

EVIDENCE MEMORANDUM

Field Station Kunia / Kunia Tunnel HVAC, Air Handler, Ventilation, and Indoor Air Quality Evidence

Date: June 23, 2026

Purpose	To organize and summarize public-source evidence concerning Field Station Kunia HVAC, air handlers, ventilation, indoor air quality, mold/mildew/dust, and recommended follow-up records.
Core Source Included	GovInfo/National Bureau of Standards report: Evaluation of the Working Environment at Selected U.S. Army Field Stations: Suggestions for Improvement.
Use	Draft legal-style evidence summary for claim development, attorney review, medical review, FOIA targeting, or exhibit preparation.
Important Limitation	This memorandum is an evidence organizer only. It does not offer a medical nexus opinion, expert industrial hygiene opinion, or attorney legal opinion.

I. INTRODUCTION AND ISSUE PRESENTED

Issue Presented. Whether public-source records contain evidence that Field Station Kunia had documented HVAC, air handler, ventilation, maintenance, air quality, mold, mildew, dust, humidity, and contaminant concerns relevant to environmental-exposure claim development.

Summary Answer. Yes. The strongest public source located is a 1988 National Bureau of Standards report supported by U.S. Army Intelligence and Security Command. The report directly documents planned air-conditioning rehabilitation at Kunia, including replacement of overhead ceiling-type air handler units; stale and poorly ventilated air; deficient air-conditioning maintenance; mold, mildew, dust, and visible indoor contaminants; and recommendations for HVAC maintenance, balancing, Kunia HVAC upgrades, and indoor air-quality testing for biological and chemical contaminants.

II. SOURCE LIST WITH LINKS

Primary HVAC / air handler source:

1. **[1]:** B. L. Collins, Evaluation of the Working Environment at Selected U.S. Army Field Stations: Suggestions for Improvement, National Bureau of Standards / U.S. Army INSCOM-supported report (1988) — [Link](#) (Primary Kunia HVAC/air-handler source)

Supporting environmental-context sources:

2. **[2]:** EPA Superfund Site Profile: Naval Computer and Telecommunications Area Master Station Eastern Pacific, Wahiawa, HI — [Link](#) (Contamination/site context; not an air-handler record)
3. **[3]:** EPA Cleanup Progress / Site Milestones: Naval Computer and Telecommunications Area Master Station Eastern Pacific — [Link](#) (NPL and cleanup progress context; not an air-handler record)
4. **[4]:** FedCenter archived EPA summary: U.S. Navy Will Clean Up Wahiawa and Lualualei Superfund Sites — [Link](#) (Historic EPA enforcement/cleanup context; not an air-handler record)

III. SOURCE RELIABILITY AND SCOPE

[1] Government report reliability. The core source is a federal GovInfo-hosted National Bureau of Standards report. The report states it was supported by USAINSCOM under contract No. A73050-0134-87 and that field evaluations were conducted at Kunia in December 1986 and April 1988. It contains specific Kunia interview material and sections on HVAC, air quality, maintenance, and recommendations.

[2]-[4] Environmental context only. The EPA/FedCenter sources are included only to establish broader federal-site environmental context, including NCTAMS/Eastern Pacific/Wahiawa site identification, Superfund listing/cleanup status, and contaminants. They do not independently prove air-handler defects or exposure through HVAC systems. The HVAC and air-handler evidence comes from source [1].

IV. MATERIAL FACTUAL FINDINGS FROM SOURCE [1]

Citation	[1], Acknowledgment/Front Matter, PDF p. 5; parsed lines 64-69.
Summary of Evidence	The report identifies itself as the second National Bureau of Standards report evaluating conditions at U.S. Army field stations. It was supported by USAINSCOM under contract No. A73050-0134-87. The field evaluations included Kunia in December 1986 and April 1988.
Evidentiary Use	Establishes that the report is a federal, contemporaneous, site-specific source concerning Kunia working conditions during the relevant era.
Limitations / Notes	This establishes source provenance, not exposure causation.

Citation	[1], Table of Contents, PDF p. 6; parsed lines 96-103 and 131-135.
Summary of Evidence	The report contains specific sections on Building Systems; Heating, Ventilation, and Air Conditioning (HVAC); Air Quality; Maintenance; and general recommendations for Heating, Ventilating, and Air-Conditioning Systems.
Evidentiary Use	Shows the report is directly organized around the building-system subjects needed for an HVAC/air-handler evidence packet.
Limitations / Notes	The table of contents is useful for navigation, while the substantive evidence appears in the body and appendix.

Citation	[1], Section 3.1.1 HVAC, PDF p. 21; parsed lines 677-690.
Summary of Evidence	The report states that the field stations were organized, conditioned, and maintained primarily to meet equipment needs, requiring people to accommodate the conditions. It notes that at some sites, HVAC/electrical systems had been modified from their original design uses and that environmental problems were common. It further describes a system that did not condition air but merely circulated fresh air, causing humidity buildup and mold/mildew problems.

Evidentiary Use	Supports the theory that HVAC design and operation were equipment-driven and that modified/insufficient HVAC systems could create humidity and mold/mildew conditions.
Limitations / Notes	The passage discusses field stations generally and uses “at one site” language. It should be paired with Kunia-specific sections below.

Citation	[1], Section 3.1.1 HVAC, PDF p. 21; parsed lines 690-703.
Summary of Evidence	The report states that HVAC equipment could be improperly sized for thermal loads; temperatures varied from too hot to too cold; stagnant air was reported by personnel; and balancing heating and airflow systems was an “ever-present issue.”
Evidentiary Use	Supports a record-based assertion that HVAC balance, stagnant air, and temperature/air movement were recognized field-station problems.
Limitations / Notes	This is a systems-level HVAC finding; Kunia-specific findings appear in air-quality, maintenance, and Appendix B passages.

Citation	[1], Section 3.1.4 Air Quality, PDF p. 29; parsed lines 969-982.
Summary of Evidence	The report states that air quality was a problem at the field stations, “particularly at Kunia.” Complaints focused on lack of ventilation and stuffiness. It attributes many Kunia problems to lack of maintenance and states the air-conditioning system was supposed to receive monthly, quarterly, and yearly inspections and cleaning, including filters, units, bearings, ducts, and the AC unit. It states Kunia was years behind on maintenance, resulting in mold, mildew, and dust on walls and surfaces.
Evidentiary Use	This is one of the strongest Kunia-specific findings. It links lack of ventilation, stuffiness, lack of A/C maintenance, delayed duct/unit/filter maintenance, and mold/mildew/dust at Kunia.
Limitations / Notes	The report supports existence of building-condition problems. Medical causation still requires medical or industrial-hygiene analysis.

Citation	[1], Occupant comments under Air Quality, PDF p. 29; parsed lines 990-995.
Summary of Evidence	Kunia occupant comments included statements that the air was stale, the tunnel smelled bad, air was stale and mildewed, and fresh air was nonexistent.
Evidentiary Use	Useful as contemporaneous occupant-observation evidence that perceived air quality problems were not isolated to one person.
Limitations / Notes	These are survey/interview comments, not laboratory measurements.

Citation	[1], Section 3.3 Maintenance, PDF p. 32; parsed lines
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	1104-1110.
Summary of Evidence	The report states that lack of preventive and regular maintenance at the field stations, particularly Kunia and Augsburg, was a major concern. It specifically states that at Kunia, lack of appropriate air-conditioning maintenance was said to cause many air-quality problems, with mold and mildew present in many locations. It describes a repair-only-when-broken approach rather than preventive maintenance.
Evidentiary Use	Strong Kunia-specific maintenance evidence: poor A/C maintenance was identified as a cause of air-quality problems and mold/mildew presence.
Limitations / Notes	The report attributes the cause using "was said to be"; it is still strong evidence because it appears in an official federal technical report.

Citation	[1], Section 3.3 Maintenance, PDF p. 32; parsed lines 1123-1128.
Summary of Evidence	The report states that painting and maintenance were difficult because of operational/security needs and adds that ventilation was poor enough, particularly at Kunia, that adding paint fumes into an occupied workspace was not a good idea.
Evidentiary Use	Supports the argument that poor ventilation was recognized as significant enough to affect whether ordinary maintenance activities could safely occur while personnel were present.
Limitations / Notes	This is a qualitative statement, not quantitative exposure monitoring.

Citation	[1], Recommendations, Section 11.1.2 HVAC Systems, PDF pp. 64-65; parsed lines 2309-2335.
Summary of Evidence	The report states that temperature and air quality were major concerns. It specifically states that at Kunia, indoor air quality was a problem with mold, dust, and other contaminants visible on interior surfaces. It recommends regular HVAC maintenance, including filter cleaning/changing; HVAC balancing; implementing planned Kunia HVAC upgrades; and, if the upgrades did not solve indoor-air-quality problems, an indoor air-quality survey with attention to biological and chemical contaminants.
Evidentiary Use	This is a key recommendation section because it documents visible contaminants, calls for HVAC corrective action, and expressly recommends biological and chemical indoor-air-quality evaluation if problems continued.
Limitations / Notes	The recommendation does not prove that biological or chemical contaminants caused a specific condition; it shows official recognition that such contaminants warranted attention.

Citation	[1], Appendix B, Kunia Interviews, Facility Manager, PDF p. 79; parsed lines 2805-2826.
Summary of Evidence	The Kunia facility manager described planned air-

	conditioning rehabilitation, including a chilled-water loop for each floor and replacement of overhead ceiling-type air handler units, some reportedly last replaced in 1954. The same passage states existing ductwork would be used, a pre-conditioning coil in the intake tunnel would be used, and the prior air was simply filtered to reduce dust. It states current problems were attributed to an outdated AC system.
Evidentiary Use	This is the single strongest air-handler passage. It directly identifies air handler units, their outdated status, existing ductwork, intake-tunnel air conditioning, limited prior filtration, humidity/temperature control issues, and outdated AC-system problems.
Limitations / Notes	The passage also notes an environmental assessment reportedly found no aldehydes or similar harmful chemicals in ducts; that assessment should be separately requested because it is not reproduced in full in the report.

Citation	[1], Appendix B, Kunia Interviews, Facility Manager, PDF pp. 79-80; parsed lines 2827-2856.
Summary of Evidence	The facility manager described pressurized raised-floor areas, air routed through equipment racks, drafts caused by equipment fans and floor openings, the need for pressurized floors, manual monitoring, better future control of air handlers, difficulty changing ductwork, and air leakage through approximately 90% of third-floor tiles because they were worn out and rubber stripping was gone.
Evidentiary Use	Supports a detailed theory of air movement, pressurization, duct/floor leakage, equipment-rack airflow, and air-handler control problems within Kunia's operational environment.
Limitations / Notes	This is operational/HVAC evidence; linking it to a particular contaminant exposure pathway requires additional expert analysis and records.

V. LEGAL-STYLE EVIDENTIARY SYNTHESIS

A. The report establishes a documented building-system problem at Kunia. Source [1] is not merely a general discussion of office comfort. It contains a named Kunia interview transcript and specific findings concerning air quality, A/C maintenance, mold, mildew, dust, poor ventilation, and planned air-handler replacement. The evidence is therefore relevant to any claim theory involving underground/tunnel conditions, HVAC-mediated air quality, humidity, mold/mildew, dust, or possible indoor biological/chemical contaminants.

B. The air-handler evidence is specific and concrete. The report identifies planned replacement of overhead ceiling-type air handler units and states some were last replaced in 1954. It also describes a chilled-water loop, use of existing ductwork, a pre-conditioning coil in the intake tunnel, dust filtration, and anticipated improved control of airflow, temperature, and relative humidity. This is stronger than a generic "bad ventilation" statement because it identifies actual mechanical-system components and planned corrective work.

C. The maintenance record supports foreseeability and corrective-action issues. The report states that Kunia was years behind on air-conditioning maintenance, including filter/unit/duct cleaning and inspection. It

further states that poor A/C maintenance was said to cause air-quality problems with mold and mildew present in many locations. This supports an argument that HVAC maintenance deficiencies were known, significant, and capable of producing indoor-air-quality problems.

D. The recommendation section supports follow-up testing and records requests. The recommendation to conduct an indoor-air-quality survey with attention to biological and chemical contaminants if HVAC upgrades failed provides a direct basis for FOIA requests, discovery requests, or VA evidence-development requests for air-quality testing, industrial hygiene reports, preventive-maintenance records, filter-change logs, duct-cleaning records, HVAC balancing reports, work orders, contracts, and post-upgrade evaluations.

E. EPA/Superfund records supply site context but not air-handler proof. The EPA records show the broader NCTAMS/Eastern Pacific/Wahiawa site has Superfund cleanup history and contaminants including PCBs, VOCs, SVOCs, and metals. Those sources are relevant background but should not be overstated as HVAC or air-handler proof. The HVAC proof remains source [1].

VI. RECOMMENDED RECORD REQUESTS / FOIA TARGETS

- All Field Station Kunia/Kunia Tunnel HVAC, air-conditioning, air-handler, ductwork, chilled-water-loop, intake-tunnel coil, and ventilation design drawings, specifications, as-built drawings, repair records, and replacement records from approximately 1954 through 1995.
- All preventive-maintenance logs, work orders, filter-change records, duct-cleaning records, bearing/unit maintenance records, and annual/quarterly/monthly inspection reports referenced in source [1].
- The environmental assessment by Army personnel from Japan referenced in the facility-manager interview concerning aldehydes or similar harmful chemicals in ducts.
- All indoor-air-quality surveys or industrial-hygiene surveys at Kunia addressing biological contaminants, chemical contaminants, mold, mildew, dust, humidity, volatile organic compounds, solvents, paint fumes, or duct contamination.
- All records related to planned or completed HVAC rehabilitation at Kunia, including chilled-water loops for floors 1, 2, and 3, replacement of overhead ceiling-type air handler units, replacement of floor units in raised-floor areas, pre-conditioning coils in intake tunnels, and controls for air handlers.
- All records of complaints, survey responses, safety reports, or health/environmental memoranda referencing stale air, stuffiness, lack of ventilation, mold, mildew, dust, tunnel odor, humidity, or visible contaminants on interior surfaces.
- All post-upgrade evaluations or reports assessing whether the planned HVAC upgrades solved indoor-air-quality issues.

VII. PROPOSED EXHIBIT ORGANIZATION

Exhibit	Document / Record	Purpose
Exhibit A	GovInfo/NBS Report PDF	Full report, with highlighted pages 5-6, 21, 29, 32, 64-65, and 79-80.
Exhibit B	HVAC and Air Handler Extracts	Short extract packet containing only the key pages from source [1].
Exhibit C	EPA Site Profile	Current EPA Superfund site profile for NCTAMS Eastern Pacific/Wahiawa, used only for environmental-site context.
Exhibit D	EPA Cleanup Progress / Site Milestones	EPA cleanup-progress page for NPL and cleanup chronology context.
Exhibit E	FOIA/Records Request	Request for HVAC maintenance, air-handler replacement, duct

		assessment, indoor-air-quality, and industrial-hygiene records.
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VIII. CONCLUSION

Conclusion. The GovInfo/NBS report is a strong, public, federal source for Field Station Kunia HVAC and air-handler evidence. It directly identifies overhead ceiling-type air handler units, outdated air-conditioning systems, use of existing ductwork, intake-tunnel conditioning, poor ventilation, delayed maintenance, mold/mildew/dust, and recommended HVAC corrective action and indoor-air-quality testing. The record should be used as the anchor source for any Kunia HVAC/air-handler exhibit packet, while EPA Superfund materials should be used only as broader environmental-site context unless additional records are obtained tying contaminants to HVAC pathways.

APPENDIX A. PINPOINT SOURCE REFERENCES

Reference	Pinpoint / Link	Summary
Source [1]	Link	Direct public PDF link: GovInfo/NBS report.
Provenance	PDF p. 5; parsed lines 64-69	Report supported by USAINSCOM; field evaluations at Kunia in Dec. 1986 and Apr. 1988.
Contents	PDF pp. 6-7; parsed lines 96-103, 131-135	HVAC, Air Quality, Maintenance, and HVAC recommendations sections identified.
HVAC Systems	PDF p. 21; parsed lines 677-703	Equipment-driven conditioning, modified systems, humidity, mold/mildew, air movement, stagnant air, and balancing issues.
Air Quality	PDF p. 29; parsed lines 969-995	Air quality particularly problematic at Kunia; lack of ventilation/stuffiness; A/C maintenance years behind; mold/mildew/dust; stale tunnel air comments.
Maintenance	PDF p. 32; parsed lines 1104-1128	Lack of preventive maintenance at Kunia; A/C maintenance linked to air-quality problems; mold/mildew; poor ventilation and paint-fume concern.
Recommendations	PDF pp. 64-65; parsed lines 2309-2335	Visible mold/dust/contaminants at Kunia; regular HVAC maintenance/filter changes; HVAC balancing; Kunia upgrades; indoor-air-quality survey for biological/chemical contaminants.
Kunia Interviews	PDF pp. 79-80; parsed lines 2805-2856	Overhead ceiling-type air handler replacement, units last replaced in 1954, existing ductwork, intake-tunnel pre-conditioning coil, dust filtration, air-handler control, pressurization, floor leakage.
Source [2]	Link	Direct public link: EPA Superfund Site Profile.
Source [3]	Link	Direct public link: EPA Cleanup Progress / Site Milestones.

Source [4]	Link	Direct public link: FedCenter archived EPA cleanup summary.
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