DEPARTMENT OF THE ARMY
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MCHB-IP-RDE

26 MAR 2013

MEMORANDUM FOR Office of the Command Surgeon (LTC (b) (6)), U.S. Central Command, 7115 South Boundary Boulevard, MacDill Air Force Base, FL 33621-5101

SUBJECT: Deployment Occupational and Environmental Health Surveillance Sample Report, Airborne Volatile Organic Compounds, Joint Regional Afghan National Police Center, Afghanistan, 8 February 2013, U_AFG_JOINTREGIONALANPCENTER_IP_A17_20130208

1. The enclosed report details the assessment of two volatile organic compound air samples collected by 794th Medical Detachment personnel, Joint Regional Afghan National Police Center, Afghanistan, 8 February 2013. One sample was invalid.

2. None of the chemicals detected in the valid sample were identified as acute hazards.

FOR THE DIRECTOR:

(b) (6)

Encl

Portfolio Director, Health Risk Management

CF: (w/encl)
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USAPHC

U.S. ARMY PUBLIC HEALTH COMMAND

5158 Blackhawk Road, Aberdeen Proving Ground, Maryland 21010-5403

Deployment Occupational and Environmental Health Surveillance Sample Report, U_AFG_JOINTREGIONALANPOLICECENTER_IP_A17_20130208 Health Risk Management Portfolio

Airborne Volatile Organic Compounds, Joint Regional Afghan National Police Center, Afghanistan

Prepared by (b) (6)
Deployment Environmental Surveillance Program

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ACKNOWLEDGEMENTS

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Deployment Occupational and Environmental Health Surveillance Sample Report Airborne Volatile Organic Compounds Joint Regional Afghan National Police Center, Afghanistan 8 February 2013 U_AFG_JOINTREGIONALANPCENTER_IP_A17_20130208

1 References

See Appendix A for a list of references.

2 Purpose

This report provides the U.S. Army Public Health Command (USAPHC), Army Institute of Public Health (AIPH) assessment of the laboratory analytical results and exposure information associated with the samples collected by 794th Medical Detachment personnel on 8 February 2013 at Joint Regional Afghan National Police Center, Afghanistan according to the U.S. Department of Defense deployment occupational and environmental health (DOEH) surveillance requirements. The assessment serves several purposes. It identifies DOEH hazards that may be related to acute health effects that could occur in personnel during their deployment. It provides an official record of observed exposure conditions for use in future site evaluations. It identifies whether or not there is a potential for chronic health concerns which may require additional characterization. Finally, this report includes preventive steps to reduce or eliminate occupational and environmental exposures, and surveillance and/or sampling recommendations, as necessary.

3 Scope

The assessment of sample results and exposure information in this report follows the process published in the USAPHC Technical Guide (TG) 230 "Environmental Health Risk Assessment and Chemical Exposure Guidelines for Deployed Military Personnel, June 2010 Revision." The assessment is based on limited data representing a specific time period and assesses short-term exposure risks only. Therefore, this report cannot be used alone to estimate the risk of chronic health effects from exposures. In addition, this assessment does not address all DOEH hazards to which U.S. personnel may be exposed.

4 Laboratory Analysis

These deployment air samples were analyzed at the USAPHC, AIPH laboratory for a standard set of volatile organic compounds (VOCs). The complete analytical sample results can be viewed in the Defense Occupational and Environmental Health Readiness System (DOEHRS). Log into the DOEHRS and search for the samples using the DOEHRS sample identification numbers (IDs) provided in Table 1.

Table 1. Sample Identification Information

DOEHRS Sample ID	Sample ID Reported on Field Data Sheet	Sample Site	Date and Time Sample Collected	Sampling Duration	Sample Invalid (Yes/No) Reason for Invalid Sample
00008LZT	Afg_JointR_20120208_DVS01	Burn Pit/ Dining Facility	2013/02/08 1200	480.0 minutes	No
00008NUJ	Afg_JointR_20120208_DVS02	Burn Pit/ Dining Facility	2013/02/08 1200	480.0 minutes	Yes, Flow Differential

5 Exposure Setting

Table 2 contains information about the sampling location, environmental conditions, and associated potential population exposure. The information was provided on the field data sheets and/or exposure assessment worksheet submitted with the samples unless otherwise noted. Correction and clarification of exposure assumptions by the sampling unit is encouraged.

Table 2. Exposure Information

Questions About Exposure	Information Provided and Assumptions
Why was this sample/sample set collected?	The samples were collected for routine sampling of VOCs in the ambient air pathway.
What population is exposed and how?	All personnel breathe the ambient air. However, it is assumed that personnel spend part of each day indoors.
What is the timeframe under consideration?	Although personnel will be deployed to this location for approximately 9 months, only the sample date is being assessed.
Where was the sample/sample set collected?	The sample set was collected from a high foot and vehicle traffic area located near the dining facility and burn pit. There are generators next to the dining facility.
What is known about location, activity, setting and potential sources of contamination that may affect exposure?	The dining facility is approximately 15 meters from the burn pit. Trash that is burned is not regulated; however, the burn pit is not regularly active.

6 Prescreen

Table 3 shows whether parameters are identified as potential hazards because their concentrations are greater than their most health-protective screening level USAPHC TG 230 military exposure guidelines (MEGs). Potential hazards are further assessed to determine if they are acute hazards. Parameters analyzed but not shown in Table 3 are not considered hazards. The prescreening is conducted as described in USAPHC TG 230, section 3.4.3. The sample results were compared to MEGs on 6 March 2013.

Table 3. Results of Prescreen

Parameter	Concentration (µg/m^3)	1-year Negligible MEG (µg/m^3)	Result
Decane	1.7571	Not Defined	Retain as potential hazard

Legend: µg/m^3 = micrograms per cubic meter

7 Acute Screen

Table 4 shows whether parameters identified as potential hazards after prescreening are considered acute hazards because their concentrations are greater than their acute screening MEGs. Acute hazards are further assessed to estimate the tactical risk from exposure to these parameters in the ambient air. The acute screening is conducted as described in USAPHC TG 230, section 3.4.5.1.

Table 4. Results of Acute Screen

Parameter	Concentration (µg/m^3)	Screening MEG (µg/m^3)	Result
Decane	1.7571	1-hour Negligible MEG: 1000	Exclude as acute hazard

Legend: µg/m^3 = micrograms per cubic meter

8 Conclusion

None of the chemicals detected in the samples were identified as acute hazards because their concentrations were not greater than their acute screening level MEGs.

9 Limitations

9.1 Field Data Quality

Field data provided with the samples were adequate.

One of the samples was invalid due to flow differential.

9.2 Sample Receipt at USAPHC Laboratory

The sample set was received at the USAPHC at a temperature of 15 degrees Celsius.

9.3 Laboratory Data Quality

No laboratory data quality issues associated with this sample set were identified.

10 Recommendations

Maintain communication with USAPHC, AIPH points of contact (POCs) and continue standard surveillance of airborne VOCs in accordance with defined Occupational and Environmental Health Site Assessment (OEHSA) Exposure Pathways and sampling plans for your location.

An OEHSA was completed for Joint Regional Afghan National Police Center, Afghanistan on 10 February 2013. Update the OEHSA annually or as the exposure scenario changes.

11 Points of Contact

The USAPHC, AIPH POCs for this assessment are Ms. (b) (6) and Ms. (b) (6). Ms. (b) (6) may be contacted at e-mail (b) (6), and Ms. (b) (6) may be contacted at e-mail (b) (6), or DSN (b) (6) or commercial (b) (6).

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Appendix A

References

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