



NAVY AND MARINE CORPS PUBLIC HEALTH CENTER
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Navy and Marine Corps Public Health Center

Appendix A **Public Health Review Actions-to-Date**

February 2017

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Acronym	Definition
AASI	Ambient Air Services, Inc.
ACM	Asbestos Containing Material
CNRSE	Commander Navy Region Southeast
COC	Chemical of Concern
DoD	Department of Defense
DRO	Diesel Range Organic
EI	Environmental Investigation
GTMO	Guantanamo Bay
GRO	Gasoline Range Organic
HAA5	Haloacetic Acid
IAQ	Indoor Air Quality
JTF	Joint Task Force
NAVFAC	Naval Facilities Engineering Command
NMCPHC	Navy and Marine Corps Public Health Center
NSGB	Naval Station Guantanamo Bay
OBEA	Overseas Baseline Environmental Assessment
OMC	Office of Military Commissions
PAHs	Polycyclic Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
PIONEER	PIONEER Technologies Corporation
SOUTHCOM	United States Southern Command
SVOCs	Semi-Volatile Organic Compounds
TTHM	Trihalomethanes
USEPA	United States Environmental Protection Agency
USNH	United States Naval Hospital
VOC	Volatile Organic Compound
VTC	Video Teleconference



4 – 8 August 2015: Initial Site Visit

The Navy and Marine Corps Public Health Center (NMCPHC) public health experts conducted an on-site preliminary investigation to include an industrial hygiene and a habitability walk-through survey of the OMC buildings, tents, and trailers at Camp Justice. NMCPHC met with Office of Military Commissions (OMC) South, Joint Task Force (JTF) Guantanamo Bay (GTMO), United States (US) Southern Command (SOUTHCOM), Naval Station Guantanamo Bay (NSGB), and US Naval Hospital (USNH) GTMO to discuss the working relationships, organizational structure, and current and past occupational and environmental surveillance activities at Camp Justice.

21 August 2015: NMCPHC Public Health Review Report for Camp Justice

Based on a review of available documents and the walk-through survey, the Public Health Review Report¹ concluded that the buildings, tents, and trailers where people live and work are habitable for occupancy. Most of the worksites were administrative in nature and were low hazard with little potential for overexposures to current occupational health standards. Therefore, based on these industrial hygiene findings, none of the Office of Military Commissions (OMC) personnel working in these buildings of concern were required to be enrolled in occupational medical surveillance or require occupational certification examinations.

The report also noted that environmental records and historical information for on-site operations were limited. For example, an environmental site assessment and monitoring (which might have included testing of the air, soil, drinking water, groundwater, etc.) have not been conducted as would have been required under existing Department of Defense (DoD) policy.^{2,3,4} Consequently, the report identified environmental data gaps and additional sampling to appropriately address potential environmental exposures to carcinogens, alleged in the DoD IG complaint, which allowed the epidemiological investigation to be completed. Both steps were necessary to appropriately address the DoD IG complaint.

25 – 29 September 2015: Site Scoping Visit

On Sep 25-29, 2015, NMCPHC, PIONEER Technologies Corporation (PIONEER), Commander Navy Region South (CNRSE), and Resolution Consultants conducted a site visit to further develop the Environmental Investigation (EI) Plan. During this site scoping visit, buildings, structures, operational areas, and the accessibility of shallow soils were assessed. The information obtained during the site scoping visit was used to refine the EI approach by

¹ NMCPHC Public Health Review Report for Camp Justice 21 August 2015.

² MCM 0028-07, 02 Nov 2007, "Procedures for Deployment Health Surveillance"

³ DoDI 6490.03, 11 Aug 2006, "Deployment Health"

⁴ DoDI 6200.04, 09 Oct 2004, "Force Health Protection"

identifying specific pathways of exposure, building exposure scenarios (i.e., residential or industrial), media to be sampled, and locations and buildings to be sampled.

Also during this site visit (26 – 28 September 2015), Resolution Consultants conducted an Indoor Air Quality (IAQ) Assessment of Camp Justice that included the following:

- Visual observations noting conditions with the potential to negatively impact IAQ.
- Observed the condition of asbestos-containing material (ACM) and lead-based paint identified during previous investigations.
- Performed real-time environmental monitoring throughout the permanent structures, Cuzcos, and tents to determine potential exposures to specific chemical or physical agents. Data collected included carbon monoxide concentrations, carbon dioxide concentrations, air flow rates, and total volatile organic compound (VOC) concentrations within the building structures. The data were collected and recorded using hand-held instruments including a photoionization detector, a dust particulate meter, and flow meters.
- Performed a limited inspection above accessible drop ceilings within Building AV-29 and Building AV-34.

11 – 14 October 2015: Environmental Sampling Site Visit

CNRSE and Resolution Consultants conducted Phase 1 environmental sampling. Sampling activities included field screening and collection of soil, air, drinking water, and paint samples for off-site laboratory analyses. In addition, an Ionizing Radiation Survey was conducted.

29 October 2015: Resolution Consultants Completes Indoor Air Quality Assessment Report

On October 29 2015, Resolution Consultants completed the IAQ Assessment Report containing the results of the assessment and sampling that was conducted during the 25-29 September site scoping visit.

23 February 2016: NMCPHC completes Preliminary Public Health Screening Risk Assessment Report for Camp Justice

On Feb 23, 2016, NMCPHC completed a Preliminary Public Health Screening Risk Assessment Report for Camp Justice which was sent to CNRSE by official letter on March 11, 2016. This report was released to NSGB and OMC by CNRSE official letter 14 March 2016.

The purpose of this Preliminary Public Health Screening Risk Assessment Report was to determine any risk management actions that needed to be taken at that time to protect human health based on the environmental sampling results from the IAQ and EI reports and sampling. Specifically, this report compared sampling data from the CNRSE Phase 1 environmental assessment, for individual chemicals of concern (COCs) in environmental soil and indoor air, to their respective health protective US Environmental Protection Agency (USEPA) screening levels

(SLs), adjusted to reflect site-specific exposures at Camp Justice. The SLs were developed for four site-specific exposure durations (i.e., 9 months, 3-years, 6 years, and 25 years).

7 April 2016: Overseas Baseline Environmental Assessment (OBEA) Report of Camp Justice.

The Overseas Baseline Environmental Assessment (OBEA) Report documented the environmental condition of the property and provided an environmental baseline survey to assist in determining if there were complete on-site or off-site pathways of exposure for COCs that could be related to past industrial chemical usage, storage, or disposal practices at Camp Justice. This OBEA was designed to assess Camp Justice based on existing environmental information related to storage, release, treatment, or disposal of hazardous substances and petroleum products or its derivatives, which may have a substantial impact on human health and safety under the current land use and reasonably anticipated future land uses. This OBEA included a site reconnaissance, review of available historical and environmental information, and interviews with parties identified as having knowledge of current and historical activities and environmental conditions at NSGB. Based on historical and environmental information reviewed for this OBEA, the environmental conditions appeared acceptable under the current and reasonably anticipated future land uses at Camp Justice.

11 April 2016: Resolution Consultants Completes Environmental Investigation Report

Resolution Consultants completed the EI Report using information from previous assessments and site visits. The elements of the EI included identification of COCs, potential sources for COCs, the media in which COCs were identified, and receptors. Potential receptors included site residents, workers and occasional workers, and visitors. Site media included indoor and outdoor air, soil, drinking water, and building materials. Based on the information available, the EI included the following potential COCs, sources, and release scenarios.

- Semi-volatile organic compounds (SVOCs), polycyclic aromatic hydrocarbons (PAHs), gasoline range organic (GRO) and diesel range organic (DRO) compounds, polychlorinated biphenyls (PCBs), pesticides, herbicides, and metals in soil, which may have been released from engine combustion, fuel spills, aboveground and underground storage tanks and associated pipe systems, transformers, paint, and historical pesticide/herbicide applications.
- Total trihalomethanes (TTHM), haloacetic acid (HAA5), total coliform, and residual chlorine as degradation products in drinking water.
- Common drinking water contaminants associated with distribution system piping/soldering (e.g., lead, copper).
- Radon gas in indoor air from underlying bedrock.
- Formaldehyde from building materials in modular structures and trailers, and in ambient air.

- Mercury vapor from seams in floor tile or other sources within the former dental surgery/clinic in Building AV-29.
- PCBs in building paint in Hangar AV-32.
- Ionizing radiation in and around Hangar AV-32.
- Asbestos in air from ACM in Buildings AV-29 and AV-34, Bunker AV-31, and Hangar AV-32.

15 – 22 April 2016: NMCPHC, PIONEER, CNRSE, Resolution Consultants and Ambient Air Services, Inc. Conducted a Site Visit

NMCPHC, PIONEER, CNRSE, Resolution Consultants and Ambient Air Services, Inc. (AASI) conducted a Site Visit in April 2016. The purpose of the site visit was to sample for mercury, formaldehyde, PCBs, and PAHs. Surface soil, indoor air and wipe samples were collected. The sampling provided data to address several data gaps that were identified based upon the findings of the EI Report (11 April 2016) and the NMCPHC Preliminary Public Health Screening Risk Assessment Report (23 February 2016).

18- 30 April 2016: Emissions Testing of the NSGB Air Curtain Incinerator(s)

AASI set up and conducted testing of the emissions from the Air Curtain Incinerator(s) to obtain representative emissions data for use in modeling exposures on NSGB to include Camp Justice. NMCPHC and PIONEER also participated.

6 May 2016: Resolution Consultants Completed the Supplemental Environmental Investigation for the Formaldehyde Sampling Results.

Additional sampling was conducted in the modular buildings to verify that the levels of formaldehyde had been reduced as a result of heating, ventilation, and air conditioning (HVAC) risk management actions taken by OMC.

24 May 2016: Resolution Consultants Completed the Supplemental Environmental Investigation for the Mercury, Analysis for Background PAHs in Soil, and PCBs Sampling

Additional sampling for mercury occurred in Building AV-29. Additional sampling for PAHs in soil was performed proximate to Building AV-34. PCB sampling was performed at Building AV-32.

13 July 2016: NMCPHC Provides a PHR Executive Briefing to OMC (BGen Baker – VTC to Camp Justice)

NMCPHC provided a video teleconference (VTC) briefing on the results of the additional sampling that was performed during the 15 - 22 April 2016 site visit.

15 July 2016: NMCPHC Provides a PHR Briefing at OMC HQ (VTC to Camp Justice)

NMCPHC provided an on-site (OMC Headquarters Alexandria, VA) and VTC briefing (with questions and answers) on the results of the additional sampling that was performed during the 15 -22 April 2016 site visit.

18 August 2016: All Technical Reports and Fact Sheets To-Date Posted on the NSGB Public Health Review Website

The documents listed below were posted to the following NSGB Public Health Review Website:

https://cnic.navy.mil/regions/cnrse/installations/ns_guantanamo_bay/om/environmental_support/Guantanamo_Bay_PHR.html

NMCPHC Reports

- NMCPHC Preliminary Public Health Screening Risk Assessment Report Camp Justice - 23 Feb 2016 (Fact Sheet - 23 February 2016 Report)
- NMCPHC Public Health Review Report for Camp Justice - 21 Aug 2015 (Fact Sheet - 21 August 2015 Report)
- Summary of Preliminary Findings for the Phase I Public Health Screening Risk Assessment

Naval Facilities Engineering Command (NAVFAC) Technical Reports and Fact Sheets

- NAVFAC Indoor Air Quality Assessment Report - 12 January 2016 (Fact Sheet - 12 January 2016 Report)
- NAVFAC Overseas Baseline Environmental Assessment Report - 07 April 2016 (Fact Sheet - 07 April 2016 Report)
- NAVFAC Environmental Investigation Report - 11 April 2016 (Fact Sheet - 11 April 2016 Report)
- Supplemental Environmental Investigation Formaldehyde Sampling Results - 06 May 2016 (Fact Sheet - 06 May 2016 Report)
- Supplemental Environmental Investigation April 2016 Sampling Results - 24 May 2016 (Fact Sheet - 24 May 2016 Report)

Additional Fact Sheets

Fact Sheets on key topics related to the Camp Justice Public Health Review:

- Arsenic in Soil
- Benzo(a)pyrene in Soil
- Chemicals and Microorganisms Analyzed
- Formaldehyde in Air
- Formaldehyde Uses & Exposure Sources
- Mercury in Air

18 April 2016: AASI completes the Air Curtain Incinerator Emissions Test Report

The Emissions Test Report provided the emissions COC results from the air curtain incinerators located at the NSGB for the testing conducted on 18-20 April 2016. The testing included separate day and night sampling events to capture representative data from different burning stages of the incinerators. This air emissions data was used for air dispersion and deposition modeling of COCs across NSGB, which were presented in the Final Human Health Risk Assessment Report.

February 2017: NMCPHC completes the Final Public Health Review Report for Camp Justice

The Final Public Health Review Report used information gathered from historical environmental investigations, epidemiological analysis, and environmental sampling data results from previous site visits, environmental sampling, and reports to arrive at a final human health risk assessment for working and living at Camp Justice. The report also provided recommended risk management actions for consideration to US Navy, US SOUTHCOM/JTF GTMO, OMC, NAVFAC SE, NSGB, and BUMED leadership.

CAMP JUSTICE

Public Health Review (PHR)



Site Visit/Inspection - NMCPHC

NMCPHC PHR Report for Camp Justice

Site Visit - Phase I Environmental Assessment Sampling Indoor Air, Water, Soil Samples - CNRSE/Resolution Consultants

Resolution Consultants, Indoor Air Quality Assessment Report - Camp Justice

NMCPHC Preliminary PHR Risk Assessment Report for Camp Justice

Resolution Consultants Overseas Baseline Environmental Assessment Report - Camp Justice

Resolution Consultants, Environmental Investigation Report - Camp Justice

Site Visit (NMCPHC/Pioneer/CNRSE/Resolution Consultants/AASI)

- Set up, test air curtain incinerator emissions
- Mercury sampling in AV-29
- Formaldehyde re-sampling in Cuzcos.
- Background analysis of arsenic in soil
- PCB Sampling at AV-32
- PAH Sampling in Soil at AV-34

All Technical Reports and Fact Sheets developed to date posted on the Naval Station Guantanamo Bay Public Health Review Website



AASI, Air Curtain Incinerator Emissions Test Report, Naval Station Guantanamo

NMCPHC Final Public Health Review Report for Camp Justice



DoD IG Hot-line Complaint Alleging Potential Exposure of OMC Personnel to Carcinogens

Complaint Assigned to CNIC as a Command Referral

CNIC Tasks CNRSE to Conduct an Inquiry

OMC South Permanent Staff at Camp Justice Briefed by CO NS GTMO

NAVINGEN Directed as Co-Lead on Complaint Investigation

CNRSE Requests NMCPHC to Perform a Public Health Review



Site Visit/Inspection/Develop Environmental Investigation Plan - NMCPHC/PIONEER/CNRSE/Resolution Consultants



Resolution Consultants, Supplemental Environmental Investigation, Formaldehyde Sampling Results for Camp Justice

Resolution Consultants, Supplemental Environmental Investigation, Mercury, PAHs, Arsenic and PCB Sampling Results for Camp Justice

NMCPHC PHR Camp Justice Briefing to OMC

NMCPHC Receives Air Curtain Incinerator Testing Results for Modeling

