



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION II

JACOB K. JAVITS FEDERAL BUILDING
NEW YORK, NEW YORK 10278

MAR 23 1993

John Koliccius
Naval Facilities Engineering Command
10 Industrial Highway
Code 1821, Mail Stop 82
Lester, PA 19113-2090

Re: Naval Weapons Station (NWS) Earle

Dear Mr. Koliccius:

This is a follow-up to the conference call of February 18, 1993, with you, Richard Johnson and John Williams of Weston (the U.S. Navy's field/lab contractor) and Amelia Jackson and I, of the U.S. Environmental Protection Agency (EPA). The main topic of discussion related to a comment made by Dennis McChesney of EPA, regarding listing detection limits of all compounds for samples which were reported as highly contaminated with acetone, during the Remedial Investigation (RI) Sampling. As learned from the call, the Weston lab (Lionville, PA facility) analyzed the field samples and detected acetone at levels which exceeded the standard calibration range (saturation). As stated by Weston, they "knew" that the acetone in the samples resulted from using acetone in the decontamination procedure in the field, and therefore felt it was unnecessary to dilute and reanalyze the samples to quantify acetone. This procedure yields the following problems:

- 1) As per the CLP-SOW for Organic Analysis dated February 1988 and revisions (which the lab was following as per the Weston Quality Assurance Project Plan (QAPP) of June 1990 for this site), when a sample is analyzed that has saturated ions from a particular compound, the lab must analyze a reagent water blank which should be free of interference from the saturated compound. If this blank is not "clean", the system must be decontaminated and additional reagent water analyzed, until the system is acceptable. Once determined to be free of interference, the sample that saturated the detection must be diluted and reanalyzed. This procedure will yield sample concentrations which are within the calibration range, as well as provide assurance that the saturated compound has not caused contamination carryover into any subsequent sample analysis. Since Weston did not dilute the sample(s) which exhibited acetone concentrations at the saturation level, they did not follow the

CLP-SOW as stated in their QAPP. EPA has no way of knowing if acetone concentrations found in any samples were a result of instrument carryover or inherent to the samples.

2) All acetone concentrations which were calculated using responses outside the standard calibration range are invalid. This would further impact data validation procedures since any contaminant which is found in a field blank must be related to that contaminant in samples. This relationship is as follows: if the sample concentration is less than ten times the concentration found in the field blank, the sample concentration is rejected. If the sample concentration is greater than ten times the concentration found in the field blank, the contaminant is inherent to the sample and not a result of procedural error. Here, any acetone concentration calculated from a saturated sample is invalid and, if the sample is the field blank, then associated sample results for acetone cannot be relied upon. This problem should have been detected by the data validator personnel, namely Heartland Environmental, the contractor named in the QAPP responsible for data validation.

3) Also, as a result of not appropriately diluting samples exhibiting saturated compounds, other target compounds may be masked by acetone. Therefore, it cannot be determined if masked compounds are non-detected or present at levels masked by acetone. Data for any masked compounds cannot be relied upon. In addition, Weston's QAPP, page 2-16 states the decontamination procedure as using methanol/hexane as the organic solvent, not acetone. As stated during the call by Weston, they realized the acetone problem after reviewing the first round of sample data and tried to take precautions in subsequent second and third round sampling by thoroughly rinsing sampling equipment in the field. Unfortunately, this did not solve the problem and they failed to apply appropriate procedures in the lab which may have salvaged some data.

For the Site Investigation (SI) areas, Weston modified their decontamination procedure to use methanol instead of acetone as the organic solvent. This is incorrect since methanol and hexane must be used in order to remove both polar and non-polar compounds from equipment. Again, the QAPP was not followed. As a result, false positive results may be reported in the SI samples originating from cross-contamination of samples through field equipment.

I would like to point out, that I discussed the proper decontamination procedure, that is, methanol rinse followed by a hexane rinse, with Gerald Hoover on April 24, 1992 and Richard Johnson on April 27, 1992 and repeated it again in the letter dated May 7, 1992 (see Attachment 1). The proper decontamination procedure was even included in the Navy's revised QAPP (pages 2 and 3) dated May 27, 1992, prepared by Weston. Therefore, there is no excuse why the proper decontamination procedure was not followed by Weston. As for John William's assertion during the

February 18, 1993 conference call, that Laura Scalise had approved the use of just a methanol rinse during the June 10, 1992 field audit is incorrect. EPA did not observe any decontamination procedures during the field audit that day. Enclosed are the CERCLA Limited Technical Systems Audit (see Attachment 2) and the Health and Safety Audit (see Attachment 3, comments 4, 6, 7 & 9) of June 10, 1992.

At NWS Earle, EPA has split samples amounting to approximately 10% of all field samples collected during the RI and SI, for data validation and comparison purposes. Also, I have had the staff of the Monitoring Management Branch of EPA (i.e., Amelia Jackson and Patricia Sheridan for the RI sampling and Laura Scalise and Suzanne Tramontana for the SI sampling) conducting audits during field activities to verify that EPA approved sampling procedures are being adhered to. However, EPA can not be out in the field, nor at Weston's labs 100% of the time to oversee their work. Actually, it is the Navy's, not EPA's responsibility to oversee Weston. As I have discussed with you in the past, someone from either Northern Division or NWS Earle has to take a more active oversight role of Weston to ensure that EPA's comments are being addressed.

Therefore, I would like to see the following: a detailed discussion of the problems encountered with the decontamination procedure included in the Final RI and SI Reports, respectively; a written response of what the Navy proposes to do with the questionable RI and SI data, due to Weston's failure to use the proper decontamination procedure (e.g., does the Navy propose additional sampling?) and what the Navy will do to prevent this from happening in the future; and, a written response to the comments listed in the two above-referenced audits.

If you have any questions concerning this matter, please contact me at 212-264-6609.

Sincerely yours,


Paul G. Ingrisano
Project Manager
Federal Facilities Section

Enclosures

cc: LCDR J. P. Dell, NWS Earle
J. Freudenberg, DEPE
R. Johnson, Weston

Attachment 1

P. Ingrisan

MAY 7 1992

Gerald F. Hoover
Project Engineer, Code 142
Environmental Restoration Branch
U.S. Navy, Northern Division
Naval Facilities Engineering Command
U.S. Naval Base, Bldg. 77Low
Philadelphia, PA 19112-5094

Dear Mr. Hoover:

This is in response to the Addendum to the Quality Assurance Project Plan (QAPP) dated June 1990, dealing with Decontamination Protocol for Sampling Equipment and Hydro-Punch Sampling Procedures which was faxed to me on April 21, 1992.

As I discussed with you on April 24, 1992 and Richard Johnson of Weston on April 27, 1992, the decontamination protocol from Step 6 to Step 9 should be as follows: methanol rinse, hexane rinse, distilled/deionized water rinse and total air dry or nitrogen blow-out.

As for the Hydro-Punch, the U.S. Environmental Protection Agency is currently evaluating the appropriate quality assurance for its use. At this point, its use should only be considered a screening tool, and the data obtained should be considered as screening data.

The following minimum criteria must be incorporated:

1. The casing, screen and well points must be made of stainless steel,
2. The apparatus must be steam-cleaned before its use,
3. Three well volumes must be evacuated before collection of samples,
4. Samples must be collected within three hours of evacuation,
5. Do not leave the well point in the ground as it should not be considered a permanent monitoring well. It should be removed after its use.

In the future, field work can not commence without the prior approval of EPA on all field work related documents. Also, this addendum should be numbered and dated with a copy sent to me and one available for field personnel.

If you have any questions concerning this matter, please contact me at 212-264-6609.

Sincerely yours,

Paul G. Ingrisano
Project Manager
Federal Facilities Section

cc: CPT W. M. Migrala, Jr., NWS Earle
CDR J. P. Dell, NWS Earle
R. Johnson, Weston
J. Freudenberg, NJDEPE
R. Meier, Versar

Attachment 2

CERCLA Limited Technical Systems Audit
Naval Weapons Station Earle Site
Phase 2 Site Inspection
Colts Neck, New Jersey
June 10, 1992

Performed by:



Laura Scalise, Environmental Scientist
Monitoring Management Branch



Suzanne Tramontana, Environmental Engineer
Monitoring Management Branch

Affiliation: U. S. Environmental Protection Agency
Environmental Services Division
Monitoring Management Branch
Edison, New Jersey 08837

Project Audited: Naval Weapons Station Earle Site
Phase 2 Site Inspection

Date of Audit: June 10, 1992

Entity Audited: Roy F. Weston, Inc.
West Chester, PA
(PRP's prime contractor)

Versar, Inc.
Langhorne, PA
(For CDM-FPC - EPA's oversight contractor)

Personnel On-Site:

John Williams	Weston	Field Operations Leader
John Leeks	Weston	Sampler
Greg Flasiniski	Weston	Sampler
Russel Meier	Versar	Oversight

Personnel Qualifications:

Personnel on-site appeared to be qualified to perform their assigned tasks.

Purpose of Audit:

The purpose of this limited technical systems audit is to observe field sampling activities and to evaluate the adequacy of quality control procedures carried out as compared to the approved field operations plan and Region II quality assurance policy.

Findings:

Two sampling areas were observed for soil and sediment sample collection:

Site #29 - soil for PCBs and TPH

Site #13 - stream sediment for BNAs and PCBs
soil for BNAs, PCBs, metals and cyanide

1. **Problem:** At the first site that the auditors witnessed (Site #29) the sampler did not homogenize the sample very thoroughly.

Solution: The auditors recommended further homogenization of the Site #29 sample and the sampler promptly complied. Samples collected later were homogenized thoroughly.

2. **Problem:** The analyte-free water used on-site for decontamination and collecting field and trip blanks came from Weston's Lyonville, PA laboratory. No data attesting to the water's purity was found on-site. The auditors requested this data be sent to the RPM.

Solution: On July 6, 1992 I received analytical data on 4 blank water lots from a vendor named "Baxter" analyzed for organics. I will assume that 1 or more of these 4 lots from Baxter were used at this site. The results showed the water lots to be suitable for its intended use, but the data was rather old, the water lots being analyzed in October 1991. I recommend that for future sampling events the blank water be analyzed for purity no more than one month prior to use on-site. Data submitted on water from a vendor named "Ricca" was analyzed for inorganics in March 1992. This is acceptable.

3. **Problem:** The sample bottles used were purchased from Eagle Pitcher and I-Chem. In both cases, most of the bottles were suitably prepared by the vendor for Superfund use, but no QC data attesting to the bottle's cleanliness was provided by the vendor. This is evident by the bottle lots, Eagle Pitcher Level II and I-Chem Series 200. I-Chem series 100 bottles, also present on-site, are not prepared for Superfund use. (I wish to note that these vendors do sell bottles suitably prepared and accompanied with QC data, Eagle Pitcher Level I and I-Chem Series 300, but at a higher cost.) The auditors requested that Weston's laboratory perform QC analysis on all of the bottle lots used for this site according to EPA guidance document "OSWER Directive #9240.0-05, Specifications and Guidance for Obtaining Contaminant-free Sample Containers, July 1989". The auditors requested this data be sent to the RPM.

Solution: On July 6, 1992 I received analytical data on bottle batches analyzed by the Weston laboratory. None of the bottle batches for which I received data matched the lots present in the field:

Lots in the field on June 10, 1992:

Eagle Pitcher Level II:

X2134-2	1-liter amber glass
X2221-2	1/2-liter poly
C1203-3	1-liter poly (may be Level I)
Z200392	125-ml amber glass
B2020-2	40-ml glass vials

I-Chem Series 200:

2065051	500-ml amber glass
1319012	250-ml amber glass (Series 100)
2076012	125-ml amber glass
2078042	125-ml amber glass

Lots for which I received data on July 6, 1992:

I-Chem, series 100 and 200:

1345012	BNA/PST/PCB	liter amber glass (series 100)
2045021	Metals/cyanide	1-liter poly
2010013	VOA	40-ml glass vials

Chemical data attesting to the cleanliness of the bottle lots listed above as being present on-site on June 10, 1992 must be sent to the RPM.

Conclusions: If the sample bottles used on-site are found to be contaminant-free, then none of the data collected the day of the audit should be adversely affected by the other findings outlined above. If data cannot be provided for the sample bottles in question, then any positive values found in any of the samples cannot be attributed to bottle contamination, and should be attributed to the site.

Attachment 3

HEALTH AND SAFETY AUDIT

EARLE NAVAL WEAPONS STATION
COLTS NECK, NEW JERSEY

JUNE 10, 1992

Performed by:

Donna Haseaman, Industrial Hygienist
Facilities and Administrative Management Branch

EARLE NAVAL WEAPONS STATION HEALTH AND SAFETY AUDIT

1. FINDING: The Versar HASP indicated that Jim Jensen was the site health and safety officer and that Dave Spencer was the alternate. However, neither of these individuals was at the site on the day of my visit. Mr. Russ Meier was the only Versar employee present at the site.

CORRECTIVE ACTION: Revise the site HASP so that it indicates that the health and safety function will be carried out by someone on-site. It might be that a Weston employee serves in this function.

DATE CORRECTED: _____

COMMENTS: _____

2. FINDING: Ticks and Lyme disease are one of the major hazards at this site. However, there was no mention of this in the Versar HASP.

CORRECTIVE ACTION: Modify the HASP to include information regarding health and safety control measures associated with ticks and lyme disease.

DATE CORRECTED: _____

COMMENTS: _____

3. FINDING: The Versar HASP states that hard hats and safety glasses are required for site activities. These PPE items were not being utilized and did not seem necessary for the activities being conducted at the site on the day of my visit.

CORRECTIVE ACTION: Modify the HASP so that it accurately reflects the appropriate PPE required and used for each activity occurring at the site.

DATE CORRECTED: _____

COMMENTS: _____

4. FINDING: Site communications on the date of my visit were inadequate. There is no phone in the trailer at the site and there was no notice posted informing one as to the location of the nearest telephone at the facility. In addition, there was no radio communication between the

workers at the various work sites and a stationary point at the facility. [NOTE: I was informed that radio communication is usually maintained between field workers and a central command center at the facility.]

CORRECTIVE ACTION: The location of the nearest telephone should be posted in the trailer. Radio communication should be available between field workers and some central command center at the facility.

DATE CORRECTED: _____

COMMENTS: _____

5. The Versar HASP calls for continuous air monitoring with a PID during all on-site activities. This was not being done and did not seem necessary during the field sampling work which I observed.

CORRECTIVE ACTION: Modify the HASP so that it reflects current site activities and conditions with regard to proposed air monitoring.

DATE CORRECTED: _____

COMMENTS: _____

6. FINDING: A number of chemicals, (solvents and acids), were being used in the trailer, however, an acceptable eyewash was not available.

CORRECTIVE ACTION: An eyewash unit which meets ANSI Z358.1-1990 should be available in the trailer, in the vicinity where the chemicals are being used. (The unit described in the attachment is an example of a portable unit which conforms with ANSI Z358.1-1990.)

DATE CORRECTED: _____

COMMENTS: _____

7. FINDING: There is the potential for a small spill inside the trailer at the site. No spill control kit is currently available in the event of an acid or solvent spill.

CORRECTIVE ACTION: Place a spill control kit of sufficient size and material in the trailer in order to contain and isolate any hazardous substances spilled.

DATE CORRECTED: _____

COMMENTS: _____

8. FINDING: The Versar representative at the site was not aware of any emergency procedures for the facility.

CORRECTIVE ACTION: The Versar representative should familiarize himself regarding any facility-wide emergency procedures that the Navy has for the site. The site HASP should reference any such procedures.

DATE CORRECTED: _____

COMMENTS: _____

9. FINDING: There were four gallons of flammable liquid present in the trailer on the day of my visit, (2 gal of Acetone, 1 gal of Methanol, and 1 gal of Hexane). These flammable liquids were being stored on a shelf in the trailer.

CORRECTIVE ACTION: Obtain a flammable liquids storage cabinet for these materials.

DATE CORRECTED: _____

COMMENTS: _____

EYE WASH/SHOWERS

Portable Gravity-Feed Eye Wash High-Visibility Colors Quickly Identify Unit

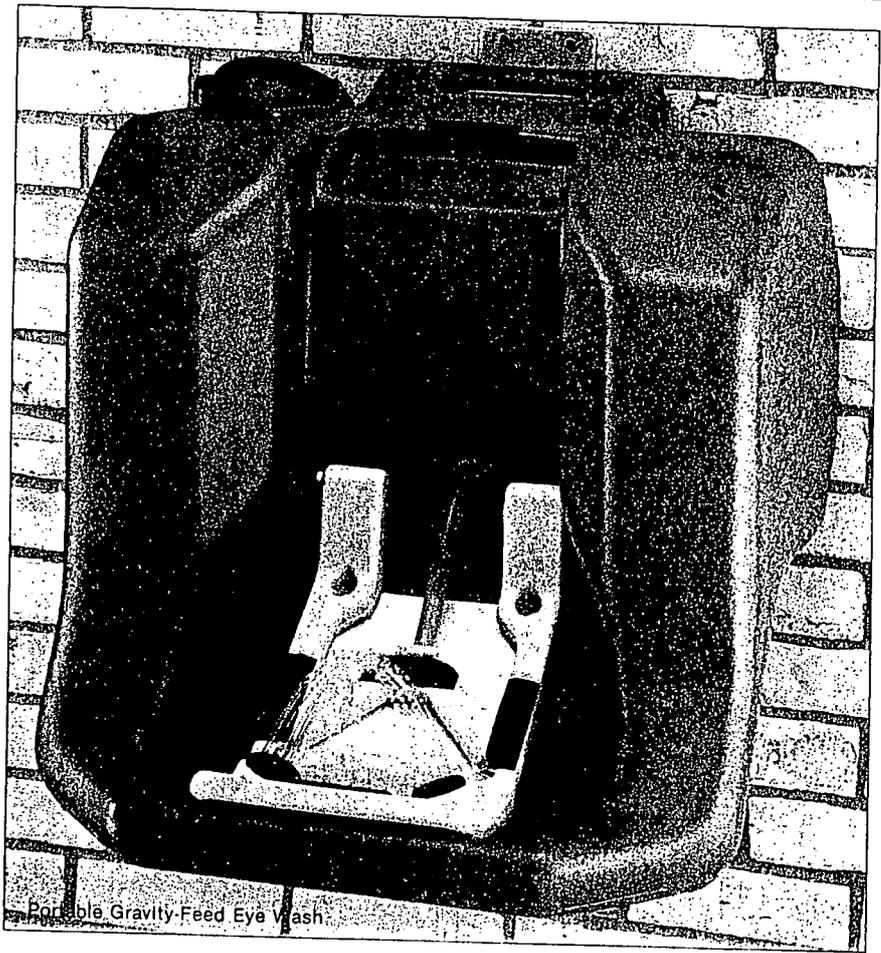
Bright yellow arm distinguishes itself from the green tank, allowing it to be easily located and activated, even with impaired vision.

Specifications: In upright position, tray securely shuts off water flow and keeps nozzles free of airborne contaminants. Wide opening allows easy filling, inspection and cleaning. The 16-gallon high-density polyethylene tank is completely self-contained and does not require a plumbed water supply. Includes a non-toxic bacteriostatic additive, 3' drain hose and wall/shelf mounting brackets. 22½"H x 21½"W x 19½"D.

Flow Rate: 0.4 gpm for 15 minutes.

Compliance: ANSI Z358.1-1990.

JC-9766 264.60



Portable Gravity-Feed Eye Wash

- Use as an eye wash or drench hose
- Removable spray head mounts on top of unit



Standard Portable Eye Wash/Drench Hose

Encon Portable Eye Wash/ Drench Hose

For Versatile Flushing

Easy-to-operate push plate with stay-open valve activates a steady flow of water for 15 minutes of flushing.

Specifications: Stainless steel (Type 304), 10-gallon tank; 8-gallon functional capacity. Features relief valve and pressure gauge to prevent vessel over-pressurization. Spray head assembly slides into a socket on the top of the unit for storage or hands-free eye and face washing. 8'L flex-coil hose allows the spray heads to be lifted to direct water at other areas of the body. Can be pressurized by bottled or plant air. 25"H x 12¼"OD. Unit includes water treatment additive.

Flow Rate: 0.4 gpm.

Compliance: ANSI Z358.1-1990.

No.	Description	Each	
		1	2
JC-1412	Standard	732.35	659.10
JC-1414	Heated, 12 VDC	1256.45	1130.80
JC-1416	Heated, 120 VAC	1311.85	1180.70



Encon Hydrosep™ Water Treatment Additive

Use in self-contained eye wash units to protect against bacteria, fungi, algae, staph and acanthamoeba growth.

Specifications: One bottle preserves from 5 to 20 gallons of potable water for up to 180 days. Portable units should be flushed and cleaned every 60 days. Carton of four, each 250 ml. FDA registered.

JC-10089 Carton of 4/21.40

FAX ORDER 1-800-543-9910

LAB SAFETY
SUPPLY 349