



FINAL

PHASE II ENVIRONMENTAL SITE ASSESSMENT

FORMER NAVAL GYMNASIUM, LOT NAVAL AIR

STATION AGANA 19

Tiyan, Guam

Prepared for:

Guam Environmental Protection Agency
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February 2013
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Acronyms and Abbreviations

ACM	Asbestos-containing materials
ASTM	American Society for Testing and Materials
bgs	below ground surface
°C	degrees Celsius
CIH	Certified Industrial Hygienist
CFR	Code of Federal Regulation
COC	chain-of-custody
DDT	dichloro diphenyl trichloroethane
DL	detection limit
DOT	Department of Transportation
DQO	data quality objective
DU	decision unit
DPR	Department of Parks and Recreation
DYA	Department of Youth Affairs
EA	EA Engineering, Science, and Technology, Inc.
EBS	Environmental Baseline Study
ESA	Environmental Site Assessment
ESL	Environmental Screening Level
FNG	Former Naval Gym
Guam EPA	Guam Environmental Protection Agency
GHURA	Guahan Housing and Urban Renewal Authority
IHP	Industrial Hygiene Professionals, Inc.
ISM	Incremental Sampling Methodology
LCP	lead containing paint
LBP	lead-based paint
MDL	method detection limit
mg/cm ²	milligrams per square centimeter
µg/kg	microgram per kilogram
MS	matrix spike

MSD	matrix spike duplicate
NAS	Naval Air Station
NELAP	National Environmental Laboratory Accreditation Program
NESHAP	National Emissions Standard for Hazardous Air Pollutants
OSHA	Occupational Safety and Health Administration
PCB	polychlorinated biphenyl
PPE	personal protection equipment
PQO	project quality objective
REC	Recognized Environmental Conditions
RL	reporting limit
RPD	Relative Percent Difference
RSD	Relative Standard Deviation
RSL	Regional Screening Level
QA	quality assurance
QC	quality control
QAPP	Quality Assurance Project Plan
SAP	Sampling and Analysis Plan
SOP	standard operating procedure
TCLP	toxicity characteristic leaching procedure
TPH	total petroleum hydrocarbons
TPH-RRO	total petroleum hydrocarbons as residual range organics
UOG	University of Guam
USEPA	United States Environmental Protection Agency
USDA	United States Department of Agriculture
USGS	United States Geological Survey
WP	Work Plan
XRF	X-ray florescence

1.0 EXECUTIVE SUMMARY

EA Engineering, Science, and Technology, Inc. (EA) has performed a Phase II Environmental Site Assessment (ESA) of the Former Naval Gymnasium. The Former Naval Gymnasium is located on Lot Naval Station Agana 19. The name of the sampling area is the same as the site name (Former Naval Gymnasium). The common name for the overall site is the Former Naval Gymnasium. The Former Naval Gymnasium Site consists of an approximately 10,000 square foot concrete building.

This Phase II ESA supports the rehabilitation of the Former Naval Gymnasium into the Talo (Central) Youth Resource Center. The Guahan Housing and Urban Renewal Authority (GHURA) and the Department of Youth Affairs (DYA) have partnered with the landowner, the Department of Parks and Recreation (DPR) to engender this community center. This project has been funded through United States Environmental Protection Agency Targeted Brownfield Hazardous Materials 104K Grant Program. The results of the investigation were used to evaluate the nature and extent of potential contamination at the Former Naval Gymnasium and make recommendations based on the findings.

A Phase I ESA was conducted in April 2011. The Phase I ESA included a database and records review; personal interviews; research at the Department of Land Management Records Division; a map, aerial photograph, and archival research; and a site reconnaissance and data collection (EA, 2011).

EA observed used fire extinguisher and retardant, and miscellaneous debris located within and south of the gym during the site reconnaissance. Two abandoned vehicles were observed in the southern parking area.

The following findings were noted during the Phase I ESA:

- Unexploded ordnance could be encountered due to historic military operations,
- A leaking transformer was reported in November 2010
- Chlordane contamination was suspected around the building due to historic naval operations
- Tires, abandoned vehicles, and debris piles south of the gym
- Groundwater obtained from current or future wells located on the subject property for human consumption is prohibited due to historic naval operations and the quitclaim deed,

- Suspected asbestos-containing materials (ACM) were observed during the site reconnaissance and depicted in the 2000 Naval Air Station (NAS) Environmental Baseline Study (EBS) and a NAS Final Inspection Report Excerpt
- Lead based paint (LBP) was reported in the 2000 Naval Air Station (NAS) Environmental Baseline Survey (EBS) for the Former Naval Gymnasium; therefore untested building components or structures should be considered to contain regulated levels of lead until subsequent testing shows otherwise. However, the same combinations of substrate, paint color, and component that tested positive at one location should be assumed to contain lead at locations not specifically sampled.

The Phase II ESA investigation included the collection of grab samples, incremental sampling methodology (ISM) surface soil samples, and ACM and LBP. Pesticides were detected in Decision Unit (DU) 1 and DU2 above the soil environmental screening levels (ESLs) that protect drinking water beneath the site. Heptachlor epoxide was reported at a concentration of 14.4 microgram per kilogram (ug/kg) from DU1. Dieldrin was reported in the incremental sample collected from DU2 at a concentration of 13.8 ug/kg.

The Phase II ESA included a ACM and LBP survey of the building materials. ACM was identified in most floor tiles. All other building materials tested negative for asbestos. The following tested positive for ACM meeting the National Emission Standard for Hazardous Air Pollutants (NESHAP) Category I (non-friable) designation:

- Vinyl floor tile/mastic (12x12- beige)
- Vinyl floor tile/mastic (9x9- green)
- Vinyl floor tile/mastic (12x12- off white)

A total of 305 X-ray florescence spectrum analyzer (XRF) tests were conducted on painted surfaces. These surfaces included: interior and exterior walls, structural steel, walls, doors, door jams, and other miscellaneous building components. These surfaces and other suspect materials were tested and numbered and marked with indelible ink for future reference. Test results indicate LBP to be present on various building components.

2.0 INTRODUCTION

2.1 Purpose

The purpose of this report is to summarize the Phase II ESA findings and comprehensively evaluate findings of the soil investigation performed at the subject site. The evaluation was completed to assess current conditions of soil on the subject site in relation to the Phase I ESA-identified recognized environmental conditions (RECs) and to provide a format that compares these impacts, if warranted, to applicable Guam Environmental Protection Agency (Guam EPA) ESLs for soil.

The purpose of the Phase II ESA is to evaluate, to the extent feasible the RECs identified in the Phase I ESA (EA, 2011) for the purpose of providing sufficient information regarding the nature and extent of contamination to assist in making informed decisions about the property. Field activities were conducted from 11 - 17 April 2012. This Phase II ESA report provides a detailed account of the data obtained during this investigation.

2.2 Detailed Scope of Services

This Phase II ESA was performed in accordance with Guam EPA Contract No. GEPA -010-09, Work Order No. 06, EA Project No. 14818.06, dated 27 March 2012.

This Phase II ESA was performed in accordance with ASTM E-1903-11 (Standard Guide for Environmental Site Assessments: Phase II Environmental Site Assessment Process).

2.3 Limitations and Exceptions

EA does not warrant that there are no toxic or hazardous materials or contamination, nor does EA accept any liability if such are found at some future time, or could have been found if sampling or additional studies were conducted. EA does not assume responsibility for other environmental issues that may be associated with this subject property.

In view of the rapidly changing status of environmental laws, regulations, and guidelines, EA cannot be responsible for changes in laws, regulations, or guidelines that occur after the study has been completed and that may affect the subject property.

This report was prepared for the Guam EPA and is based in part on third party information not within the control of Guam EPA or EA. While it is believed that the third party information contained herein will be reliable under the conditions and subject to the limitations set forth herein, neither Guam EPA nor EA guarantee the accuracy thereof.

2.4 Special Terms and Conditions

The Phase II ESA was limited to soil assessment at the subject site. Groundwater beneath the site and the former NAS property has been documented as impacted with trichloroethylene and tetrachloroethene. Guam EPA has implemented a long-term groundwater monitoring program that encompasses the subject property. Therefore, groundwater assessment at the subject site is not necessary.

2.5 User Reliance

This report is exclusively for the use and benefit of Guam EPA as shown on the cover page of this report. This report is not for the use or benefit of, nor may it be relied upon by, any other person or entity without the advance written consent of EA.

3.0 BACKGROUND INFORMATION

The following section presents background information including a site description, operational history, summary of the findings of the previous investigation, physical setting, and the potential source(s) of contamination at the site.

3.1 Site Location

The Former Naval Gymnasium is legally described as a portion of Lot NAS Agana 19, Tiyan, Guam. The Former Naval Gymnasium is located on the former NAS Agana and bounded by Security Road and Route 16 to the south.

3.2 Site Area Description

The Former Naval Gymnasium site consists of an approximately 10,000 square foot concrete building. Parking areas extend approximately 15 feet along the west and south sides of the building. Surrounding the gym walls and parking areas to the north, east, and south is dense vegetation; the Gate Theater and associated parking area is located to the west of the building. The Former Naval Gymnasium is currently unoccupied. The Former Naval Gymnasium is located to the west of the United States Main Facility Post Office, east of commercial and residential areas, north of Security Road and Route 16, and south of densely vegetated areas. The site is shown in Figure 1 and the sample locations are presented in Figure 2.

3.3 Site Operational History

The Former Naval Gymnasium is located on the former NAS Agana. NAS Agana was closed in 1995. Lot NAS Agana 19 containing the Former Naval Gymnasium was transferred to Government of Guam Department of Parks and Recreation in September 2000. The property has been vacant since the property transfer.

3.4 Previous Investigations

A Phase I ESA was conducted in April 2011. The Phase I ESA included a database and records review; personal interviews; research at the Department of Land Management Records Division; a map, aerial photograph, and archival research; and a site reconnaissance and data collection (EA, 2011).

The facility contained used fire extinguisher and retardant, and miscellaneous debris located within and south of the gym during the site reconnaissance in April 2012. Two abandoned vehicles were observed in the southern parking area.

The following findings were noted during the Phase I ESA:

- Unexploded ordnance could be encountered due to historic military operations,
- A leaking transformer was reported in November 2010
- Chlordane contamination may be present around the building from pest control
- Tires, abandoned vehicles, and debris piles south of the gym
- Groundwater obtained from current or future wells located on the subject property for human consumption is prohibited due to historic naval operations and the quitclaim deed.
- Suspected ACM were observed during the site reconnaissance and depicted in the 2000 NAS EBS and a NAS Final Inspection Report Excerpt.
- LBP was reported during the 2000 NAS EBS for the Former Naval Gymnasium; therefore untested building components or structures should be considered to contain regulated levels of lead until subsequent testing shows otherwise. However, the same combinations of substrate, paint color, and component that tested positive at one location should be assumed to contain lead at locations not specifically sampled.

3.5 Physical Setting

The subject site is located south of the Guam International Airport (GovGuam, 2011), as shown on Figure 1. The elevation of the subject site is relatively flat at approximately 245 feet above mean sea level (USGS, 2000). No surface water features on or near the subject site are apparent. The site is located on a limestone plateau (UOG, 2001). Groundwater is approximately 241 feet below ground surface or 4 feet above mean sea level and flows in a general westerly direction, toward Tumon Bay (WERI, 2004).

Review of the Geologic Map of Guam, published by the University of Guam (UOG) and dated 2001, indicates that the subject site is underlain by the Mariana Limestone. The Mariana Limestone is of Pliocene to Pleistocene age. The Mariana Limestone is composed of reef and lagoonal limestone containing a wide range of lithologies (UOG, 2001).

Review of the United States Department of Agriculture (USDA) Soil Survey of Guam, dated 1988, indicates that the subject site is located in an area comprised of Guam-Urban Land complex soil type with estimated slopes between 0 and 3 percent. The Guam-Urban Land complex is indicative of an area where most of the predominant soil type has been disturbed and covered with an impervious layer consisting of buildings, sidewalks, streets, and other structures (USDA, 1988). The Guam-Urban Land complex soil type is typically shallow with less than two feet thick.

3.6 Human Health and Potential Exposure Pathways

The types of human receptors are site workers and occasional users/trespassers. Although the Former Naval Gymnasium is not currently constrained by land use controls related to environmental conditions, the entire former NAS Agana is considered an “Airport Industrial Complex;” therefore residential use is unlikely. Possible exposure pathways are through inhalation, ingestion, external and dermal contact.

3.7 Environmental and/or Human Impact

There are six areas of concern on the Former Naval Gymnasium property including:

- Transformer oil spillage
- Petroleum and hazardous material release due to onsite vehicle abandonment
- Illegal solid waste disposal along the southern end of the facility
- Presence of lead based paint
- Presence of asbestos containing materials
- Potential chlordane contamination around facility structures

Guam Department of Parks and Recreation Plans for the property include renovating the building. The long term land use plan for the building is to renovate the building as a community youth center. Exposure to the RECs identified at the site, if present, may pose a risk to human health.

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4.0 FIELD METHODOLOGY

The purpose of this section is to describe the methodology for the field investigation. The field investigations included preparatory activities as well as location surveying and equipment decontamination. The work was performed using the Sampling and Analysis Plan (SAP) and Work Plan (WP) (EA, 2012) and the Guam EPA Brownfields Program Quality Assurance Program Plan (QAPP) (Winzler & Kelly, 2008).

4.1 Preparatory Activities

4.1.1 Utility Marking

Prior to initiation of sampling, local utilities were contacted for utility marking. The procedures followed for utility clearance were completed in accordance with the WP.

4.1.2 Site Reconnaissance

A site reconnaissance was conducted to identify the locations of the decision unit (DU) areas prior to commencing field work. A photograph log is included in Appendix A.

4.1.3 Vegetation Clearing

A skid steer loader (bobcat) was used to clear the vegetation to gain access to DU1, DU2, and DU3 areas. No clearing was performed at DU4. Natural revegetation occurs rapidly on Guam; therefore no vegetation restoration was performed. Disturbed areas were left to revegetate naturally.

4.2 Soil Samples

The Phase I ESA report (EA, 2011) indentified potential contaminants of concern present in the surface soil at the Former Naval Gymnasium. Therefore, chemical data was collected to assess whether these contaminants are present at levels that may pose a threat to human health and the environment. Soil samples collected at the site were analyzed for the following parameters:

- Total petroleum hydrocarbons as diesel range organics (TPH-DRO)
- Total petroleum hydrocarbons as residual range organics (TPH-RRO)
- Polychlorinated biphenyls (PCBs)
- Pesticides
- Lead

The objective of the sampling event was to collect data of sufficient quality to assess whether a release to soil has occurred and to evaluate if the property is impacted by the identified potential contaminants at the Former Naval Gymnasium at levels that may impact human health or the environment.

The laboratory results from the soil samples collected were screened and compared to 2009 Guam ESLs for shallow soil (less than or equal to three meters below ground surface [bgs]) for residential land use to determine whether impacts exist at concentrations at or above levels found to be protective of human health and the environment. These screening levels were selected based upon consideration of the potentially complete exposure pathways. Table 1 provides a summary of the samples taken at the site. Subsequent sections describe the sampling methods.

Table 1. Sample Summary

Parameter	Analytical Method	Sample Type	Field Samples	Field Replicates	Trip Blanks	Equipment Blanks
<i>Surface Soil Samples (DU1 through DU4)</i>						
TPH-DRO	SW8015B	ISM	4	2	NA	NA
TPH-RRO	SW8015B	ISM	4	2	NA	NA
PCBs	SW8082A	ISM	2	2	NA	NA
Pesticides	SW8081B	ISM	3	2	NA	NA
Lead	SW6020	ISM	3	2	NA	NA
<i>Surface Soil Samples (Along Perimeter of Former Naval Gymnasium)</i>						
Pesticides	SW8081B	Grab	10	2	NA	NA

Notes:

ISM = incremental sample method

NA = not applicable

4.2.1 Grab Sampling

Discrete (grab) surface (less than six inches bgs) soil samples were collected along the exterior perimeter of the Former Naval Gymnasium at 12 sample locations (Figure 2). At sample locations 006 and 007 an auger attached to a bobcat was used to advance a hole through the asphalt parking lot in order to collect the soil samples. The thickness of the asphalt varied between 4 and 6 inches. Debris including rocks, twigs, and vegetation was removed prior to collecting the sample. Samples were collected using a dedicated EasyDraw Syringe® (disposable sampling equipment intended for one use only) and placed directly into the sample jars. The samples collected along the facility structures were analyzed for organochlorine pesticides by United States Environmental Protection Agency (USEPA) Method SW8081A.

4.2.2 Incremental Sampling

Soil samples were collected at identified DUs at the site using the ISM approach. Surface (less than six inches bgs) soil samples were collected in the Former Naval Gymnasium from the designated decision units DU1 through DU4.

ISM samples were prepared by collecting a minimum of 30 small increments of soil from the specified DU using a dedicated EasyDraw Syringe® for surface soil samples and combining these increments into a single sample, referred to as the ISM sample. The sample theory demonstrates that a minimum of 30 increments of an adequate mass from a given DU of any size will generally result in a sample that is adequately representative of the average contaminant level in the DU as a whole. Individual soil increments weighed approximately 30 grams, with the field ISM sample weighing 900 grams and providing mass sufficient to minimize fundamental error for sample collection after sieving soil samples to the target particle size.

A systematic random sample collection scheme was utilized to collect the sample. The ends of each row and column were marked with flags to establish approximate lines for the collection of increments. Thirty individual increment samples were then placed in the sample container by collecting one incremental sample at the start of each row and at the intersection of the rows and columns. These thirty individual soil increments were combined into a single homogenized sample representing each decision unit.

Two additional replicate ISM samples were collected at a randomly selected subset (10 percent) of the DUs, for a total of three ISM samples collected for these DUs. The second ISM sample were collected by moving the first row 5 feet south of the original row, and then pacing off 20 feet for each column, and collecting an incremental sample approximately five feet south of the previous incremental sample point. The third ISM sample was collected by starting the first row and moving an additional five feet further south, and pacing off 20 feet again.

Individual incremental samples were collected by clearing the area to be sampled of vegetation and collecting 30-gram increments that were then transferred into a sample container consisting of a wide mouth clear liter jar to produce the ISM sample.

Sample containers were closed as soon as they were filled, chilled to 4 degrees Celsius (°C) and processed for shipment to the laboratory.

4.2.3 Asbestos-Containing Materials

ACM samples were collected by Industrial Hygiene Professionals, Inc. (IHP) from the Former Naval Gymnasium insulation, piping, and interior and exterior surfaces. The samples were sent to Schneider Laboratories, Richmond, Virginia, an accredited laboratory for asbestos analysis. The samples were analyzed by polarized light microscopy. A total of 27 samples were collected from 12 homogenous areas. A homogeneous area is defined as an area which is uniform by color, texture, construction/application date and general appearance. The 12 homogeneous areas are presented in Table 1 of the Asbestos and Lead-Based Paint Inspection Report (Appendix B).

4.2.4 Lead-Based Paint Inspection

LBP on the gymnasium and abandoned vehicle locations were analyzed in the field by IHP using X-ray Florescence Spectrum Analyzer (XRF) to determine the lead content of paint in the building. XRF readings greater than 1.0 milligrams per square centimeter (mg/cm^2) must be addressed as an LBP and could represent a possible exposure hazard to workers impacting these coated surfaces under the Occupational Safety and Health Administration (OSHA) regulations in accordance with the Department of Housing and Urban Development definition. The XRF readings below $1.0 \text{ mg}/\text{cm}^2$ are referred to as Lead Containing Paint (LCP) and are not considered to be regulated by OSHA. Current OSHA regulations require that lead containing surfaces potentially affected by building renovation activities be identified prior to conducting these activities. As with any painted surface, the underlying paint layers can vary in color and lead content. Therefore, negative test results for a given component and surface color should not be relied upon for similar appearing components. For instance, the same color surface paint on doors can produce negative results on some doors and be positive (due to underlying paint) on other doors.

4.3 Survey

A site survey was completed using a hand-held global positioning system instrument. Coordinates were recorded for the grab sample locations and the four corners of each DU to document the DU locations and to create maps for this report.

4.4 Equipment Decontamination

Non-dedicated sample equipment that was used to collect soil samples was cleaned by using a brush to remove heavy soil, then soap and water was used to wash the equipment. Potable water was then used to rinse the soapy water from the equipment. The bobcat auger attachment was cleaned prior to and after collecting discrete soil samples at each location along the exterior perimeter of the Former Naval Gymnasium.

Cleaning fluids that were generated consisted of deionized water and water with non-phosphate detergent. The volume of the fluid was small enough (less than one gallon) to allow disposal at each discrete grab sample location. The water was discharged back onto the location where the surface soil sample was collected.

Disposable equipment intended for one time use was not cleaned, but was packaged and properly disposed.

4.5 Sample Custody and Documentation

Sampling information was recorded on a chain-of-custody (COC) record and in a permanently bound field logbook. Sample custody and documentation was conducted in accordance with the SAP.

4.6 Sample Identification

Sample identification numbers were affixed to each sample container and entered on the COC record. Sample identification was performed in accordance with the SAP. The sample number uniquely identified the sample to a specified location.

For example: FNG-001

- The first three characters (**FNG-**) represent the site name (Former Naval Gym).
- The next three digits (**001**) represent the sequential sample number.

For samples requiring multiple containers, a single sample number was applied to every container for that sample. The sample number, along with the date and time of sample collection, was recorded in the field logbook, on the sample log sheet, and on the sample label affixed to every container and entered on the COC record.

4.7 Sample Packaging and Shipping

The laboratory supplied sample containers and appropriate preservation additives, when required. The sample containers were placed in coolers and chilled for transport to the laboratory after the

appropriate labeling and COC records were completed. The procedures followed for sample packaging and shipping were conducted in accordance with the SAP.

Environmental samples from this project were packaged and shipped in a manner that ensured the safety and accountability of each sample, and all procedures were in accordance with applicable federal and local requirements (i.e., USDA permit requirements for shipping soil samples).

4.8 Soil Sample Shipment

The soil samples were shipped to Accutest Laboratory in San Jose, California in insulated containers and were accompanied by a COC record that identified the sample bottles, date and time of sample collection, and analyses requested. The samples were packaged and shipped in accordance with Department of Transportation (DOT) standards. The original COC record was sent to the lab with the samples and a copy was retained in project records. Once received by the laboratory, a sample receipt and storage record was generated.

5.0 SITE FIELD ACTIVITIES

5.1 Gymnasium Perimeter

Twelve (grab) surface soil samples (including two field duplicates) were collected along the perimeter of the gymnasium (Figure 2) at depths from 0 to 6 inches bgs and analyzed for organochlorine pesticides by USEPA Method SW8081A.

No organochlorine pesticides were detected in surface soil samples at concentrations exceeding the residential or commercial ESLs or USEPA regional screening levels (RSLs) (Table 2).

5.2 Decision Unit 1 - Area Behind the Former Naval Gymnasium

DU1 located east of the gymnasium is approximately 25 feet by 60 feet (Figure 2). The DU was divided into two rows of fifteen to create thirty cells. The incremental sample was analyzed for:

- TPH-DRO by USEPA Method SW8015C
- TPH-RRO by USEPA Method SW8015C
- Pesticides by USEPA Method SW8081B
- Lead by USEPA Method SW6020A

TPH-DRO, TPH-RRO, lead, and organochlorine pesticides were not detected above the respective residential or commercial ESLs and USEPA RSLs, with the exception of heptachlor epoxide, which was detected at an estimated concentration of 14.4 microgram per kilogram ($\mu\text{g/kg}$), above the respective residential ESL of 3.1 $\mu\text{g/kg}$ in sample FNG-001 (Table 3).

5.3 Decision Unit 2 – Area Behind the Former Naval Gym

DU2 located along the northern eastern boundary of the site is approximately 130 feet by 35 feet (Figure 2). The DU was divided into two rows of fifteen cells to create 30 sections. The incremental sample was analyzed for:

- TPH-DRO by USEPA Method SW8015C
- TPH-RRO by USEPA Method SW8015C
- Pesticides by USEPA Method SW8081B
- Lead by USEPA Method SW6020A

TPH-DRO, TPH-RRO, lead, and organochlorine pesticides were not detected in surface soil samples above the respective screening levels, with the exception of dieldrin, which was detected at an estimated concentration of 13.8 $\mu\text{g/kg}$ in sample FNG-018, above the respective residential and commercial ESL of 3.3 $\mu\text{g/kg}$ (Table 3).

5.4 Decision Unit 3 – Transformer Leak

DU3 is located in the northwestern area of the site (Figure 2) and is approximately 25 feet by 30 feet. The DU was divided into three rows of ten cells to create 30 cells. The incremental sample was analyzed for:

- TPH-DRO by USEPA Method SW8015C
- TPH-RRO by USEPA Method SW8015C
- PCBs by USEPA Method SW8082A

TPH-DRO, TPH-RRO and PCBs were not detected above the respective screening levels (Table 3).

5.5 Decision Unit 4 – Drainage Ditch

DU4 is located north of the gymnasium (Figure 2) and is approximately 80 feet by 27 feet. The DU was divided into three rows of ten cells to create 30 cells. A duplicate sample was collected at DU4 by following the same procedure for the original sample, but moving the first row 5 feet south of the original row, and then pacing off 20 feet for each column. A triplicate sample was collected at DU4 by following the same procedure for the original sample, but moving the first row 10 feet south of the original row and pacing off 20 feet for each column. The incremental samples were analyzed for:

- TPH-RRO and TPH-DRO by USEPA Method SW8015C
- PCBs by USEPA Method SW8082A
- Pesticides by USEPA Method SW8081B
- Lead by USEPA Method SW6020A

As presented in Table 3 TPH-DRO, TPH-RRO, PCBs, pesticides, and lead were not detected in the surface soil samples above the respective screening levels.

5.6 Asbestos-Containing Materials

ACM samples were collected by IHP from the Former Naval Gymnasium insulation, piping, and interior and exterior surfaces. A total of 27 samples were collected from 12 homogenous sampling areas. A homogenous area is an area which is uniform by color, texture, construction/application date, and general appearance (Asbestos and Lead-Based Paint Inspection Report (Appendix B)).

Sampling areas are listed in Appendix B, Table 1 of the Asbestos and Lead-Based Paint Inspection Report. Samples were shipped with COC forms to Schneider Laboratories, Richmond, VA for analysis by polarized light microscopy.

ACM was identified in most floor tiles. All other building materials tested negative for asbestos. The following tested positive for ACM meeting the NESHAP Category I (non-friable) designation:

- Vinyl floor tile/mastic (12x12- beige)
- Vinyl floor tile/mastic (9x9- green)
- Vinyl floor tile/mastic (12x12- off white)

5.7 Lead-Based Paint

LBP inspections were performed on the Former Naval Gymnasium and abandoned vehicle locations by a qualified lead-based pain inspector using the U.S. Department of Housing and Urban Development (HUD) “Guidelines for the Evaluation and Control of Lead-Based Pain Hazards in Housing” (Asbestos and Lead-Based Paint Inspection Report (Appendix B). Measurements of representative building components were taken using a “Bruker MAP 4 XRF spectrum analyzer set in the “unlimited” mode of precision with a minimum of 95% confidence”.

As summarized in Appendix B, a total of 305 tests were conducted on painted surfaces. These surfaces included: interior and exterior walls, structural steel, walls, doors, door jams, and other miscellaneous building components. These surfaces and other suspect materials were tested and numbered and marked with indelible ink for future reference.

Test results indicate LBP to be present on various building components. Lead concentrations are summarized in Table 3 of Appendix B and locations of LBP surfaces are indicated in the reference diagram of Appendix B.

5.8 Quality Assurance/Quality Control

A quality assurance/ quality control (QA/QC) program was implemented during the field and laboratory activities to ensure the generation of data of known and defensible quality. The requirements for the QA/QC program are outlined in the SAP/WP (EA, 2012) and QAPP (Winzler and Kelly, 2008). The QA/QC program was designed to minimize error, provide early identification and correction of potential problems, control the data acquisition process, and evaluate the performance of the sampling program. The QA/QC procedures were followed in the field as well as at the offsite laboratory.

This section summarizes the results of the data quality assessment and the analytical results for the field QC samples collected during the Phase II field investigation at the Former Naval Gym. The analytical results for the environmental and field replicate QC samples are presented in Tables 2 and 3.

5.9 Field Quality Control Samples

Field QC samples, including field replicates and aliquots for matrix spike/matrix spike duplicate (MS/MSD) samples were collected in accordance with the SAP/WP (EA, 2012) and QAPP (Winzler and Kelly, 2008). No equipment blanks were collected because disposable sampling equipment was used. The results of the field replicate QC samples are discussed below.

Field replicates were collected to evaluate the precision of sampling procedures and laboratory analyses. For samples collected using the incremental sampling methodology approach, field replicates were collected in triplicate from DU4. For grab samples, two field duplicates were collected, one from FNG-008 and one from FNG-014.

The precision between primary and duplicate field sample results is specified in the QAPP (Winzler and Kelly, 2008) as a maximum relative percent difference (RPD) of 35 percent in soil samples. The relative standard deviation (RSD) for replicate incremental soil sample results has also been compared to the 35 percent control limit. The calculated RPDs and RSDs were within the project established limit of 35 percent for original and field replicate results detected above the reporting limit (RL).

5.10 Data Quality Indicators

This section presents a qualitative and quantitative assessment of the analytical data quality. The quantitative assessment of the analytical data was measured using the parameters of precision, accuracy, and completeness. The qualitative assessment of the analytical data quality was measured by assessing the representativeness and comparability of the data. In addition, the sensitivity of the analytical methodology was evaluated. Sample FNG-009 was flagged with a “J” data quality indicator for the pesticide dichloro diphenyl trichloroethane (4,4’ DDT). A “J” flag data qualifier indicates that the analyte was positively identified; however, the concentration is estimated. For sample FNG-099 the sample was identified at a concentration of 20.3 mg/kg. That concentration is above the laboratory method detection limit (MDL), but below the RL. Therefore, the result is as estimated quantitation.

5.10.1 Precision

Precision is defined as the degree of agreement among repeated measurement of the same parameter. Precision is evaluated through the use of field replicate samples to assess the potential bias of field and laboratory conditions on the results, and also through the use of MS

pairs and blank spike samples (also known as laboratory control samples) to assess the laboratory's precision. Precision also characterizes the natural variation of the matrix. The project objectives for precision were achieved based on a review of the field and laboratory QC results.

5.10.2 Accuracy

Accuracy is a measure of the closeness of an observed value to the "true" value. Accuracy is evaluated by the laboratory through the use of blank spike sample (also known as laboratory control samples) recoveries, which are compared to control limits. The project objectives for accuracy were achieved, as the blank spike samples and blank spike sample duplicate results were within acceptable control limits.

5.10.3 Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represent the characteristics of the population that is sampled. The evaluation of field replicate sample results demonstrates that the data collected are representative.

5.10.4 Completeness

Analytical completeness is a measure of the amount of usable data obtained versus the total possible planned data. Completeness was calculated for each analyte, method, and matrix. The evaluation includes a comparison of the number of valid results divided by the possible number of individual results, expressed in a percentage. Usable analytical data were available for the entire set of planned field samples; therefore, the total analytical completeness was 100 percent. The completeness goal was met.

5.10.5 Comparability

Comparability is a qualitative indicator that expresses the confidence with which one data set can be compared to another. This goal is achieved by using standard operating procedures to collect and analyze representative samples and reporting data in standardized formats. Sampling and testing were conducted in accordance with the specification of the project SAP/WP (EA, 2012) and QAPP (Winzler and Kelly, 2008) and are, therefore, deemed to be comparable.

5.10.6 Sensitivity

The sensitivity of the methodology used for the analysis of project samples met the requirements of the project SAP/WP (EA, 2012) and QAPP (Winzler and Kelly, 2008).

5.11 Data Quality Assessment

The analytical results for project samples are acceptable as reported and usable for the intended purpose; none of these data have been qualified, unless noted above. None of these data have been rejected. The data collected as part of the Phase II investigation were found to meet the standards established in the SAP/WP (EA, 2012) and the QAPP (Winzler and Kelly, 2008).

6.0 CONCLUSIONS AND RECOMMENDATIONS

A Phase II ESA was performed on the subject site to provide information on the current conditions of the property relative to findings identified in the Phase I ESA.

The Phase II ESA investigation included the collection of grab samples, ISM surface soil samples, and ACM and LBP. Pesticides were detected in DU1 and DU2 above the soil ESLs that protect drinking water beneath the site. Heptachlor epoxide was reported at a concentration of 14.4 ug/kg from DU1. Dieldrin was reported in the incremental sample collected from DU2 at a concentration of 13.8 ug/kg.

ACM and LBP were identified in the asbestos and lead paint survey conducted on the Gym Building. The following tested positive for ACM meeting the NESHAP Category I (non-friable) designation:

- Vinyl floor tile/mastic (12x12- beige)
- Vinyl floor tile/mastic (9x9- green)
- Vinyl floor tile/mastic (12x12- off white)

Test results indicate LBP to be present on various building components (Appendix B). Lead concentrations are summarized in Table 3 of Appendix B and locations of LBP surfaces are indicated in the reference diagram of Appendix B.

Guam Department of Parks and Recreation Plans for the property include renovating the building. The proposed use for the building and surrounding property is a community youth center.

Additional soil samples should be collected from DU1 and DU2 to delineate the vertical and lateral extent of pesticides in soil and to evaluate risks to human health and the environment.

ACM was identified in most floor tiles. All other building materials tested were negative for asbestos. A Category I designation requires removal of the areas/form as they may be rendered friable (ability to crumble) as a result of renovation/demolition activities (Asbestos and Lead-Based Paint Inspection Report (Appendix B)). These materials should be removed in accordance with the EPA NESHAP regulations prior to renovation/demolition activities which will disturb those materials. Removal/disposal and or disturbance of ACM shall be done by a qualified asbestos abatement contractor in accordance with the OSHA asbestos standard for construction (29 Code of Federal Regulations (CFR) 1926.1101) and all other applicable OSHA/EPA regulations. Removal/disposal activities should be contracted to an independent Certified

Industrial Hygienist (CIH) to prepare the abatement plan, direct air monitoring, and provide final clearance certification upon completion.

Test results indicate LBP to be present on various building components (Appendix B). At this time there are no federal or state regulations that specifically identify testing procedures for non-residential structures scheduled for renovation. The OSHA lead in construction standard found at 29 CFR 1926.62 states that workers impacting materials identified as either LCP or LBP are potentially at risk for exposure to lead. Current OSHA regulations require that lead-containing surfaces that may be affected by building renovation activities be identified prior to conducting these activities.

Underlying paint layers can vary in color and lead content. Therefore, negative test results for a given surface and surface paint color should not be relied upon for similar appearing materials.

Although LCP is not required to be abated prior to renovation activities, contractors working on lead-based paint materials and/or working in the area of lead-containing paint should be notified of its presence and must adhere to the requirements of OSHA 1926.62. In addition, toxicity characteristic leaching procedure (TCLP) testing of lead-containing waste generated during facility renovation should be conducted to determine waste disposal requirements.

Table 4: Status of RECs

Phase I REC	REC Addressed per Phase II Finding(s).	Outcome
Transformer oil spillage	Yes	No concentration of PCBs detected in soil sample above the ESL.
Petroleum and hazardous material release due to onsite vehicle abandonment	Yes	LBP on abandoned vehicle locations were analyzed in the field by IHP using XRF.
Illegal solid waste disposal along the southern end of the facility	Yes	Soil sample results and analyzed for petroleum constituents were below the ESL. No leaking petroleum fuel is associated with the illegal dumping.
Presence of lead based paint	Yes	LBP on the gymnasium and abandoned vehicle locations were analyzed in the field by IHP using XRF. Test results indicate LBP to be present on various building components
Presence of asbestos containing materials	Yes	ACM samples were collected by IHP from the Former Naval Gymnasium insulation, piping, and interior and exterior surfaces. ACM was identified in most floor tiles. All other building materials tested negative for asbestos.
Potential chlordane contamination around facility structures	Yes	Twelve grab samples were collected along the perimeter of the site and analyzed. Pesticides were detected above the ESLs for DU1 and DU2.

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7.0 REFERENCES

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Figures

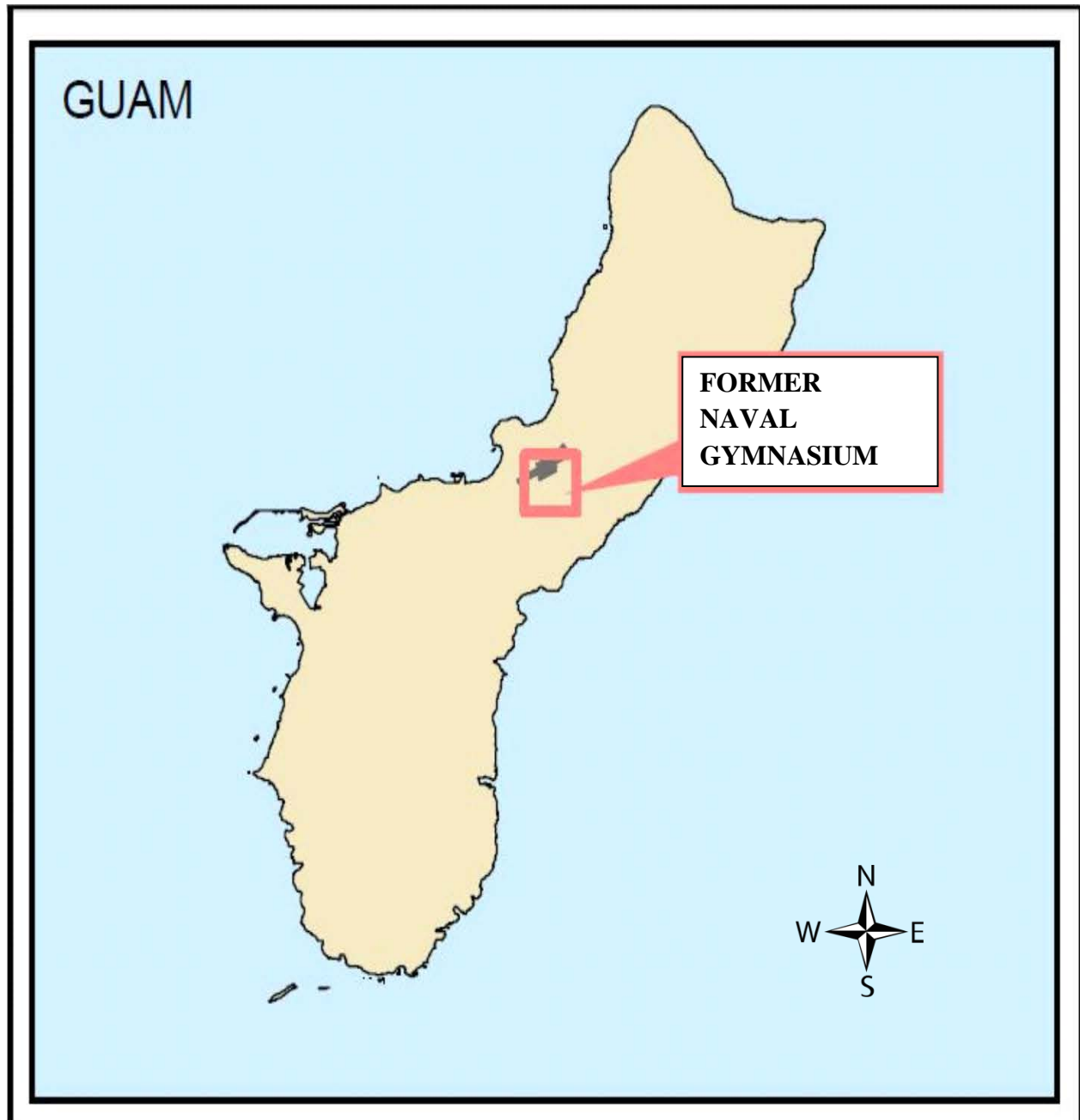
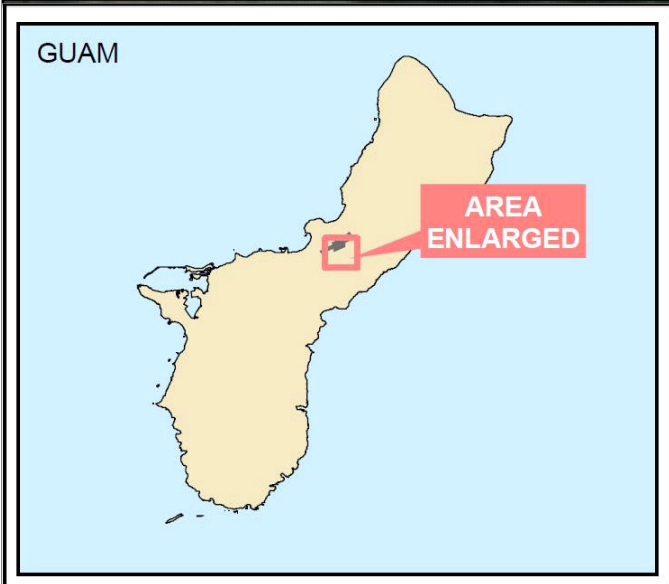


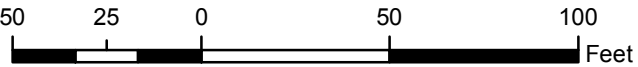
Figure 1: Overview

FORMER NAVAL GYMNASIUM PHASE II LOT NAVAL AIR STATION AGANA 19, TIYAN, GUAM	Date: 05/30/12	EA Project No. 1481806	Drawing No. Fig 1_ Overview
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Legend

- ▲ Discrete (Grab) Surface Sample Location
- ▲ Incremental Sampling Methodology (ISM)- Each DU consist of 30 surface grab samples collected to make 1 composite ISM
- Decision Unit (DU) Boundary Location
- Project Boundary



EA Engineering, Science, and Technology, Inc. 1001 Army Drive, Suite 103, Barrigada, 96913-1402 Telephone: (671) 646-5231 Facsimile: (671) 646-5230		FORMER NAVAL GYMNASIUM PHASE II LOT NAVAL AIR STATION AGANA 19, TIYAN, GUAM	
Drawing No. Fig 2_ Sample Location Map		Date: 08/26/12	Drawn By: JSoriano
		EA Project No. 1481806	

Appendix A

Photograph Log



DU 1 Cleared and Marked for Increment Sample Locations



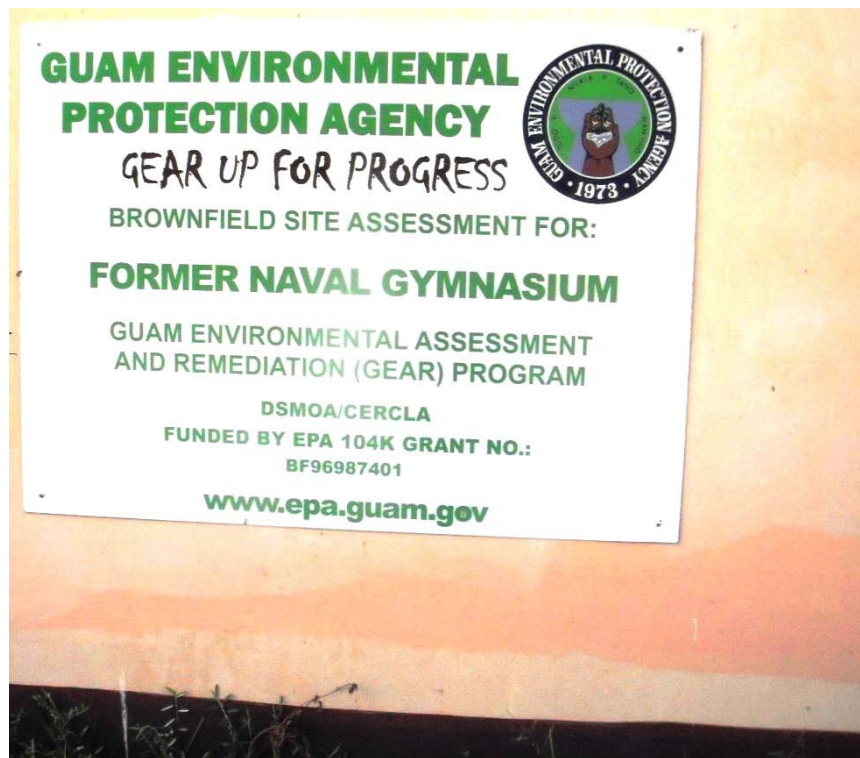
DU 2 Prior to Clearing



Incremental Sample Collection DU 3 Located North of Former Gym



DU 4 Incremental Soil Sample. DU 4 Located Near Northern Boundary of Subject Site.



Brownfield Program Signage on Gym Building



Grab Sample Collected Near Electrical Transformer North of Gym Building



Bobcat with Auger Attachment Advances Hole Through Asphalt



Technician and XRF Instrument for LBP Analysis

Appendix B

Asbestos and Lead-Based Paint Inspection Report

ASBESTOS AND LEAD-BASED PAINT INSPECTION REPORT

*Former Naval Gymnasium, Bldg. 15-6107
Tiyan, Guam*

Inspection Dates: April 12-13, 2012
Report Date: May 17, 2012

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APPENDIX B – XRF PERFORMANCE CHARACTERISTIC SHEET

APPENDIX C – SITE DIAGRAMS

APPENDIX D – ASBESTOS LABORATORY REPORT AND CHAIN-OF-CUSTODY FORMS

1.0 PURPOSE AND SCOPE

The purpose of this inspection was to determine if asbestos-containing materials (ACM) and lead-based paint (LBP) are present at the Former Naval Gymnasium, Bldg. 15-6107, Tiyan, Guam prior to renovation activities which may disturb these materials.

2.0 METHODS

2.1 Asbestos Containing Materials (ACM)

A total of 27 samples were collected from 12 homogenous sampling areas by EPA-Accredited Asbestos Building Inspectors. A homogeneous area is an area which is uniform by color, texture, construction/application date, and general appearance.

Table 1. Summary of Homogenous Sampling Areas, Bldgs. 15-6107, Tiyan, Guam.

Homogeneous Sampling Area	Description / Location (See Sample Map)
Homogeneous Area A	Vinyl floor tile/mastic (12 x 12 - beige)
Homogeneous Area B	Vinyl floor tile/mastic (9 x 9- green)
Homogeneous Area C	Ceiling texture
Homogeneous Area D	Floor matting w/mastic
Homogeneous Area E	Cove base w/mastic - brown
Homogeneous Area F	Stair covering w/ mastic
Homogeneous Area G	Vinyl floor tile/mastic (12 x 12 - green)
Homogeneous Area H	Vinyl floor tile/mastic (12 x 12 – off white)
Homogeneous Area I	Ceiling tile
Homogeneous Area J	Cove base w/mastic - black
Homogeneous Area K	Fibrous pipe insulation
Homogeneous Area L	Roofing material

Each layer of a material counts as a separate sample (analysis) at the laboratory. For example, a vinyl floor tile or cove base with adhering mastic counts as two samples (two separate analyses). For the purpose of this inspection, floor tiles and cove bases and the associated mastics were considered one homogeneous area for sampling and sample identification.

Samples were shipped with chain-of-custody forms to an American Industrial Hygiene Association (AIHA)/National Voluntary Lab Accreditation Program (NVLAP) accredited laboratory (Schneider Laboratories, Richmond, VA) for analysis by polarized light microscopy (PLM). Laboratory Certifications are included in Appendix A.

Samples containing greater than one percent (> 1%) asbestos are reported as asbestos-containing materials (ACM) as per US EPA and OSHA regulations. Table 1 includes a list of all homogeneous sampling areas.

2.2 Lead-Based Paint (LBP)

Lead-based paint inspections were performed by a qualified Lead-Based Paint Inspector using the U.S. Department of Housing and Urban Development (HUD) *“Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing”*. Inspector certifications are included in Appendix A.

Measurements of representative building components were taken using a Bruker MAP 4 X-Ray Fluorescence (XRF) spectrum analyzer (serial number: M41463) set in the “unlimited” mode of precision with a minimum of 95% confidence. Off-site and on-site calibration checks were performed prior to testing in accordance with manufacturer instructions. The XRF Performance Characteristic Sheet is included in Appendix B.

A total of 305 tests were conducted on painted surfaces including interior and exterior walls, structural steel, walls, doors, door jambs, and other miscellaneous building components. Additionally, other suspect materials such as tiles were tested to determine lead content. Ceramic tiles are technically not lead-based paint but lead may be present in the glaze on the tiles. Each surface tested was numbered and marked with indelible ink for future reference.

U.S. Environmental Protection Agency and HUD standards regulate paint containing greater than or equal to one milligram per square centimeter ($\geq 1.0 \text{ mg/cm}^2$) or 0.5 percent ($\geq 0.5\%$) lead as lead-based paint (LBP), and will be reported as LBP.

Surfaces found to contain concentrations greater than zero milligrams per square centimeter ($> 0.00 \text{ mg/cm}^2$) and less than one milligram per square centimeter ($< 1.0 \text{ mg/cm}^2$) will be reported as Lead-Containing Paint (LCM).

Based on the XRF Performance Characteristic Sheet, the instrument has an inconclusive range between 0.91 mg/cm^2 and 1.19 mg/cm^2 . Any result within the inconclusive range will be noted as “Inconclusive”.

Surfaces found to contain concentrations less than or equal to zero milligrams per square centimeter ($\leq 0.00 \text{ mg/cm}^2$) will be reported as “No Lead” or “Negative”.

3.0 RESULTS

3.1 Asbestos Containing Materials (ACM)

ACM was identified in most floor tiles. All other building materials tested were negative (none detected) for asbestos.

A summary of building materials that tested positive for ACM is included in Table 2. Locations of the ACM are referenced in Appendix C. The laboratory reports and completed chain-of-custody (COC) forms are also provided in Appendix D.

Table 2. Summary of ACM for Bldgs. 15-6107, Tiyan, Guam.

Homogeneous Area	Location	Condition	NESHAP Designation
A: Vinyl floor tile/mastic (12 x 12 - beige)	See Appendix A	Good	Category I
B: Vinyl floor tile/mastic (9 x 9 - green)	See Appendix A	Good	Category I
H: Vinyl floor tile/mastic (12 x 12 - off white)	See Appendix A	Good	Category I
NESHAP Designations: Category I Non-friable ACM - Packings, gaskets, resilient flooring and asphalt roofing products. Category II Non-friable ACM - Any non-friable ACM not included in Category I. Regulated ACM (RACM) - Friable ACM or Category I or II ACM that has become or may become friable.			

3.2 Lead-Based Paint (LBP)

Results indicate that LBP is present on various building components in gymnasium. Lead concentrations in mg/cm^2 for the tested surfaces are summarized in Table 3. A reference diagram of the building and the relative locations of the surfaces with LBP are included in the Appendix A. For further reference, locations of test surfaces can be identified on-site by the shot # and relative location/description as detailed in the table below.

Table 3. LBP Testing Results, Former Naval Gymnasium, Bldg. 156107, Tiyan, Guam

Shot #	Location/Description	K-Shell (mg/cm^2)	L-Shell (mg/cm^2)
1	Exterior - Western Wall	ERROR	ERROR
2	Exterior - Western Wall	0.65	1.97
3	Exterior - Western Wall	-1.63	2.69
4	Exterior - Western Wall	0.39	0.62
5	Exterior - Western Wall	0.52	0.75
6	Exterior - Western Wall	0.66	0.45
7	Exterior - Northern Wall	0.22	0.48
8	Exterior - Northern Wall	0.51	0.53
9	Exterior - Northeastern Wall	-2.69	0.98
10	Exterior - Eastern Wall	0.82	0.87
11	Exterior - Eastern Wall	0.48	0.46
12	Exterior - Eastern Wall	0.12	0.52
13	Exterior Southern Wall	0.30	0.02
14	Exterior - Southwestern Staircase	0.30	0.23
15	Exterior - Southwestern Staircase, Steps, Yellow	0.55	0.44
16	Exterior - Southwestern Staircase, Steps, Yellow	-0.58	-0.05

17	Exterior - Trim, Dark Brown	0.38	0.25
18	Exterior - Trim, Dark Brown	0.11	0.47
19	Exterior - Main Entrance Steps	-0.19	1.59
20	Exterior - Main Entrance Steps	-0.18	0.25
21	Exterior - Main Entrance Steps	-0.29	0.34
22	Exterior - Main Entrance, Painted Metal Surfaces, Railings	0.49	
23	Exterior - Main Entrance, Painted Metal Surfaces, Railings	0.40	
24	Exterior - Main Entrance, Painted Metal Surfaces, Railings	0.60	
25	Exterior - Northern Wall, Metal Door	0.13	
26	Exterior - Northern Wall, Metal Door Jamb	-0.70	
27	Exterior - Northern Wall, A/C Duct Angle Support	-0.23	
28	Exterior - Northern Wall, A/C Duct	0.01	
29	Exterior - Northern Wall, Interior Of Metal Door	-0.38	
30	Exterior - Northern Staircase, Handrail	0.21	
31	Exterior - Metal Door (2nd Floor, "Aerobics Room")	-0.13	
32	Exterior - Metal Door (2nd Floor, "Aerobics Room")	-0.81	
33	Exterior - Metal Door Jamb (2nd Floor, "Aerobics Room")	0.12	
34	Exterior - Out-Of-Service Transformer, Green	3.63	
35	Exterior - Out-Of-Service Transformer, Green	2.87	
36	Exterior - Eastern Wall, Metal Door (Weight Room)	-0.01	
37	Exterior - Eastern Wall, Metal Door (Weight Room)	-0.17	
38	Exterior - Eastern Wall, Metal Door (Utility Room)	0.30	
39	Interior - Utility Room, Water Heater Unit	0.25	
40	Interior - Utility Room, A/C Unit	0.08	
41	Interior - Utility Room, A/C Duct	-0.52	
42	Interior - Utility Room, Electrical Panel	0.28	
43	Exterior - Eastern Wall, Power Disconnect/Switch	0.28	
44	Exterior - Eastern Wall, Metal Frame	0.32	
45	Exterior - Eastern Wall, Truck Bed	0.22	
46	Exterior - Eastern Wall, Freezer	0.24	
47	Exterior - South/Southwestern Door	-0.60	
48	Exterior - South/Southwestern Walkway, Black	0.34	
49	Exterior - South/Southwestern Walkway, Yellow	2.88	2.13
50	Exterior - South/Southwestern Walkway, Leading Edge, Yellow	1.84	2.77
51	Exterior - South/Southwestern Walkway, Leading Edge, Yellow	3.15	2.5
52	Exterior - Western Parking Lot, Lines, Yellow & White	-0.24	0.67
53	Exterior - Western Wall Walkway, Leading Edge, Blue	-0.19	0.26
54	Exterior - Western Wall Walkway, Concrete Ramp, Yellow	0.07	0.8
55	Exterior - Western Parking Lot, Lines, Yellow	-0.14	0.26
56	Interior - Gymnasium Walls, White	-0.03	0.35

57	Interior - Gymnasium Walls, White	-2.29	0.62
58	Interior - Gymnasium Walls, White	0.26	0.4
59	Interior - Gymnasium Walls, White	0.11	1.71
60	Interior - Gymnasium Walls, White	0.10	0.17
61	Interior - Gymnasium Walls, White	-0.35	0.19
62	Interior - Gymnasium Walls, White	-0.19	0.39
63	Interior - Gymnasium Walls, White	0.24	0.57
64	Interior - Gymnasium Walls, White	0.39	1.16
65	Interior - Gymnasium Walls, White	0.29	0.27
66	Interior - Gymnasium Floor	-0.09	0.35
67	Interior - Gymnasium Floor	-0.03	0.74
68	Interior - Gymnasium Floor	-0.30	0.38
69	Interior - Wooden Door Found In Gymnasium	0.54	3.48
70	Interior - Reception Area, Concrete, White	2.48	0.63
71	Interior - Reception Area, Concrete, White	1.01	0.83
72	Interior - Reception Area, Concrete, White	2.22	1.2
73	Interior - Reception Area, Concrete, White	0.07	0.55
74	Interior - Reception Area, Concrete, White	0.10	0.33
75	Interior - Reception Area, Concrete, White	-1.42	1.09
76	Interior - Reception Area, Concrete, Green	2.34	0.83
77	Interior - Reception Area, Concrete, Green	1.61	0.57
78	Interior - Reception Area, Concrete, Pink	-0.08	0.56
79	Interior - Reception Area, Concrete, Pink	-0.38	0.11
80	Interior - Reception Area, Concrete, White	1.96	0.67
81	Interior - Reception Area, Concrete, Off White	0.31	0.27
82	Interior - Reception Area, Concrete, White	0.17	0.19
83	Interior - Reception Area, Concrete, Blue	1.49	0.81
84	Interior - Reception Area, Concrete, Green	-0.93	0.41
85	Interior - Hallway, Southern Wall, White	-0.13	2.15
86	Interior - Hallway, Southern Wall, White	0.41	1.37
87	Interior - Hallway, Southern Wall, White	3.48	0.51
88	Interior - Hallway, Southern Wall, White	-0.37	0.32
89	Interior - Hallway, Southern Wall, White	0.09	0.34
90	Interior - Hallway, Southern Wall, White	0.09	-0.66
91	Interior - Hallway, Southern Wall, White	0.04	0.51
92	Interior - Hallway, Southern Wall, White	1.32	0.65
93	Interior - Hallway, Southern Wall, White	1.77	0.61
94	Interior - Hallway, Southern Wall, White	-0.54	-0.02
95	Interior - Hallway, Southern Wall, White	0.33	0.21
96	Interior - Hallway, Southern Wall, White	0.36	0.31

97	Interior - Hallway, Southern Wall, White	0.47	0.36
98	Interior - Hallway, Southern Wall, Green	2.36	1.39
99	Interior - Hallway, Southern Wall, Green	2.65	0.31
100	Interior - Hallway, Southern Wall, Green	-0.12	0.5
101	Interior - Hallway, Southern Wall, Green	2.09	0.43
102	Interior - Hallway, Southern Wall, Green	0.03	-0.11
103	Interior - Hallway, Southern Wall, Green	3.10	1.28
104	Interior - Hallway, Southern Wall, Pink	-0.05	0.29
105	Interior - Hallway, Southern Wall, Pink	-0.63	-0.25
106	Interior - Hallway, Southern Wall, Pink	2.44	0.29
107	Interior - Hallway, Southern Wall, Pink	0.10	-0.23
108	Interior - Hallway, Southern Wall, Pink	0.43	0.31
109	Interior - Hallway, Southern Wall, Pink	0.56	0.25
110	Interior - Hallway, Northern Wall	1.88	0.58
111	Interior - Hallway, Northern Wall	0.13	0.19
112	Interior - Hallway, Northern Wall	2.04	0.61
113	Interior - Hallway, Northern Wall	0.58	0.31
114	Interior - Hallway, Northern Wall	-1.26	0.72
115	Interior - Hallway, Northern Wall	1.70	0.66
116	Interior - Hallway, Northern Wall	-1.81	0.78
117	Interior - Hallway, Northern Wall	0.31	0
118	Interior - Hallway, Northern Wall	3.81	0.84
119	Interior - Hallway, Northern Wall Doors	-0.23	-0.68
120	Interior - Hallway, Northern Wall Doors	0.27	-0.55
121	Interior - Hallway, Northern Wall Doors	-0.02	-0.53
122	Interior - Hallway, Northern Wall Doors	0.11	-0.48
123	Interior - Hallway, Southern Wall Doors	0.14	-0.19
124	Interior - Hallway, Southern Wall Doors	-0.86	-0.35
125	Interior - Hallway, Southern Wall Doors	1.30	0.18
126	Interior - Rm# 1, Walls, Brown	0.65	0.34
127	Interior - Rm# 1, Walls, Brown	-0.19	0.34
128	Interior - Rm# 1, Walls, Brown	-0.39	0.7
129	Interior - Rm# 1, Gypsum	0.27	0.25
130	Interior - Rm# 2, Gypsum	-0.01	0.02
131	Interior - Rm# 2, Walls, White	0.57	0.32
132	Interior - Rm# 2, Walls, Brown	0.10	0.97
133	Interior - Rm# 2, Walls, Brown	0.28	0.25
134	Interior - Rm# 2, Walls, White	0.39	0.24
135	Interior - Rm# 2, Walls, White	0.19	0.26
136	Interior - Rm# 2, Walls, White	0.57	0.35

137	Interior - Rm# 2, Walls, White	-0.48	-0.07
138	Interior - Rm# 2, Walls, White	0.48	0.23
139	Interior - Rm# 3, Walls, White	0.35	0.16
140	Interior - Rm# 3, Walls, White	-0.06	-0.18
141	Interior - Rm# 4, Walls, White	0.52	0.13
142	Interior - Rm# 4, Walls, White	0.22	0.31
143	Interior - Rm# 5, Walls, Brown	-0.19	0.2
144	Interior - Rm# 5, Walls, Brown	-0.15	0.38
145	Interior - Rm# 5, Walls, Brown	0.26	0.37
146	Interior - Rm# 5, Walls, Brown	-0.10	-0.01
147	Interior - Rm# 5, Walls, Beige	0.09	0.15
148	Interior - Rm# 5, Walls, White	0.43	0
149	Interior - Rm# 5, Walls, White	0.46	0.26
150	Interior - Rm# 5, Walls, White	0.04	0.43
151	Interior - Rm# 6 Walls, Green	-0.03	0.91
152	Interior - Rm# 6 Walls, Green	0.58	0.36
153	Interior - Tiles, 4X4, Green	-0.36	-1.07
154	Interior - Tiles, 4X4, Green	-0.34	-0.93
155	Interior - Rm# 7, Floor Tiles, 1x1	0.39	-0.11
156	Interior - Rm# 5, Lockers Black	0.62	0.53
157	Interior - Rm# 5, Lockers Black	0.59	0.55
158	Interior - Rm# 5, Door Jamb	ERROR	ERROR
159	Interior - Rm# 5, Door Jamb, Brown	0.28	
160	Interior - Rm# 5, Door Jamb, Green	0.53	
161	Interior - Rm# 4, Door Jamb, Green	3.80	
162	Interior - Door Jamb, Hallway	0.10	
163	Interior - Rm# 2, Door Jamb	0.31	
164	Interior - Rm# 2, Door Jamb	-0.42	
165	Interior - Door Jamb	-0.29	
166	Interior - Door Jamb, Hallway	2.54	
167	Interior - Door Jamb	0.39	
168	Interior - Door Jamb	1.73	
169	Interior - Door Jamb To Exterior Door	0.39	
170	Interior - Bathroom Partition	-0.63	
171	Interior - Rm# 9, Door Jamb	0.59	
172	Interior - Rm# 9, Walls, Brown	-0.02	0.34
173	Interior - Rm# 9, Walls, Brown	-1.71	0.15
174	Interior - Rm# 9, Walls, White	0.48	0.18
175	Interior - Rm# 9, Walls, White	-0.36	0.63
176	Interior - Rm# 9, Walls, Green	0.04	0.54

177	Interior - Rm# 9, Walls, Green	0.25	0.29
178	Interior - Eastern Hallway (White)	0.56	0.21
179	Interior - Eastern Hallway (White)	0.57	0.22
180	Interior - Eastern Hallway (White)	0.21	0.28
181	Interior - Eastern Hallway (White)	3.36	1.45
182	Interior - Eastern Hallway (White)	3.42	1.49
183	Interior - Eastern Hallway (White)	2.63	0.69
184	Interior - Eastern Hallway (White)	0.48	0.46
185	Interior - Eastern Hallway (White)	0.44	0.5
186	Interior - Eastern Hallway (White)	-2.69	-0.64
187	Interior - Eastern Hallway (White)	0.57	0.29
188	Interior - Eastern Hallway (White)	2.75	0.84
189	Interior - Eastern Hallway (White)	3.92	0.2
190	Interior - Eastern Hallway (White)	0.71	0.13
191	Interior - Eastern Hallway (White)	-2.58	0.37
192	Interior - Eastern Hallway (White)	0.40	0.39
193	Interior - Eastern Hallway (White)	-0.54	0.52
194	Interior - Eastern Hallway (White)	-0.23	0.12
195	Interior - Eastern Hallway (Green)	0.59	0.2
196	Interior - Eastern Hallway (Green)	-0.98	0.29
197	Interior - Eastern Hallway (Green)	0.75	0.13
198	Interior - Eastern Hallway (Green)	0.65	0.22
199	Interior - Eastern Hallway (Green)	1.67	0.7
200	Interior - Eastern Hallway (Green)	1.95	0.49
201	Interior - Eastern Hallway (Green)	3.63	0.91
202	Interior - Eastern Hallway (Pink)	0.13	0.39
203	Interior - Eastern Hallway (Pink)	-0.74	0.22
204	Interior - Eastern Hallway (Pink)	0.48	0.61
205	Interior - Eastern Hallway (Pink)	-0.84	0.49
206	Interior - Eastern Hallway (Pink)	0.00	-0.11
207	Interior - Eastern Hallway (Pink)	0.50	0.36
208	Interior - Rm# 10, Walls	0.12	-0.11
209	Interior - Rm# 10, Walls	-0.05	0.07
210	Interior - Rm# 10, Walls	-0.12	0.45
211	Interior -Rm# 10, Tiles, Dark Green	0.28	-2.63
212	Interior -Rm# 10, Tiles, Light Green	0.33	-1.45
213	Interior -Rm# 10, Tiles, Yellow	0.18	-1.62
214	Interior - Rm# 10, Door Jamb	0.11	
215	Interior - Rm# 10, Toilet Partitions	0.37	
216	Interior - Rm# 11, Door Jamb	-0.67	

217	Interior - Rm# 11, Toilet Partitions	0.02	
218	Interior - Rm# 11, Tiles, Yellow	-1.60	-1.62
219	Interior - Rm# 11, Floor Tiles	0.26	-0.35
220	Interior - Rm# 11, Walls, White	0.34	0.44
221	Interior - Rm# 11, Walls, Brown	0.59	0.31
222	Interior - Rm# 11, Walls, Beige	0.13	0.25
223	Interior - Rm# 12, Wall, Brown	0.52	0.22
224	Interior - Rm# 12, Wall, White	-1.92	0.35
225	Interior - Rm# 13, Wall, Green	0.49	0.44
226	Interior - Rm# 13, Wall, Green	0.34	-1.4
227	Interior - Rm# 13, Floor Tiles	0.63	0.11
228	Interior - Rm# 13/14/15, Walls, Green	-0.08	0.65
229	Interior - Rm# 13/14/15, Tile, Light Green	-0.57	-0.76
230	Interior - Rm# 16 Wall Beige	0.45	0.37
231	Interior - Rm# 16 Wall White	-0.90	0.23
232	Interior - Rm# 16, Wall, Beige	-0.38	0.75
233	Interior - Rm# 16, Door, Green	-0.85	-0.02
234	Interior - Rm# 16, Door Jamb	0.52	
235	Interior - Rm# 17, Door Jamb	0.17	
236	Interior - Rm# 17 Door, Green	0.44	0.06
237	Interior - Rm# 18, Concrete Wall, White	0.24	0.3
238	Interior - Rm# 18, Concrete Wall, White	-0.92	-0.05
239	Interior - Rm# 19, Door Green	0.81	0.55
240	Interior - Rm# 19, Wall Beige	-0.12	-0.67
241	Interior - Rm# 19, Wall Beige	0.12	-0.73
242	Interior - Rm# 19, Wall White	0.03	0.42
243	Interior - Rm# 19, Wall White	0.11	0.04
244	Interior - Rm# 19, Wall White	-1.25	0.92
245	Interior - Rm# 19, Door	-0.28	-0.01
246	Interior - Rm# 20, Door	1.82	0.43
247	Interior - Rm# 20, Door	1.53	0.42
248	Interior - Rm# 20, Wall, White	0.25	-0.45
249	Interior - Rm# 20, Wall, White	-0.28	-0.61
250	Interior - Rm# 20, Door Jamb	0.48	
251	Interior - Rm# 21, Door Jamb	-0.21	
252	Interior - Rm# 22, Door Jamb	0.31	
253	Interior - Rm# 23, Door Jamb	-1.12	
254	Interior - Rm# 22/23 Concrete Wall White	-0.44	0.55
255	Interior - Rm# 22/23 Concrete Wall White	0.72	0.07
256	Interior - Rm# 22/23 Concrete Wall White	0.18	0.33

257	Interior - Rm# 21, Door Green	0.54	0.2
258	Interior - Rm# 21, Wall, Beige	0.52	0.31
259	Interior - Rm# 21, Wall, Beige	0.31	0.15
260	Interior - Rm# 24, Walls, White	-1.29	0.56
261	Interior - Rm# 24, Walls, White	0.58	0.46
262	Interior - Rm# 24, Walls, White	0.67	0.42
263	Interior - Rm# 24, Walls, White	0.04	0.59
264	Interior - Rm# 24, Column Metal	0.11	
265	Interior - Rm# 24, Column Metal	0.14	
266	Interior - Rm# 24, Overhead Beam Metal White	-0.25	
267	Interior - Rm# 24, Overhead Beam Metal Orange	-0.90	
268	Interior - Rm# 24, Overhead Beam Metal Blue	-0.18	
269	Interior - Rm# 24, Overhead Beam Metal Purple	0.24	
270	Interior - Rm# 25, Door Jamb	0.18	
271	Interior - Rm# 25, Staircase	0.37	
272	Interior - Rm# 25, Walls, White	0.16	0.39
273	Interior - Rm# 25, Walls, Purple	0.36	0.41
274	Interior - Rm# 25, Walls, Blue	0.64	0.19
275	Interior - Rm# 26, Door Jamb, Wood	0.23	-0.3
276	Interior - Rm# 26, Walls, White	-0.09	0.4
277	Interior - Rm# 26, Walls, White	-0.35	0.11
278	Interior - Rm# 26, Walls, White	0.62	0.27
279	Interior - Rm# 26, Walls, Green	-1.02	-0.02
280	Interior - Rm# 26, Walls, Purple	0.25	0.22
281	Interior - Rm# 27, Walls, Blue	0.06	0.48
282	Interior - Rm# 27, Walls, Blue	0.53	0.41
283	Interior - Rm# 28, Walls, Blue	0.21	0.32
284	Interior - Rm# 28, Walls, Blue	0.57	0.28
285	Interior - Rm# 28, Floor, Gray	0.11	0.44
286	Interior - Rm# 28, Floor, Yellow	-0.64	0.27
287	Interior - Rm# 28, Handrail, Black	0.14	
288	Interior - 2nd Floor Hallway, Wall, Blue	0.61	0.26
289	Interior - 2nd Floor Hallway, Wall, Blue	0.02	0.09
290	Interior - 2nd Floor Hallway, Wall, Blue	-0.49	0.08
291	Interior - 2nd Floor Hallway, Wall, Blue	0.34	0.38
292	Interior - 2nd Floor Hallway, Wall, White	0.26	0.43
293	Interior - 2nd Floor Hallway, Wall, White	0.00	0.21
294	Interior - 2nd Floor Hallway, Wall, White	-0.23	0.49
295	Interior - 2nd Floor Hallway, Wall, White	-0.43	0.56
296	Interior - 2nd Floor Hallway, Wall, White	-0.04	0.36

297	Interior - 2nd Floor Hallway, Wall, White	0.47	0.15
298	Interior - 2nd Floor Hallway, Handrail, Black (Metal)	0.57	
299	Interior - 2nd Floor Hallway, Metal Cage, Beige	0.21	
300	Interior - 2nd Floor Hallway, Door Jamb	-0.01	
301	Interior - 2nd Floor Hallway, Door	-0.07	
302	Interior - Rm# 17, Ceiling, White	ERROR	ERROR
303	Interior - Rm# 17, Ceiling, White	-0.23	0.67
304	Roof Coating	-0.03	0.01
305	Roof Access Ladder	0.49	
SUMMARY/LEGEND			
Lead-Based Paint (≥ 1.00 mg/cm²)		37	
Inconclusive (>0.91 mg/cm², ≤ 1.19 mg/cm²)		1	
Lead-Containing Paint (>0.00 mg/cm², ≤ 0.99 mg/cm²)		164	
No Lead, Negative (<0.0 mg/cm²)		100	
ERROR		3	
TOTAL		305	

4.0 RECOMMENDATIONS

4.1 Asbestos Containing Materials (ACM)

The U.S. EPA National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations (40 CFR subpart M, part 61) require the removal of friable forms of asbestos and non-friable forms that may be rendered friable as a result of renovation/demolition activities. Friability refers to the ability to crumble, pulverize, or reduce to powder by hand pressure. OSHA regulates exposure to all types of asbestos in construction and general industry (29 CFR 1926.1101 and 29 CFR 1910.1001 respectively).

Materials regulated as ACM should be removed in accordance with the EPA NESHAP regulations prior to renovation/demolition activities which will disturb those materials. This includes vinyl floor tiles and mastic listed in Table 2.

A qualified asbestos abatement contractor should be selected to perform any removal/disposal and or disturbance of ACM in accordance with the OSHA asbestos standard for construction (29 CFR 1926.1101) and all other applicable OSHA/EPA regulations. An independent Certified Industrial Hygienist (CIH) should be contracted to prepare the abatement plan, direct air monitoring, and provide final clearance certification upon completion of abatement. Notification of the Guam EPA is required ten (10) days prior to the start of removal for friable materials. Asbestos waste generated from the removal must be disposed of at an EPA-approved landfill.

4.2 Lead-Based Paint (LBP)

The HUD “*Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*” are issued pursuant to Section 1017 of the Residential Lead-Based Paint Hazard Reduction Act of 1992, which is often referred to as Title X (“Title Ten”) because it was enacted as Title X of the Housing and Community Development Act of 1992 (Public Law 102-550). Title X defines a lead-based paint hazard as “any condition that causes exposure to lead from lead-contaminated dust; bare, lead-contaminated soil; or bare lead-based paint that is deteriorated or intact lead-based paint present on accessible surfaces, friction surfaces, or impact surfaces that would result in adverse human health effects.” Thus, under this definition, intact lead-based paint on most walls and ceilings is not considered a “hazard”. However, Title X requires that in public housing and Indian housing, all lead-based paint must be abated when the housing is renovated or remodeled. Abatement contractors and workers must be EPA certified to perform Lead-Based Paint removal.

Furthermore, US EPA has issued the “Renovate, Repair and Painting Rule” (40 CFR 745), requiring the use of lead-safe work practices during renovations in pre-1978 housing and child-occupied facilities. Renovation and remodeling contractors, maintenance workers, painters or other specialty trades, hired to perform work must be certified and follow specific work practices whenever activities that may disturb LBP will be performed. Such work includes the removal or modification of components found to contain LBP, repairing or preparing a surface known to contain LBP, and/or other activities that may disturb LBP.

The disturbance (including demolition) and/or removal of LBP on structures must also be performed in accordance with OSHA lead standards (29 CFR 1926.62) and well as US EPA/Guam EPA hazardous waste regulations (40 CFR Parts 261). The lead-containing ceramic tiles as well as the metallic sheets on the roof plumbing vents are technically not LBP and do not meet the definition of a lead-based paint hazard. Left intact, these materials are not anticipated to pose a health threat to occupants of the facility. However, if the materials were to be cut, broken, drilled, crushed, abraded, or otherwise disturbed to generate dust, exposures to lead could result. The materials are therefore identified in this report along with LBP.

The OSHA lead standard includes requirements for worker training, medical surveillance, air monitoring, personal protective equipment, and hygiene facilities. Any waste generated from disturbance of LBP or lead-containing materials (LCM) must be tested to determine if it is regulated by EPA as a hazardous waste prior to disposal. The Toxic Characteristic Leaching Procedure (TCLP) is used to determine if LCM is regulated as hazardous waste. The regulatory limit for lead is 5.0 milligrams per liter (mg/l) or parts per million (ppm). If the TCLP results are below the regulatory limit the waste may be considered non-regulated and disposed of as construction debris. If not, the waste must be disposed off-island as hazardous waste at an EPA-approved landfill.

An independent qualified professional (e.g., Certified Industrial Hygienist or Certified Safety Professional) should be contracted to ensure that engineering controls used by the contractor are adequate to prevent lead exposure to unprotected site personnel and the public; personal protective equipment used by site personnel is appropriate; and work is performed in strict accordance with the

OSHA lead standard for construction.

5.0 DISCLOSURE STATEMENT

A copy of this summary must be provided to new lessees (tenants) and purchasers of this property under Federal law (24 CFR part 35 and 40 CFR part 745) before they become obligated under a lease or sales contract. The complete report must be provided to new purchasers and it must be available to new tenants. Landlords (lessors) and sellers are also required to distribute an educational pamphlet approved by the U.S. Environmental Protection Agency and include standard warning language in their leases or sales contracts to ensure that parents have the information they need to protect their children from lead-based paint hazards.

6.0 REFERENCES

1. **Occupational Safety and Health Administration:** U.S. Code of Federal Regulations Vol. 29 Part 1926.62.
2. **Occupational Safety and Health Administration:** U.S. Code of Federal Regulations Vol. 29 Part 1926.1101.
3. **Operations Manual:** Bruker MAP4 Spectrum Analyzer, Edax, Kennewick, WA (1997).
4. **U.S. Department of Housing and Urban Development:** *Guidelines for the Evaluation and Control of Lead-Based Paint hazards in Housing.* Washington, DC: U.S. Department of Housing and Urban Development, 1997.
5. **U.S. Environmental Protection Agency:** *Asbestos in Buildings Simplified Sampling Scheme for Friable Surfacing Materials.* Washington, DC: U.S. Environmental Protection Agency, 1985.
6. **U.S. Environmental Protection Agency:** U.S. Code of Federal Regulations Vol. 40 Subpart M, Part 61.
7. **U.S. Environmental Protection Agency:** U.S. Code of Federal Regulations Vol. 40 Part 261.

7.0 BUILDING INSPECTOR SIGNATURE

This building inspection and report were performed/prepared by:



John M. (Jack) Fernandez, CIH, CSP, CMC

APPENDIX A

INSPECTOR AND
LABORATORY
CERTIFICATIONS

Big Apple Occupational Safety Corp

505 Eighth Avenue, #2305, New York, NY 10018
(212) 564-7656

This Is To Certify That

John M. Fernandez

SS#:056-66-5419

Has successfully completed the New York State Department of Health approved course entitled
This course meets requirements of TSCA Title II

INSPECTOR REFRESHER

*(The official record of successful completion is the DOH 2832 Certificate of completion
New York State Department of Health Certificate of Asbestos Safety Training)*

Course Date: 08/30/2011

Examination Date: 08/30/2011

Expiration Date: 08/30/2012

Certificate Number: 5419

Examination Grade: 100%


Radha Reddy
Training Director

United States Environmental Protection Agency

This is to certify that

Industrial Hygiene Professionals, Inc.

has fulfilled the requirements of the Toxics Substance Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities in accordance with 40 CFR Part 745.226

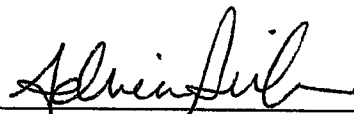
In the Jurisdiction of:
Guam

This certification is valid from the date of issuance and expires **January 3, 2014**

GU-84313-1

DEC. 20, 2010
Issued On




Adrienne Prisela, Manager, Toxics Office

Communities and Ecosystems Division

United States Environmental Protection Agency

This is to certify that

John Michael Fernandez

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226 as a:

Inspector

In the Jurisdiction of:

Guam

This certification is valid from the date of issuance and expires November 2, 2013

GU-I-5252-2

Certification #

OCT, 22, 2010

Issued On

David R. Tomovic For

Adrienne Priselac, Manager, Toxics Office

Communities and Ecosystems Division



Big Apple Occupational Safety Corp

505 Eighth Avenue, #2305, New York, NY 10018
(212) 564-7656

This Is To Certify That

Jim J. Brandt

SS#:561-70-5253

Has successfully completed the New York State Department of Health approved course entitled
This course meets requirements of TSCA Title II

INSPECTOR REFRESHER

*(The official record of successful completion is the DOH 2832 Certificate of completion
New York State Department of Health Certificate of Asbestos Safety Training)*

Course Date: 08/30/2011

Examination Date: 08/30/2011

Expiration Date: 08/30/2012

Certificate Number: 5253

Examination Grade: 100%


Radha Reddy
Training Director

Big Apple Occupational Safety Corp.

505 Eighth Avenue, New York, New York 10018

212-564-7656

This is to certify that

Franco Quintans

SS#: XXX-XX-8970

has successfully completed the 24 hours EPA approved Asbestos Inspector Initial Training Course and passed the examination for purpose of accreditation required under 206 of Title II of the Toxic Substances Control Act (TSCA) conducted by Big Apple Occupational Safety Corp. at Guam

Asbestos Inspector Initial


Course Date: 11/14-16/2011

Examination Date: 11/16/2011

Expiration Date: 11/16/2012

Certificate Number: 1416113

Examination Grade 98%



Radha Reddy
Training Director



AIHA

Laboratory Accreditation
Programs, LLC

AIHA Laboratory Accreditation Programs, LLC

acknowledges that

Schneider Laboratories, Inc.

2512 West Cary Street, Richmond, VA 23220-5117

Laboratory ID: 100527

along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC accreditation to the ISO/IEC 17025:2005 international standard, *General Requirements for the Competence of Testing and Calibration Laboratories* in the following:

LABORATORY ACCREDITATION PROGRAMS

- ✓ **INDUSTRIAL HYGIENE**
- ✓ **ENVIRONMENTAL LEAD**
- ☐ **ENVIRONMENTAL MICROBIOLOGY**
- ☐ **FOOD**

Accreditation Expires: 04/01/2013

Accreditation Expires: 04/01/2013

Accreditation Expires:

Accreditation Expires:

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached **Scope of Accreditation**. Continued accreditation is contingent upon successful on-going compliance with ISO/IEC 17025:2005 and AIHA-LAP, LLC requirements. This certificate is not valid without the attached **Scope of Accreditation**. Please review the AIHA-LAP, LLC website (www.aihaaccreditedlabs.org) for the most current Scope.

Christine Powell

Christine Powell

Chairperson, Analytical Accreditation Board

Revision 10: 01/13/2011

Cheryl O. Morton

Cheryl O. Morton

Director, AIHA Laboratory Accreditation Programs, LLC

Date Issued: 04/01/2011

United States Department of Commerce
National Institute of Standards and Technology



Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 101150-0

Schneider Laboratories Global, Inc.
Richmond, VA

*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:*

BULK ASBESTOS FIBER ANALYSIS

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality
management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).*

2011-04-01 through 2012-03-31

Effective dates




For the National Institute of Standards and Technology



**National Voluntary
Laboratory Accreditation Program**



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

Schneider Laboratories Global, Inc.

2512 W. Cary Street

Richmond, VA 23220-5117

Mr. Raja Abouzaki, PhD

Phone: 804-353-6778 Fax: 804-359-1138

E-Mail: RAbouzaki@slabinc.com

URL: <http://www.slabinc.com>

BULK ASBESTOS FIBER ANALYSIS (PLM)

NVLAP LAB CODE 101150-0

NVLAP Code Designation / Description

18/A01	EPA-600/M4-82-020: Interim Method for the Determination of Asbestos in Bulk Insulation Samples
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2011-04-01 through 2012-03-31

Effective dates

For the National Institute of Standards and Technology

APPENDIX B

XRF PERFORMANCE CHARACTERISTIC SHEET

Performance Characteristic Sheet

EFFECTIVE DATE: June 26, 1996

EDITION NO.: 3

MANUFACTURER AND MODEL :

Make: *Scittec Corporation*
Model: *MAP-4*
Source: ^{57}Co
Note: This sheet supersedes all previous sheets for the XRF instrument of the make, model, and source shown above.

FIELD OPERATION GUIDANCE

OPERATING PARAMETERS

Test mode, Screen mode, or Unlimited mode.

XRF CALIBRATION CHECK LIMITS

0.6 to 1.2 mg/cm ² (inclusive)

SUBSTRATE CORRECTION:

When using Unlimited mode, substrate correction recommended for:

None

When using Unlimited mode, substrate correction not recommended for:

Brick, Concrete, Drywall, Metal, Plaster, and Wood

When using Screen or Test mode, for XRF results below 4.0 mg/cm², substrate correction recommended for:

Drywall, Metal, and Wood

When using Screen or Test mode, substrate correction not recommended for:

Brick, Concrete, and Plaster

INCONCLUSIVE RANGE OR THRESHOLD

UNLIMITED MODE READING DESCRIPTION	SUBSTRATE	INCONCLUSIVE RANGE (mg/cm ²)
Results not corrected for substrate bias for unlimited mode readings	Brick	0.91 to 1.19
	Concrete	0.91 to 1.19
	Drywall	0.91 to 1.19
	Metal	0.91 to 1.19
	Plaster	0.91 to 1.19
	Wood	0.91 to 1.19

SCREEN MODE READING DESCRIPTION	SUBSTRATE	INCONCLUSIVE RANGE (mg/cm ²)
Results corrected for substrate bias for screen mode readings on drywall, metal, and wood substrates only	Brick	0.91 to 1.09
	Concrete	0.91 to 1.09
	Drywall	0.91 to 1.39
	Metal	0.91 to 1.19
	Plaster	0.91 to 1.09
	Wood	0.91 to 1.29

TEST MODE READING DESCRIPTION	SUBSTRATE	THRESHOLD (mg/cm ²)	INCONCLUSIVE RANGE (mg/cm ²)
Readings corrected for substrate bias for test mode readings on drywall, metal, and wood substrates only	Brick	0.9	None
	Concrete	0.9	None
	Drywall	None	0.91 to 1.39
	Metal	None	0.91 to 1.09
	Plaster	0.9	None
	Wood	None	0.91 to 1.29

BACKGROUND INFORMATION

EVALUATION DATA SOURCE AND DATE

This sheet is supplemental information to be used in conjunction with Chapter 7 of the HUD *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* ("HUD Guidelines"). Performance parameters shown on this sheet are calculated from an EPA/HUD evaluation using archived building components. Testing was conducted on approximately 150 test locations. All of the test locations were tested in February 1996 using two different instruments. One instrument had a new source installed in July 1994 and its strength at the time of testing was calculated as 9.4 mCi. The other instrument had a new source installed in September 1994 and its strength at the time of testing was calculated as 10.6 mCi.

OPERATING PARAMETERS

Performance parameters shown in this sheet are applicable only when properly operating the instrument using the manufacturer's instructions and procedures described in Chapter 7 of the HUD Guidelines.

XRF CALIBRATION CHECK:

The calibration of the XRF instrument should be checked using the paint film nearest 1.0 mg/cm² in the NIST Standard Reference Material (SRM) used (e.g., for NIST SRM 2579, use the 1.02 mg/cm² film).

If readings are outside the acceptable calibration check range, follow the manufacturer's instructions to bring the instruments into control before XRF testing proceeds

SUBSTRATE CORRECTION VALUE COMPUTATION

Chapter 7 of the HUD Guidelines provides guidance on correcting XRF results for substrate bias. Supplemental guidance for using the paint film nearest 1.0 mg/cm² for substrate correction is provided:

XRF results are corrected for substrate bias by subtracting from each XRF result a correction value determined separately in each house for single-family housing or in each development for multifamily housing, for each substrate. The correction value is an average of XRF readings taken over the NIST SRM paint film nearest to 1.0 mg/cm² at test locations that have been scraped bare of their paint covering. Compute the correction values as follows:

- Using the same XRF instrument, take three readings on a bare substrate area covered with the

NIST SRM paint film nearest 1 mg/cm². Repeat this procedure by taking three more readings on a second bare substrate area of the same substrate covered with the NIST SRM.

- Compute the correction value for each substrate type where XRF readings indicate substrate correction is needed by computing the average of all six readings as shown below.

For each substrate type (the 1.02 mg/cm² NIST SRM is shown in this example; use the actual lead loading of the NIST SRM used for substrate correction):

$$\left. \begin{array}{l} \text{Correction} \\ \text{Value} \end{array} \right\} = \frac{1^{st} + 2^{nd} + 3^{rd} + 4^{th} + 5^{th} + 6^{th} \text{ Reading}}{6} - 1.02 \text{ mg/cm}^2$$

- Repeat this procedure for each substrate requiring substrate correction in the house or housing development.

EVALUATING THE QUALITY OF XRF TESTING

Randomly select ten testing combinations for retesting from each house or from two randomly selected units in multifamily housing. Use either 15-second readings or 60-second readings.

Conduct XRF retesting at the ten testing combinations selected for retesting.

Determine if the XRF testing in the units or house passed or failed the test by applying the steps below.

Compute the Retest Tolerance Limit by the following steps:

Determine XRF results for the original and retest XRF readings. Do not correct the original or retest results for substrate bias. In single-family and multi-family housing, a result is defined as a single reading. Therefore, there will be ten original and ten retest XRF results for each house or for the two selected units.

Calculate the average of the original XRF result and retest XRF result for each testing combination.

Square the average for each testing combination.

Add the ten squared averages together. Call this quantity C.

Multiply the number C by 0.0072. Call this quantity D.

Add the number 0.032 to D. Call this quantity E.

Take the square root of E. Call this quantity F.

Multiply F by 1.645. The result is the Retest Tolerance Limit.

Compute the average of all ten original XRF results.

Compute the average of all ten retest XRF results.

Find the absolute difference of the two averages.

If the difference is less than the Retest Tolerance Limit, the inspection has passed the retest. If the difference of the overall averages equals or exceeds the Retest Tolerance Limit, this procedure should be repeated with ten new testing combinations. If the difference of the overall averages is equal to or greater than the Retest Tolerance Limit a second time, then the inspection should be considered deficient.

Use of this procedure is estimated to produce a spurious result approximately 1% of the time. That is, results of this procedure will call for further examination when no examination is warranted in approximately 1 out of 100 dwelling units tested.

TESTING TIMES

For screen, test, and confirm modes, the MAP 4 instrument tests until a K-shell result is obtained relative to a level of precision. A result is "positive", "negative" or "retest" as displayed by indicator lights. For the unlimited mode, the MAP 4 instrument tests until a K-shell result is indicated relative to an action level (1.0 mg/cm^2 for archive testing) and the current precision, or until the the reading is terminated by releasing the trigger. A few unlimited mode readings were terminated because they exceeded the two-minute limit used for archive testing. The following tables provide testing time information for three testing modes. Insufficient information is available to provide this information for confirm mode. All times have been scaled to match an initial 12 mCi source. Note that source strength and factors such as substrate may affect testing times.

UNLIMITED MODE TESTING TIMES (Seconds)						
SUBSTRATE*	ALL DATA			MEDIAN FOR LABORATORY-MEASURED LEAD LEVELS (mg/cm^2)		
	25 th Percentile	Median	75 th Percentile	Pb < 0.25	$0.25 \leq \text{Pb} < 1.0$	$1.0 \leq \text{Pb}$
Wood Drywall	3	4	6	4	13	3
Metal	3	4	8	4	9	3
Brick Concrete Plaster	4	5	8	6	6	3
*The general calibration was used for wood, drywall, brick, concrete, plaster. Steel calibration was used for metal. (There are no aluminum samples in the archive facility).						

SCREEN MODE TESTING TIMES (Seconds)						
SUBSTRATE*	ALL DATA			MEDIAN FOR LABORATORY-MEASURED LEAD LEVELS (mg/cm^2)		
	25 th Percentile	Median	75 th Percentile	Pb < 0.25	$0.25 \leq \text{Pb} < 1.0$	$1.0 \leq \text{Pb}$
Wood Drywall	4	6	7	5	6	7
Metal	4	5	6	5	5	5
Brick Concrete Plaster	11	11	13	11	11	11
*The general calibration was used for wood, drywall, brick, concrete, plaster. Steel calibration was used for metal. (There are no aluminum samples in the archive facility).						

TEST MODE TESTING TIMES (Seconds)						
SUBSTRATE	ALL DATA			MEDIAN FOR LABORATORY-MEASURED LEAD LEVELS (mg/cm ²)		
	25 th Percentile	Median	75 th Percentile	Pb < 0.25	0.25 ≤ Pb < 1.0	1.0 ≤ Pb
Wood Drywall	17	22	27	21	20	28
Metal	13	20	23	20	20	20
Brick Concrete Plaster	41	42	52	41	46	43
*The general calibration was used for wood, drywall, brick, concrete, plaster. Steel calibration was used for metal. (There are no aluminum samples in the archive facility).						

BIAS AND PRECISION

Do not use these bias and precision data to correct for substrate bias. These bias and precision data were computed without substrate correction from samples with laboratory-measured lead levels less than 4.0 mg/cm² lead. There were 15 testing locations taken in the screen mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. None of these had XRF readings less than 1.0 mg/cm². There were 15 testing locations taken in the test mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. None of these had XRF readings less than 1.0 mg/cm². There were not any testing locations taken in the confirm mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. There were 15 testing locations taken in the unlimited mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. None of these had XRF readings less than 1.0 mg/cm². All testing was done in February 1996 with two different instruments. The following data are for illustrative purposes only. Actual bias must be determined on the site. Inconclusive ranges provided above already account for bias and precision.

SCREEN MODE READING MEASURED AT	SUBSTRATE	BIAS (mg/cm ²)	PRECISION (mg/cm ²)
0.0 mg/cm ²	Brick	-0.1	0.3
	Concrete	-0.1	0.3
	Drywall	0.1	0.2
	Metal	0.1	0.3
	Plaster	-0.1	0.3
	Wood	0.0	0.2
0.5 mg/cm ²	Brick	0.0	0.3
	Concrete	0.0	0.3
	Drywall	0.3	0.4
	Metal	0.2	0.3
	Plaster	0.0	0.3
	Wood	0.2	0.4
1.0 mg/cm ²	Brick	0.1	0.4
	Concrete	0.1	0.4
	Drywall	0.5	0.6
	Metal	0.3	0.3
	Plaster	0.1	0.4
	Wood	0.4	0.6

2.0 mg/cm ²	Brick	0.4	0.5
	Concrete	0.4	0.5
	Drywall	0.9	0.8
	Metal	0.5	0.3
	Plaster	0.4	0.5
	Wood	0.7	0.8
*Precision at 1 standard deviation			

TEST MODE READING MEASURED AT	SUBSTRATE	BIAS (mg/cm ²)	PRECISION (mg/cm ²)
0.0 mg/cm ²	Brick	-0.1	0.2
	Concrete	-0.1	0.2
	Drywall	0.1	0.1
	Metal	0.1	0.2
	Plaster	-0.1	0.2
	Wood	0.0	0.1
0.5 mg/cm ²	Brick	-0.1	0.3
	Concrete	-0.1	0.3
	Drywall	0.3	0.4
	Metal	0.2	0.2
	Plaster	-0.1	0.3
	Wood	0.2	0.4
1.0 mg/cm ²	Brick	-0.1	0.3
	Concrete	-0.1	0.3
	Drywall	0.5	0.6
	Metal	0.3	0.2
	Plaster	-0.1	0.3
	Wood	0.4	0.6
2.0 mg/cm ²	Brick	0.0	0.4
	Concrete	0.0	0.4
	Drywall	1.0	0.8
	Metal	0.5	0.2
	Plaster	0.0	0.4
	Wood	0.8	0.8
*Precision at 1 standard deviation			

CLASSIFICATION OF RESULTS

XRF results are classified as positive if they are greater than the upper boundary of the inconclusive range, and negative if they are less than the lower boundary of the inconclusive range, or inconclusive if in between. The inconclusive range includes both its upper and lower bounds. Earlier editions of this *XRF Performance Characteristics Sheet* did not include both bounds of the inconclusive range as "inconclusive." While this edition of the Performance Characteristics Sheet uses a different system, the specific XRF readings that are considered positive, negative, or inconclusive for a given XRF model and substrate remain unchanged, so previous inspection results are not affected.

DOCUMENTATION

A document titled *Methodology for XRF Performance Characteristic Sheets* provides an explanation of the statistical methodology used to construct the data in the sheets, and provides empirical results from using the recommended inconclusive ranges or thresholds for specific XRF instruments. For a copy of this document call the National Lead Information Center Clearinghouse at 1-800-424-LEAD.

This XRF Performance Characteristics Sheet is a joint product of the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Housing and Urban Development (HUD). The issuance of this sheet does not constitute rulemaking. The information provided here is intended solely as guidance to be used in conjunction with Chapter 7, Lead-Based Paint Inspection, of the *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*. EPA and HUD reserve the right to revise this guidance. Please address questions and comments on this sheet to: Director, Office of Lead Hazard Control (L), U.S. Department of Housing and Urban Development, 451 Seventh St, S.W., Washington, DC 20410.

APPENDIX C

SITE DIAGRAMS

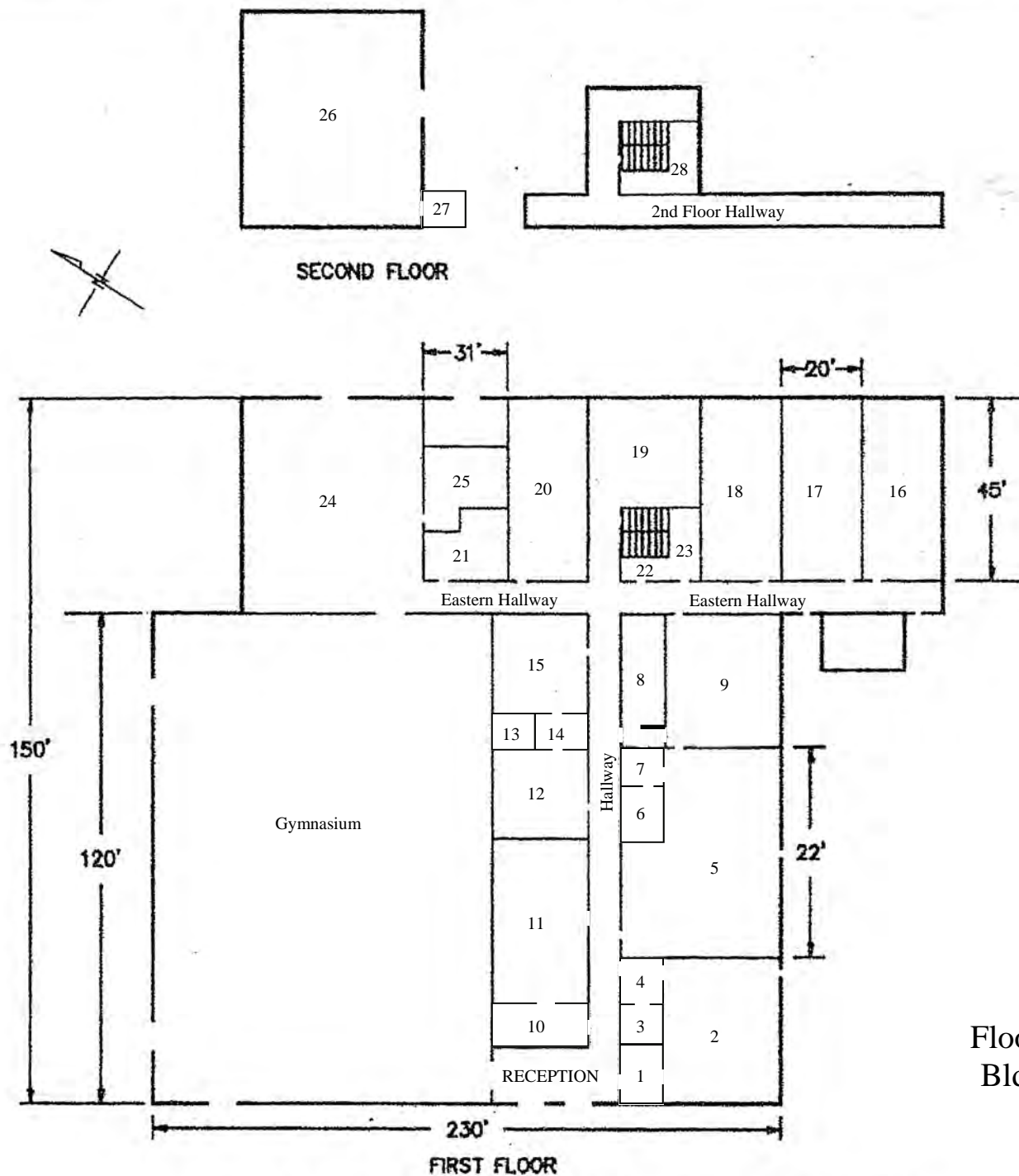
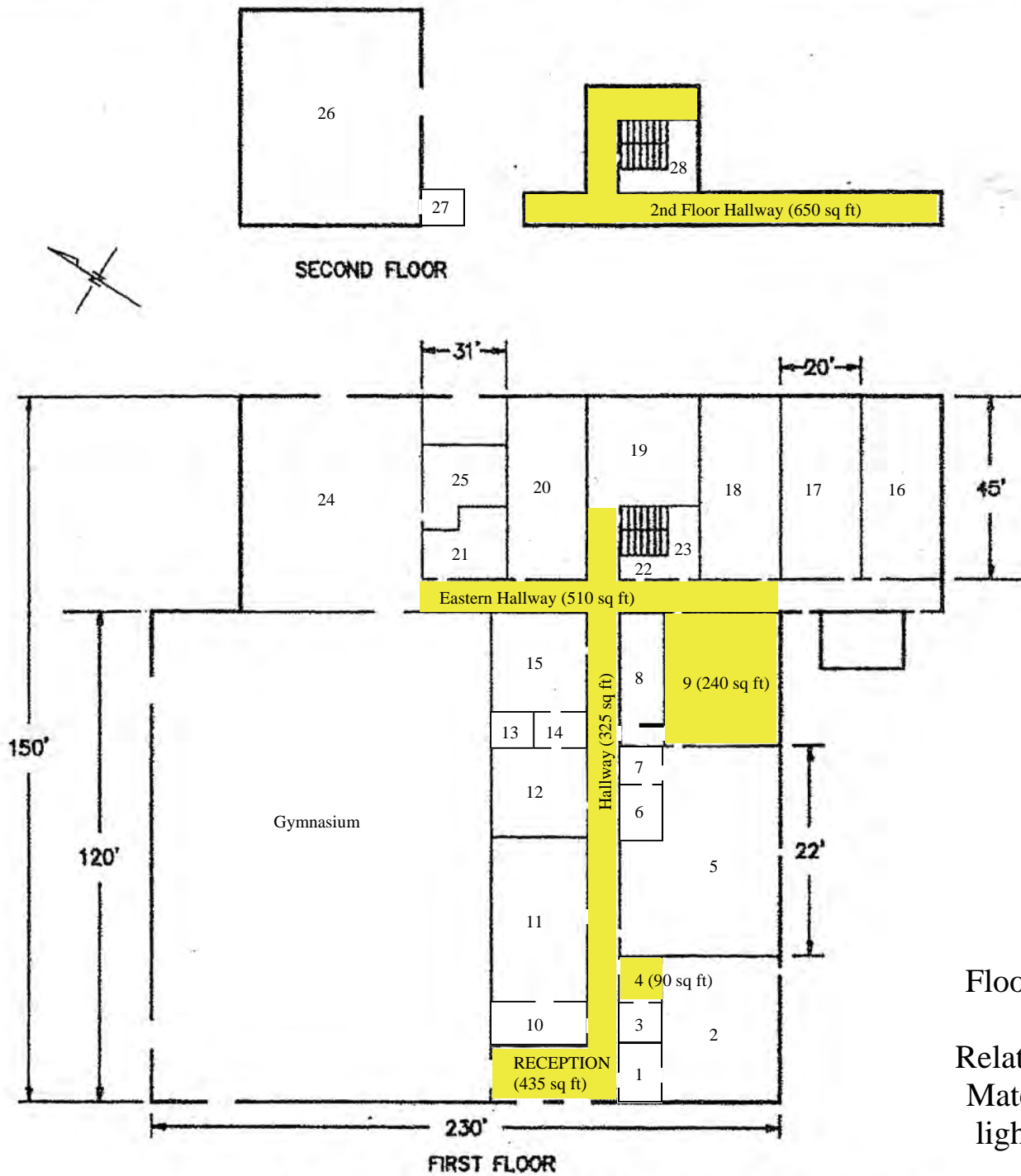


Diagram 1
 Floor Plan of Former Naval Gymnasium,
 Bldg. 15-6107, Tiyan, GU; Room/Space
 Reference Name or Number



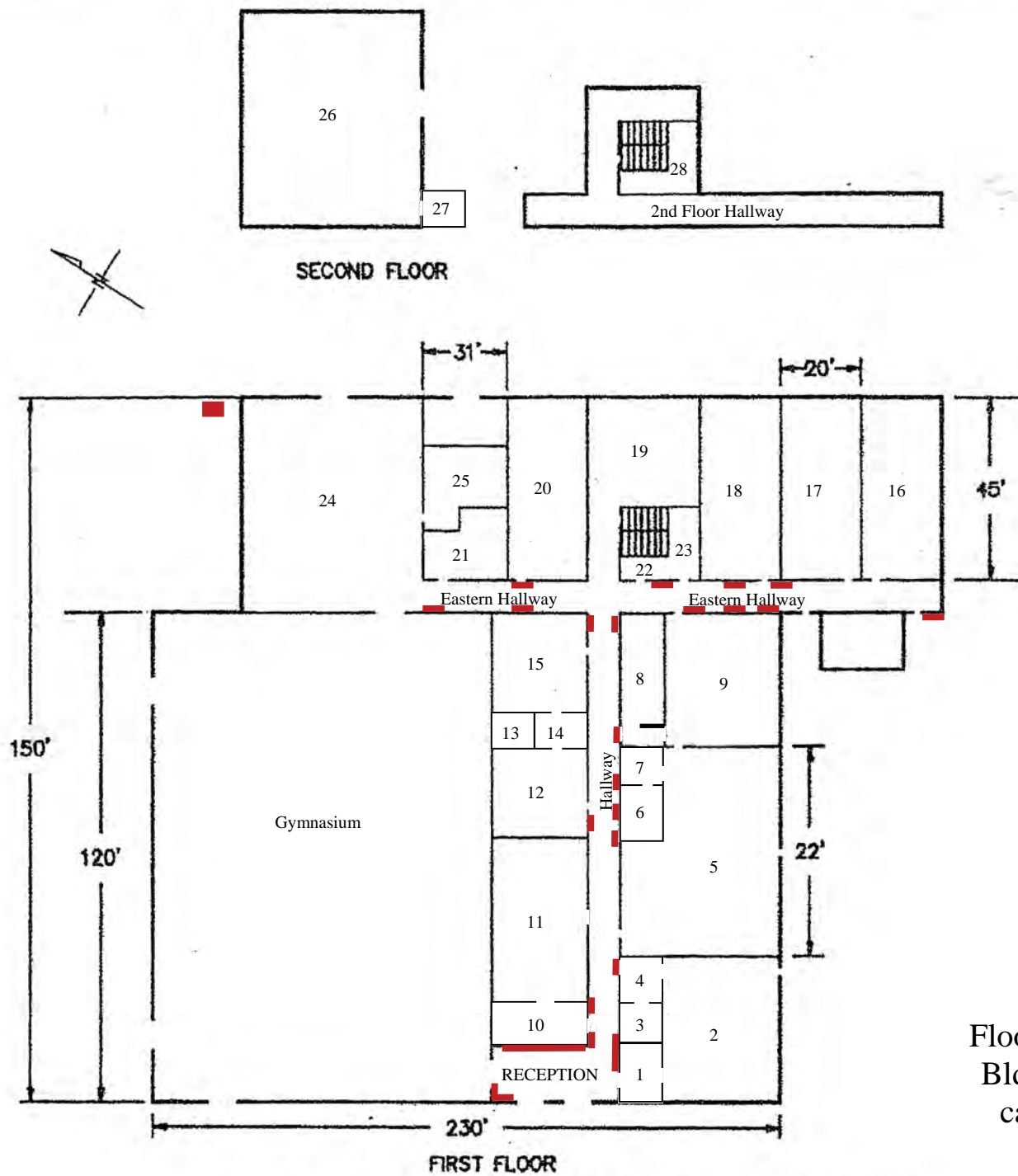


Diagram 3
 Floor Plan of Former Naval Gymnasium,
 Bldg. 15-6107, Tiyan, GU; Relative Lo-
 cations of Surfaces with Lead-Based
 Paint (LBP)

APPENDIX D

ASBESTOS LABORATORY REPORT AND CHAIN-OF- CUSTODY FORMS

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LABORATORY ANALYSIS REPORT

Asbestos Identification by EPA Method¹ 600/R-93/116

Using SLI A6

ACCOUNT #: 2755-12-954
CLIENT: Industrial Hygiene Professionals, Inc.
ADDRESS: P. O. Box 5086
Hagatna, GU 96913
PROJECT NAME: EA Engineering
JOB LOCATION: Bldg. 15-6107 Tiyán
PROJECT NO.:
PO NO.:

DATE COLLECTED: 4/12/2012
DATE RECEIVED: 4/23/2012
DATE ANALYZED: 4/25/2012
DATE REPORTED: 4/25/2012

SampleType: BULK

Client Sample No.	SLI Sample/ Layer ID	Sample Identification/ Layer Name	PLM Analysis Results	
			Asbestos Fibers	Other Materials
A01	31436610	Floor Tile		
Layer 1:	Floor Tile Beige, Organically Bound		2% CHRYSOTILE	98% NON FIBROUS MATERIAL
Layer 2:	Mastic Black, Bituminous		None Detected	2% CELLULOSE FIBER 98% NON FIBROUS MATERIAL
B01	31436611	Floor Tile		
Layer 1:	Floor Tile Green, Organically Bound		2% CHRYSOTILE	98% NON FIBROUS MATERIAL
Layer 2:	Mastic Black, Bituminous		None Detected	3% CELLULOSE FIBER 97% NON FIBROUS MATERIAL
B02	31436612	Floor Tile		
Layer 1:	Floor Tile Green, Organically Bound		2% CHRYSOTILE	98% NON FIBROUS MATERIAL
Layer 2:	Mastic Black, Bituminous		None Detected	100% NON FIBROUS MATERIAL

Total Number of Pages in Report: 5

Results relate only to samples as received by the laboratory.

Visit www.slabinc.com for current certifications.

Samples analyzed by the EPA Test Method are subject to the limitations of light microscopy including matrix interference. Gravimetric reduction and correlative analyses are recommended for all non-friable, organically bound materials. This method has a reporting limit of 1% or greater. Visual estimation contains an inherent range of uncertainty. This report must not be reproduced except in full with the approval of the lab, and must not be used to claim NVLAP or other gov't agency endorsement.

Client Sample No.	SLI Sample/ Layer ID	Sample Identification/ Layer Name	PLM Analysis Results	
			Asbestos Fibers	Other Materials
C01	31436613	Ceiling Texture		
Layer 1:	Ceiling Texture White, Granular		None Detected	100% NON FIBROUS MATERIAL
D01	31436614	Floor Mat		
Layer 1:	Flooring Blue, Rubbery		None Detected	100% NON FIBROUS MATERIAL
Layer 2:	Mastic White, Soft		None Detected	2% CELLULOSE FIBER 98% NON FIBROUS MATERIAL
D02	31436615	Floor Mat		
Layer 1:	Flooring Blue, Rubbery		None Detected	100% NON FIBROUS MATERIAL
Layer 2:	Mastic Yellow, Soft		None Detected	100% NON FIBROUS MATERIAL
E01	31436616	Cove Base		
Layer 1:	Cove Base Brown, Rubbery		None Detected	100% NON FIBROUS MATERIAL
Layer 2:	Mastic Brown, Brittle		None Detected	100% NON FIBROUS MATERIAL
E02	31436617	Cove Base		
Layer 1:	Cove Base Brown, Rubbery		None Detected	100% NON FIBROUS MATERIAL
Layer 2:	Mastic Brown, Brittle		None Detected	100% NON FIBROUS MATERIAL
F01	31436618	Stair Covering		
Layer 1:	Cover Black, Rubbery		None Detected	100% NON FIBROUS MATERIAL
Layer 2:	Mastic Tan, Soft		None Detected	100% NON FIBROUS MATERIAL

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Client Sample No.	SLI Sample/ Layer ID	Sample Identification/ Layer Name	PLM Analysis Results	
			Asbestos Fibers	Other Materials
G01	31436619	Floor Tile		
Layer 1:	Floor Tile Green, Organically Bound		None Detected	100% NON FIBROUS MATERIAL
Layer 2:	Mastic Yellow, Soft		None Detected	100% NON FIBROUS MATERIAL
H01	31436620	Floor Tile		
Layer 1:	Floor Tile Off White, Organically Bound		3% CHRYSOTILE	97% NON FIBROUS MATERIAL
Layer 2:	Mastic Black, Bituminous		None Detected	2% CELLULOSE FIBER 98% NON FIBROUS MATERIAL
H02	31436621	Floor Tile		
Layer 1:	Floor Tile Off White, Organically Bound		3% CHRYSOTILE	97% NON FIBROUS MATERIAL
Layer 2:	Mastic Black, Bituminous		None Detected	3% CELLULOSE FIBER 97% NON FIBROUS MATERIAL
H03	31436622	Floor Tile		
Layer 1:	Floor Tile Off White, Organically Bound		5% CHRYSOTILE	95% NON FIBROUS MATERIAL
Layer 2:	Mastic Black, Bituminous		None Detected	2% CELLULOSE FIBER 98% NON FIBROUS MATERIAL
H04	31436623	Floor Tile		
Layer 1:	Floor Tile Off White, Organically Bound		3% CHRYSOTILE	97% NON FIBROUS MATERIAL
Layer 2:	Mastic Black, Bituminous		None Detected	3% CELLULOSE FIBER 97% NON FIBROUS MATERIAL
I01	31436624	Cove Base		
Layer 1:	Ceiling Tile White, Fibrous		None Detected	40% CELLULOSE FIBER 40% MINERAL/GLASS WOOL 20% NON FIBROUS MATERIAL
Sample not as described on COC.				

Total Number of Pages in Report: 5

Results relate only to samples as received by the laboratory.

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Samples analyzed by the EPA Test Method are subject to the limitations of light microscopy including matrix interference. Gravimetric reduction and correlative analyses are recommended for all non-friable, organically bound materials. This method has a reporting limit of 1% or greater. Visual estimation contains an inherent range of uncertainty. This report must not be reproduced except in full with the approval of the lab, and must not be used to claim NVLAP or other gov't agency endorsement.

Client Sample No.	SLI Sample/ Layer ID	Sample Identification/ Layer Name	PLM Analysis Results	
			Asbestos Fibers	Other Materials
I02	31436625	Cove Base		
Layer 1:	Ceiling Tile White, Fibrous		None Detected	40% CELLULOSE FIBER 40% MINERAL/GLASS WOOL 20% NON FIBROUS MATERIAL
	Sample not as described on COC.			
I03	31436626	Cove Base		
Layer 1:	Ceiling Tile White, Fibrous		None Detected	40% CELLULOSE FIBER 40% MINERAL/GLASS WOOL 20% NON FIBROUS MATERIAL
	Sample not as described on COC.			
J01	31436627	Cove Base		
Layer 1:	Cove Base Black, Rubbery		None Detected	100% NON FIBROUS MATERIAL
Layer 2:	Mastic Tan, Soft		None Detected	100% NON FIBROUS MATERIAL
J02	31436628	Cove Base		
Layer 1:	Cove Base Black, Rubbery		None Detected	100% NON FIBROUS MATERIAL
Layer 2:	Mastic Tan, Soft		None Detected	2% CELLULOSE FIBER 98% NON FIBROUS MATERIAL
J03	31436629	Cove Base		
Layer 1:	Cove Base Black, Rubbery		None Detected	100% NON FIBROUS MATERIAL
Layer 2:	Mastic Tan, Soft		None Detected	2% CELLULOSE FIBER 98% NON FIBROUS MATERIAL
J04	31436630	Cove Base		
Layer 1:	Cove Base Black, Rubbery		None Detected	100% NON FIBROUS MATERIAL
Layer 2:	Mastic Tan, Soft		None Detected	100% NON FIBROUS MATERIAL

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Client Sample No.	SLI Sample/ Layer ID	Sample Identification/ Layer Name	PLM Analysis Results	
			Asbestos Fibers	Other Materials
J05	31436631	Cove Base		
Layer 1:	Cove Base Black, Rubbery		None Detected	100% NON FIBROUS MATERIAL
Layer 2:	Mastic Tan, Soft		None Detected	100% NON FIBROUS MATERIAL
J06	31436632	Cove Base		
Layer 1:	Cove Base Black, Rubbery		None Detected	100% NON FIBROUS MATERIAL
Layer 2:	Mastic Tan, Soft		None Detected	100% NON FIBROUS MATERIAL
K01	31436633	Pipe Insulation		
Layer 1:	Pipe Insulation White, Fibrous		None Detected	90% MINERAL/GLASS WOOL 10% NON FIBROUS MATERIAL
L01	31436634	Roofing Material		
Layer 1:	Roofing Black, Bituminous		None Detected	5% MINERAL/GLASS WOOL 95% NON FIBROUS MATERIAL

Analyst:

HALA A. OSMAN

Reviewed By:

Hind Eldanaf, Microscopy Supervisor

Total Number of Pages in Report: 5

Results relate only to samples as received by the laboratory.

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Samples analyzed by the EPA Test Method are subject to the limitations of light microscopy including matrix interference. Gravimetric reduction and correlative analyses are recommended for all non-friable, organically bound materials. This method has a reporting limit of 1% or greater. Visual estimation contains an inherent range of uncertainty. This report must not be reproduced except in full with the approval of the lab, and must not be used to claim NVLAP or other gov't agency endorsement.



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Hagatna, GU 96932		
Project Name: EA Engineering	Special Instructions [include requests for special reporting or data packages]	
Project Location: Bldg. 15-6107 Tiyan	Please e-mail results to: jmfihp@guam.net	
Project Number:	Page 1 of 3	
PO Number:	State Of Collection	Guam

Turn Around Time	Matrix / Sample Type (Select ONE)	Tests / Analytes (Select ALL that Apply)		
<input type="checkbox"/> 2 hours* <input type="checkbox"/> Same day* <input type="checkbox"/> 1 business day* <input checked="" type="checkbox"/> 2 business day* <input type="checkbox"/> 3 business days* <input type="checkbox"/> 5 business days* <input type="checkbox"/> Full TCLP (10d) <input type="checkbox"/> Weekend* <small>* not available for all tests</small> <small>Schedule rush organics, multi-metals & weekend tests in advance.</small>	<small>All samples on form should be of SAME matrix type. Use additional forms as needed.</small> <input type="checkbox"/> Air <input type="checkbox"/> Solid <input type="checkbox"/> Aqueous <input type="checkbox"/> Waste <input checked="" type="checkbox"/> Bulk <input type="checkbox"/> Wastewater <input type="checkbox"/> Hi-Vol Filter (PM10) <input type="checkbox"/> Water, Drinking <input type="checkbox"/> Hi-Vol Filter (TSP) <input type="checkbox"/> Compliance <input type="checkbox"/> Oil <input type="checkbox"/> Wipe <input type="checkbox"/> Paint <input type="checkbox"/> Wipe, Composite <input type="checkbox"/> Sludge <input type="checkbox"/> <input type="checkbox"/> Soil <input type="checkbox"/>	Asbestos Air / Fiber Counts <input type="checkbox"/> PCM (NIOSH 7400) <input type="checkbox"/> TEM (AHERA) <input type="checkbox"/> TEM (EPA Level II) <input type="checkbox"/> Miscellaneous Tests <input type="checkbox"/> Total Dust (NIOSH 0500) <input type="checkbox"/> Resp. Dust (NIOSH 0600) <input type="checkbox"/> Silica - FTIR (NIOSH 7602) <input type="checkbox"/> Silica - XRD (NIOSH 7500) <input type="checkbox"/>	Asbestos Bulk / Asb ID <input checked="" type="checkbox"/> PLM (EPA 600, 1982) <input type="checkbox"/> PLM (EPA Point Count) <input type="checkbox"/> PLM (Qualitative only) <input type="checkbox"/> NYELAP 198.11.4/6 <input type="checkbox"/> CAELAP (EPA Interim) <input type="checkbox"/> TEM (Chatfield) <input type="checkbox"/> FOR ASBESTOS AIR: TYPE OF RESPIRATOR USED: APR	Metals-Total Conc. <input type="checkbox"/> Lead <input type="checkbox"/> RCRA Metals <input type="checkbox"/> Metals-Extract <input type="checkbox"/> TCLP / Lead <input type="checkbox"/> TCLP / RCRA Metals <input type="checkbox"/> TCLP / Full (w/ organics) Others <input type="checkbox"/>

Sample #	Date Sampled	Time Sampled	Sample Identification (e.g. Employee, SSN, Bldg, Material)	Wiped Area (ft²)	Type¹ A,B,P,E	Time²		Flow Rate³		Total⁴ Air Vol
						Start	Stop	Start	Stop	
A01	04/12/12		12x12 floor tile w/ mastic, beige							
B01	04/12/12		9x9 floor tile w/ mastic, green							
B02	04/12/12		9x9 floor tile w/ mastic, green							
C01	04/12/12		Ceiling texture-2nd floor							
D01	04/12/12		Floor mat w/ mastic-2nd floor							
D02	04/12/12		*Floor mat w/ mastic-1st floor							
E01	04/12/12		Cove base w/mastic-brown, 2nd floor							
E02	04/12/12		Cove base w/mastic-brown, 1st floor							
F01	04/12/12		Stair covering w/mastic							
G01	04/12/12		12x12 floor tile w/ mastic, green							
H01	04/12/12		12x12 floor tile w/ mastic, off white							
H02	04/12/12		12x12 floor tile w/ mastic, off white							

¹Type: A=area B=blank P=personal E=excursion ²Beginning/End of Sample Period ³Pump Calibration in Liters/Minute ⁴Volume in Liters [time in min * flow in L/min]

Sampled by NAME <u>Y. Brandt</u> SIGNATURE <u>[Signature]</u> DATE/TIME <u>April 12, 2012</u>	Relinquished to lab by NAME <u>Y. Brandt</u> SIGNATURE <u>[Signature]</u> DATE/TIME <u>April 12, 2012</u>	<div>RECEIVED</div> <div>APR 23 2012</div> <div>BY: <u>VL</u> 11:00</div> <div>WB: <u>248</u></div>	<input type="checkbox"/> FX <input type="checkbox"/> UPS <input type="checkbox"/> USM <input type="checkbox"/> HD <input type="checkbox"/> DB <p><i>Chain of Custody documentation continued internally within lab. Terms and conditions page 2.</i></p>
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☐ Sample return requested ☐ Ambient temp ☐ Ice °C pH CI ☐ OR ☒ S ☐ X



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Submitting Co. Industrial Hygiene Professionals Inc.	Lab Use- WO # 2755-12-95B1	Phone # 671.734.0749
PO Box 5086	Acct # 2755	Fax # & E-mail 671.734.0749 / jmfihp@guam.net
Hagatna, GU 96932		

Project Name: EA Engineering	Special Instructions [include requests for special reporting or data packages]
Project Location: Bldg. 15-6107 Tiyan	Please e-mail results to: jmfihp@guam.net
Project Number:	Page 2 of 3
PO Number:	State Of Collection Guam

Turn Around Time	Matrix / Sample Type (Select ONE)	Tests / Analytes (Select ALL that Apply)		
<input type="checkbox"/> 2 hours* <input type="checkbox"/> Same day* <input type="checkbox"/> 1 business day* <input checked="" type="checkbox"/> 2 business day* <input type="checkbox"/> 3 business days* <input type="checkbox"/> 5 business days* <input type="checkbox"/> Full TCLP (10d) <input type="checkbox"/> Weekend* <small>* not available for all tests</small> <small>Schedule rush organics, multi-metals & weekend tests in advance.</small>	<small>All samples on form should be of SAME matrix type. Use additional forms as needed.</small> <input type="checkbox"/> Air <input type="checkbox"/> Solid <input type="checkbox"/> Aqueous <input type="checkbox"/> Waste <input checked="" type="checkbox"/> Bulk <input type="checkbox"/> Wastewater <input type="checkbox"/> Hi-Vol Filter (PM10) <input type="checkbox"/> Water, Drinking <input type="checkbox"/> Hi-Vol Filter (TSP) <input type="checkbox"/> Compliance <input type="checkbox"/> Oil <input type="checkbox"/> Wipe <input type="checkbox"/> Paint <input type="checkbox"/> Wipe, Composite <input type="checkbox"/> Sludge <input type="checkbox"/> Soil	Asbestos Air / Fiber Counts <input type="checkbox"/> PCM (NIOSH 7400) <input type="checkbox"/> TEM (AHERA) <input type="checkbox"/> TEM (EPA Level II) <input type="checkbox"/> Miscellaneous Tests <input type="checkbox"/> Total Dust (NIOSH 0500) <input type="checkbox"/> Resp. Dust (NIOSH 0600) <input type="checkbox"/> Silica - FTIR (NIOSH 7602) <input type="checkbox"/> Silica - XRD (NIOSH 7500) <input type="checkbox"/>	Asbestos Bulk / Asb ID <input checked="" type="checkbox"/> PLM (EPA 600, 1982) <input type="checkbox"/> PLM (EPA Point Count) <input type="checkbox"/> PLM (Qualitative only) <input type="checkbox"/> NYELAP 198.1/4/6 <input type="checkbox"/> CAELAP (EPA Interim) <input type="checkbox"/> TEM (Chatfield) <input type="checkbox"/>	Metals-Total Conc. <input type="checkbox"/> Lead <input type="checkbox"/> RCRA Metals <input type="checkbox"/> <input type="checkbox"/> Metals-Extract <input type="checkbox"/> TCLP / Lead <input type="checkbox"/> TCLP / RCRA Metals <input type="checkbox"/> TCLP / Full (w/ organics) Others <input type="checkbox"/>

Sample #	Date Sampled	Time Sampled	Sample Identification (e.g. Employee, SSN, Bldg, Material)	Wiped Area (ft²)	Type¹ A,B,P,E	Time² Start Stop	Flow Rate³ Start Stop	Total⁴ Air Vol
H03	04/12/12		12x12 floor tile w/ mastic, off white					
H04	04/12/12		12x12 floor tile w/ mastic, off white					
I01	04/12/12		Cove base w/mastic-black					
I02	04/12/12		Cove base w/mastic-black					
I03	04/12/12		Cove base w/mastic-black					
J01	04/12/12		Cove base w/mastic-black					
J02	04/12/12		Cove base w/mastic-black					
J03	04/12/12		Cove base w/mastic-black					
J04	04/12/12		Cove base w/mastic-black					
J05	04/12/12		Cove base w/mastic-black					
J06	04/12/12		Cove base w/mastic-black					
K01	04/12/12		Fibrous pipe insulation					

¹Type: A=area B=blank P=personal E=excursion ²Beginning/End of Sample Period ³Pump Calibration in Liters/Minute ⁴Volume in Liters [time in min * flow in L/min]

Sampled by NAME <u>J. Brandt</u> SIGNATURE <u>[Signature]</u> DATE/TIME <u>April 12, 2012</u>	Relinquished to lab by NAME <u>J. Brandt</u> SIGNATURE <u>[Signature]</u> DATE/TIME <u>April 12, 2012</u>	<div>RECEIVED</div> <div>APR 23 2012</div> <div>BY: <u>LL</u> 11:22</div>	<input type="checkbox"/> FX <input type="checkbox"/> UPS <input type="checkbox"/> USM <input type="checkbox"/> HD <input type="checkbox"/> DB WB: <u>2481</u>
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☐ Sample return requested ☐ Ambient temp ☐ Ice °C pH Cl ☐ R ☐ S ☒ X Chain-of-Custody documentation continued internally within lab. Terms and conditions page 2.



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AIHA/ELLAP 100527, ISO/IEC 17025, NVLAP 101150-0, VELAP 460135, NYELAP/NELAC 11413

LABORATORY ANALYSIS REPORT

Asbestos Identification by EPA Method¹ 600/R-93/116


Using SLI A6

ACCOUNT #: 2755-12-955
CLIENT: Industrial Hygiene Professionals, Inc.
ADDRESS: P. O. Box 5086
Hagatna, GU 96913
PROJECT NAME: EA Engineering
JOB LOCATION: Bldg. 15-6107 Tiyan
PROJECT NO.:
PO NO.:

DATE COLLECTED: 4/13/2012
DATE RECEIVED: 4/23/2012
DATE ANALYZED: 4/25/2012
DATE REPORTED: 4/25/2012

SampleType: BULK

Client Sample No.	SLI Sample/ Layer ID	Sample Identification/ Layer Name	PLM Analysis Results	
			Asbestos Fibers	Other Materials
L02	31437197	Roofing Material		
Layer 1:	Roofing Material Black, Bituminous		None Detected	100% NON FIBROUS MATERIAL
Layer 2:	Spongy Material Yellow, Spongy		None Detected	100% NON FIBROUS MATERIAL
Layer 3:	Felt Brown, Fibrous		None Detected	40% CELLULOSE FIBER 60% NON FIBROUS MATERIAL
L03	31437198	Roofing Material		
Layer 1:	Roofing Material Black, Bituminous		None Detected	100% NON FIBROUS MATERIAL
Layer 2:	Felt Black, Fibrous		None Detected	40% CELLULOSE FIBER 60% NON FIBROUS MATERIAL


Analyst: Ali Musa


Reviewed By: Hind Eldanaf, Microscopy Supervisor

Total Number of Pages in Report: 1

Results relate only to samples as received by the laboratory.

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Samples analyzed by the EPA Test Method are subject to the limitations of light microscopy including matrix interference. Gravimetric reduction and correlative analyses are recommended for all non-friable, organically bound materials. This method has a reporting limit of 1% or greater. Visual estimation contains an inherent range of uncertainty. This report must not be reproduced except in full with the approval of the lab, and must not be used to claim NVLAP or other gov't agency endorsement.

