24/99		08/24/99		08/24/99		08/24/99	
Units	ug/L		ug/L		ug/L		ug/L		ug/L	
Analyte	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Dichlorodifluoromethane	1	U	1	U	1	U	1	U	1	U
Chloromethane	1	U	1	U	1	U	1	U	1	U
Vinyl Chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	1	U	1	U	1	U	1	U	1	U
Chloroethane	1	U	1	U	1	U	1	U	1	U
Trichlorofluoromethane	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Carbon Disulfide	1	U	1	U	1	U	1	U	1	U
Acetone	10	U	10	U	10	U	10	U	10	U
Methylene Chloride	1	U	1	U	1	U	1	U	1	U
trans-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Methyl-t-Butyl Ether	1	U	0.8	J	1	U	1	U	1	U
1,1-Dichloroethane	1	U	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
2-Butanone	10	U	10	U	10	U	10	U	10	U
Chloroform	1	U	1	U	1	U	1	U	1	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Carbon Tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	1	U	1	U	1	U	1	U	1	U
Trichloroethene	5		0.7	J	1		2		8	
1,2-Dichloropropane	1	U	1	U	1	U	1	U	1	U
Bromodichloromethane	1	U	1	U	1	U	1	U	1	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Dibromochloromethane	1	U	1	U	1	U	1	U	1	U
4-Methyl-2-pentanone	10	U	10	U	10	U	10	U	10	U
Toluene	1	U	1	U	1	U	1	U	1	U
1,3-Dichloropropane	1	U	1	U	1	U	1	U	1	U
2-Hexanone	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene	8		180		420		610		7	
1,2-Dibromoethane	1	U	1	U	1	U	1	U	1	U
Chlorobenzene	1	U	1	U	1	U	1	U	1	U
Ethyl Benzene	1	U	1	U	1	U	1	U	1	U
Xylene (para & meta-)	1	U	1	U	1	U	1	U	1	U
Xylene (ortho-)	1	U	1	U	1	U	1	U	1	U
Styrene	1	U	1	U	1	U	1	U	1	U
Bromoform	1	U	1	U	1	U	1	U	1	U
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U	1	U	1	U
1,2,3-Trichloropropane	1	U	1	U	1	U	1	U	1	U
1,3-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dibromo-3-chloropropane	2	U	2	U	2	U	2	U	2	U

Q-Laboratory Data Qualifiers Refer to EPA Region 9 Laboratory Qualifier Definitions
MASTER FILE: voa_h2ob.wk4, version 0, 9/10/99, Lotus 123 v. 5

EPA REGION 9 - LABORATORY - RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS

Case Number: R99S49 **Analysis:** GC/MS Volatiles
Site: Whittier Narrows Quarterly **Matrix:** Water
SDG: 99236A
Date: 09/22/99

Sample No.	55		56		57		58		59	
Sample ID	WN99189		WN99190		WN99191		WN99192		WN99193	
Lab Sample ID	AB23649		AB23650		AB23651		AB23652		AB23653	
Date of Collection	08/24/99		08/24/99		08/24/99		08/24/99		08/24/99	
Units	ug/L		ug/L		ug/L		ug/L		ug/L	
Analyte	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Dichlorodifluoromethane	1	U	1	U	1	U	1	U	1	U
Chloromethane	1	U	1	U	1	U	1	U	1	U
Vinyl Chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	1	U	1	U	1	U	1	U	1	U
Chloroethane	1	U	1	U	1	U	1	U	1	U
Trichlorofluoromethane	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	1	U	1	U	1		0.8	J	1	U
Carbon Disulfide	1	U	1	U	1	U	1	U	1	U
Acetone	6	J	10	U	10	U	10	U	10	U
Methylene Chloride	1	U	1	U	1	U	1	U	1	U
trans-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Methyl-t-Butyl Ether	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethane	1	U	1	U	0.8	J	0.7	J	2	
cis-1,2-Dichloroethene	1	U	1	U	1		1		1	U
2-Butanone	10	U	10	U	10	U	10	U	10	U
Chloroform	1	U	1	U	1	U	1	U	1	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Carbon Tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	1	U	1	U	1	U	1	U	1	U
Trichloroethene	2		2		11		10		2	
1,2-Dichloropropane	1	U	1	U	1	U	1	U	1	U
Bromodichloromethane	1	U	1	U	1	U	1	U	1	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Dibromochloromethane	1	U	1	U	1	U	1	U	1	U
4-Methyl-2-pentanone	10	U	10	U	10	U	10	U	10	U
Toluene	1	U	1	U	1	U	1	U	1	U
1,3-Dichloropropane	1	U	1	U	1	U	1	U	1	U
2-Hexanone	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene	8		19		67		71		250	
1,2-Dibromoethane	1	U	1	U	1	U	1	U	1	U
Chlorobenzene	1	U	1	U	1	U	1	U	1	U
Ethyl Benzene	1	U	1	U	1	U	1	U	1	U
Xylene (para & meta-)	1	U	1	U	1	U	1	U	1	U
Xylene (ortho-)	1	U	1	U	1	U	1	U	1	U
Styrene	1	U	1	U	1	U	1	U	1	U
Bromoform	1	U	1	U	1	U	1	U	1	U
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U	1	U	1	U
1,2,3-Trichloropropane	1	U	1	U	1	U	1	U	1	U
1,3-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dibromo-3-chloropropane	2	U	2	U	2	U	2	U	2	U

Q-Laboratory Data Qualifiers Refer to EPA Region 9 Laboratory Qualifier Definitions
MASTER FILE: voa_h2ob.wk4, version 0, 9/10/99, Lotus 123 v. 5

EPA REGION 9 - LABORATORY - RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS

Case Number: R99S49 **Analysis:** GC/MS Volatiles
Site: Whittier Narrows Quarterly **Matrix:** Water
SDG: 99236A
Date: 09/22/99

Sample No.	60		Method Blank		Method Blank		Method Blank		Method Blank	
Sample ID	WN99194		MWC0827B		MWC0830A		MWC0831		MWH0830A	
Lab Sample ID	AB23654		N/A		N/A		N/A		N/A	
Date of Collection	08/24/99		N/A		N/A		N/A		N/A	
Units	ug/L		ug/L		ug/L		ug/L		ug/L	
Analyte	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Dichlorodifluoromethane	1	U	1	U	1	U	1	U	1	U
Chloromethane	1	U	1	U	1	U	1	U	1	U
Vinyl Chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	1	U	1	U	1	U	1	U	1	U
Chloroethane	1	U	1	U	1	U	1	U	1	U
Trichlorofluoromethane	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Carbon Disulfide	1	U	1	U	1	U	1	U	1	U
Acetone	10	U	10	U	10	U	10	U	10	U
Methylene Chloride	1	U	1	U	1	U	1	U	1	U
trans-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Methyl-t-Butyl Ether	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethane	1	U	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
2-Butanone	10	U	10	U	10	U	10	U	10	U
Chloroform	1	U	1	U	1	U	1	U	1	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Carbon Tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	1	U	1	U	1	U	1	U	1	U
Trichloroethene	1	U	1	U	1	U	1	U	1	U
1,2-Dichloropropane	1	U	1	U	1	U	1	U	1	U
Bromodichloromethane	1	U	1	U	1	U	1	U	1	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Dibromochloromethane	1	U	1	U	1	U	1	U	1	U
4-Methyl-2-pentanone	10	U	10	U	10	U	10	U	10	U
Toluene	1	U	1	U	1	U	1	U	1	U
1,3-Dichloropropane	1	U	1	U	1	U	1	U	1	U
2-Hexanone	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene	1	U	1	U	1	U	1	U	1	U
1,2-Dibromoethane	1	U	1	U	1	U	1	U	1	U
Chlorobenzene	1	U	1	U	1	U	1	U	1	U
Ethyl Benzene	1	U	1	U	1	U	1	U	1	U
Xylene (para & meta-)	1	U	1	U	1	U	1	U	1	U
Xylene (ortho-)	1	U	1	U	1	U	1	U	1	U
Styrene	1	U	1	U	1	U	1	U	1	U
Bromoform	1	U	1	U	1	U	1	U	1	U
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U	1	U	1	U
1,2,3-Trichloropropane	1	U	1	U	1	U	1	U	1	U
1,3-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dibromo-3-chloropropane	2	U	2	U	2	U	2	U	2	U

Q-Laboratory Data Qualifiers Refer to EPA Region 9 Laboratory Qualifier Definitions
MASTER FILE: voa_h2ob.wk4, version 0, 9/10/99, Lotus 123 v. 5

EPA REGION 9 - LABORATORY - RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS

Case Number: R99S49 **Analysis:** GC/MS Volatiles
Site: Whittier Narrows Quarterly **Matrix:** Water
SDG: 99236A
Date: 09/22/99

Sample No.	Method Blank		Storage Blank		Storage Blank		Quantitation
Sample ID	MWH0831A		VHBLK0823		VHBLK0830		Limits
Lab Sample ID	N/A		SB0830		SB090799		N/A
Date of Collection	N/A		08/23/99		08/30/99		N/A
Units	ug/L		ug/L		ug/L		ug/L
Analyte	Result	Q	Result	Q	Result	Q	Result
Dichlorodifluoromethane	1	U	1	U	1	U	1
Chloromethane	1	U	1	U	1	U	1
Vinyl Chloride	0.5	U	0.5	U	0.5	U	0.5
Bromomethane	1	U	1	U	1	U	1
Chloroethane	1	U	1	U	1	U	1
Trichlorofluoromethane	1	U	1	U	1	U	1
1,1-Dichloroethene	1	U	1	U	1	U	1
Carbon Disulfide	1	U	1	U	1	U	1
Acetone	10	U	10	U	10	U	10
Methylene Chloride	1	U	1	U	1	U	1
trans-1,2-Dichloroethene	1	U	1	U	1	U	1
Methyl-t-Butyl Ether	1	U	1	U	1	U	1
1,1-Dichloroethane	1	U	1	U	1	U	1
cis-1,2-Dichloroethene	1	U	1	U	1	U	1
2-Butanone	10	U	10	U	10	U	10
Chloroform	1	U	1	U	1	U	1
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5
1,1,1-Trichloroethane	1	U	1	U	1	U	1
Carbon Tetrachloride	0.5	U	0.5	U	0.5	U	0.5
Benzene	1	U	1	U	1	U	1
Trichloroethene	1	U	1	U	1	U	1
1,2-Dichloropropane	1	U	1	U	1	U	1
Bromodichloromethane	1	U	1	U	1	U	1
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5
1,1,2-Trichloroethane	1	U	1	U	1	U	1
Dibromochloromethane	1	U	1	U	1	U	1
4-Methyl-2-pentanone	10	U	10	U	10	U	10
Toluene	1	U	1	U	1	U	1
1,3-Dichloropropane	1	U	1	U	1	U	1
2-Hexanone	10	U	10	U	10	U	10
Tetrachloroethene	1	U	1	U	1	U	1
1,2-Dibromoethane	1	U	1	U	1	U	1
Chlorobenzene	1	U	1	U	1	U	1
Ethyl Benzene	1	U	1	U	1	U	1
Xylene (para & meta-)	1	U	1	U	1	U	1
Xylene (ortho-)	1	U	1	U	1	U	1
Styrene	1	U	1	U	1	U	1
Bromoform	1	U	1	U	1	U	1
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U	1
1,2,3-Trichloropropane	1	U	1	U	1	U	1
1,3-Dichlorobenzene	1	U	1	U	1	U	1
1,4-Dichlorobenzene	1	U	1	U	1	U	1
1,2-Dichlorobenzene	1	U	1	U	1	U	1
1,2-Dibromo-3-chloropropane	2	U	2	U	2	U	2

Q-Laboratory Data Qualifiers Refer to EPA Region 9 Laboratory Qualifier Definitions
MASTER FILE: voa_h2ob.wk4, version 0, 9/10/99, Lotus 123 v. 5

USEPA REGION 9 LABORATORY REPORT NARRATIVE

CASE NUMBER: R99S49
SAMPLE DELIVERY GROUP: 99238B
PROGRAM: Superfund
DOCUMENT CONTROL #: ESTW-9B-2516
ANALYSIS PERFORMED: GC/MS Volatiles
DATE SUBMITTED: September 22, 1999
SAMPLE NUMBERS:

Sample ID	Laboratory Sample ID	Sample ID	Laboratory Sample ID
WN99195	AB23669	WN99196	AB23670
WN99197	AB23671	WN99198	AB23672
WN99199	AB23673	WN99200	AB23674
WN99201	AB23675	WN99202	AB23676
WN99203	AB23692	WN99204	AB23693
WN99205	AB23694	WN99206	AB23695
WN99207	AB23696	WN99208	AB23697
WN99209	AB23698	WN99210	AB23699
WN99211	AB23700	WN99212	AB23701
WN99213	AB23702	WN99214	AB23707

GENERAL COMMENTS

Twenty (20) water samples were received at the EPA Region 9 laboratory on 08/26/99, 08/27/99 and 08/28/99 from the Whittier Narrows Superfund project.

These samples were analyzed for volatile organics in accordance with the USEPA Region 9 Laboratory SOP 305, Volatile Organics Analysis. Methylene chloride and acetone are common laboratory contaminants. Positive results for these two compounds that are at or below the quantitation limit could be a result of laboratory contamination.

SAMPLE RECEIPT AND PRESERVATION

No shipping or preservation problems were encountered with these samples.

The cooler temperature associated with the following sample was outside of the 2 - 6 ° C temperature range when received:

Sample ID	Laboratory Sample ID	Date Received	Temperature
WN99214	AB23707	08/28/99	7.2 °C

QA/QC AND ANALYTICAL COMMENTS

Method Blanks

A laboratory method blank is laboratory reagent water or sand with all reagents, surrogates, and internal standards added 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.

No target analytes were detected in the method blanks associated with these samples.

Storage Blanks

A storage blank is laboratory reagent water that is stored in the laboratory refrigerator for one week. All reagents, surrogates, and internal standards are added at the time of analysis and it is processed through the same sample preparation and analytical procedures as the other blanks. The storage blank is used to determine the level of contamination introduced by the laboratory during sample storage.

No target analytes were detected in the storage blanks associated with these samples.

Surrogates

Surrogates 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 surrogate compounds prior to analysis. Surrogate percent recovery (%R) provides information about both the laboratory performance on individual samples and the possible effects of the sample matrix on the analytical results.

All surrogate recoveries were within QC limits.

Matrix Spike and Spike Duplicate Analysis (QC Sample:WN99201)

Matrix spike sample and spike duplicate analyses provide information about the effect of the sample matrix on sample preparation and measurement. Poor percent recovery (%R) results and large relative percent difference (RPD) between duplicates may indicate inconsistent laboratory technique, sample nonhomogeneity in soils, or matrix effects which may interfere with analysis.

All MS/MSD results were within QC limits.

Internal Standards

Internal standards are organic compounds which are similar to the target analytes in chemical composition and behavior in the analytical process, but not normally found in environmental samples. All samples are spiked with internal standard compounds prior to analysis. Internal standard recoveries and retention times provide information about both the instrument performance on individual samples and the possible effects of the sample matrix on the analytical results.

All internal standard areas and retention times were within QC limits.

Laboratory Control Samples

Laboratory control samples (LCSs) are analyzed daily to demonstrate comparability of the continuing calibration standard. It is equivalent to the continuing calibration standard, but it is obtained from an independent source.

All LCS results were within QC limits.

Technical Holding Times:

All samples were analyzed within the technical holding time. The technical holding time for water samples is 14 days if preserved to a pH of less than or equal to 2 or 7 days if the sample is not acid preserved.

RESULTS SUMMARY

The results can be found on the Summary of Results report. On the report, the following qualifiers are used.

B	This analyte was detected in the associated method blank.
E	The amount detected exceeds the calibration range of the instrument.
J	The amount detected is less than quantitation limit and is only an estimated value.
U	This compound was analyzed for, but not detected.

Any questions in reference to this data package may be addressed to Joseph Naughten at (510) 412-2358.

EPA REGION 9 - LABORATORY - RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS

Case Number: R99S49 **Analysis:** GC/MS Volatiles
Site: Whittier Narrows **Matrix:** Water
SDG: 99238B
Date: 09/22/99

Sample No.	61		62		63		64		65	
Sample ID	WN99195		WN99196		WN99197		WN99198		WN99199	
Lab Sample ID	AB23669		AB23670		AB23671		AB23672		AB23673	
Date of Collection	08/25/99		08/25/99		08/25/99		08/25/99		08/25/99	
Units	ug/L		ug/L		ug/L		ug/L		ug/L	
Analyte	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Dichlorodifluoromethane	1	U	1	U	1	U	1	U	1	U
Chloromethane	1	U	1	U	1	U	1	U	1	U
Vinyl Chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	1	U	1	U	1	U	1	U	1	U
Chloroethane	1	U	1	U	1	U	1	U	1	U
Trichlorofluoromethane	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	1	U	0.6	J	0.8	J	0.6	J	1	U
Carbon Disulfide	1	U	1	U	1	U	1	U	1	U
Acetone	10	U	10	U	10	U	10	U	10	U
Methylene Chloride	1	U	1	U	1	U	1	U	1	U
trans-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Methyl-t-Butyl Ether	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethane	1	U	1	U	2		2		1	U
cis-1,2-Dichloroethene	1	U	0.5	J	1	U	1	U	1	U
2-Butanone	10	U	10	U	10	U	10	U	10	U
Chloroform	1	U	1	U	1	U	1	U	0.6	J
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Carbon Tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	1	U	1	U	1	U	1	U	1	U
Trichloroethene	0.8	J	5		6		6		8	
1,2-Dichloropropane	1	U	1	U	1	U	1	U	1	U
Bromodichloromethane	1	U	1	U	1	U	1	U	1	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Dibromochloromethane	1	U	1	U	1	U	1	U	1	U
4-Methyl-2-pentanone	10	U	10	U	10	U	10	U	10	U
Toluene	1	U	1	U	1	U	1	U	1	U
1,3-Dichloropropane	1	U	1	U	1	U	1	U	1	U
2-Hexanone	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene	1	U	80		260		300		6	
1,2-Dibromoethane	1	U	1	U	1	U	1	U	1	U
Chlorobenzene	1	U	1	U	1	U	1	U	1	U
Ethyl Benzene	1	U	1	U	1	U	1	U	1	U
Xylene (para & meta-)	1	U	1	U	1	U	1	U	1	U
Xylene (ortho-)	1	U	1	U	1	U	1	U	1	U
Styrene	1	U	1	U	1	U	1	U	1	U
Bromoform	1	U	1	U	1	U	1	U	1	U
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U	1	U	1	U
1,2,3-Trichloropropane	1	U	1	U	1	U	1	U	1	U
1,3-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dibromo-3-chloropropane	2	U	2	U	2	U	2	U	2	U

Q-Laboratory Data Qualifiers

MASTER FILE: voa_h2ob.wk4, version 0, 9/10/99, Lotus 123 v. 5

EPA REGION 9 - LABORATORY - RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS

Case Number: R99S49 **Analysis:** GC/MS Volatiles
Site: Whittier Narrows **Matrix:** Water
SDG: 99238B
Date: 09/22/99

Sample No.	66		67		68		69		70	
Sample ID	WN99200		WN99201		WN99202		WN99203		WN99204	
Lab Sample ID	AB23674		AB23675		AB23676		AB23692		AB23693	
Date of Collection	08/25/99		08/25/99		08/25/99		08/26/99		08/26/99	
Units	ug/L		ug/L		ug/L		ug/L		ug/L	
Analyte	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Dichlorodifluoromethane	1	U	1	U	1	U	1	U	1	U
Chloromethane	1	U	1	U	1	U	1	U	1	U
Vinyl Chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	1	U	1	U	1	U	1	U	1	U
Chloroethane	1	U	1	U	1	U	1	U	1	U
Trichlorofluoromethane	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Carbon Disulfide	1	U	1	U	1	U	1	U	1	U
Acetone	10	U	10	U	10	U	10	U	10	U
Methylene Chloride	1	U	1	U	1	U	1	U	1	U
trans-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Methyl-t-Butyl Ether	0.6	J	1		1	U	1	U	0.8	J
1,1-Dichloroethane	1	U	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
2-Butanone	10	U	10	U	10	U	10	U	10	U
Chloroform	1	U	1	U	1	U	1	U	1	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Carbon Tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	1	U	1	U	1	U	1	U	1	U
Trichloroethene	2		1	U	1	U	1		1	U
1,2-Dichloropropane	1	U	1	U	1	U	1	U	1	U
Bromodichloromethane	1	U	1	U	1	U	1	U	1	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Dibromochloromethane	1	U	1	U	1	U	1	U	1	U
4-Methyl-2-pentanone	10	U	10	U	10	U	10	U	10	U
Toluene	1	U	1	U	1	U	1	U	1	U
1,3-Dichloropropane	1	U	1	U	1	U	1	U	1	U
2-Hexanone	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene	10		12		1	U	0.7	J	1	U
1,2-Dibromoethane	1	U	1	U	1	U	1	U	1	U
Chlorobenzene	1	U	1	U	1	U	1	U	1	U
Ethyl Benzene	1	U	1	U	1	U	1	U	1	U
Xylene (para & meta-)	1	U	1	U	1	U	1	U	1	U
Xylene (ortho-)	1	U	1	U	1	U	1	U	1	U
Styrene	1	U	1	U	1	U	1	U	1	U
Bromoform	1	U	1	U	1	U	1	U	1	U
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U	1	U	1	U
1,2,3-Trichloropropane	1	U	1	U	1	U	1	U	1	U
1,3-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dibromo-3-chloropropane	2	U	2	U	2	U	2	U	2	U

Q-Laboratory Data Qualifiers Refer to EPA Region 9 Laboratory Qualifier Definitions
MASTER FILE: voa_h2ob.wk4, version 0, 9/10/99, Lotus 123 v. 5

EPA REGION 9 - LABORATORY - RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS

Case Number: R99S49 **Analysis:** GC/MS Volatiles
Site: Whittier Narrows **Matrix:** Water
SDG: 99238B
Date: 09/22/99

Sample No.	71		72		73		74		75	
Sample ID	WN99205		WN99206		WN99207		WN99208		WN99209	
Lab Sample ID	AB23694		AB23695		AB23696		AB23697		AB23698	
Date of Collection	08/26/99		08/26/99		08/26/99		08/26/99		08/26/99	
Units	ug/L		ug/L		ug/L		ug/L		ug/L	
Analyte	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Dichlorodifluoromethane	1	U	1	U	1	U	1	U	1	U
Chloromethane	1	U	1	U	1	U	1	U	1	U
Vinyl Chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	1	U	1	U	1	U	1	U	1	U
Chloroethane	1	U	1	U	1	U	1	U	1	U
Trichlorofluoromethane	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	1	U	1	U	1	U	1	U	0.7	J
Carbon Disulfide	1	U	1	U	1	U	1	U	1	U
Acetone	10	U	10	U	10	U	10	U	10	U
Methylene Chloride	1	U	1	U	1	U	1	U	1	U
trans-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Methyl-t-Butyl Ether	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethane	1	U	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	0.5	J	1	U	1	U	1	U	0.7	J
2-Butanone	10	U	10	U	10	U	10	U	10	U
Chloroform	1	U	1	U	1	U	1	U	1	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Carbon Tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	1	U	1	U	1	U	1	U	1	U
Trichloroethene	2		1	U	1	U	8		11	
1,2-Dichloropropane	1	U	1	U	1	U	1	U	1	U
Bromodichloromethane	1	U	1	U	1	U	1	U	1	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Dibromochloromethane	1	U	1	U	1	U	1	U	1	U
4-Methyl-2-pentanone	10	U	10	U	10	U	10	U	10	U
Toluene	1	U	1	U	1	U	1	U	1	U
1,3-Dichloropropane	1	U	1	U	1	U	1	U	1	U
2-Hexanone	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene	9		1	U	1	U	16		18	
1,2-Dibromoethane	1	U	1	U	1	U	1	U	1	U
Chlorobenzene	1	U	1	U	1	U	1	U	1	U
Ethyl Benzene	1	U	1	U	1	U	1	U	1	U
Xylene (para & meta-)	1	U	1	U	1	U	1	U	1	U
Xylene (ortho-)	1	U	1	U	1	U	1	U	1	U
Styrene	1	U	1	U	1	U	1	U	1	U
Bromoform	1	U	1	U	1	U	1	U	1	U
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U	1	U	1	U
1,2,3-Trichloropropane	1	U	1	U	1	U	1	U	1	U
1,3-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dibromo-3-chloropropane	2	U	2	U	2	U	2	U	2	U

Q-Laboratory Data Qualifiers Refer to EPA Region 9 Laboratory Qualifier Definitions
MASTER FILE: voa_h2ob.wk4, version 0, 9/10/99, Lotus 123 v. 5

EPA REGION 9 - LABORATORY - RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS

Case Number: R99S49 **Analysis:** GC/MS Volatiles
Site: Whittier Narrows **Matrix:** Water
SDG: 99238B
Date: 09/22/99

Sample No.	76		77		78		79		80	
Sample ID	WN99210		WN99211		WN99212		WN99213		WN99214	
Lab Sample ID	AB23699		AB23700		AB23701		AB23702		AB23707	
Date of Collection	08/26/99		08/26/99		08/26/99		08/26/99		08/27/99	
Units	ug/L		ug/L		ug/L		ug/L		ug/L	
Analyte	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Dichlorodifluoromethane	1	U	1	U	1	U	1	U	1	U
Chloromethane	1	U	1	U	1	U	1	U	1	U
Vinyl Chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	1	U	1	U	1	U	1	U	1	U
Chloroethane	1	U	1	U	1	U	1	U	1	U
Trichlorofluoromethane	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	0.6	J	1	U	1	U	1	U	1	U
Carbon Disulfide	1	U	1	U	1	U	1	U	1	U
Acetone	10	U	10	U	10	U	10	U	10	U
Methylene Chloride	1	U	1	U	1	U	1	U	1	U
trans-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Methyl-t-Butyl Ether	1	U	1	U	1	U	1	U	1	
1,1-Dichloroethane	1	U	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	0.7	J	1	U	1	U	1	U	1	U
2-Butanone	10	U	10	U	10	U	10	U	10	U
Chloroform	1	U	1	U	1	U	1	U	12	
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Carbon Tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	1	U	1	U	1	U	1	U	1	U
Trichloroethene	11		1		1	U	1	U	1	U
1,2-Dichloropropane	1	U	1	U	1	U	1	U	1	U
Bromodichloromethane	1	U	1	U	1	U	1	U	1	
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Dibromochloromethane	1	U	1	U	1	U	1	U	0.6	J
4-Methyl-2-pentanone	10	U	10	U	10	U	10	U	10	U
Toluene	1	U	1	U	1	U	1	U	1	U
1,3-Dichloropropane	1	U	1	U	1	U	1	U	1	U
2-Hexanone	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene	18		3		13		1	U	1	
1,2-Dibromoethane	1	U	1	U	1	U	1	U	1	U
Chlorobenzene	1	U	1	U	1	U	1	U	1	U
Ethyl Benzene	1	U	1	U	1	U	1	U	1	U
Xylene (para & meta-)	1	U	1	U	1	U	1	U	1	U
Xylene (ortho-)	1	U	1	U	1	U	1	U	1	U
Styrene	1	U	1	U	1	U	1	U	1	U
Bromoform	1	U	1	U	1	U	1	U	1	U
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U	1	U	1	U
1,2,3-Trichloropropane	1	U	1	U	1	U	1	U	1	U
1,3-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dibromo-3-chloropropane	2	U	2	U	2	U	2	U	2	U

Q-Laboratory Data Qualifiers Refer to EPA Region 9 Laboratory Qualifier Definitions
MASTER FILE: voa_h2ob.wk4, version 0, 9/10/99, Lotus 123 v. 5

EPA REGION 9 - LABORATORY - RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS

Case Number: R99S49
Site: Whittier Narrows
SDG: 99238B
Date: 09/22/99

Analysis: GC/MS Volatiles
Matrix: Water

Sample No.	N/A		N/A		N/A		N/A		N/A	
Sample ID	Method Blank		Method Blank		Method Blank		Method Blank		Method Blank	
Lab Sample ID	MWF0830C		MWC0830A		MWC0831		MWH0831A		MWH0907A	
Date of Collection	N/A		N/A		N/A		N/A		N/A	
Units	ug/L		ug/L		ug/L		ug/L		ug/L	
Analyte	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Dichlorodifluoromethane	1	U	1	U	1	U	1	U	1	U
Chloromethane	1	U	1	U	1	U	1	U	1	U
Vinyl Chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	1	U	1	U	1	U	1	U	1	U
Chloroethane	1	U	1	U	1	U	1	U	1	U
Trichlorofluoromethane	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Carbon Disulfide	1	U	1	U	1	U	1	U	1	U
Acetone	10	U	10	U	10	U	10	U	10	U
Methylene Chloride	1	U	1	U	1	U	1	U	1	U
trans-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Methyl-t-Butyl Ether	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethane	1	U	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
2-Butanone	10	U	10	U	10	U	10	U	10	U
Chloroform	1	U	1	U	1	U	1	U	1	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Carbon Tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	1	U	1	U	1	U	1	U	1	U
Trichloroethene	1	U	1	U	1	U	1	U	1	U
1,2-Dichloropropane	1	U	1	U	1	U	1	U	1	U
Bromodichloromethane	1	U	1	U	1	U	1	U	1	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Dibromochloromethane	1	U	1	U	1	U	1	U	1	U
4-Methyl-2-pentanone	10	U	10	U	10	U	10	U	10	U
Toluene	1	U	1	U	1	U	1	U	1	U
1,3-Dichloropropane	1	U	1	U	1	U	1	U	1	U
2-Hexanone	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene	1	U	1	U	1	U	1	U	1	U
1,2-Dibromoethane	1	U	1	U	1	U	1	U	1	U
Chlorobenzene	1	U	1	U	1	U	1	U	1	U
Ethyl Benzene	1	U	1	U	1	U	1	U	1	U
Xylene (para & meta-)	1	U	1	U	1	U	1	U	1	U
Xylene (ortho-)	1	U	1	U	1	U	1	U	1	U
Styrene	1	U	1	U	1	U	1	U	1	U
Bromoform	1	U	1	U	1	U	1	U	1	U
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U	1	U	1	U
1,2,3-Trichloropropane	1	U	1	U	1	U	1	U	1	U
1,3-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dibromo-3-chloropropane	2	U	2	U	2	U	2	U	2	U

Q-Laboratory Data Qualifiers Refer to EPA Region 9 Laboratory Qualifier Definitions

MASTER FILE: voa_h2ob.wk4, version 0, 9/10/99, Lotus 123 v. 5

EPA REGION 9 - LABORATORY - RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS

Case Number: R99S49
Site: Whittier Narrows
SDG: 99238B
Date: 09/22/99

Analysis: GC/MS Volatiles
Matrix: Water

Sample No.	Storage Blank		Storage Blank		N/A					
Sample ID	SB0830		SB0907		Quantitation					
Lab Sample ID	VHBLK0823		VHBLK0830		Limit					
Date of Collection	N/A		N/A		N/A					
Units	ug/L		ug/L		ug/L					
Analyte	Result	Q	Result	Q	Result					
Dichlorodifluoromethane	1	U	1	U	1					
Chloromethane	1	U	1	U	1					
Vinyl Chloride	0.5	U	0.5	U	0.5					
Bromomethane	1	U	1	U	1					
Chloroethane	1	U	1	U	1					
Trichlorofluoromethane	1	U	1	U	1					
1,1-Dichloroethene	1	U	1	U	1					
Carbon Disulfide	1	U	1	U	1					
Acetone	10	U	10	U	10					
Methylene Chloride	1	U	1	U	1					
trans-1,2-Dichloroethene	1	U	1	U	1					
Methyl-t-Butyl Ether	1	U	1	U	1					
1,1-Dichloroethane	1	U	1	U	1					
cis-1,2-Dichloroethene	1	U	1	U	1					
2-Butanone	10	U	10	U	10					
Chloroform	1	U	1	U	1					
1,2-Dichloroethane	0.5	U	0.5	U	0.5					
1,1,1-Trichloroethane	1	U	1	U	1					
Carbon Tetrachloride	0.5	U	0.5	U	0.5					
Benzene	1	U	1	U	1					
Trichloroethene	1	U	1	U	1					
1,2-Dichloropropane	1	U	1	U	1					
Bromodichloromethane	1	U	1	U	1					
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5					
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5					
1,1,2-Trichloroethane	1	U	1	U	1					
Dibromochloromethane	1	U	1	U	1					
4-Methyl-2-pentanone	10	U	10	U	10					
Toluene	1	U	1	U	1					
1,3-Dichloropropane	1	U	1	U	1					
2-Hexanone	10	U	10	U	10					
Tetrachloroethene	1	U	1	U	1					
1,2-Dibromoethane	1	U	1	U	1					
Chlorobenzene	1	U	1	U	1					
Ethyl Benzene	1	U	1	U	1					
Xylene (para & meta-)	1	U	1	U	1					
Xylene (ortho-)	1	U	1	U	1					
Styrene	1	U	1	U	1					
Bromoform	1	U	1	U	1					
1,1,2,2-Tetrachloroethane	1	U	1	U	1					
1,2,3-Trichloropropane	1	U	1	U	1					
1,3-Dichlorobenzene	1	U	1	U	1					
1,4-Dichlorobenzene	1	U	1	U	1					
1,2-Dichlorobenzene	1	U	1	U	1					
1,2-Dibromo-3-chloropropane	2	U	2	U	2					

Q-Laboratory Data Qualifiers Refer to EPA Region 9 Laboratory Qualifier Definitions
MASTER FILE: voa_h2ob.wk4, version 0, 9/10/99, Lotus 123 v. 5

USEPA REGION 9 LABORATORY
REPORT NARRATIVE

CASE NUMBER:	**R99S49**
SAMPLE DELIVERY GROUP:	**99242A**
PROGRAM:	**SUPERFUND**
DOCUMENT CONTROL #:	**ESTW-9B-2510**
ANALYSIS PERFORMED:	**GC/MS Volatiles**
DATE SUBMITTED:	**September 23, 1999**
SAMPLE NUMBERS:	

Sample ID	Laboratory Sample ID	Sample ID	Laboratory Sample ID
WN99215	AB23708	WN99218	AB23711
WN99216	AB23709	WN99219	AB23712
WN99217	AB23710	WN99220	AB23713

GENERAL COMMENTS

Six (6) water samples were received at the EPA Region 9 laboratory on 08/28/99 from the Whittier Narrows Quarterly Superfund project.

These samples were analyzed for volatile organics in accordance with the USEPA Region 9 Laboratory SOP 305, Volatile Organics. Methylene chloride and acetone are common laboratory contaminants. Positive results for these two compounds that are at or below the quantitation limit could be a result of laboratory contamination.

SAMPLE RECEIPT AND PRESERVATION

All of the samples were received at a temperature of 7.2 $^{\circ}$ C which is outside of the 2 - 6 $^{\circ}$ C temperature range.

QA/QC AND ANALYTICAL COMMENTS

Method Blanks

A laboratory method blank is laboratory reagent water or sand with all reagents, surrogates, and internal standards added 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.

No target analytes were detected in the method blank associated with these samples.

Storage Blanks

A storage blank is laboratory reagent water that is stored in the laboratory refrigerator for one week. All reagents, surrogates, and internal standards are added at the time of analysis and it is processed through the same sample preparation and analytical procedures as the other blanks. The storage blank is used to determine the level of contamination introduced by the laboratory during sample storage.

No target analytes were detected in the storage blanks associated with these samples.

Surrogates

Surrogates 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 surrogate compounds prior to analysis. Surrogate percent recovery (%R) provides information about both the laboratory performance on individual samples and the possible effects of the sample matrix on the analytical results.

All surrogate recoveries were within QC limits.

Matrix Spike and Spike Duplicate Analysis (QC Sample: WN99216)
Matrix spike sample and spike duplicate analyses provide information about the effect of the sample matrix on sample preparation and measurement. Poor percent recovery (%R) results and large relative percent difference (RPD) between duplicates may indicate inconsistent laboratory technique, sample nonhomogeneity in soils, or matrix effects which may interfere with analysis.

All MS/MSD results were within QC limits with the following exception:

Sample ID	Laboratory Sample ID	Analyte	MS %Rec	MSD % Rec	QC Limit
WN99216	AB23709	1,2-Dibromo-3-dichloropropane	72	--	75 - 125

Internal Standards
Internal standards are organic compounds which are similar to the target analytes in chemical composition and behavior in the analytical process, but not normally found in environmental samples. All samples are spiked with internal standard compounds prior to analysis. Internal standard recoveries and retention times provide information about both the instrument performance on individual samples and the possible effects of the sample matrix on the analytical results.

All internal standard areas and retention times were within QC limits.

Laboratory Control Samples
Laboratory control samples (LCSs) are analyzed daily to demonstrate comparability of the continuing calibration standard. It is equivalent to the continuing calibration standard, but it is obtained from an independent source.

All LCS results were within QC limits.

Technical Holding Times
All samples were analyzed within the technical holding time. The technical holding time for water samples is 14 days if preserved to a pH of less than or equal to 2 or 7 days if the sample is not acid preserved.

RESULTS SUMMARY
The results can be found on the Summary of Results report. On the report, the following qualifiers are used.

- B This analyte was detected in the associated method blank.
- E The amount detected exceeds the calibration range of the instrument.
- J The amount detected is less than quantitation limit and is only an estimated value.
- U This compound was analyzed for, but not detected.

Any questions in reference to this data package may be addressed to Adriane Scheele at (510) 412-2389.

EPA REGION 9 - LABORATORY - RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS

Case Number: R99S49 **Analysis:** GC/MS Volatiles
Site: WHITTIER NARROWS QUARTERLY **Matrix:** Water
SDG: 99242A
Date: 09/23/99

Sample No.	81		82		83		84		85	
Sample ID	WN99215		WN99216		WN99217		WN99218		WN99219	
Lab Sample ID	AB23708		AB23709		AB23710		AB23711		AB23712	
Date of Collection	08/27/99		08/27/99		08/27/99		08/27/99		08/27/99	
Units	ug/L		ug/L		ug/L		ug/L		ug/L	
Analyte	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Dichlorodifluoromethane	1	U	1	U	1	U	1	U	1	U
Chloromethane	1	U	1	U	1	U	1	U	1	U
Vinyl Chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	1	U	1	U	1	U	1	U	1	U
Chloroethane	1	U	1	U	1	U	1	U	1	U
Trichlorofluoromethane	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Carbon Disulfide	1	U	1	U	1	U	1	U	1	U
Acetone	10	U	10	U	10	U	10	U	10	U
Methylene Chloride	1	U	1	U	1	U	1	U	1	U
trans-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
Methyl-t-Butyl Ether	1		1	U	0.6	J	12		1	U
1,1-Dichloroethane	1	U	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
2-Butanone	10	U	10	U	10	U	10	U	10	U
Chloroform	2		1	U	1	U	1	U	1	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Carbon Tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	1	U	1	U	1	U	1	U	1	U
Trichloroethene	0.7	J	1		1	U	1	U	1	U
1,2-Dichloropropane	1	U	1	U	1	U	1	U	1	U
Bromodichloromethane	1	U	1	U	1	U	1	U	1	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Dibromochloromethane	1	U	1	U	1	U	1	U	1	U
4-Methyl-2-pentanone	10	U	10	U	10	U	10	U	10	U
Toluene	1	U	1	U	1	U	1	U	1	U
1,3-Dichloropropane	1	U	1	U	1	U	1	U	1	U
2-Hexanone	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene	2		3		6		1	U	5	
1,2-Dibromoethane	1	U	1	U	1	U	1	U	1	U
Chlorobenzene	1	U	1	U	1	U	1	U	1	U
Ethyl Benzene	1	U	1	U	1	U	1	U	1	U
Xylene (para & meta-)	1	U	1	U	1	U	1	U	1	U
Xylene (ortho-)	1	U	1	U	1	U	1	U	1	U
Styrene	1	U	1	U	1	U	1	U	1	U
Bromoform	1	U	1	U	1	U	1	U	1	U
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U	1	U	1	U
1,2,3-Trichloropropane	1	U	1	U	1	U	1	U	1	U
1,3-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dibromo-3-chloropropane	2	U	2	U	2	U	2	U	2	U

Q-Laboratory Data Qualifiers Refer to EPA Region 9 Laboratory Qualifier Definitions

EPA REGION 9 - LABORATORY - RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS

Case Number: R99S49 **Analysis:** GC/MS Volatiles
Site: WHITTIER NARROWS QUARTERLY **Matrix:** Water
SDG: 99242A
Date: 09/23/99

Sample No.	86		Method Blank		Storage Blank		Storage Blank		Quantitation
Sample ID	WN99220		MWH0831A		VHBLK0823		VHBLK0830		Limits
Lab Sample ID	AB23713		N/A		SB0830		SB0907		N/A
Date of Collection	08/27/99		N/A		08/23/99		08/30/99		N/A
Units	ug/L		ug/L		ug/L		ug/L		ug/L
Analyte	Result	Q	Result	Q	Result	Q	Result	Q	Result
Dichlorodifluoromethane	1	U	1	U	1	U	1	U	1
Chloromethane	1	U	1	U	1	U	1	U	1
Vinyl Chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5
Bromomethane	1	U	1	U	1	U	1	U	1
Chloroethane	1	U	1	U	1	U	1	U	1
Trichlorofluoromethane	1	U	1	U	1	U	1	U	1
1,1-Dichloroethene	1	U	1	U	1	U	1	U	1
Carbon Disulfide	1	U	1	U	1	U	1	U	1
Acetone	10	U	10	U	10	U	10	U	10
Methylene Chloride	1	U	1	U	1	U	1	U	1
trans-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1
Methyl-t-Butyl Ether	1	U	1	U	1	U	1	U	1
1,1-Dichloroethane	1	U	1	U	1	U	1	U	1
cis-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1
2-Butanone	10	U	10	U	10	U	10	U	10
Chloroform	1	U	1	U	1	U	1	U	1
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5
1,1,1-Trichloroethane	1	U	1	U	1	U	1	U	1
Carbon Tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5
Benzene	1	U	1	U	1	U	1	U	1
Trichloroethene	1	U	1	U	1	U	1	U	1
1,2-Dichloropropane	1	U	1	U	1	U	1	U	1
Bromodichloromethane	1	U	1	U	1	U	1	U	1
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5
1,1,2-Trichloroethane	1	U	1	U	1	U	1	U	1
Dibromochloromethane	1	U	1	U	1	U	1	U	1
4-Methyl-2-pentanone	10	U	10	U	10	U	10	U	10
Toluene	1	U	1	U	1	U	1	U	1
1,3-Dichloropropane	1	U	1	U	1	U	1	U	1
2-Hexanone	10	U	10	U	10	U	10	U	10
Tetrachloroethene	1	U	1	U	1	U	1	U	1
1,2-Dibromoethane	1	U	1	U	1	U	1	U	1
Chlorobenzene	1	U	1	U	1	U	1	U	1
Ethyl Benzene	1	U	1	U	1	U	1	U	1
Xylene (para & meta-)	1	U	1	U	1	U	1	U	1
Xylene (ortho-)	1	U	1	U	1	U	1	U	1
Styrene	1	U	1	U	1	U	1	U	1
Bromoform	1	U	1	U	1	U	1	U	1
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U	1	U	1
1,2,3-Trichloropropane	1	U	1	U	1	U	1	U	1
1,3-Dichlorobenzene	1	U	1	U	1	U	1	U	1
1,4-Dichlorobenzene	1	U	1	U	1	U	1	U	1
1,2-Dichlorobenzene	1	U	1	U	1	U	1	U	1
1,2-Dibromo-3-chloropropane	2	U	2	U	2	U	2	U	2

Q-Laboratory Data Qualifiers Refer to EPA Region 9 Laboratory Qualifier Definitions