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to John Kenna
CNF

ENVIRONMENTAL PROTECTION AGENCY
Regional Office II
Federal Building
26 Federal Plaza
New York, New York

~~Handwritten signature~~
File 4840
Ft. Drum

AUG 31 1987

Mr. Curt Williams
Environmental Coordinator
ATTN: AFZS-EH-E
10th Mountain Division (Lt. Inf.)
and Ft. Drum
Ft. Drum, New York 13602-5000

Dear Mr. Williams:

The Environmental Protection Agency (EPA) has reviewed the remedial investigation (RI) for Fort Drum, which was prepared for the U.S. Army Toxic and Hazardous Materials Agency (USATHAMA) by Dares and Moore. Our review was coordinated with the New York State Department of Environmental Conservation (NYSDEC).

Based on our review, we do not believe that the RI satisfies the basic purpose of a study of this nature, as mandated by the National Contingency Plan because it fails to define the exact nature and extent of threats to human health and the environment. Our major concern with the RI is that it does not present adequate investigations or characterization of areas of contamination. For example, surface water sampling was not conducted on a regular basis under known meteorological conditions and natural ambient cycles, and the soil sampling plan was not fully developed. In addition, we recommend that additional rounds of sampling be collected and analyzed (by a properly qualified laboratory) to address the many chemical components described in the RI as "laboratory artifacts" and "wrong laboratory sampling." Until the deficiencies in the RI are corrected, it should not be used as a basis for the selection of alternative remedial actions (i.e., specifically for the 1595 Fuel Dispensing/Spring Area).

A compilation of EPA's and NYSDEC's detailed technical comments on the RI are presented in Enclosure A. In addition, I have enclosed copies of the NYSDEC's comment letter (Enclosure B) and the New York State Department of Health (NYSDOH) comment letter (Enclosure C) for your information and consideration, respectively.

Given the nature of our concerns regarding the RI, I believe that a meeting should be scheduled for the near future with all the respective parties (i.e., Ft. Drum, USATHAMA, EPA, NYSDEC, NYSDOH) to discuss future actions on the RI and proposed remedial actions. I will be contacting you shortly to arrange this meeting.

RECEIVED

SEP 04 1987

BUREAU OF
HAZARDOUS SITE CONTROL
DIVISION OF SOLID AND
HAZARDOUS WASTE

In the interim, should you have any questions regarding this matter, please feel free to contact Warren Black of my staff or me at (212) 264-6714 or 6723, respectively.

Sincerely yours,

Robert W. Hargrove
Federal Facilities Coordinator
Environmental Impacts Branch

Enclosure

cc: A. Anderson, USATHAMA (w/enclosures)
✓ C. Goddard, NYSDEC (w/enclosures)
G. M. Meehan, NYSDOH (w/enclosures)

Attachment A

Environmental Protection Agency/New York Department of Environmental Conservation
Compilation of Review Comments

1.1 Site Background Information

Section 1.1.2 - page 1-4 - (USEPA Comments) The report does not present information on demographics or land use. The report is lacking local meteorological and climatological data (i.e. precipitation, temperature, wind, seasonal variations, etc.) This information is important in determining effect of weather patterns on air contamination pathways and/or in developing an endangerment assessment.

Figure 1-3 - (USEPA Comments) The scale of the topographic map (1 inch equal 1000 feet) and its contour interval (10 feet) are incorrect for their intended use in the RI/FS. The topographic map should be prepared to a horizontal scale of 1 inch equals 200 feet and with a 2 foot contour interval.

Section 1.2.1 - page 1-7 - (USEPA Comments) There is no indication of the depth to the bottom of the underground tanks. This information is very important relative to the proximity of the water table and highly permeable sands in the unsaturated zone. As indicated in the report, all nine dispensing areas along Oneida Avenue pose a potential for contamination. However, the report does not provide any relevant investigative information. An additional scope of work is needed. It must include: regular tank testing, installation of borings (monitoring wells) with sampling of groundwater and soil.

If "Flushing of gasoline from aquifer is continuing", where is the proof (or data) that "the quantity of free product entering the spring appears to be diminishing"? The report is lacking information or references confirmed by relevant data.

Page 1-8 (USEPA Comments) Areas of discharge of wastewater generated from present and old washrack facilities or disposition of waste products there were not a subject of special investigation in this report, however, they are additional sources of contamination. The sampling should be performed to evaluate the impact of contaminants on groundwater and the environment.

In summary of Section 1.1 information obtained from previous investigations is not confirmed with references or quantitative data.

2.0 REMEDIAL INVESTIGATION RESULTS

2.1 Building 1595 Fuel Dispensing/Spring Area

Section 2.1.1.1 - page 2-1, 2-2 - (USEPA Comments)
The unsaturated zone of the area between building 1595 and Saint James Lake is potentially contaminated with gasoline and fuel product. Hydrocarbon vapors may also be present in soil

pore spaces. The report does not provide any information considering this subject. Analytical results for volatile organics in the soil are essential for RI/FS purposes. Analyses of ambient air for volatile organics is also advisable.

There is no information regarding the connection between the shallow and lower confined aquifers. Knowledge of the inter-connection between these two aquifers is important since pumping of the lower aquifer may affect the regime of the shallow aquifer. In addition, this information may be useful in tracing the vertical extent of contamination.

Section 2.1.1.1 - Page 2-1, 2-2 - (NYDEC Comments)
The narrative in this section should discuss the Pine Plain principal aquifer that underlies portions of the Fort Drum area. Local usage and pumpage of groundwater in the area should be discussed here and in the contamination assessment section.

Section 2.1.1.2 - Tables 2-2, 2-3, 2-4 - (USEPA Comments)
All analytical data should be checked for comparison and compliance with the latest Federal and NY State standards.

Section 2.1.1.2 - Tables 2-2, 2-3, 2-4 - (NYDEC Comments)
Same as above.

Section 2.1.1.2 - Figures 2-1, 2-2 - (NYDEC Comments)
These figures and the rest of the figures in the report, are of poor quality. It is common practice to contour water table elevations to determine groundwater flow directions and gradients. The large flow arrows combined with the large scale and lack of detail render the maps virtually useless for detailed evaluation.

Page 2-8 - (NYDEC Comments)
Discussing only those exceedances above the maximum blank level is not acceptable. Any exceedance of groundwater standards should be considered significant. A detailed discussion of the blank contamination, including tables to present the data, should be included here.

Page 2-10, 2-11, Figure 2-2 - (USEPA Comments)
It is too early to establish the zone of areal extent of the contaminated groundwater plume, as a basis for assessing remedial action alternatives. The findings of oil, grease and volatile organics in "background" well 1 and site wells 2 and 6 expand the contour of contamination, and call for additional field work and analytical analyses.

Page 2-10, 2-11 - (NYDEC Comments)

The upgradient wells indicate widespread contamination due to spillage/leakage over time. The investigation and remedial alternatives should address all contamination found at the site. The significance of the levels of hydrocarbons and unknown volatiles found in wells 1,3,4, and 5 should be discussed and taken into account when choosing remedial alternatives.

Section 2.1.2.2 - Page 2-12, 2-13 - (USEPA Comments)

The reliability of interpretation of analytical data is in question. There is a tendency to exclude some of the detected chemical substances from the data. The attempt to explain many "anomalous compounds" in groundwater and surface water samples as "common laboratory artifacts" or due to improper "laboratory handling" does not sound convincing. Wrong laboratory handling resulting in improperly prepared blanks or of cross-contamination may be an indication of poor quality control on behalf of the testing laboratory. New rounds of sampling for groundwater and surface water, analyzed by a CLP laboratory is recommended.

Section 2.1.2.2 - Page 2-12 - (NYDEC Comments)

Surface water sample SW-6 and other samples exceed surface water standards for methylethyl-benzene and ethylbenzene - this should be considered significant contamination. The report mentions naturally occurring levels of metals in the area. References and data should be provided to support this claim, particularly when the levels appear to be high. Chloroform should not be discounted as a laboratory contaminant particularly if it is not found in the blanks and when the levels exceed surface water standards.

Page 2-13 - (USEPA Comments)

The occurrence of metals in sediment samples (SD6, SD5) is attributed to the natural level in this area. However, this statement is not confirmed by data.

Page 2-11, 2-13, 2-14 - (NYDEC Comments)

Statements on these pages indicate the practice of indiscriminate dumping is widespread on the facility. If normal installation activities include indiscriminate dumping of hazardous materials in sufficient quantities to exceed surface water and groundwater standards, the entire facility may need to be investigated in detail to determine total impacts to the public health and environment.

Page 2-13 - (NYDEC Comments)

The benzene/toluene/xylene found in SW-8, SW-9 are not common laboratory contaminants. The oil and grease contribution

from the spring and 1595 area would far outweigh any possible contamination from bridges in the area. Statements concerning alternate sources of contamination should have supporting data.

Page 2-11, 2-13, 2-14 - (NYDEC Comments)

Lead and zinc contamination can be attributed directly to fuels contamination.

Page 2-14 - (NYDEC Comments)

The dumping of coal ash and any resulting contamination is unsubstantiated. On the other hand, gasoline/fuel spillage leading to hydrocarbon/PAH contamination is well documented upgradient of SD8 and SD9.

Section 2.1.3 - (NYDEC Comments)

From the data and interpretations presented in this section and previous sections, it is apparent that fuel dispensing and vehicle maintenance practices along the entire length of "Gasoline Alley" have contributed and are contributing contaminants to groundwater and surface water. Additional work will be necessary to fully evaluate the impact of this area and to develop a comprehensive remedial program.

Section 2.1.1 - Summary - (USEPA Comments)

The report presents limited amounts of hydrogeological information. There is a general lack of sufficient data regarding:

1. The structural contour maps with indications of flow directions and hydraulic gradient.
2. Hydraulic conductivity (which may be obtained through a slug test or a pumping test)
3. Porosity

2.2 Inactive Landfill

Section 2.2.1.1 - Page 2-16 - (USEPA Comments)

There is no data supporting the statement "Previous groundwater sampling of the shallow aquifer in this area indicated some elevated concentrations of constituents that may be associated with leachate"

Page 2-17 - (USEPA Comments)

Water supply wells FD4 and FD6, are not plotted on any maps or figures.

Interconnection between water table aquifer and lower aquifer has not been established.

Page 2-22 - (USEPA Comments)

Volatile organics (benzene, cyclohexane, ethylbenzene, toluene, and methylene chloride) are again considered to be "analytical artifacts", while others are addressed as being from installation activities without fundamental reason.

Section 2.2 - (NYDEC Comments)

Many of the comments presented for area 1595 are applicable to the inactive landfill investigation, particularly in the discussions of contamination.

Page 2-17 - (NYDEC Comments) The water-table elevations should be plotted and contoured. The effect of the several pumping water supply wells on the movement of groundwater and the potential for their contamination should be discussed.

Page 2-22 - (NYDEC Comments)

Same as above comments made by USEPA.

Page 2-23 - (NYDEC Comments) Oil and grease contamination should not be discounted. The report states the levels observed were very low (5000-6000 ppb). The basis for this comparison should be referenced.

Section 2.2 - Summary - (USEPA Comments)

No concrete conclusions were made about the nature and impact of contamination. All of the explanations made are uncertain and vague. A full investigation of all media is needed to satisfy RI requirements.

2.3 Existing Landfill

Section 2.3.1.1 - Page 2-29 - (USEPA Comments) The references to "Previous groundwater sampling of the shallow aquifer in this area indicated some elevated concentrations of constituents that may represent contamination by landfill leachate" was not confirmed by data from these investigations.

Page 2-29 - (USEPA Comments) The report does not provide a water table contour map for this site to show the groundwater flow direction and, as mentioned in the report, "the existence of a groundwater divide".

Figure 2-5 - page 2-30 - (USEPA Comments) The "Generalized groundwater flow map" is no more than a topographic map with vague arrows indicating the direction of flow and not a water table contour map.

Section 2.3.1.2 - page 2-31 - (USEPA Comments) The report is lacking soil samples, which is an important part of this RI.

It is apparent that the Existing Landfill site is contaminated with volatile organics, some metals, and a high level of manganese (2,000 ug/L in well 14). Very permeable sand soils and the lack of a liner or leachate collection system promote percolation for contaminants into the groundwater. The scope of investigation and analytical data are insufficient.

Section 2.3 - (NYDEC Comments) Again many comments can be offered concerning the level of investigative effort at this landfill. The problems in the Quality Assurance/Quality Control (QA/QC) of the samples and significance of contamination are of concern. It is apparent that this landfill is contributing contamination to the environment and needs more detailed evaluation.

2.4 LeRay Mansion Area

Section 2.4.1.2 - page 2-34, Figure 2-7 - (USEPA Comments) Four soil samples is an inadequate number to evaluate the extent of soil contamination by pp'-DDT. Additional sampling is needed especially downgradient from the source of contamination.

Page 2-36 - (USEPA Comments) There is a significant discrepancy between the results of previous investigations for pp'-DDT concentrations and recent investigations (2.80 to 43.10 ug/g versus 0.1 to 5 ug/g) taken at similar locations. Additional rounds of soil samplings are needed to substantiate accurate data.

Section 2.4.2.2 - Page 2-38 - (USEPA Comments) The explanation regarding "result probably does not represent real contamination, since 2,4-D was also found at the same concentration in a laboratory method blank" is questionable and not acceptable without additional investigation.

Section 2.4 - page 2-34 - (NYDEC Comments) same as above comments by USEPA.

Page 2-36 - (NYDEC Comments) The effects of photodegradation and soil erosion, if any, on the levels of pp'-DDT found in the soil are unsubstantiated.

Section 2.4.2.1 - Page 2-38 - (NYDEC Comments) The surface water samples used to evaluate surface water contamination (in conjunction with the 1595 area) are several thousand feet from the LeRay Mansion area and cannot be considered indicative of representative surface water impacts. Only one of the samples is truly downgradient of the area.

2.5 Main Impact Area

Section 2.5.1.1 - Page 2-38, 2-39 - (USEPA Comments)
Part of this area was sampled for pesticides, herbicides, and dioxin. However, there is very little information about soil characteristics such as, permeability, adsorption, solubility, which are important in connection with the process of penetration and the concentration of these chemicals in soil.

The report does not provide even basic hydrogeologic information for the site. This information is absolutely necessary to conduct an RI.

Page 2-41, Table 2-11 - (USEPA Comments)
Many surface and sediment samples contain volatiles, BNA and metals; an excess of oil/grease was found in SW1. Metals were found to be in high exceedence for samples from SW4/SD4 and SD1. The origin, interaction, and connection of these contaminants with soil and groundwater are unknown. All explanations concerning "common laboratory artifacts", vehicle traffic, etc., as with previous site discussions, is unacceptable. The area requires a more detailed investigation of all media to meet RI requirements.

Section 2.5 - (NYDEC Comments)
This area is of extreme concern to the NYDEC and NYSDOH because of the past usage of dioxin-based herbicides (Agent Orange) in the area. The investigations presented in this report seemed to concentrate soil sampling locations along the roads in the test area. No samples were taken in that area north of the Indian River that was identified as being the main Agent Orange test area. This area was noted on aerial photos as being devoid of substantial vegetation. It is imperative that this area be fully evaluated.

Page 2-41, Table 2-11 - (NYDEC Comments)
Same as above comments by USEPA

2.6 Suspected Oil Burial Pit/Northwest Installation Boundary

Section 2.6.2.2 - Page 2-48, 2-49 - (USEPA Comments)
The scope of field work and analytical analyses is insufficient for all media in this contaminated landfill. The usual attempt to explain the existence of volatile organics as "artifacts" is

not acceptable. It is too preliminary to reach any conclusion and evaluate the health risk as "minimal". A full investigation of all media is needed.

Section 2.6 - (NYDEC Comments)
Same as above comments by USEPA.

2.7 Summary of Remedial Investigation Results

Section 2.7.2 - Page 2-52 - (USEPA Comments)
There is a potential for ground water to be contaminated beyond the spring. However, no groundwater wells were installed in this area. Installation of groundwater wells and extensive sampling and analysis of all media is needed in this area.

Section 2.7.1 - (NYDEC Comments) Fuel related contamination of groundwater, surface water and sediments is confirmed. The upgradient and side-gradient locations (wells 2-6) also show contamination. It is apparent that the investigations in this area lack sufficient detail to fully develop remedial alternatives for the entire area.

3.2 Screening of Remedial Action Technologies

Section 3.2.1 - page 3-3 - (USEPA Comments) The statement that "The Exploratory Phase investigation, discussed in Section 2.1, identified free product floating on the surface water at the spring, although only about 1/4 - 1/2 inch in thickness" is not confirmed by relevant data.

Section 3.3.1.5 - page 3-34 - (NYDEC Comments) cleanup levels should reflect the most stringent State and Federal regulations. Effluent standards, as presented in this section, will not be acceptable. Table 3-4 should reflect the most stringent cleanup levels.

3.4 Comparative Evaluation and Recommendation of Remedial Action

Alternatives

Section 3.4.2 - page 3-64 - (NYDEC Comments) This section does seem to adequately discuss in general the various alternatives for groundwater remediation. However, as stated before, the available data is not sufficient for detailed evaluation. The alternatives do not address source removal, soil removal or decontamination, or the restoration of the spring and other surface waters.

Attachment B

New York Department of Environmental Conservation

Cover Letter to Comments

New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233-



Thomas C. Jorling
Commissioner

June 26, 1987

Mr. Robert Hargrove
Federal Facilities Coordinator
United State Environmental
Protection Agency - Region II
26 Federal Plaza
New York, NY 10278

Dear Mr. Hargrove:

Re: Remedial Investigation of Fort Drum, New York

The report entitled "Remedial Investigation of Fort Drum, New York," dated August 22, 1986 prepared by Dames and Moore for the United States Army Toxic and Hazardous Materials Agency (USATHAMA) was received by the Bureau of Hazardous Site Control, Division of Solid and Hazardous Waste of the New York State Department of Environmental Conservation (NYSDEC). This report has been reviewed and specific and general comments prepared.

In general, the report lacked sufficient detail and depth to fully evaluate the problem areas at the Fort Drum facility. Public health and environmental concerns were not adequately addressed. Interpretations made concerning the sources of contamination and their impacts were not well substantiated with data. In light of the planned expansion of Fort Drum and the subsequent increased potential for exposure, it is imperative that these problem areas be properly evaluated. The NYSDEC reserves the right through the USEPA to review future drafts and revisions of this report and to be informed of additional work in a timely manner. The New York State Department of Health (NYSDOH), Bureau of Toxic Substance Assessment has also independently reviewed this report. Those comments are enclosed with this letter.

The level of investigative effort expended at some of the Fort Drum areas (Area 1595, old and existing landfills) is barely equivalent to a basic NYSDEC Phase II investigation. The studies conducted at the LeRay Mansion area, the buried oil disposal pit area, and the Main Impact area fall far short of a typical Phase II investigation. A Phase II should generate sufficient information to confirm the existence of hazardous wastes at a site and whether or not a resulting impact may be affecting the public health and environment. The Phase II also provides data for the preparation of an Hazardous Ranking System score to determine eligibility for inclusion on the National Priorities List (NPL). Based on the results presented in the report and the minimal scope of work conducted at each area, it is readily apparent that additional work is required to fully evaluate impacts and develop remedial alternatives.

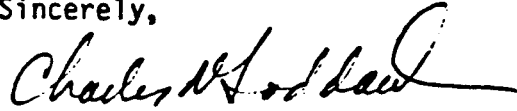
This report was also evaluated to determine if any of the areas should be included in the New York State Registry of Inactive Hazardous Wastes Sites. Based on the information presented in the report, most of the areas described in the report will be added to the Registry. Initial classification will probably be Class 2a, designating those sites where the environmental and public health significance cannot be determined from existing data. Upon further evaluation, those sites that are determined to pose significant threat to the public health or the environment will be given the classification "2". These sites would require a full Remedial Investigation and Feasibility Study (RI/FS) program. The Building 1595 Area may be referred to the Oil Spill Program within the NYSDEC for further evaluation.

The most stringent applicable Federal and State water quality standards and guidelines should be considered when interpreting the analytical data. New York State Ambient Water Quality Standards and Guidance Values (as set forth in 6 NYCRR Parts 701 and 703) should be used in this report. The guidance values should be used where definitive standards have not yet been developed. Clean-up standards used in the development of remedial alternatives should also meet all State and Federal applicable, relevant, and appropriate requirements (ARARs) pursuant to the Superfund Amendments and Reauthorization Act of 1986 (SARA), Section 121, Selection of Remedy/Cleanup Standards. The RI/FS should meet, in format and content, the requirements of the National Contingency Plan (NCP).

The report continually addresses a number of detected substances as being "common laboratory artifacts." Blank contamination was discussed frequently, however the analytical data for the blanks was not presented in the report. There is no discussion of the type, number or method of preparation of the blanks. Benzene, toluene, xylene, ethylbenzene, chloroform, various BNAs, and low levels of hydrocarbons are not common laboratory contaminants and should not be discounted as such. One can only conclude from the data that the blanks were improperly prepared or cross-contaminated during sampling or that the levels of volatiles, BNAs, and hydrocarbons detected are actually present in almost all of the samples taken, including some upgradient and supposed clean areas. The integrity of the analytical data and the validity of subsequent interpretations made from that data are in question. At least one additional round of sampling with analysis from a laboratory that is technically acceptable to NYSDEC and USEPA, should be conducted to verify the initial sampling results. NYSDEC will and USEPA Region II may want to observe this additional sampling and will collect split samples for selected locations.

If you have any questions concerning these comments, please contact Mr. Walter E. Demick, P.E., of my staff at the above address, or at (518) 457-9538.

Sincerely,

A handwritten signature in cursive script, appearing to read "Charles N. Goddard".

Charles N. Goddard, P.E.
Chief
Bureau of Hazardous Site Control
Division of Solid and Hazardous Waste

Enclosure

cc: Warren Black - USEPA, Region II
Ron Tramontano - NYSDOH

Attachment C

State of New York Department of Health

Review Comments



STATE OF NEW YORK DEPARTMENT OF HEALTH

Corning Tower The Governor Nelson A. Rockefeller Empire State Plaza Albany, New York 12237

David Axelrod M.D.
Commissioner

June 11, 1987

Mr. Martin D. Brand
Senior Engineering Geologist
Western Investigation Section
NYS Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233

Re: Fort Drum, Remedial Investigation
Dames & Moore, August 22, 1986

Dear Mr. Brand:

Pursuant to your May 14, 1987 letter to Mr. Ronald Tramontano the following are our comments. I will address only the most pertinent shortcomings of this investigation. To cover all the erroneous or questionable assumptions in this report would require the equivalent of re-writing the study. The QA/QC program is inadequate, thus the investigation is of limited value.

We do not have copies of previous studies, (i.e., O'Brien and Gere 1979 and 1968 Investigation). I suspect the groundwater flow direction assumptions used throughout this report were established in prior studies. If not what is the basis for the many premises used.

- pp. 1-17; A clarification of the status of wells FD1, FD2, FD3, FD8 and DW1 is needed. Which wells supply drinking water to the base?
- Table 2-1; Well 1 is surmised as upgradient (pp. 1-14 and pp. 2-10) and used as background for the 1595 Fuel/Spring area. If this is so, a hypothesis is required for the high level of oil and grease found in well 1 and BDL for SW7?
- pp. 2-8; The statement, "In this investigation, the exceedances for benzene that are considered significant with respect to site-related contamination are those above the 10 ug/l level". This is unacceptable and places considerable doubt on the validity of the investigation as both the proposed MCL and the NYS guideline for benzene are 5 ug/l.
- pp. 2-11; I agree with the last sentence of paragraph 3 as no basis has been established for the presumptions made in the first two sentences of this paragraph.

- pp. 2-23; "There is little evidence of contamination of deeper drinking water sources. It is also important to note that pesticides and herbicides" Both of these statements are unsupported as benzene standards were exceeded in FD1, FD2, FD3 and well 11. There is no indication pesticides and herbicides were included in Table 2-5 results.
- pp. 2-24; (1st complete sentence); should read, "Creek empty into Pleasant Creek above Saint James Lake."
- pp. 2-27; The statement, "Benzene detected at 60 g/l (assume to mean ug/l) at SW12 exceeds the QC blank sample concentration and probably reflects at least some landfill contamination." Such an understatement is characteristic of the report.
- (2.3.1.1) Why were the three overburden borings (O'Brien & Gere 1979) not
pp. 2-28; included in the report as the shallow aquifer has previously
pp. 2-29; indicated contamination.
- (2.4.1.1) The last sentence does not justify possible environmental
pp. 2-39; degradation of the resource.
- Table 2-12; Shows ground and surface waters leaving the site may be exceeding NY standards.
- Table 2-13; Is inconclusive as it fails to list many chemicals exceeding standards. Such omissions are erroneously justified by the, previously cited, inadequate QA/QC.
- pp. 2-51; In addition to explosion and air contamination, a primary health concern of benzene is its carcinogenic nature. The suggested lethal dose relates to acute exposure, health effects due to chronic exposure must also be considered.
- pp. 2-51; (second paragraph); locates adjacent sources of potable surface water, what are the locations of off-post GW wells used for drinking water?
- pp. 2-52; The area in close proximity to the spring 1595 appears to be heavily populated. Its occupants as well as personnel involved in the clean up must be considered as potential targets.
- (3.3.1.5) "The 100 ug/l (with no one constituent greater than 50 ug/l)"
pp. 3-34; is the NY guidelines for total organic chemicals in drinking water for those chemicals which have no established standards or specific guideline. Established standards or specific guidelines would preempt general guideline. The standards for benzene, iron, and manganese listed in Table 3-4 are in error.

pp. 4-2: The following chemicals and levels were found in the blank samples:

benzene	2-10 ug/l
bis-2-ethylhexylphthalate	60-200 ug/l
cyclohexane	6 ug/l
diethyladipate	70-200 ug/l
ethylbenzene	2 ug/l
methylene chloride	7-300 ug/l
toluene	3-9 ug/l
2,4-D	2 ug/l

Throughout the report any sample containing chemicals below these levels was judged not indicative of the site, but rather due to "artifact and anomalous QA/QC procedures." Obviously, the QA/QC protocol was inadequate.

Calling the report a "Remedial Investigation" is a misnomer as a RI should contain positive findings based on good environmental data. Not a series of indefinite statements made from laboratory results, many of which exceeded standards, and disregarded for "artifact and anomalous" reasons. With the exception of the 1595 Fuel/Spring area, the report reads more like a draft phase II not an RI.

Sincerely,



G.M. Meehan
Program Research Specialist III
Bureau of Toxic Substance Assessment

Doc. 5261P

cc: Mr. Tramontano
Mr. Hudson
Mr. Heerkens