

**Questions for Army Corps from Charlie Bempohl, *NW Current*
August 3, 2004**

Responses from the U.S. Army Corps of Engineers are placed below the questions
August 9, 2004

1. Regarding Ed Shafik's e-mail to Leland Reeser of July 7, 1997, you said Shafik "recommended changing the Parsons report because the report was wrong" regarding a detection of Lewisite at 52nd Court in 1993. Question: was the report then changed to reflect Shafik's recommendation?

Answer:

Yes, the report was corrected according to Shafik's recommendation. (This is part of the process of preparing reports – reviewing, making comments, addressing comments, making corrections, etc.)

At the time of Mr. Shafik's e-mail of July 3, 1997, the Corps was in the process of preparing a response to a D.C. Health report entitled *Final Report on World War I Poison Gas Production at the American University Experiment Station*, dated July 1996. D.C. Health's report raised several issues concerning the adequacy and completeness of the remedial investigation and remedial action performed by the Corps at the Spring Valley Formerly Used Defense Site between 1993 and 1995. Mr. Shafik was assigned the task of investigating the validity of a statement in the D.C. Health report that alleged that lewisite was found on glassware during the removal operations at the 52nd Court munitions burial pit in January 1993.

What Mr. Shafik discovered was that the recovered glassware did not contain actual lewisite, but lewisite breakdown products. The Corps wanted to clarify this point, because lewisite degrades very rapidly in the presence of water vapor or high humidity. It would be highly unlikely for agent to survive in its original form on broken glass buried in the ground for 70 years.

Additional information that Mr. Shafik found while researching this issue concerned lewisite bubbler results from the same removal operation in January 1993. Bubblers were used at 52nd Court to monitor the air for the possible presence of lewisite by looking for arsenicals. The bubbler results, as initially reported, showed some low-level detections of "lewisite." Mr. Shafik included these bubbler results in his initial response to the D.C. Health statement. Upon further research into this matter, as indicated in the referenced e-mail, Mr. Shafik learned that the bubbler readings were based on total arsenic, not lewisite, which meant that lewisite could not be confirmed.

Therefore, Mr. Shafik recommended that the portion of his response pertaining to the bubbler results be deleted. His recommendation was accepted and the draft report was corrected. The final Corps response to D.C. Health's report, entitled *Remedial Investigation Evaluation Report, Operation Safe Removal Formerly Used Defense Site, Washington, DC*, was dated January 8, 1998.

2. Shafik made several statements in his email about the absence, in 1993, of a valid confirmation procedure covering Lewisite detection. Question: In this particular incident — the January 1993 initial detection of Lewisite at 52nd Court — was there no confirmation procedure done?

Answer:

Mr. Shafik's e-mail addresses two different topics: 1) the bubbler results from air monitoring and 2) the lewisite breakdown products on broken glassware.

1) Bubblers were used as a screening tool for air monitoring throughout the January 1993 removal operation. The bubbler readings were based on total arsenic and, therefore, are not a confirmation for the presence of lewisite. Confirmation procedures were done during the emergency removal action — soil sampling and DAAMS (Depot Area Air Monitoring System).

2) The suspect glassware items removed from the 52nd Court pit were packaged and transported to Edgewood, MD, where they were analyzed by the U.S. Army Edgewood Research Development and Engineering Center using an array of analytical methods. The presence of lewisite breakdown products was confirmed on the glassware by these various methods.

To summarize: The removal action at 52nd Court in 1993 was conducted in an emergency situation. The workers were in protective gear, and the public had been evacuated. We found 43 suspect chemical-warfare-material rounds, and we found lewisite breakdown products on glassware. We did not have confirmed lewisite detection on the glassware, in the air, or in the soil.

3. In August, 1993, the presence of Lewisite was initially detected in soil samples taken from the [name removed] property on [street name removed] and analyzed at Edgewood Arsenal. Work on the property was then stopped. Later testing amended the initial assessment saying only the presence of arsenic could be confirmed, not Lewisite. Aside from the arsenic-Lewisite issue, it appears that the work stoppage on this property remained in effect for a long time. Question 1: was work on this property suspended specifically because of the arsenic detection? Question 2: when did work resume on the property? Question 3: was the borehole in which the arsenic was detected [anomaly 3, I believe] ever reopened and reinvestigated when work started up again? Question 4: were any contaminants – arsenic, Lewisite, chemical warfare agents – ever found on the property in the new reinvestigation?

Answers:

There was an **initial** reporting of lewisite in an air (not soil) sample on August 23, 1993, at the property in question within the Spaulding Captain Rankin Area. This air sample was collected August 19, 1993, near a boring during a side-scanning geophysical investigation and had been sent to Aberdeen Proving Ground (Edgewood). In response to this initial report of lewisite, work was temporarily stopped on site. All this information is contained within a Situation Report dated August 23, 1993, which was provided to Congressman Dingell in February 2001 in response to a series of questions submitted January 25, 2001.

Subsequent reporting from the lab later that same day (Aug. 23) indicated that the bubbler used could only confirm the presence of arsenic and not lewisite. The same Situation Report noted that subsequent air samples were collected August 20 and 23 and included additional sampling near the site of the original detection using new bubblers. These results were described as “negative” and “below detectable limits,” respectively, for these additional sampling events. Work on the site was subsequently completed, noting a situation report from August 26, 1993, indicating that the contractor completed its geophysical work on the property.

It should be noted that the confirmed arsenical detection, as opposed to the initial lewisite detection, was reiterated in a September 11, 1993, report summarizing the work on the property. The document refers to the August 19 detection as a “positive arsenical reading” and does not mention the detection of lewisite. If interested, this document also briefly discusses the soil borings conducted on the property and the recovery of a little bottle containing an unknown liquid. The contents were analyzed and no agent or agent-specific breakdown products were detected. Though this bottle was not found in the boring where the arsenical detection occurred, it is worth noting here because neither this find nor any other item ever recovered on the property was found to contain chemical warfare agent or agent breakdown products. Note that this September 11, 1993, report and other information associated with this work was provided to the property owner, as well as included in our official responses to Congressman Dingell.

As described in last year’s responses to your June 2003 questions, the next work conducted on the property was in December 1994, consisting of an extensive investigation of Points of Interest 21, 22 and 23. The lapse of time between the two investigations was not related to the confirmed arsenic detection in August 1993. The side-scanning work in 1993, as part of Operation Safe Removal Phase II, was

completed as planned, and no other work on that issue was deemed necessary at that time. The December 1994 work was conducted to address the three Points of Interest as a separate task.

The Corps cannot confirm with any certainty that the borehole, where lewisite was initially reported and arsenic was confirmed, was physically investigated in any subsequent investigations. The work in December 1994 was not conducted to address the area investigated by the side-scanning work in 1993. As for the intrusive investigation of anomalies on the property in question in 2003-2004, the Corps cannot say with any confidence whether the 1993 borehole was excavated. Because the side-scanning work in 1993 was not precisely mapped, it was not possible to relocate the boreholes – only a sketch is available of where the 1993 work was conducted.

With regard to the fourth part of your question, arsenic, a non-specific agent breakdown product of lewisite, was found in several grids above the 20 parts per million cleanup goal. One grid was excavated while several other grids were left in place because the arsenic concentrations were below 43 ppm and in soil within the root zones of mature trees. These arsenic grids were addressed during the fieldwork conducted in 2003-2004.

There were also potential detections of mustard in samples taken from bunker pipe drain terminus soils (Point of Interest 23) during the investigation started in December 1994. Review of these data results at that time suggested the possibility of analytical error, so additional samples were collected from the area during the subsequent remedial investigation. The analyses of these additional samples did not detect any mustard or mustard breakdown products. Based on these additional sample results, the initial detects are believed to be false positives resulting from an analytical quality assurance anomaly (though there is no way to confirm the false positive conclusion with 100 percent certainty). This issue was reported in the June 1996 Remedial Investigation Report for the Spaulding and Captain Rankin Areas, which should be in the Administrative Record at the Palisades Library.

4. As I understand it, there were more than 500 anomalies identified on the [street name removed] property but a much smaller number were investigated. Question 1: If that is so, please tell me why a smaller number was investigated. Question 2: If a certain number of these anomalies were identified as high probability anomalies [127?] and only a smaller number of those were investigated [29?] can you explain why?

Answer:

A total of 530 anomalies were identified on the Spaulding and Captain Rankin Areas (SCRA). These anomalies were located on both [location removed] and [location removed]. Only 24 of these anomalies were classified initially as high probability anomalies, but additional information gathered during the investigation resulted in these anomalies later to be reclassified as low probability anomalies.

Of these 530 anomalies a total of 253 were intrusively investigated. The rationale for this investigation was as follows:

Phase I – A total of 99 low probability anomalies, approximately 20 percent, were selected by the Corps and approved by the Spring Valley Partners for investigation. Of these, 47 anomalies were selected subjectively based on their geophysical characteristics. The remaining 52 anomalies were selected randomly.

Phase II – Upon completion of Phase I, the Spring Valley Partners reviewed the results and agreed to investigation of 116 additional low probability anomalies, raising the percentage investigated to approximately 40 percent. Of these, 97 were located on [location removed] and the remaining 19 anomalies were located in or near previously identified arsenic contaminated soil grids.

Phase III and Phase IV – Upon completion of Phase II, the Spring Valley Partners recommended investigation of the 24 low probability anomalies that had initially been classified as high probability anomalies. The Phase III investigation was unable to clear 10 of these anomalies to the satisfaction of

the Spring Valley Anomaly Review Board (August 26, 2003), so Phase IV included additional mechanical excavation and geophysical surveying of these areas to demonstrate that no hazard remained. At the completion of this work, Phases I to IV, the Spring Valley Partners agreed that no additional anomalies warranted investigation.

Phase V – 14 additional low probability anomalies were investigated under the Kreeger Music Roadway.

Out of all the anomalies investigated, 25 of the items that were found would be classified as ordnance-related scrap according to the draft final SCRA Report.

Statistically speaking, in an environmental investigation, investigating 47 percent of anomalies that were low-probability would be considered to yield reliable results.

The bottomline is that the Department of Defense is responsible for the Spring Valley cleanup. If new, valid information is discovered about these anomalies in the future, the Corps will return and investigate them.