DEPARTMENT OF THE ARMY
US ARMY INSTITUTE OF PUBLIC HEALTH
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MCHB-IP-RDE

14 OCT 2012

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, Soil, Tillman, Afghanistan, 30 June 2012, U_AFG_TILLMAN_IP_SQA_20120630

1. The enclosed report details the assessment of three soil samples collected by 701st Brigade Support Battalion, 4th Infantry Brigade Combat Team, 1st Infantry Division personnel, Tillman, Afghanistan, 30 June 2012.

2. None of the chemicals detected in the samples were identified as potential hazards.

FOR THE DIRECTOR:

(b) (6)

Encl

Portfolio Director, Health Risk Management

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USAPHC
U.S. ARMY PUBLIC HEALTH COMMAND
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Deployment Occupational and Environmental Health Surveillance Sample Report,
U_AFG_TILLMAN_IP_SQA_20120630
Health Risk Management Portfolio

Soil, Tillman, Afghanistan

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

Preventive Medicine Surveys: 40-5f1

ACKNOWLEDGEMENTS

Deployment Occupational and Environmental Health Surveillance Sample Report
Soil
Tillman, Afghanistan
30 June 2012
U_AFG_TILLMAN_IP_SQA_20120630

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 701st Brigade Support Battalion, 4th Infantry Brigade Combat Team, 1st Infantry Division personnel on 30 June 2012 at Tillman, 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. This report, therefore, 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

Deployment soil samples received at the USAPHC, AIPH laboratory are analyzed for a standard set of parameters that includes metals, pesticides/polychlorinated biphenyls, herbicides, semivolatile organic compounds, inorganic chemicals, radionuclides, and various physical characteristics. 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 below.

Table 1. Sample Identification Information

DOEHRS Sample ID	Sample ID Reported on Field Data Sheet	Sample Site	Date and Time Sample Collected	Collection Type
00007ACG	AFG_TILLMA_12180_01S	Burn Pit	2012/06/29 1400	Discrete
00007ACB	AFG_TILLMA_12181_01S	Billets	2012/06/30 0630	Discrete
00007ACD	AFG_TILLMA_12181_02S	Helicopter landing zone	2012/06/30 0900	Discrete

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 worksheets 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?	Routine sampling of soil.
What population is exposed and how?	Exposure is different at the three samples sites. Only a small percentage of camp personnel are exposed to the soil in the burn pit. Personnel frequent the living area and the helicopter landing zone and are mainly exposed as they walk through those areas.
What is the timeframe under consideration?	Deployment duration of 9 months unless subsequent activities change or contamination occurs.
Where was the sample/sample set collected?	Three sites: Billets, burn pit, and helicopter landing zone.
What is known about location, activity, setting and potential sources of contamination that may affect exposure?	Burn pit operations are run by all army personnel. Barracks building recently hit with rocket. No roof for occupancy.

6 Prescreen

Table 3 shows whether parameters are identified as potential hazards because their peak single sample 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 24 August 2012.

Table 3. Results of Prescreen

Parameter	Detections/Samples	Peak Single Sample Concentration (mg/kg)	1-year Negligible MEG (mg/kg)	Result
Barium	3/3	62	14801	Exclude as potential hazard
Chromium	3/3	24	297840	Exclude as potential hazard
Lead	3/3	25	2200	Exclude as potential hazard
Mercury	2/3	0.018	978080	Exclude as potential hazard
Nickel	3/3	32	4242.4	Exclude as potential hazard
Strontium	3/3	260	424240	Exclude as potential hazard

Legend: mg/kg = milligrams per kilogram

7 Conclusion

None of the chemicals detected in the samples were identified as potential hazards because the concentrations were not greater than USAPHC TG 230 MEGs.

8 Limitations

8.1 Field Data Quality

Field data provided with the samples were adequate.

8.2 Sample Receipt at USAPHC Laboratory

The samples were received at the USAPHC at a temperature of 26 degrees Celsius. The samples were packaged correctly.

8.3 Laboratory Data Quality

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

8.4 Risk Assessment

Military exposure guidelines have not been developed for several chemicals detected in the samples primarily due to a lack of accepted health information data for these chemicals. The U.S. Environmental Protection Agency or other health organizations have not published nor recommended health-impacting exposure thresholds.

9 Recommendations

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

An OEHSA was completed for Tillman, Afghanistan on 30 June 2012. Update the OEHSA annually or as the exposure scenario changes.

10 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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