

Field Station Kunia Toxic Exposure Testing Strategy

Practical medical testing options approximately 30 years after documented or suspected exposure

Purpose

This document summarizes practical testing approaches to discuss with a physician, occupational/environmental medicine specialist, medical toxicologist, neurologist, pulmonologist, or VA environmental health clinician. It is designed for a historical exposure situation in which the alleged exposure occurred decades ago, meaning many short-lived exposure biomarkers are no longer expected to be detectable.

Important: This document is not medical advice and does not prove exposure, diagnosis, causation, or VA service connection. It is a planning document for a clinician to evaluate which tests are appropriate based on symptoms, records, prior diagnoses, and current physical examination.

Exposure context from the current document set

The local FolderScout AI search/export reviewed for this request shows indexed Kunia-related materials returning hits for TCE, pesticides, PCBs, lead, arsenic, ethylene dibromide, asbestos, mold-related contamination, benzene, vinyl chloride, diesel/TPH, and related VOC or solvent concerns. Examples in that export include TCE/pesticide search hits in medical analysis, Field Station Kunia presentation materials, nexus documents, Schofield/Kunia materials, EPA/OSHA supporting documents, and documents discussing pesticide-contaminated water or soil. This document treats those terms as exposure categories for medical discussion, not as independent proof of an individual dose.

Core principle: 30-year limitation

A negative modern blood, breath, urine, or VOC test does not rule out a historical exposure from the early 1990s. Chlorinated solvents and many VOC markers are most useful near the time of exposure. Decades later, the stronger strategy is usually to combine: (1) documented site/exposure evidence, (2) service timeline, (3) symptom and diagnosis history, and (4) objective testing for current organ-system injury or persistent body-burden chemicals.

Track 1 - Tests for current body burden or exposure markers

These tests may identify current or persistent markers. They generally do not, by themselves, identify Field Station Kunia as the source or prove a specific illness was caused by the exposure.

Suspected exposure	Useful tests now	30-year interpretation limits
PCBs	Serum PCB panel, preferably lipid-adjusted, with individual congeners if available.	Can indicate current/persistent body burden. Serum levels may support exposure history, but levels do not automatically establish disease causation.
Organochlorine pesticides	Serum organochlorine pesticide panel: DDE/DDT, dieldrin, aldrin, chlordane metabolites, heptachlor epoxide, HCB, mirex, toxaphene where available.	These chemicals are more persistent and fat-soluble than many other pesticides, so they are among the few pesticide classes that may still be measurable. Source attribution remains difficult.
Lead	Blood lead level, CBC, CMP, kidney tests. Consider bone lead XRF only through specialty/research/occupational medicine settings if available.	Blood lead mainly reflects recent exposure. Bone lead is a better cumulative marker because lead accumulates in bone over time, but it is not routinely available.
Arsenic	24-hour urine arsenic with speciation; avoid seafood for 48-72 hours beforehand unless clinician directs otherwise.	Most useful for recent or ongoing exposure. Hair/nail arsenic can be confounded by external contamination and may have limited clinical utility.

Suspected exposure	Useful tests now	30-year interpretation limits
TCE, PCE, VOC solvents	Usually not useful for a 30-year-old exposure. If current exposure is suspected, consider blood/urine VOCs or solvent metabolites through occupational medicine/toxicology.	Modern TCE/PCE/VOC testing mainly supports recent exposure. A negative test today does not disprove past exposure.
Organophosphate or carbamate pesticides	RBC and plasma cholinesterase only if recent or ongoing exposure is suspected.	Not useful for decades-old exposure unless there is current exposure.
Asbestos	No blood test proves past asbestos exposure. Use chest imaging and pulmonary function testing where clinically appropriate.	Findings may show asbestos-related disease patterns, but must be interpreted with exposure history and clinical findings.

Track 2 - Tests for injury patterns that may support a nexus

For a historical exposure claim, objective evidence of current injury patterns often matters more than attempting to find short-lived chemicals in the body decades later. These tests should be ordered based on symptoms and medical judgment.

Baseline toxic exposure workup

- CBC with differential.
- Comprehensive metabolic panel, including liver enzymes, bilirubin, albumin, creatinine, and estimated GFR.
- Urinalysis with microscopy.
- Urine albumin/creatinine ratio or urine protein/creatinine ratio.
- Cystatin C or expanded kidney testing if kidney injury is suspected.
- Fasting glucose or A1c.
- Lipid panel, especially if serum PCB or organochlorine pesticide testing is pursued because results may be lipid-adjusted.
- TSH and free T4 if endocrine symptoms or persistent organic pollutant concerns exist.
- B12, folate, vitamin D, magnesium, and other rule-out labs for nerve symptoms as appropriate.

Neurological testing

- Neurology evaluation for nerve pain, cramping, neuropathy, seizures, tremor, balance problems, memory issues, or cognitive changes.
- EMG and nerve conduction study for large-fiber neuropathy or radiculopathy patterns.
- Skin biopsy for small fiber neuropathy if symptoms are burning, stabbing, electric, sensory, or autonomic but EMG is normal.
- Autonomic testing if dizziness, sweating changes, heart-rate changes, gastrointestinal motility issues, or temperature intolerance are present.
- Neuropsychological testing for memory, concentration, processing speed, executive function, mood, or cognitive impairment claims.
- MRI brain and EEG if seizures or seizure-like episodes are part of the medical history.

Kidney and urinary tract testing

- Repeat CMP/eGFR and trend kidney function over time.
- Urinalysis with microscopy for blood, protein, casts, or other abnormalities.
- Urine albumin/creatinine or protein/creatinine ratio.
- Renal ultrasound if abnormal labs, urinary findings, flank pain, or history warrants.
- Urology referral if blood in urine, abnormal imaging, persistent urinary findings, or cancer concern exists.

Liver testing

- AST, ALT, alkaline phosphatase, bilirubin, albumin, and INR.
- Hepatitis panel and other common-cause testing to rule out non-exposure explanations.
- Liver ultrasound if liver enzymes or exam findings are abnormal.
- FibroScan or hepatology referral if chronic abnormalities are present.

Lung, asbestos, and mold-related evaluation

- Chest X-ray if asbestos exposure or chronic respiratory symptoms are a concern.
- Pulmonary function tests with DLCO.
- High-resolution CT chest only when symptoms, abnormal X-ray/PFT, or exposure history justify deeper workup.
- Pulmonology referral if abnormal imaging, abnormal PFTs, chronic shortness of breath, persistent cough, pleural findings, or asbestos-related concern exists.

Tests and panels to be cautious about

- Broad online "total toxic burden" panels that do not explain clinical validity, reference ranges, or how results change treatment.
- Hair mineral panels used as the main proof of exposure, especially when external contamination cannot be ruled out.
- Urine VOC testing for a 30-year-old TCE/PCE/VOC exposure unless there is suspected current exposure.
- Cholinesterase testing for decades-old pesticide exposure, unless current organophosphate or carbamate exposure is suspected.
- Any lab report claiming it can definitively prove Field Station Kunia exposure by itself.

Practical doctor-facing request

The following language can be copied into a message to a primary care doctor, VA provider, occupational medicine specialist, or environmental medicine clinician:

I am requesting an occupational/environmental medicine evaluation for historical military toxic exposure at Field Station Kunia, with documented concerns for chlorinated solvents, pesticides, PCBs, heavy metals, asbestos, and mold. Because the exposure occurred approximately 30 years ago, I understand that many short-lived biomarkers may no longer be detectable. I am requesting clinically appropriate testing for persistent body-burden chemicals and evaluation for current organ-system injury patterns consistent with the documented exposure profile.

Suggested test request list

- Serum PCB panel, preferably lipid-adjusted.
- Serum organochlorine pesticide panel.
- Blood lead level, with consideration of specialty bone lead testing only if clinically available and meaningful.
- 24-hour urine arsenic with speciation.
- CBC, CMP, urinalysis, urine albumin/creatinine ratio, and kidney/liver trend review.
- Neurology testing such as EMG/NCS, small fiber neuropathy testing, autonomic testing, MRI brain, EEG, or neuropsychological testing depending on symptoms.
- Pulmonary evaluation such as chest X-ray and PFT with DLCO if asbestos/mold/respiratory issues are relevant.
- Condition-specific imaging or specialty referral based on current symptoms and objective findings.

VA options to request

Through VA, ask for a Toxic Exposure Screening and an Environmental Health Registry Evaluation or VET-HOME environmental exposure assessment. These can document exposure concerns in the medical record and connect the veteran with appropriate follow-up, but they are separate from disability compensation and do not, by themselves, prove service connection.

Key nexus-document point

For a nexus letter, the strongest structure is usually: documented site contaminants and conditions + proof of service or presence at/near the site + timeline of symptoms/diagnoses + objective medical findings + clinician explanation of whether the current condition is at least as likely as not related to the exposure. A modern negative TCE/VOC test should not be treated as proof that historical exposure did not occur.

Reference sources used for clinical limitations and testing concepts

1. ATSDR - Trichloroethylene Toxicity: Evaluation and Diagnosis

https://archive.cdc.gov/www_atsdr_cdc_gov/csem/trichloroethylene/evaluation_diagnosis.html

TCE can be detected in blood, breath, and urine to confirm exposure; clinical clues are not unique, and routine kidney/liver tests may be considered after acute high-level exposure.

2. ATSDR - Case Studies in Environmental Medicine: Trichloroethylene Toxicity

https://archive.cdc.gov/www_atsdr_cdc_gov/csem/trichloroethylene/docs/TCE-CSEM-H.pdf

TCE metabolites can be used as biologic indicators, but metabolites such as trichloroethanol and trichloroacetic acid are not specific to TCE.

3. ATSDR - Asbestos Toxicity: Clinical Assessment - Tests

https://archive.cdc.gov/www_atsdr_cdc_gov/csem/asbestos/clinical_assessment-tests.html

Chest radiographs and pulmonary function tests are emphasized as important tests for diagnosing asbestos-associated disease.

4. ATSDR - Arsenic Toxicity: Clinical Assessment

https://archive.cdc.gov/www_atsdr_cdc_gov/csem/arsenic/clinical_assessment.html

The key diagnostic laboratory test for recent exposure is urinary arsenic; a 24-hour urine collection for arsenic and creatinine is preferred.

5. ATSDR - Clinician Brief: Arsenic

<https://www.atsdr.cdc.gov/environmental-medicine/hcp/clinician-briefs/arsenic.html>

Hair and nail tests can indicate chronic arsenic toxicity but have limited clinical utility because reference ranges/population means are limited.

6. ATSDR - Lead ToxGuide

<https://www.atsdr.cdc.gov/toxguides/toxguide-13.pdf>

Blood lead reflects recent exposure; bone lead measurements are an indicator of cumulative exposure.

7. CDC - Fourth National Report on Human Exposure to Environmental Chemicals, Volume Three

<https://stacks.cdc.gov/view/cdc/105344>

CDC biomonitoring reports include serum measurements for persistent organic pollutants and pesticides.

8. VA - Military Environmental Exposures Assessments

<https://www.publichealth.va.gov/MEEA/index.asp>

VA describes Toxic Exposure Screening as a short screening for enrolled veterans, generally repeated at least once every five years.

9. VA - Environmental Health Coordinators

<https://www.publichealth.va.gov/exposures/coordinators.asp>

VA VET-HOME provides military environmental exposure assessments and environmental health registry evaluations via telehealth.

10. User-provided FolderScout AI PDF export

FolderScout AI.pdf, pages 2-6

Shows local indexed search results for TCE/pesticides and related Kunia documents used to identify exposure categories for this planning document.

Prepared as a discussion aid. Final test selection should be made by a licensed clinician based on medical history, current symptoms, examination, and prior records.