



DEPARTMENT OF THE ARMY
US ARMY CENTER FOR HEALTH PROMOTION AND PREVENTIVE MEDICINE
5158 BLACKHAWK ROAD
ABERDEEN PROVING GROUND MD 21010-5403

MCHB-TS-RDE

FEB 11 2007

MEMORANDUM FOR Preventive Medicine Unit, Taqqadum Surgical Company, Combat Logistics Battalion 5-2, 1st Marine Logistics Group (Forward) (LT (b) (6)), Al Taqaddum Air Base, Iraq, APO AE 96426

SUBJECT: Transmittal of Results for Deployment Occupational and Environmental Health (OEH) Risk Characterization

1. The enclosed report details the OEH risk characterization for volatile organic compound (VOC) ambient air samples collected by 1st Marine Logistics Group personnel from Camp Taqaddum, Iraq, from 5 to 14 December 2006.
2. The OEH risk estimate for exposure to VOCs in the ambient air at Camp Taqaddum, Iraq is **low**. The concentration of benzene in two samples was greater than its 1-year MEG; however, it is unlikely that personnel are actually exposed to these levels. Exposure to the VOCs in the ambient air at Camp Taqaddum is expected to have little or no impact on unit readiness.

FOR THE COMMANDER:

(b) (6)

Encl

LTC, MS
Acting Director, Health Risk Management

CF: (w/encl)
USCENTCOM, Command Surgeon Office (MAJ (b) (6))
MNC-I, Command Surgeon Office (LCDR (b) (6))
MNF-I, Command Surgeon Office (COL (b) (6))
ARCENT, Command Surgeon Office (COL (b) (6))
ARCENT, Command Surgeon Office (MAJ (b) (6))
CFLCC, Command Surgeon Office (LTC (b) (6))
3rd MEDCOM, Force Health Protection Officer (MAJ (b) (6))
146th MMB, Environmental Science Officer (1LT (b) (6))
25th ID, Command Surgeon Office (CPT (b) (6))
133rd MED DET, Commander (MAJ (b) (6))
USACHPPM, DOEHS Data Repository
USACHPPM, ATTN: MCHB-AE-EE

MCHB-TS-RDE

7 February 2007

MEMORANDUM FOR Preventive Medicine Unit, Taqqadum Surgical Company, Combat Logistics Battalion 5-2, 1st Marine Logistics Group (Forward) (LT Steven Schutt), Al Taqaddum Air Base, Iraq, APO AE 96426

SUBJECT: Deployment Occupational and Environmental Health (OEH) Risk Characterization of 28 Ambient Air Samples Collected by 1st Marine Logistics Group Personnel from Camp Taqaddum, Iraq from 5 to 14 December 2006

1. REFERENCES. The primary references for this report are U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) Technical Guide (TG) 230, *Chemical Exposure Guidelines for Deployed Military Personnel*, Version 1.3, May 2003; and the January 2004 addendum.
2. PURPOSE. In accordance with U.S. Department of Defense medical surveillance requirements, this OEH risk characterization documents the identification and evaluation of chemical hazards that pose potential health and operational risks to deployed troops. Specifically, the subject samples and information provided on the associated field data sheets were used to estimate the operational health risk associated with exposure to identified chemical hazards in the air at the above-mentioned location.
3. SCOPE. This evaluation addresses the analytical results for 28 volatile organic compound (VOC) air samples collected from Camp Taqaddum between 5 and 14 December 2006. These samples are limited in time, area, and media and therefore should not be considered a complete assessment of the overall OEH hazards to which troops may be exposed at this location. However, this assessment has been performed using Operational Risk Management (ORM) doctrine {Field Manual (FM) 100-14} and the relatively conservative (protective) assumptions and methods provided in USACHPPM TG 230 to facilitate decision-making that can minimize the likelihood of significant risks.
4. BACKGROUND AND EXPOSURE ASSUMPTIONS. The samples were collected to assess the potential for adverse health effects to troops routinely and continuously breathing the ambient air at Camp Taqaddum. The samples were collected from sites near the ELMACO headquarters building, base operations building, MTM Co CLR-15, class I warehouse and supply lot, life support area (LSA) III and the south dump burn pits. The field data sheets that accompanied the samples indicated that an estimated 50 to 75 percent of personnel are exposed to ambient air in these areas. The sheets also indicated that industry is present and active near the sampling location but they did not specify the types of industry. Personnel are expected to remain at Camp Taqaddum for less than one year. It is assumed that personal protective equipment (PPE) was not used.
5. METHOD. The USACHPPM Deployment Environmental Surveillance Program uses the TG 230 methodology and associated Military Exposure Guidelines (MEGs) to assess

MCHB-TS-RDE

SUBJECT: Deployment Occupational and Environmental Health (OEH) Risk Characterization of 28 Ambient Air Samples Collected by 1st Marine Logistics Group Personnel from Camp Taqaddum, Iraq from 5 to 14 December 2006

identified hazards and estimate risk in a manner consistent with doctrinal risk management procedures and terminology. This method includes identification of the hazard(s), assessment of the hazard severity and probability, and determination of a risk estimate and associated level of confidence. As part of the hazard identification step, the long-term (1-year) MEGs are used as screening criteria to identify those hazards that are potential health threats. These 1-year MEGs represent exposure concentrations at or below which no significant health effects (including delayed or chronic disease or significant increased risk of cancer) are anticipated even after one year of continuous daily exposures, based on currently available data. Information about potential health effects are obtained from data provided with the exposure values used to derive the MEGs and symptoms reported from occupational exposures. The quality and quantity of dose and response information available varies with the hazard and the determination of precise "no effect" levels for low level exposures for an extended duration involves professional judgment. Hazards with exposure concentrations greater than comparison levels are identified as potential health threats, carried through the hazard assessment process, and assigned a risk estimate consistent with operational risk management methodology. Hazards that are either not detected or are present only at levels below the 1-year MEGs are not considered health threats and therefore, are automatically assigned a low operational risk estimate. Constituents that are identified above the 1-year MEGs are further evaluated using the methodology (Chapter 3) and additional MEGs in TG 230.

6. HAZARD IDENTIFICATION.

a. Sample Information. Of the 28 samples received, 9 of them were field blanks. Appendix A provides a summary of the 19 samples evaluated in this report.

b. Laboratory Analysis. The samples were submitted to the laboratory and were analyzed for volatile organic compounds (VOCs). Concentrations of laboratory-detected (i.e., identified above the laboratory reportable limit) VOCs were compared to MEGs presented in TG 230. Appendix B contains a summary of the sample results. Appendix C presents detailed laboratory results.

c. Evaluation.

(1) Benzene. Since benzene was detected above the MEG of $39 \mu\text{g}/\text{m}^3$ in two of the samples it is identified as a potential health threat requiring further evaluation. Benzene is typically found in the air from emissions of burning coal and oil, gasoline service stations and motor vehicle exhaust.

(2) Other Parameters. None of the other parameters detected in the samples were present at concentrations greater than their respective MEGs. Therefore, no potential health threats were identified and the risk estimate for exposure to those VOCs in the ambient air is considered **low**.

MCHB-TS-RDE

SUBJECT: Deployment Occupational and Environmental Health (OEH) Risk Characterization of 28 Ambient Air Samples Collected by 1st Marine Logistics Group Personnel from Camp Taqaddum, Iraq from 5 to 14 December 2006

7. HAZARD ASSESSMENT.

a. Hazard Severity. The hazard severity for the potential health threats of concern were determined by comparison of detected concentrations to the MEGs published in TG 230 and using TG 230 Table 3-1: "Chemical Hazard Severity Ranking Chart for Military Deployments." Acute (short-term) inhalation exposure of humans to benzene may cause drowsiness, dizziness, headaches, as well as eye, skin, and respiratory tract irritation, and, at high levels, unconsciousness. Chronic (long-term) inhalation exposure has caused various disorders in the blood, including reduced numbers of red blood cells and aplastic anemia, in occupational settings. Reproductive effects have been reported for women exposed by inhalation to high levels, and adverse effects on the developing fetus have been observed in animal tests. Increased incidences of leukemia (cancer of the tissues that form white blood cells) have been observed in humans occupationally exposed to benzene. The U.S. Environmental Protection Agency has classified benzene as a Group A, human carcinogen. However, the average concentration of benzene for all of the samples ($7 \mu\text{g}/\text{m}^3$) was well below the 1-year MEG ($39 \mu\text{g}/\text{m}^3$). The average concentration of the two samples detected above the 1-year MEG ($43 \mu\text{g}/\text{m}^3$) were also below the 14-day MEG ($160 \mu\text{g}/\text{m}^3$) and 8-hour MEG ($1600 \mu\text{g}/\text{m}^3$). Therefore, no health effects are expected during the mission and the hazard severity is considered **negligible**.

b. Hazard Probability. The hazard probability was based on an approximation of the percentage of personnel that would be exposed to an identified hazard above the NAAQS (in terms of concentration and as well as exposure assumptions) and using TG 230 Table 3-2: "Chemical Hazard Probability Ranking Chart for Military Deployments." Communication with the collecting unit provided additional information about the collection of the two samples that contained the elevated levels of benzene. The sample pump and media were set on a fuel drum near the south burn pits in an area where no personnel work. The source of the elevated benzene levels is quite possibly the fuel drum. In addition, if the benzene was an emission from the burn pits, the burn pits were only active at this location for 36 days before they were moved even further from living/working areas. Therefore, the probability that personnel would be exposed to concentrations of benzene above the 1-year MEG is considered **unlikely**.

c. Risk Estimate and Confidence. The hazard severity and probability levels described above are used with the ORM matrix in TG 230 Table 3-3/FM 100-14 to provide a risk estimate for exposure to each identified hazard. The operational risk estimate for exposure to the ambient air at Camp Taqaddum is based on the highest risk estimate for the identified hazard, which in this case is **low** for benzene. Table 1 below presents a summary of the risk characterization. Per TG 230 Table 3-5: "Example Criteria for Assigning Confidence Levels," confidence in the risk estimate is considered **medium**, but there is some uncertainty associated with the detected benzene levels. In general, the confidence level in risk estimates is usually low to medium due to consistent lack of specific exposure information associated with troop movement and activity patterns; other routes/sources of potential OEH hazards not identified; and uncertainty regarding

MCHB-TS-RDE

SUBJECT: Deployment Occupational and Environmental Health (OEH) Risk Characterization of 28 Ambient Air Samples Collected by 1st Marine Logistics Group Personnel from Camp Taqaddum, Iraq from 5 to 14 December 2006

impacts of multiple chemicals present, particularly those affecting the same body organs/systems.

Table 1. Risk Estimate Summary for Exposure to Ambient Air – Camp Taqaddum, Iraq.

Parameter	Hazard Severity	Hazard Probability	Hazard-Specific Risk Estimate	Operational Risk Estimate	Confidence
Benzene	NEGLIGIBLE	UNLIKELY	LOW	LOW	MEDIUM
Other VOCs	None detected at concentrations greater than a MEG		LOW		

8. CONCLUSION. The OEH risk estimate for exposure to VOCs in the ambient air at Camp Taqaddum, Iraq is **low**. The concentration of benzene in two samples was greater than its 1-year MEG; however, it is unlikely that personnel are actually exposed to these levels. TG 230 Table 3-5: “Example Criteria for Assigning Confidence Levels” was used to help estimate the confidence in the risk estimate. The confidence in the risk estimate is considered **medium**, but there is some uncertainty associated with the detected benzene levels. Exposure to the VOCs in the ambient air at Camp Taqaddum is expected to have little or no impact on unit readiness.

9. HAZARD CONTROLS/RECOMMENDATIONS AND NOTES.

a. Continue to collect samples from this location at least once every six days for the deployment duration (or as long as possible) to better characterize VOC concentrations in the ambient air to which personnel are typically exposed, and to increase confidence in risk estimates at this location.

b. This OEH risk assessment is specific to the exposure assumptions identified above and the sample results evaluated in this report. If the assumed exposure scenario changes, provide updated information so that the risk estimate can be re-evaluated. If additional samples from this location are collected, a new OEH risk assessment will be completed.

10. POINT OF CONTACT. The USACHPPM point of contact for this assessment is (b) (6) (b) (6) or Mr. (b) (6) DSN: (b) (6) (b) or commercial (b) (6).

(b) (6)

Environmental Geographer, Deployment
Environmental Surveillance Program

FOR OFFICIAL USE ONLY

MCHB-TS-RDE

SUBJECT: Deployment Occupational and Environmental Health (OEH) Risk Characterization of 28 Ambient Air Samples Collected by 1st Marine Logistics Group Personnel from Camp Taqaddum, Iraq from 5 to 14 December 2006

Reviewed by:

(b) (6)

Environmental Scientist, Deployment
Environmental Surveillance Program

Approved by:

(b) (6)

Acting Program Manager, Deployment
Environmental Surveillance

FOR OFFICIAL USE ONLY

MCHB-TS-RDE

SUBJECT: Deployment Occupational and Environmental Health (OEH) Risk Characterization of 28 Ambient Air Samples Collected by 1st Marine Logistics Group Personnel from Camp Taqaddum, Iraq from 5 to 14 December 2006

APPENDIX A – SAMPLING SUMMARY

Table A-1. Summary of Air Samples Collected from Camp Taqaddum, Iraq from 5 to 14 December 2006.

Field Identification Number	DESP Identification Number	Sample Site	Collection Date	Tube Identification Number	Sample Duration	Invalid Sample (Yes/No)
TQ-20061205-01	IRQ_2776_TO17_06339_01	MTM Co., CLR-15	5-Dec-06	C5193	480	No
TQ-20061205-02	IRQ_2776_TO17_06339_02	MTM Co., CLR-15	5-Dec-06	C5164	480	No
TQ-20061205-04	IRQ_2776_TO17_06339_03	Class I Supply Lot	5-Dec-06	C5167	480	No
TQ-20061205-05	IRQ_2776_TO17_06339_04	Class I Supply Lot	5-Dec-06	C4877	480	No
TQ-20061207-01	IRQ_2776_TO17_06341_04	Base Operations	7-Dec-06	C5166	480	No
TQ-20061207-02	IRQ_2776_TO17_06341_05	Base Operations	7-Dec-06	C5165	480	No
TQ-20061207-03	IRQ_2776_TO17_06341_06	Base Operations	7-Dec-06	C5195	480	No
TQ-20061208-01	IRQ_2776_TO17_06342_01	South Dump Burn Pits	8-Dec-06	C5017	480	No
TQ-20061208-02	IRQ_2776_TO17_06342_02	South Dump Burn Pits	8-Dec-06	C5198	480	No
TQ-20061209-01	IRQ_2776_TO17_06343_02	Class I Supply Lot	9-Dec-06	C4481	480	No
TQ-20061209-02	IRQ_2776_TO17_06343_03	Class I Supply Lot	9-Dec-06	C5202	480	No
TQ-20061209-04	IRQ_2776_TO17_06343_01	ELMACO HQ BLDG	9-Dec-06	C5018	480	No
TQ-20061209-05	IRQ_2776_TO17_06341_02	ELMACO HQ BLDG	9-Dec-06	C5016	480	No
TQ-20061212-01	IRQ_2776_TO17_06346_02	Class I Supply Lot	12-Dec-06	C5201	475	No
TQ-20061212-02	IRQ_2776_TO17_06346_03	Class I Supply Lot	12-Dec-06	C3756	475	No
TQ-20061212-04	IRQ_2776_TO17_06341_03	ELMACO HQ BLDG	12-Dec-06	C5170	480	No
TQ-20061212-05	IRQ_2776_TO17_06346_01	ELMACO HQ BLDG	12-Dec-06	C3044	480	No
TQ-20061214-01	IRQ_2776_TO17_06348_01	LSA-III	14-Dec-06	C3909	480	No
TQ-20061214-02	IRQ_2776_TO17_06348_02	LSA-III	14-Dec-06	C3321	480	No

FOR OFFICIAL USE ONLY

MCHB-TS-RDE

SUBJECT: Deployment Occupational and Environmental Health (OEH) Risk Characterization of 28 Ambient Air Samples Collected by 1st Marine Logistics Group Personnel from Camp Taqaddum, Iraq from 5 to 14 December 2006

APPENDIX B – SAMPLE RESULTS SUMMARY

Table B-1. Results Summary for Air Samples Collected from Camp Taqaddum, Iraq from 5 to 14 December 2006.

Parameter detected above laboratory limit	Units	Detection Rate		Concentration (µg/m ³)		TG230 Military Exposure Guidelines MEGs (µg/m ³)					
		# detected / # valid samples	# detected above MEG / # valid samples	Maximum	Average	1-year	14-day	8-hour	1-hour		
									Minimal	Significant	Severe
Benzene	ug/m3	18 / 19	2 / 19	47.38399	6.93079	39	160	1600	160000	3200000	480000
Carbon tetrachloride	ug/m3	16 / 19	0 / 19	0.67946	0.53761	320	1300	33000	75000	1100000	350000
Chlorobenzene	ug/m3	3 / 19	0 / 19	7.88445	0.70806	400	No MEG	No MEG	130000	4000000	2000000
Cyclohexane	ug/m3	11 / 19	0 / 19	2.15508	0.6518	4100	No MEG	No MEG	3000000	4000000	4000000
Cyclopentane	ug/m3	4 / 19	0 / 19	4.49096	0.68507	42000	No MEG	No MEG	No MEG	No MEG	No MEG
Decane	ug/m3	18 / 19	0 / 19	26.55586	8.60841	No MEG	No MEG	No MEG	7500	2500000	50000
Ethylbenzene	ug/m3	15 / 19	0 / 19	14.65846	2.56395	3000	11000	440000	540000	8700000	3500000
Hexane	ug/m3	18 / 19	0 / 19	7.88445	3.72065	4300	4300	180000	530000	3900000	880000
Isopropylbenzene	ug/m3	3 / 19	0 / 19	2.03074	0.45234	2700	No MEG	No MEG	250000	4000000	250000
Methylene chloride	ug/m3	8 / 19	0 / 19	10.45325	1.90359	2100	2100	175000	700000	14000000	2600000
n-Propylbenzene	ug/m3	7 / 19	0 / 19	5.62234	0.82514	25	No MEG	No MEG	No MEG	No MEG	No MEG
Styrene	ug/m3	5 / 19	0 / 19	42.69766	4.84156	2000	No MEG	No MEG	210000	4300000	1100000
Toluene	ug/m3	18 / 19	0 / 19	39.86752	7.51167	4600	11000	750000	750000	11000000	2000000
Trichloroethene	ug/m3	3 / 19	0 / 19	0.88998	0.3395	No MEG	6600	270000	540000	2700000	2700000
1,3,5-Trimethylbenzene	ug/m3	7 / 19	0 / 19	12.26693	1.11461	3100	No MEG	No MEG	No MEG	No MEG	No MEG
1,2,4-Trimethylbenzene	ug/m3	17 / 19	0 / 19	6.24844	2.48451	3100	No MEG	No MEG	No MEG	No MEG	No MEG
o-Xylene	ug/m3	15 / 19	0 / 19	4.11356	1.79651	11000	11000	440000	650000	3900000	870000
4-Isopropyltoluene*	ug/m3	2 / 19	0 / 19	36.80078	2.27492	No MEG	No MEG	No MEG	No MEG	No MEG	No MEG
Methylcyclopentane*	ug/m3	15 / 19	0 / 19	3.41659	0.96893	No MEG	No MEG	No MEG	No MEG	No MEG	No MEG
m/p-Xylene	ug/m3	18 / 19	0 / 19	10.51259	3.38044	11000	11000	440000	650000	3900000	870000

Footnote:

Where parameters are not detected in a sample during analyses, half of the laboratory reportable limit is used in the average.

* No toxicity data currently available to derive a MEG

No MEG – MEG not established

µg/m³ micrograms per cubic meter

FOR OFFICIAL USE ONLY

MCHB-TS-RDE

SUBJECT: Deployment Occupational and Environmental Health (OEH) Risk Characterization of 28 Ambient Air Samples Collected by 1st Marine Logistics Group Personnel from Camp Taqaddum, Iraq from 5 to 14 December 2006

APPENDIX C – DETAILED SAMPLE RESULTS

Table C-1. Analytical Results for Air Samples Collected from Camp Taqaddum, Iraq from 5 to 14 December 2006.

Field ID			TQ-20061205-02	TQ-20061205-01
DESP ID			IRQ_2776_TO17_06339_02	IRQ_2776_TO17_06339_01
Location			TAQADDUM	TAQADDUM
Collection Date			5-Dec-06	5-Dec-06
Collection Time			10:12	10:12
Parameter	Chemical Abstract Number	Units	Concentration	Concentration
1,1,1,2-Tetrachloroethane	630206	ug/m3	< 0.530043	< 0.526826
1,1,1-Trichloroethane	71556	ug/m3	< 0.530043	< 0.526826
1,1,2,2-Tetrachloroethane	79345	ug/m3	< 0.530043	< 0.526826
1,1,2-Trichloroethane	79005	ug/m3	< 0.530043	< 0.526826
1,1-Dichloroethane	75343	ug/m3	< 0.530043	< 0.526826
1,1-Dichloroethene	75354	ug/m3	< 0.530043	< 0.526826
1,1-Dichloropropene	563586	ug/m3	< 0.530043	< 0.526826
1,2,3-Trichlorobenzene	87616	ug/m3	< 0.530043	< 0.526826
1,2,3-Trichloropropane	96184	ug/m3	< 0.530043	< 0.526826
1,2,4-Trichlorobenzene	120821	ug/m3	< 0.530043	< 0.526826
1,2,4-Trimethylbenzene	95636	ug/m3	2.173176	2.63413
1,2-Dibromo-3-chloropropane	96128	ug/m3	< 0.530043	< 0.526826
1,2-Dibromoethane	106934	ug/m3	< 0.530043	< 0.526826
1,2-Dichlorobenzene	95501	ug/m3	< 0.530043	< 0.526826
1,2-Dichloroethane	107062	ug/m3	< 0.530043	< 0.526826
1,2-Dichloropropane	78875	ug/m3	< 0.530043	< 0.526826
1,3,5-Trimethylbenzene	108678	ug/m3	< 0.530043	< 0.526826
1,3-Dichlorobenzene	541731	ug/m3	< 0.530043	< 0.526826
1,3-Dichloropropane	142289	ug/m3	< 0.530043	< 0.526826
1,4-Dichlorobenzene	106467	ug/m3	< 0.530043	< 0.526826
2,2-Dichloropropane	594207	ug/m3	< 0.530043	< 0.526826
2-Chlorotoluene	95498	ug/m3	< 0.530043	< 0.526826
4-Chlorotoluene	106434	ug/m3	< 0.530043	< 0.526826
4-Isopropyltoluene	99876	ug/m3	< 0.530043	< 0.526826
Benzene	71432	ug/m3	3.33927	3.951195
Bromobenzene	108861	ug/m3	< 0.530043	< 0.526826
Bromochloromethane	74975	ug/m3	< 0.530043	< 0.526826
Bromodichloromethane	75274	ug/m3	< 0.530043	< 0.526826
Bromoform	75252	ug/m3	< 0.530043	< 0.526826
Carbon tetrachloride	56235	ug/m3	0.636051	0.526826

FOR OFFICIAL USE ONLY

MCHB-TS-RDE

SUBJECT: Deployment Occupational and Environmental Health (OEH) Risk Characterization of 28 Ambient Air Samples Collected by 1st Marine Logistics Group Personnel from Camp Taqaddum, Iraq from 5 to 14 December 2006

Field ID			TQ-20061205-02	TQ-20061205-01
DESP ID			IRQ_2776_TO17_06339_02	IRQ_2776_TO17_06339_01
Location			TAQADDUM	TAQADDUM
Collection Date			5-Dec-06	5-Dec-06
Collection Time			10:12	10:12
Parameter	Chemical Abstract Number	Units	Concentration	Concentration
Chlorobenzene	108907	ug/m3	< 0.530043	< 0.526826
Chloroform	67663	ug/m3	< 0.530043	< 0.526826
Cyclohexane	110827	ug/m3	0.636051	0.684874
Cyclopentane	287923	ug/m3	< 0.530043	< 0.526826
Decane	124185	ug/m3	4.611373	5.795086
Dibromochloromethane	124481	ug/m3	< 0.530043	< 0.526826
Dibromomethane	74953	ug/m3	< 0.530043	< 0.526826
Ethylbenzene	100414	ug/m3	1.272103	1.527795
Hexachlorobutadiene	87683	ug/m3	< 0.530043	< 0.526826
Hexane	110543	ug/m3	3.922317	4.741434
Isooctane	540841	ug/m3	< 0.530043	< 0.526826
Isopropylbenzene	98828	ug/m3	< 0.530043	< 0.526826
Methylcyclopentane	96377	ug/m3	1.060086	1.159017
Methylene chloride	75092	ug/m3	< 0.530043	< 0.526826
Styrene	100425	ug/m3	< 0.530043	< 0.526826
Tetrachloroethene	127184	ug/m3	< 0.530043	< 0.526826
Toluene	108883	ug/m3	4.558368	5.795086
Trichloroethene	79016	ug/m3	< 0.530043	< 0.526826
cis-1,2-Dichloroethene	156592	ug/m3	< 0.530043	< 0.526826
cis-1,3-Dichloropropene	10061015	ug/m3	< 0.530043	< 0.526826
m/p-Xylene	108383;10	ug/m3	3.498283	3.898512
n-Butylbenzene	104518	ug/m3	< 0.530043	< 0.526826
n-Propylbenzene	103651	ug/m3	< 0.530043	< 0.526826
o-Xylene	95476	ug/m3	1.643133	1.843891
sec-Butylbenzene	135988	ug/m3	< 0.530043	< 0.526826
tert-Butylbenzene	98066	ug/m3	< 0.530043	< 0.526826
trans-1,2-Dichloroethene	156605	ug/m3	< 0.530043	< 0.526826
trans-1,3-Dichloropropene	10061026	ug/m3	< 0.530043	< 0.526826

FOR OFFICIAL USE ONLY

MCHB-TS-RDE

SUBJECT: Deployment Occupational and Environmental Health (OEH) Risk Characterization of 28 Ambient Air Samples Collected by 1st Marine Logistics Group Personnel from Camp Taqaddum, Iraq from 5 to 14 December 2006

Table C-1. Analytical Results for Air Samples Collected from Camp Taqaddum, Iraq from 5 to 14 December 2006 (continued).

Field ID			TQ-20061205-05	TQ-20061205-04
DESP ID			IRQ_2776_TO17_06339_04	IRQ_2776_TO17_06339_03
Location			TAQADDUM	TAQADDUM
Collection Date			5-Dec-06	5-Dec-06
Collection Time			10:18	10:18
Parameter	Chemical Abstract Number	Units	Concentration	Concentration
1,1,1,2-Tetrachloroethane	630206	ug/m3	< 0.511122	< 0.528162
1,1,1-Trichloroethane	71556	ug/m3	< 0.511122	< 0.528162
1,1,2,2-Tetrachloroethane	79345	ug/m3	< 0.511122	< 0.528162
1,1,2-Trichloroethane	79005	ug/m3	< 0.511122	< 0.528162
1,1-Dichloroethane	75343	ug/m3	< 0.511122	< 0.528162
1,1-Dichloroethene	75354	ug/m3	< 0.511122	< 0.528162
1,1-Dichloropropene	563586	ug/m3	< 0.511122	< 0.528162
1,2,3-Trichlorobenzene	87616	ug/m3	< 1.277805	< 0.528162
1,2,3-Trichloropropane	96184	ug/m3	< 0.511122	< 0.528162
1,2,4-Trichlorobenzene	120821	ug/m3	1.226693	< 0.528162
1,2,4-Trimethylbenzene	95636	ug/m3	< 0.511122	2.007014
1,2-Dibromo-3-chloropropane	96128	ug/m3	< 1.277805	< 0.528162
1,2-Dibromoethane	106934	ug/m3	< 0.511122	< 0.528162
1,2-Dichlorobenzene	95501	ug/m3	< 0.511122	< 0.528162
1,2-Dichloroethane	107062	ug/m3	< 0.511122	< 0.528162
1,2-Dichloropropane	78875	ug/m3	< 0.511122	< 0.528162
1,3,5-Trimethylbenzene	108678	ug/m3	12.266928	< 0.528162
1,3-Dichlorobenzene	541731	ug/m3	< 0.511122	< 0.528162
1,3-Dichloropropane	142289	ug/m3	< 0.511122	< 0.528162
1,4-Dichlorobenzene	106467	ug/m3	15.844782	< 0.528162
2,2-Dichloropropane	594207	ug/m3	< 0.511122	< 0.528162
2-Chlorotoluene	95498	ug/m3	< 0.511122	< 0.528162
4-Chlorotoluene	106434	ug/m3	< 0.511122	< 0.528162
4-Isopropyltoluene	99876	ug/m3	36.800785	< 0.528162
Benzene	71432	ug/m3	2.0956	3.327418
Bromobenzene	108861	ug/m3	< 0.511122	< 0.528162
Bromochloromethane	74975	ug/m3	< 0.511122	< 0.528162
Bromodichloromethane	75274	ug/m3	< 0.511122	< 0.528162
Bromoform	75252	ug/m3	< 0.511122	< 0.528162
Carbon tetrachloride	56235	ug/m3	< 0.511122	0.633794
Chlorobenzene	108907	ug/m3	< 0.511122	< 0.528162
Chloroform	67663	ug/m3	< 0.511122	< 0.528162

FOR OFFICIAL USE ONLY

MCHB-TS-RDE

SUBJECT: Deployment Occupational and Environmental Health (OEH) Risk Characterization of 28 Ambient Air Samples Collected by 1st Marine Logistics Group Personnel from Camp Taqaddum, Iraq from 5 to 14 December 2006

Field ID			TQ-20061205-05	TQ-20061205-04
DESP ID			IRQ_2776_TO17_06339_04	IRQ_2776_TO17_06339_03
Location			TAQADDUM	TAQADDUM
Collection Date			5-Dec-06	5-Dec-06
Collection Time			10:18	10:18
Parameter	Chemical Abstract Number	Units	Concentration	Concentration
Cyclohexane	110827	ug/m3	< 1.277805	0.580978
Cyclopentane	287923	ug/m3	< 0.511122	< 0.528162
Decane	124185	ug/m3	21.978247	5.809777
Dibromochloromethane	124481	ug/m3	< 0.511122	< 0.528162
Dibromomethane	74953	ug/m3	< 0.511122	< 0.528162
Ethylbenzene	100414	ug/m3	1.737815	0.897875
Hexachlorobutadiene	87683	ug/m3	< 0.511122	< 0.528162
Hexane	110543	ug/m3	2.044488	3.697131
Isooctane	540841	ug/m3	0.971132	< 0.528162
Isopropylbenzene	98828	ug/m3	< 0.511122	< 0.528162
Methylcyclopentane	96377	ug/m3	< 1.277805	1.003507
Methylene chloride	75092	ug/m3	1.022244	< 0.528162
Styrene	100425	ug/m3	2.708947	< 0.528162
Tetrachloroethene	127184	ug/m3	< 0.511122	< 0.528162
Toluene	108883	ug/m3	39.867517	4.172476
Trichloroethene	79016	ug/m3	< 0.511122	< 0.528162
cis-1,2-Dichloroethene	156592	ug/m3	< 0.511122	< 0.528162
cis-1,3-Dichloropropene	10061015	ug/m3	< 0.511122	< 0.528162
m/p-Xylene	108383;10	ug/m3	4.957884	2.271095
n-Butylbenzene	104518	ug/m3	< 0.511122	< 0.528162
n-Propylbenzene	103651	ug/m3	5.622342	< 0.528162
o-Xylene	95476	ug/m3	2.913395	1.161955
sec-Butylbenzene	135988	ug/m3	0.562234	< 0.528162
tert-Butylbenzene	98066	ug/m3	< 0.511122	< 0.528162
trans-1,2-Dichloroethene	156605	ug/m3	< 0.511122	< 0.528162
trans-1,3-Dichloropropene	10061026	ug/m3	< 0.511122	< 0.528162

FOR OFFICIAL USE ONLY

MCHB-TS-RDE

SUBJECT: Deployment Occupational and Environmental Health (OEH) Risk Characterization of 28 Ambient Air Samples Collected by 1st Marine Logistics Group Personnel from Camp Taqaddum, Iraq from 5 to 14 December 2006

Table C-1. Analytical Results for Air Samples Collected from Camp Taqaddum, Iraq from 5 to 14 December 2006 (continued).

Field ID			TQ-20061207-02	TQ-20061207-01
DESP ID			IRQ_2776_TO17_06341_05	IRQ_2776_TO17_06341_04
Location			TAQADDUM	TAQADDUM
Collection Date			7-Dec-06	7-Dec-06
Collection Time			9:55	9:55
Parameter	Chemical Abstract Number	Units	Concentration	Concentration
1,1,1,2-Tetrachloroethane	630206	ug/m3	< 0.512884	< 0.514975
1,1,1-Trichloroethane	71556	ug/m3	< 0.512884	< 0.514975
1,1,2,2-Tetrachloroethane	79345	ug/m3	< 0.512884	< 0.514975
1,1,2-Trichloroethane	79005	ug/m3	< 0.512884	< 0.514975
1,1-Dichloroethane	75343	ug/m3	< 0.512884	< 0.514975
1,1-Dichloroethene	75354	ug/m3	< 0.512884	< 0.514975
1,1-Dichloropropene	563586	ug/m3	< 0.512884	< 0.514975
1,2,3-Trichlorobenzene	87616	ug/m3	< 0.512884	< 0.514975
1,2,3-Trichloropropane	96184	ug/m3	< 0.512884	< 0.514975
1,2,4-Trichlorobenzene	120821	ug/m3	< 0.512884	< 0.514975
1,2,4-Trimethylbenzene	95636	ug/m3	0.61546	< 0.514975
1,2-Dibromo-3-chloropropane	96128	ug/m3	< 0.512884	< 0.514975
1,2-Dibromoethane	106934	ug/m3	< 0.512884	< 0.514975
1,2-Dichlorobenzene	95501	ug/m3	< 0.512884	< 0.514975
1,2-Dichloroethane	107062	ug/m3	< 0.512884	< 0.514975
1,2-Dichloropropane	78875	ug/m3	< 0.512884	< 0.514975
1,3,5-Trimethylbenzene	108678	ug/m3	< 0.512884	< 0.514975
1,3-Dichlorobenzene	541731	ug/m3	< 0.512884	< 0.514975
1,3-Dichloropropane	142289	ug/m3	< 0.512884	< 0.514975
1,4-Dichlorobenzene	106467	ug/m3	< 0.512884	< 0.514975
2,2-Dichloropropane	594207	ug/m3	< 0.512884	< 0.514975
2-Chlorotoluene	95498	ug/m3	< 0.512884	< 0.514975
4-Chlorotoluene	106434	ug/m3	< 0.512884	< 0.514975
4-Isopropyltoluene	99876	ug/m3	< 0.512884	< 0.514975
Benzene	71432	ug/m3	1.897669	< 1.287439
Bromobenzene	108861	ug/m3	< 0.512884	< 0.514975
Bromochloromethane	74975	ug/m3	< 0.512884	< 0.514975
Bromodichloromethane	75274	ug/m3	< 0.512884	< 0.514975
Bromoform	75252	ug/m3	< 0.512884	< 0.514975
Carbon tetrachloride	56235	ug/m3	< 0.512884	< 0.514975
Chlorobenzene	108907	ug/m3	< 0.512884	< 0.514975
Chloroform	67663	ug/m3	< 0.512884	< 0.514975

FOR OFFICIAL USE ONLY

MCHB-TS-RDE

SUBJECT: Deployment Occupational and Environmental Health (OEH) Risk Characterization of 28 Ambient Air Samples Collected by 1st Marine Logistics Group Personnel from Camp Taqaddum, Iraq from 5 to 14 December 2006

Field ID			TQ-20061207-02	TQ-20061207-01
DESP ID			IRQ_2776_TO17_06341_05	IRQ_2776_TO17_06341_04
Location			TAQADDUM	TAQADDUM
Collection Date			7-Dec-06	7-Dec-06
Collection Time			9:55	9:55
Parameter	Chemical Abstract Number	Units	Concentration	Concentration
Cyclohexane	110827	ug/m3	< 0.512884	< 0.514975
Cyclopentane	287923	ug/m3	< 0.512884	< 0.514975
Decane	124185	ug/m3	1.128344	< 0.514975
Dibromochloromethane	124481	ug/m3	< 0.512884	< 0.514975
Dibromomethane	74953	ug/m3	< 0.512884	< 0.514975
Ethylbenzene	100414	ug/m3	< 0.512884	< 0.514975
Hexachlorobutadiene	87683	ug/m3	< 0.512884	< 0.514975
Hexane	110543	ug/m3	1.333497	< 0.514975
Isooctane	540841	ug/m3	< 0.512884	< 0.514975
Isopropylbenzene	98828	ug/m3	< 0.512884	< 0.514975
Methylcyclopentane	96377	ug/m3	< 0.512884	< 0.514975
Methylene chloride	75092	ug/m3	1.230921	< 0.514975
Styrene	100425	ug/m3	< 0.512884	< 0.514975
Tetrachloroethene	127184	ug/m3	< 0.512884	< 0.514975
Toluene	108883	ug/m3	2.102823	< 0.514975
Trichloroethene	79016	ug/m3	< 0.512884	< 0.514975
cis-1,2-Dichloroethene	156592	ug/m3	< 0.512884	< 0.514975
cis-1,3-Dichloropropene	10061015	ug/m3	< 0.512884	< 0.514975
m/p-Xylene	108383;10	ug/m3	0.974479	< 0.514975
n-Butylbenzene	104518	ug/m3	< 0.512884	< 0.514975
n-Propylbenzene	103651	ug/m3	< 0.512884	< 0.514975
o-Xylene	95476	ug/m3	< 0.512884	< 0.514975
sec-Butylbenzene	135988	ug/m3	< 0.512884	< 0.514975
tert-Butylbenzene	98066	ug/m3	< 0.512884	< 0.514975
trans-1,2-Dichloroethene	156605	ug/m3	< 0.512884	< 0.514975
trans-1,3-Dichloropropene	10061026	ug/m3	< 0.512884	< 0.514975

FOR OFFICIAL USE ONLY

MCHB-TS-RDE

SUBJECT: Deployment Occupational and Environmental Health (OEH) Risk Characterization of 28 Ambient Air Samples Collected by 1st Marine Logistics Group Personnel from Camp Taqaddum, Iraq from 5 to 14 December 2006

Table C-1. Analytical Results for Air Samples Collected from Camp Taqaddum, Iraq from 5 to 14 December 2006.

Field ID			TQ-20061207-03	TQ-20061208-01
DESP ID			IRQ_2776_TO17_06341_06	IRQ_2776_TO17_06342_01
Location			TAQADDUM	TAQADDUM
Collection Date			7-Dec-06	8-Dec-06
Collection Time			9:55	10:22
Parameter	Chemical Abstract Number	Units	Concentration	Concentration
1,1,1,2-Tetrachloroethane	630206	ug/m3	< 0.512884	< 0.520703
1,1,1-Trichloroethane	71556	ug/m3	< 0.512884	< 0.520703
1,1,2,2-Tetrachloroethane	79345	ug/m3	< 0.512884	0.624844
1,1,2-Trichloroethane	79005	ug/m3	< 0.512884	< 0.520703
1,1-Dichloroethane	75343	ug/m3	< 0.512884	< 0.520703
1,1-Dichloroethene	75354	ug/m3	< 0.512884	< 0.520703
1,1-Dichloropropene	563586	ug/m3	< 0.512884	< 0.520703
1,2,3-Trichlorobenzene	87616	ug/m3	< 0.512884	< 0.520703
1,2,3-Trichloropropane	96184	ug/m3	< 0.512884	< 0.520703
1,2,4-Trichlorobenzene	120821	ug/m3	< 0.512884	< 0.520703
1,2,4-Trimethylbenzene	95636	ug/m3	1.282209	6.248438
1,2-Dibromo-3-chloropropane	96128	ug/m3	< 0.512884	< 0.520703
1,2-Dibromoethane	106934	ug/m3	< 0.512884	< 0.520703
1,2-Dichlorobenzene	95501	ug/m3	< 0.512884	< 0.520703
1,2-Dichloroethane	107062	ug/m3	< 0.512884	< 0.520703
1,2-Dichloropropane	78875	ug/m3	< 0.512884	< 0.520703
1,3,5-Trimethylbenzene	108678	ug/m3	< 0.512884	1.457969
1,3-Dichlorobenzene	541731	ug/m3	< 0.512884	< 0.520703
1,3-Dichloropropane	142289	ug/m3	< 0.512884	< 0.520703
1,4-Dichlorobenzene	106467	ug/m3	< 0.512884	< 0.520703
2,2-Dichloropropane	594207	ug/m3	< 0.512884	< 0.520703
2-Chlorotoluene	95498	ug/m3	< 0.512884	< 0.520703
4-Chlorotoluene	106434	ug/m3	< 0.512884	< 0.520703
4-Isopropyltoluene	99876	ug/m3	< 0.512884	< 0.520703
Benzene	71432	ug/m3	2.2054	47.383987
Bromobenzene	108861	ug/m3	< 0.512884	< 0.520703
Bromochloromethane	74975	ug/m3	< 0.512884	< 0.520703
Bromodichloromethane	75274	ug/m3	< 0.512884	< 0.520703
Bromoform	75252	ug/m3	< 0.512884	< 0.520703
Carbon tetrachloride	56235	ug/m3	0.564172	0.572773
Chlorobenzene	108907	ug/m3	< 0.512884	0.676914
Chloroform	67663	ug/m3	< 0.512884	< 0.520703

FOR OFFICIAL USE ONLY

MCHB-TS-RDE

SUBJECT: Deployment Occupational and Environmental Health (OEH) Risk Characterization of 28 Ambient Air Samples Collected by 1st Marine Logistics Group Personnel from Camp Taqaddum, Iraq from 5 to 14 December 2006

Field ID			TQ-20061207-03	TQ-20061208-01
DESP ID			IRQ_2776_TO17_06341_06	IRQ_2776_TO17_06342_01
Location			TAQADDUM	TAQADDUM
Collection Date			7-Dec-06	8-Dec-06
Collection Time			9:55	10:22
Parameter	Chemical Abstract Number	Units	Concentration	Concentration
Cyclohexane	110827	ug/m3	< 0.512884	0.676914
Cyclopentane	287923	ug/m3	< 0.512884	< 0.520703
Decane	124185	ug/m3	3.795339	26.555861
Dibromochloromethane	124481	ug/m3	< 0.512884	< 0.520703
Dibromomethane	74953	ug/m3	< 0.512884	< 0.520703
Ethylbenzene	100414	ug/m3	1.384786	14.579688
Hexachlorobutadiene	87683	ug/m3	< 0.512884	< 0.520703
Hexane	110543	ug/m3	2.051535	6.769141
Isooctane	540841	ug/m3	< 0.512884	< 0.520703
Isopropylbenzene	98828	ug/m3	< 0.512884	2.030742
Methylcyclopentane	96377	ug/m3	0.564172	1.041406
Methylene chloride	75092	ug/m3	3.897916	< 0.520703
Styrene	100425	ug/m3	2.307976	42.697659
Tetrachloroethene	127184	ug/m3	< 0.512884	< 0.520703
Toluene	108883	ug/m3	4.667241	18.224611
Trichloroethene	79016	ug/m3	< 0.512884	< 0.520703
cis-1,2-Dichloroethene	156592	ug/m3	< 0.512884	< 0.520703
cis-1,3-Dichloropropene	10061015	ug/m3	< 0.512884	< 0.520703
m/p-Xylene	108383;10	ug/m3	4.359511	4.94668
n-Butylbenzene	104518	ug/m3	< 0.512884	< 0.520703
n-Propylbenzene	103651	ug/m3	< 0.512884	2.030742
o-Xylene	95476	ug/m3	1.948958	4.113555
sec-Butylbenzene	135988	ug/m3	< 0.512884	< 0.520703
tert-Butylbenzene	98066	ug/m3	< 0.512884	< 0.520703
trans-1,2-Dichloroethene	156605	ug/m3	< 0.512884	< 0.520703
trans-1,3-Dichloropropene	10061026	ug/m3	< 0.512884	< 0.520703

FOR OFFICIAL USE ONLY

MCHB-TS-RDE

SUBJECT: Deployment Occupational and Environmental Health (OEH) Risk Characterization of 28 Ambient Air Samples Collected by 1st Marine Logistics Group Personnel from Camp Taqaddum, Iraq from 5 to 14 December 2006

Table C-1. Analytical Results for Air Samples Collected from Camp Taqaddum, Iraq from 5 to 14 December 2006 (continued).

Field ID			TQ-20061208-02	TQ-20061209-01
DESP ID			IRQ_2776_TO17_06342_02	IRQ_2776_TO17_06343_02
Location			TAQADDUM	TAQADDUM
Collection Date			8-Dec-06	9-Dec-06
Collection Time			10:22	16:15
Parameter	Chemical Abstract Number	Units	Concentration	Concentration
1,1,1,2-Tetrachloroethane	630206	ug/m3	< 0.523516	< 0.522663
1,1,1-Trichloroethane	71556	ug/m3	< 0.523516	< 0.522663
1,1,2,2-Tetrachloroethane	79345	ug/m3	< 0.523516	< 0.522663
1,1,2-Trichloroethane	79005	ug/m3	< 0.523516	< 0.522663
1,1-Dichloroethane	75343	ug/m3	< 0.523516	< 0.522663
1,1-Dichloroethene	75354	ug/m3	< 0.523516	< 0.522663
1,1-Dichloropropene	563586	ug/m3	< 0.523516	< 0.522663
1,2,3-Trichlorobenzene	87616	ug/m3	< 0.523516	< 0.522663
1,2,3-Trichloropropane	96184	ug/m3	< 0.523516	< 0.522663
1,2,4-Trichlorobenzene	120821	ug/m3	< 0.523516	< 0.522663
1,2,4-Trimethylbenzene	95636	ug/m3	5.75868	2.142917
1,2-Dibromo-3-chloropropane	96128	ug/m3	< 0.523516	< 0.522663
1,2-Dibromoethane	106934	ug/m3	< 0.523516	< 0.522663
1,2-Dichlorobenzene	95501	ug/m3	< 0.523516	< 0.522663
1,2-Dichloroethane	107062	ug/m3	< 0.523516	< 0.522663
1,2-Dichloropropane	78875	ug/m3	< 0.523516	< 0.522663
1,3,5-Trimethylbenzene	108678	ug/m3	1.256439	< 0.522663
1,3-Dichlorobenzene	541731	ug/m3	< 0.523516	< 0.522663
1,3-Dichloropropane	142289	ug/m3	< 0.523516	< 0.522663
1,4-Dichlorobenzene	106467	ug/m3	< 0.523516	< 0.522663
2,2-Dichloropropane	594207	ug/m3	< 0.523516	< 0.522663
2-Chlorotoluene	95498	ug/m3	< 0.523516	< 0.522663
4-Chlorotoluene	106434	ug/m3	< 0.523516	< 0.522663
4-Isopropyltoluene	99876	ug/m3	< 0.523516	< 0.522663
Benzene	71432	ug/m3	39.787243	3.08371
Bromobenzene	108861	ug/m3	< 0.523516	< 0.522663
Bromochloromethane	74975	ug/m3	< 0.523516	< 0.522663
Bromodichloromethane	75274	ug/m3	< 0.523516	< 0.522663
Bromoform	75252	ug/m3	< 0.523516	< 0.522663
Carbon tetrachloride	56235	ug/m3	0.62822	0.679461
Chlorobenzene	108907	ug/m3	0.732923	< 0.522663
Chloroform	67663	ug/m3	< 0.523516	< 0.522663

FOR OFFICIAL USE ONLY

MCHB-TS-RDE

SUBJECT: Deployment Occupational and Environmental Health (OEH) Risk Characterization of 28 Ambient Air Samples Collected by 1st Marine Logistics Group Personnel from Camp Taqaddum, Iraq from 5 to 14 December 2006

Field ID			TQ-20061208-02	TQ-20061209-01
DESP ID			IRQ_2776_TO17_06342_02	IRQ_2776_TO17_06343_02
Location			TAQADDUM	TAQADDUM
Collection Date			8-Dec-06	9-Dec-06
Collection Time			10:22	16:15
Parameter	Chemical Abstract Number	Units	Concentration	Concentration
Cyclohexane	110827	ug/m3	0.732923	0.940793
Cyclopentane	287923	ug/m3	1.622901	1.777053
Decane	124185	ug/m3	21.464171	5.226627
Dibromochloromethane	124481	ug/m3	< 0.523516	< 0.522663
Dibromomethane	74953	ug/m3	< 0.523516	< 0.522663
Ethylbenzene	100414	ug/m3	14.658458	0.679461
Hexachlorobutadiene	87683	ug/m3	< 0.523516	< 0.522663
Hexane	110543	ug/m3	5.75868	4.181301
Isooctane	540841	ug/m3	< 0.523516	< 0.522663
Isopropylbenzene	98828	ug/m3	1.884659	< 0.522663
Methylcyclopentane	96377	ug/m3	0.994681	1.149858
Methylene chloride	75092	ug/m3	6.282196	10.453253
Styrene	100425	ug/m3	39.787243	< 0.522663
Tetrachloroethene	127184	ug/m3	< 0.523516	< 0.522663
Toluene	108883	ug/m3	17.799556	2.717846
Trichloroethene	79016	ug/m3	0.889978	0.783994
cis-1,2-Dichloroethene	156592	ug/m3	< 0.523516	< 0.522663
cis-1,3-Dichloropropene	10061015	ug/m3	< 0.523516	< 0.522663
m/p-Xylene	108383;10	ug/m3	4.659296	2.247449
n-Butylbenzene	104518	ug/m3	< 0.523516	< 0.522663
n-Propylbenzene	103651	ug/m3	1.832307	< 0.522663
o-Xylene	95476	ug/m3	3.769318	1.306657
sec-Butylbenzene	135988	ug/m3	< 0.523516	< 0.522663
tert-Butylbenzene	98066	ug/m3	< 0.523516	< 0.522663
trans-1,2-Dichloroethene	156605	ug/m3	< 0.523516	< 0.522663
trans-1,3-Dichloropropene	10061026	ug/m3	< 0.523516	< 0.522663

FOR OFFICIAL USE ONLY

MCHB-TS-RDE

SUBJECT: Deployment Occupational and Environmental Health (OEH) Risk Characterization of 28 Ambient Air Samples Collected by 1st Marine Logistics Group Personnel from Camp Taqaddum, Iraq from 5 to 14 December 2006

Table C-1. Analytical Results for Air Samples Collected from Camp Taqaddum, Iraq from 5 to 14 December 2006 (continued).

Field ID			TQ-20061209-02	TQ-20061209-04
DESP ID			IRQ_2776_TO17_06343_03	IRQ_2776_TO17_06343_01
Location			TAQADDUM	TAQADDUM
Collection Date			9-Dec-06	9-Dec-06
Collection Time			16:15	16:25
Parameter	Chemical Abstract Number	Units	Concentration	Concentration
1,1,1,2-Tetrachloroethane	630206	ug/m3	< 0.52636	< 0.526693
1,1,1-Trichloroethane	71556	ug/m3	< 0.52636	< 0.526693
1,1,2,2-Tetrachloroethane	79345	ug/m3	< 0.52636	< 0.526693
1,1,2-Trichloroethane	79005	ug/m3	< 0.52636	< 0.526693
1,1-Dichloroethane	75343	ug/m3	< 0.52636	< 0.526693
1,1-Dichloroethene	75354	ug/m3	< 0.52636	< 0.526693
1,1-Dichloropropene	563586	ug/m3	< 0.52636	< 0.526693
1,2,3-Trichlorobenzene	87616	ug/m3	< 0.52636	< 0.526693
1,2,3-Trichloropropane	96184	ug/m3	< 0.52636	< 0.526693
1,2,4-Trichlorobenzene	120821	ug/m3	< 0.52636	< 0.526693
1,2,4-Trimethylbenzene	95636	ug/m3	2.737073	3.370834
1,2-Dibromo-3-chloropropane	96128	ug/m3	< 0.52636	< 0.526693
1,2-Dibromoethane	106934	ug/m3	< 0.52636	< 0.526693
1,2-Dichlorobenzene	95501	ug/m3	< 0.52636	< 0.526693
1,2-Dichloroethane	107062	ug/m3	< 0.52636	< 0.526693
1,2-Dichloropropane	78875	ug/m3	< 0.52636	< 0.526693
1,3,5-Trimethylbenzene	108678	ug/m3	< 0.52636	0.684701
1,3-Dichlorobenzene	541731	ug/m3	< 0.52636	< 0.526693
1,3-Dichloropropane	142289	ug/m3	< 0.52636	< 0.526693
1,4-Dichlorobenzene	106467	ug/m3	< 0.52636	< 0.526693
2,2-Dichloropropane	594207	ug/m3	< 0.52636	< 0.526693
2-Chlorotoluene	95498	ug/m3	< 0.52636	< 0.526693
4-Chlorotoluene	106434	ug/m3	< 0.52636	< 0.526693
4-Isopropyltoluene	99876	ug/m3	< 0.52636	< 0.526693
Benzene	71432	ug/m3	2.684437	3.581511
Bromobenzene	108861	ug/m3	< 0.52636	< 0.526693
Bromochloromethane	74975	ug/m3	< 0.52636	< 0.526693
Bromodichloromethane	75274	ug/m3	< 0.52636	< 0.526693
Bromoform	75252	ug/m3	< 0.52636	< 0.526693
Carbon tetrachloride	56235	ug/m3	0.631632	0.526693
Chlorobenzene	108907	ug/m3	< 0.52636	< 0.526693
Chloroform	67663	ug/m3	< 0.52636	< 0.526693

FOR OFFICIAL USE ONLY

MCHB-TS-RDE

SUBJECT: Deployment Occupational and Environmental Health (OEH) Risk Characterization of 28 Ambient Air Samples Collected by 1st Marine Logistics Group Personnel from Camp Taqaddum, Iraq from 5 to 14 December 2006

Field ID			TQ-20061209-02	TQ-20061209-04
DESP ID			IRQ_2776_TO17_06343_03	IRQ_2776_TO17_06343_01
Location			TAQADDUM	TAQADDUM
Collection Date			9-Dec-06	9-Dec-06
Collection Time			16:15	16:25
Parameter	Chemical Abstract Number	Units	Concentration	Concentration
Cyclohexane	110827	ug/m3	< 0.52636	0.684701
Cyclopentane	287923	ug/m3	< 0.52636	< 0.526693
Decane	124185	ug/m3	7.895402	8.953777
Dibromochloromethane	124481	ug/m3	< 0.52636	< 0.526693
Dibromomethane	74953	ug/m3	< 0.52636	< 0.526693
Ethylbenzene	100414	ug/m3	1.05272	1.106055
Hexachlorobutadiene	87683	ug/m3	< 0.52636	< 0.526693
Hexane	110543	ug/m3	3.631885	3.950196
Isooctane	540841	ug/m3	< 0.52636	< 0.526693
Isopropylbenzene	98828	ug/m3	< 0.52636	< 0.526693
Methylcyclopentane	96377	ug/m3	0.894812	1.000716
Methylene chloride	75092	ug/m3	< 0.52636	< 0.526693
Styrene	100425	ug/m3	< 0.52636	< 0.526693
Tetrachloroethene	127184	ug/m3	< 0.52636	< 0.526693
Toluene	108883	ug/m3	2.947617	3.950196
Trichloroethene	79016	ug/m3	< 0.52636	< 0.526693
cis-1,2-Dichloroethene	156592	ug/m3	< 0.52636	< 0.526693
cis-1,3-Dichloropropene	10061015	ug/m3	< 0.52636	< 0.526693
m/p-Xylene	108383;10	ug/m3	2.737073	3.054818
n-Butylbenzene	104518	ug/m3	< 0.52636	< 0.526693
n-Propylbenzene	103651	ug/m3	< 0.52636	0.632031
o-Xylene	95476	ug/m3	1.421172	1.580078
sec-Butylbenzene	135988	ug/m3	< 0.52636	< 0.526693
tert-Butylbenzene	98066	ug/m3	< 0.52636	< 0.526693
trans-1,2-Dichloroethene	156605	ug/m3	< 0.52636	< 0.526693
trans-1,3-Dichloropropene	10061026	ug/m3	< 0.52636	< 0.526693

FOR OFFICIAL USE ONLY

MCHB-TS-RDE

SUBJECT: Deployment Occupational and Environmental Health (OEH) Risk Characterization of 28 Ambient Air Samples Collected by 1st Marine Logistics Group Personnel from Camp Taqaddum, Iraq from 5 to 14 December 2006

Table C-1. Analytical Results for Air Samples Collected from Camp Taqaddum, Iraq from 5 to 14 December 2006 (continued).

Field ID			TQ-20061209-05	TQ-20061212-04
DESP ID			IRQ_2776_TO17_06341_02	IRQ_2776_TO17_06341_03
Location			TAQADDUM	TAQADDUM
Collection Date			9-Dec-06	12-Dec-06
Collection Time			16:25	9:30
Parameter	Chemical Abstract Number	Units	Concentration	Concentration
1,1,1,2-Tetrachloroethane	630206	ug/m3	< 0.533709	< 0.514975
1,1,1-Trichloroethane	71556	ug/m3	< 0.533709	< 0.514975
1,1,2,2-Tetrachloroethane	79345	ug/m3	< 0.533709	< 0.514975
1,1,2-Trichloroethane	79005	ug/m3	< 0.533709	< 0.514975
1,1-Dichloroethane	75343	ug/m3	< 0.533709	< 0.514975
1,1-Dichloroethene	75354	ug/m3	< 0.533709	< 0.514975
1,1-Dichloropropene	563586	ug/m3	< 0.533709	< 0.514975
1,2,3-Trichlorobenzene	87616	ug/m3	< 0.533709	< 0.514975
1,2,3-Trichloropropane	96184	ug/m3	< 0.533709	< 0.514975
1,2,4-Trichlorobenzene	120821	ug/m3	< 0.533709	< 0.514975
1,2,4-Trimethylbenzene	95636	ug/m3	3.789334	4.377292
1,2-Dibromo-3-chloropropane	96128	ug/m3	< 0.533709	< 0.514975
1,2-Dibromoethane	106934	ug/m3	< 0.533709	< 0.514975
1,2-Dichlorobenzene	95501	ug/m3	< 0.533709	< 0.514975
1,2-Dichloroethane	107062	ug/m3	< 0.533709	< 0.514975
1,2-Dichloropropane	78875	ug/m3	< 0.533709	< 0.514975
1,3,5-Trimethylbenzene	108678	ug/m3	0.747193	0.926956
1,3-Dichlorobenzene	541731	ug/m3	< 0.533709	< 0.514975
1,3-Dichloropropane	142289	ug/m3	< 0.533709	< 0.514975
1,4-Dichlorobenzene	106467	ug/m3	< 0.533709	< 0.514975
2,2-Dichloropropane	594207	ug/m3	< 0.533709	< 0.514975
2-Chlorotoluene	95498	ug/m3	< 0.533709	< 0.514975
4-Chlorotoluene	106434	ug/m3	< 0.533709	< 0.514975
4-Isopropyltoluene	99876	ug/m3	< 0.533709	< 0.514975
Benzene	71432	ug/m3	3.629222	3.038355
Bromobenzene	108861	ug/m3	< 0.533709	< 0.514975
Bromochloromethane	74975	ug/m3	< 0.533709	< 0.514975
Bromodichloromethane	75274	ug/m3	< 0.533709	< 0.514975
Bromoform	75252	ug/m3	< 0.533709	< 0.514975
Carbon tetrachloride	56235	ug/m3	0.58708	0.566473
Chlorobenzene	108907	ug/m3	< 0.533709	< 0.514975
Chloroform	67663	ug/m3	< 0.533709	< 0.514975

FOR OFFICIAL USE ONLY

MCHB-TS-RDE

SUBJECT: Deployment Occupational and Environmental Health (OEH) Risk Characterization of 28 Ambient Air Samples Collected by 1st Marine Logistics Group Personnel from Camp Taqaddum, Iraq from 5 to 14 December 2006

Field ID			TQ-20061209-05	TQ-20061212-04
DESP ID			IRQ_2776_TO17_06341_02	IRQ_2776_TO17_06341_03
Location			TAQADDUM	TAQADDUM
Collection Date			9-Dec-06	12-Dec-06
Collection Time			16:25	9:30
Parameter	Chemical Abstract Number	Units	Concentration	Concentration
Cyclohexane	110827	ug/m3	0.693822	1.081449
Cyclopentane	287923	ug/m3	< 0.533709	< 0.514975
Decane	124185	ug/m3	11.20789	10.814485
Dibromochloromethane	124481	ug/m3	< 0.533709	< 0.514975
Dibromomethane	74953	ug/m3	< 0.533709	< 0.514975
Ethylbenzene	100414	ug/m3	1.280902	2.265892
Hexachlorobutadiene	87683	ug/m3	< 0.533709	< 0.514975
Hexane	110543	ug/m3	5.123607	4.892267
Isooctane	540841	ug/m3	< 0.533709	< 0.514975
Isopropylbenzene	98828	ug/m3	< 0.533709	0.514975
Methylcyclopentane	96377	ug/m3	1.067418	1.184444
Methylene chloride	75092	ug/m3	< 0.533709	< 0.514975
Styrene	100425	ug/m3	< 0.533709	< 0.514975
Tetrachloroethene	127184	ug/m3	< 0.533709	< 0.514975
Toluene	108883	ug/m3	4.803382	5.66473
Trichloroethene	79016	ug/m3	< 0.533709	< 0.514975
cis-1,2-Dichloroethene	156592	ug/m3	< 0.533709	< 0.514975
cis-1,3-Dichloropropene	10061015	ug/m3	< 0.533709	< 0.514975
m/p-Xylene	108383;10	ug/m3	3.415738	5.098257
n-Butylbenzene	104518	ug/m3	< 0.533709	< 0.514975
n-Propylbenzene	103651	ug/m3	0.693822	0.926956
o-Xylene	95476	ug/m3	1.814611	2.780868
sec-Butylbenzene	135988	ug/m3	< 0.533709	< 0.514975
tert-Butylbenzene	98066	ug/m3	< 0.533709	< 0.514975
trans-1,2-Dichloroethene	156605	ug/m3	< 0.533709	< 0.514975
trans-1,3-Dichloropropene	10061026	ug/m3	< 0.533709	< 0.514975

FOR OFFICIAL USE ONLY

MCHB-TS-RDE

SUBJECT: Deployment Occupational and Environmental Health (OEH) Risk Characterization of 28 Ambient Air Samples Collected by 1st Marine Logistics Group Personnel from Camp Taqaddum, Iraq from 5 to 14 December 2006

Table C-1. Analytical Results for Air Samples Collected from Camp Taqaddum, Iraq from 5 to 14 December 2006 (continued).

Field ID			TQ-20061212-05	TQ-20061212-01
DESP ID			IRQ_2776_TO17_06346_01	IRQ_2776_TO17_06346_02
Location			TAQADDUM	TAQADDUM
Collection Date			12-Dec-06	12-Dec-06
Collection Time			9:30	9:10
Parameter	Chemical Abstract Number	Units	Concentration	Concentration
1,1,1,2-Tetrachloroethane	630206	ug/m3	< 0.510058	< 0.508395
1,1,1-Trichloroethane	71556	ug/m3	< 0.510058	< 0.508395
1,1,2,2-Tetrachloroethane	79345	ug/m3	< 0.510058	< 0.508395
1,1,2-Trichloroethane	79005	ug/m3	< 0.510058	< 0.508395
1,1-Dichloroethane	75343	ug/m3	< 0.510058	< 0.508395
1,1-Dichloroethene	75354	ug/m3	< 0.510058	< 0.508395
1,1-Dichloropropene	563586	ug/m3	< 0.510058	< 0.508395
1,2,3-Trichlorobenzene	87616	ug/m3	< 0.510058	< 0.508395
1,2,3-Trichloropropane	96184	ug/m3	< 0.510058	< 0.508395
1,2,4-Trichlorobenzene	120821	ug/m3	< 0.510058	< 0.508395
1,2,4-Trimethylbenzene	95636	ug/m3	3.723426	0.762592
1,2-Dibromo-3-chloropropane	96128	ug/m3	< 0.510058	< 0.508395
1,2-Dibromoethane	106934	ug/m3	< 0.510058	< 0.508395
1,2-Dichlorobenzene	95501	ug/m3	< 0.510058	< 0.508395
1,2-Dichloroethane	107062	ug/m3	< 0.510058	< 0.508395
1,2-Dichloropropane	78875	ug/m3	< 0.510058	< 0.508395
1,3,5-Trimethylbenzene	108678	ug/m3	0.714082	< 0.508395
1,3-Dichlorobenzene	541731	ug/m3	< 0.510058	< 0.508395
1,3-Dichloropropane	142289	ug/m3	< 0.510058	< 0.508395
1,4-Dichlorobenzene	106467	ug/m3	< 0.510058	< 0.508395
2,2-Dichloropropane	594207	ug/m3	< 0.510058	< 0.508395
2-Chlorotoluene	95498	ug/m3	0.714082	< 0.508395
4-Chlorotoluene	106434	ug/m3	< 0.510058	< 0.508395
4-Isopropyltoluene	99876	ug/m3	< 0.510058	< 0.508395
Benzene	71432	ug/m3	3.009344	2.033579
Bromobenzene	108861	ug/m3	< 0.510058	< 0.508395
Bromochloromethane	74975	ug/m3	< 0.510058	< 0.508395
Bromodichloromethane	75274	ug/m3	< 0.510058	< 0.508395
Bromoform	75252	ug/m3	< 0.510058	< 0.508395
Carbon tetrachloride	56235	ug/m3	0.561064	0.610074
Chlorobenzene	108907	ug/m3	< 0.510058	< 0.508395
Chloroform	67663	ug/m3	< 0.510058	< 0.508395

FOR OFFICIAL USE ONLY

MCHB-TS-RDE

SUBJECT: Deployment Occupational and Environmental Health (OEH) Risk Characterization of 28 Ambient Air Samples Collected by 1st Marine Logistics Group Personnel from Camp Taqaddum, Iraq from 5 to 14 December 2006

Field ID			TQ-20061212-05	TQ-20061212-01
DESP ID			IRQ_2776_TO17_06346_01	IRQ_2776_TO17_06346_02
Location			TAQADDUM	TAQADDUM
Collection Date			12-Dec-06	12-Dec-06
Collection Time			9:30	9:10
Parameter	Chemical Abstract Number	Units	Concentration	Concentration
Cyclohexane	110827	ug/m3	1.071123	< 0.508395
Cyclopentane	287923	ug/m3	< 0.510058	1.220148
Decane	124185	ug/m3	10.711225	3.050369
Dibromochloromethane	124481	ug/m3	< 0.510058	< 0.508395
Dibromomethane	74953	ug/m3	< 0.510058	< 0.508395
Ethylbenzene	100414	ug/m3	1.938222	< 0.508395
Hexachlorobutadiene	87683	ug/m3	< 0.510058	< 0.508395
Hexane	110543	ug/m3	5.100584	1.931901
Isooctane	540841	ug/m3	< 0.510058	< 0.508395
Isopropylbenzene	98828	ug/m3	< 0.510058	< 0.508395
Methylcyclopentane	96377	ug/m3	1.22414	0.559234
Methylene chloride	75092	ug/m3	< 0.510058	4.524714
Styrene	100425	ug/m3	< 0.510058	< 0.508395
Tetrachloroethene	127184	ug/m3	< 0.510058	< 0.508395
Toluene	108883	ug/m3	5.100584	1.474345
Trichloroethene	79016	ug/m3	< 0.510058	0.610074
cis-1,2-Dichloroethene	156592	ug/m3	< 0.510058	< 0.508395
cis-1,3-Dichloropropene	10061015	ug/m3	< 0.510058	< 0.508395
m/p-Xylene	108383;10	ug/m3	4.080467	0.813432
n-Butylbenzene	104518	ug/m3	< 0.510058	< 0.508395
n-Propylbenzene	103651	ug/m3	0.816093	< 0.508395
o-Xylene	95476	ug/m3	2.295263	< 0.508395
sec-Butylbenzene	135988	ug/m3	< 0.510058	< 0.508395
tert-Butylbenzene	98066	ug/m3	< 0.510058	< 0.508395
trans-1,2-Dichloroethene	156605	ug/m3	< 0.510058	< 0.508395
trans-1,3-Dichloropropene	10061026	ug/m3	< 0.510058	< 0.508395

FOR OFFICIAL USE ONLY

MCHB-TS-RDE

SUBJECT: Deployment Occupational and Environmental Health (OEH) Risk Characterization of 28 Ambient Air Samples Collected by 1st Marine Logistics Group Personnel from Camp Taqaddum, Iraq from 5 to 14 December 2006

Table C-1. Analytical Results for Air Samples Collected from Camp Taqaddum, Iraq from 5 to 14 December 2006 (continued).

Field ID			TQ-20061212-02	TQ-20061214-01
DESP ID			IRQ_2776_TO17_06346_03	IRQ_2776_TO17_06348_01
Location			TAQADDUM	TAQADDUM
Collection Date			12-Dec-06	14-Dec-06
Collection Time			9:10	0:03
Parameter	Chemical Abstract Number	Units	Concentration	Concentration
1,1,1,2-Tetrachloroethane	630206	ug/m3	< 0.51568	< 0.52563
1,1,1-Trichloroethane	71556	ug/m3	< 0.51568	< 0.52563
1,1,2,2-Tetrachloroethane	79345	ug/m3	< 0.51568	< 0.52563
1,1,2-Trichloroethane	79005	ug/m3	< 0.51568	< 0.52563
1,1-Dichloroethane	75343	ug/m3	< 0.51568	< 0.52563
1,1-Dichloroethene	75354	ug/m3	< 0.51568	< 0.52563
1,1-Dichloropropene	563586	ug/m3	< 0.51568	< 0.52563
1,2,3-Trichlorobenzene	87616	ug/m3	< 0.51568	< 0.52563
1,2,3-Trichloropropane	96184	ug/m3	< 0.51568	< 0.52563
1,2,4-Trichlorobenzene	120821	ug/m3	< 0.51568	< 0.52563
1,2,4-Trimethylbenzene	95636	ug/m3	0.825088	2.312771
1,2-Dibromo-3-chloropropane	96128	ug/m3	< 0.51568	< 0.52563
1,2-Dibromoethane	106934	ug/m3	< 0.51568	< 0.52563
1,2-Dichlorobenzene	95501	ug/m3	< 0.51568	< 0.52563
1,2-Dichloroethane	107062	ug/m3	< 0.51568	< 0.52563
1,2-Dichloropropane	78875	ug/m3	< 0.51568	< 0.52563
1,3,5-Trimethylbenzene	108678	ug/m3	< 0.51568	< 0.52563
1,3-Dichlorobenzene	541731	ug/m3	< 0.51568	< 0.52563
1,3-Dichloropropane	142289	ug/m3	< 0.51568	< 0.52563
1,4-Dichlorobenzene	106467	ug/m3	< 0.51568	< 0.52563
2,2-Dichloropropane	594207	ug/m3	< 0.51568	< 0.52563
2-Chlorotoluene	95498	ug/m3	< 0.51568	< 0.52563
4-Chlorotoluene	106434	ug/m3	< 0.51568	< 0.52563
4-Isopropyltoluene	99876	ug/m3	< 0.51568	1.997393
Benzene	71432	ug/m3	2.06272	2.155082
Bromobenzene	108861	ug/m3	< 0.51568	< 0.52563
Bromochloromethane	74975	ug/m3	< 0.51568	< 0.52563
Bromodichloromethane	75274	ug/m3	< 0.51568	< 0.52563
Bromoform	75252	ug/m3	< 0.51568	< 0.52563
Carbon tetrachloride	56235	ug/m3	0.51568	0.630756
Chlorobenzene	108907	ug/m3	< 0.51568	7.884446
Chloroform	67663	ug/m3	< 0.51568	< 0.52563

FOR OFFICIAL USE ONLY

MCHB-TS-RDE

SUBJECT: Deployment Occupational and Environmental Health (OEH) Risk Characterization of 28 Ambient Air Samples Collected by 1st Marine Logistics Group Personnel from Camp Taqaddum, Iraq from 5 to 14 December 2006

Field ID			TQ-20061212-02	TQ-20061214-01
DESP ID			IRQ_2776_TO17_06346_03	IRQ_2776_TO17_06348_01
Location			TAQADDUM	TAQADDUM
Collection Date			12-Dec-06	14-Dec-06
Collection Time			9:10	0:03
Parameter	Chemical Abstract Number	Units	Concentration	Concentration
Cyclohexane	110827	ug/m3	< 0.51568	2.155082
Cyclopentane	287923	ug/m3	< 0.51568	< 0.52563
Decane	124185	ug/m3	3.300351	5.781927
Dibromochloromethane	124481	ug/m3	< 0.51568	< 0.52563
Dibromomethane	74953	ug/m3	< 0.51568	< 0.52563
Ethylbenzene	100414	ug/m3	< 0.51568	2.680711
Hexachlorobutadiene	87683	ug/m3	< 0.51568	< 0.52563
Hexane	110543	ug/m3	2.06272	7.884446
Isooctane	540841	ug/m3	< 0.51568	< 0.52563
Isopropylbenzene	98828	ug/m3	< 0.51568	< 0.52563
Methylcyclopentane	96377	ug/m3	< 0.51568	3.416593
Methylene chloride	75092	ug/m3	< 0.51568	5.256297
Styrene	100425	ug/m3	< 0.51568	0.841008
Tetrachloroethene	127184	ug/m3	< 0.51568	< 0.52563
Toluene	108883	ug/m3	1.2892	14.717632
Trichloroethene	79016	ug/m3	< 0.51568	< 0.52563
cis-1,2-Dichloroethene	156592	ug/m3	< 0.51568	< 0.52563
cis-1,3-Dichloropropene	10061015	ug/m3	< 0.51568	< 0.52563
m/p-Xylene	108383;10	ug/m3	0.721952	10.512594
n-Butylbenzene	104518	ug/m3	< 0.51568	< 0.52563
n-Propylbenzene	103651	ug/m3	< 0.51568	< 0.52563
o-Xylene	95476	ug/m3	< 0.51568	3.679408
sec-Butylbenzene	135988	ug/m3	< 0.51568	< 0.52563
tert-Butylbenzene	98066	ug/m3	< 0.51568	< 0.52563
trans-1,2-Dichloroethene	156605	ug/m3	< 0.51568	< 0.52563
trans-1,3-Dichloropropene	10061026	ug/m3	< 0.51568	< 0.52563

FOR OFFICIAL USE ONLY

MCHB-TS-RDE

SUBJECT: Deployment Occupational and Environmental Health (OEH) Risk Characterization of 28 Ambient Air Samples Collected by 1st Marine Logistics Group Personnel from Camp Taqaddum, Iraq from 5 to 14 December 2006

Table C-1. Analytical Results for Air Samples Collected from Camp Taqaddum, Iraq from 5 to 14 December 2006 (continued).

Field ID		TQ-20061214-02	
DESP ID		IRQ_2776_TO17_06348_02	
Location		TAQADDUM	
Collection Date		14-Dec-06	
Collection Time		0:03	
Parameter	Chemical Abstract Number	Units	Concentration
1,1,1,2-Tetrachloroethane	630206	ug/m3	< 0.522204
1,1,1-Trichloroethane	71556	ug/m3	< 0.522204
1,1,2,2-Tetrachloroethane	79345	ug/m3	< 0.522204
1,1,2-Trichloroethane	79005	ug/m3	< 0.522204
1,1-Dichloroethane	75343	ug/m3	< 0.522204
1,1-Dichloroethene	75354	ug/m3	< 0.522204
1,1-Dichloropropene	563586	ug/m3	< 0.522204
1,2,3-Trichlorobenzene	87616	ug/m3	< 0.522204
1,2,3-Trichloropropane	96184	ug/m3	< 0.522204
1,2,4-Trichlorobenzene	120821	ug/m3	< 0.522204
1,2,4-Trimethylbenzene	95636	ug/m3	1.932155
1,2-Dibromo-3-chloropropane	96128	ug/m3	< 0.522204
1,2-Dibromoethane	106934	ug/m3	< 0.522204
1,2-Dichlorobenzene	95501	ug/m3	< 0.522204
1,2-Dichloroethane	107062	ug/m3	< 0.522204
1,2-Dichloropropane	78875	ug/m3	< 0.522204
1,3,5-Trimethylbenzene	108678	ug/m3	< 0.522204
1,3-Dichlorobenzene	541731	ug/m3	< 0.522204
1,3-Dichloropropane	142289	ug/m3	< 0.522204
1,4-Dichlorobenzene	106467	ug/m3	< 0.522204
2,2-Dichloropropane	594207	ug/m3	< 0.522204
2-Chlorotoluene	95498	ug/m3	< 0.522204
4-Chlorotoluene	106434	ug/m3	< 0.522204
4-Isopropyltoluene	99876	ug/m3	< 0.522204
Benzene	71432	ug/m3	1.775494
Bromobenzene	108861	ug/m3	< 0.522204
Bromochloromethane	74975	ug/m3	< 0.522204
Bromodichloromethane	75274	ug/m3	< 0.522204
Bromoform	75252	ug/m3	< 0.522204
Carbon tetrachloride	56235	ug/m3	0.574425
Chlorobenzene	108907	ug/m3	< 0.522204
Chloroform	67663	ug/m3	< 0.522204

FOR OFFICIAL USE ONLY

MCHB-TS-RDE

SUBJECT: Deployment Occupational and Environmental Health (OEH) Risk Characterization of 28 Ambient Air Samples Collected by 1st Marine Logistics Group Personnel from Camp Taqaddum, Iraq from 5 to 14 December 2006

Field ID			TQ-20061214-02
DESP ID			IRQ_2776_TO17_06348_02
Location			TAQADDUM
Collection Date			14-Dec-06
Collection Time			0:03
Parameter	Chemical Abstract Number	Units	Concentration
Cyclohexane	110827	ug/m3	< 0.522204
Cyclopentane	287923	ug/m3	4.490955
Decane	124185	ug/m3	5.222041
Dibromochloromethane	124481	ug/m3	< 0.522204
Dibromomethane	74953	ug/m3	< 0.522204
Ethylbenzene	100414	ug/m3	0.626645
Hexachlorobutadiene	87683	ug/m3	< 0.522204
Hexane	110543	ug/m3	1.357731
Isooctane	540841	ug/m3	< 0.522204
Isopropylbenzene	98828	ug/m3	< 0.522204
Methylcyclopentane	96377	ug/m3	0.678865
Methylene chloride	75092	ug/m3	0.626645
Styrene	100425	ug/m3	< 0.522204
Tetrachloroethene	127184	ug/m3	< 0.522204
Toluene	108883	ug/m3	2.611021
Trichloroethene	79016	ug/m3	< 0.522204
cis-1,2-Dichloroethene	156592	ug/m3	< 0.522204
cis-1,3-Dichloropropene	10061015	ug/m3	< 0.522204
m/p-Xylene	108383;10	ug/m3	1.723274
n-Butylbenzene	104518	ug/m3	< 0.522204
n-Propylbenzene	103651	ug/m3	< 0.522204
o-Xylene	95476	ug/m3	0.835527
sec-Butylbenzene	135988	ug/m3	< 0.522204
tert-Butylbenzene	98066	ug/m3	< 0.522204
trans-1,2-Dichloroethene	156605	ug/m3	< 0.522204
trans-1,3-Dichloropropene	10061026	ug/m3	< 0.522204

Footnotes:

Where parameters are not detected in a sample during analyses, half of the laboratory reportable limit is used in the average.

No MEG – MEG not established

µg/m³ micrograms per cubic meter