105-13

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March 28, 2003

Commander
U.S. Army Corps of Engineers
Engineering and Support Center, Huntsville
Attn: CEHNC-FS-IS (Marshall Greene)
4820 University Square
Huntsville, Alabama 35816-1822

SUBJECT: **Seneca Army Depot Activity, Response to Comments on Draft Final Decision Document for the Inhibited Red-Fuming Nitric Acid (IRFNA) Disposal Sites (SEAD-13)**

Dear Mr. Greene:

Parsons is pleased to submit the response to comments on the Draft Final Decision Document at SWMU SEAD-13, the Inhibited Red-Fuming Nitric Acid (IRFNA) Disposal Sites, at the Seneca Army Depot Activity (SEDA) located in Romulus, New York. This work was performed in accordance with the Scope of Work (SOW) for Delivery Order 0023 to the Parsons Contract DACA87-95-0031.

The responses were prepared based on comment letters from the New York State Department of Environmental Conservation (NYSDEC) and the United States Environmental Protection Agency (USEPA) dated December 12, 2002 and January 30, 2003, respectively. The responses are submitted for review prior to providing the revised document. The Army believes that the document revision/review process can be streamlined by submitting comment responses for general review prior to revising the document. Following general agreement on the provided responses, the Army will submit the Final Decision Document at SWMU SEAD-13 for formal review and comment.

Parsons appreciates the opportunity to provide you with these responses. Should you have any questions, please do not hesitate to call me at (617) 457-7905 to discuss them.

Sincerely,

Todd Heino, P.E.
Program Manager

Enclosure

cc: S. Absolom, SEDA
T. Enroth, USACE-NY District
T. Matthews, OSC
K. Hoddinott, USACHPPM
C. Boes, AEC

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March 28, 2003

Mr. Julio Vazquez
USEPA Region II
Superfund Federal Facilities Section
290 Broadway, 18th Floor
New York, NY 10007-1866

Ms. Alicia Thorne
New York State Department of Environmental Conservation (NYSDEC)
Bureau of Eastern Remedial Action
Division of Hazardous Waste Remediation
625 Broadway 11th Floor
Albany, NY 12233-7015

SUBJECT: Seneca Army Depot Activity, Response to Comments on Draft Final Decision Document for the Inhibited Red-Fuming Nitric Acid (IRFNA) Disposal Sites (SEAD-13)

Dear Mr. Vazquez/Ms. Thorne:

Parsons is pleased to submit the response to comments on the Draft Final Decision Document at SWMU SEAD-13, the Inhibited Red-Fuming Nitric Acid (IRFNA) Disposal Sites, at the Seneca Army Depot Activity (SEDA) located in Romulus, New York.

The responses were prepared based on comment letters from the New York State Department of Environmental Conservation (NYSDEC) and the United States Environmental Protection Agency (USEPA) dated December 12, 2002 and January 30, 2003, respectively. The responses are submitted for review prior to providing the revised document. The Army believes that the document revision/review process can be streamlined by submitting comment responses for general review prior to revising the document. Following general agreement on the provided responses, the Army will submit the Final Decision Document at SWMU SEAD-13 for formal review and comment.

Should you have any questions, please do not hesitate to call me at (617) 457-7905 to discuss them.

Sincerely,

Todd Heino, P.E.
Program Manager

Enclosure

cc: S. Absolom, SEDA
E. Kashdan, Gannett Fleming
T. Matthews, OSC
M. Greene, USACE
K. Hoddinott, USACHPPM
T. Enroth, USACE
C. Boes, AEC

Response to the Comments from the United States Environmental Protection Agency

Subject: Draft Final Decision Document for SEAD-13
Seneca Army Depot
Romulus, New York

Comments Dated: January 30, 2003

Date of Comment Response: March 28, 2003

General Comments - Human Health:

All general comments relating to the human health risk assessment were adequately addressed.

New Comments:

Comment 1: Residential receptors are assessed in Appendix B. These receptors are also briefly discussed in Section 3.6. While it is clear that the Army considers these receptors to represent an unlikely scenario, they should be integrated into the overall risk assessment. In some instances, the risk assessment is misleading in that the evaluation of the residential receptors is not even identified (e.g., see the bulleted lists in Section 3.3.5.1 and Section 3.3.5.2).

Response 1: Agreed. Discussion on the residential receptor has been integrated throughout Section 3.0. The tables of risk calculations remain in Appendix B.

Comment 2: The method of background comparison is not very conservative. Comparing the site average to twice the average background value for inorganics allows potential hotspots to be overlooked. Please reference the specific guidance that was used in establishing this comparison technique. At a minimum, Tables A-5 and A-6 should list maximum detected values.

Response 2: In a letter dated November 25, 1997, EPA recommended that the Army compare the site average to twice the average background value for inorganics. EPA proposed this method as a more practical and sufficient method of assessing the data, instead of using Wilcoxon Rank Sum, or other more complex statistics. The comment from EPA is quoted below:

> USEPA Region II typically recommends using a much simpler technique for comparing site data to background data than the Wilcoxon Rank Sum test: selecting as chemicals of potential concern those inorganic chemicals detected in site samples with an average concentration (of the detected values) greater than two times the average concentration (of the detected values) in the background samples. It appears that using this technique would have achieved essentially the same results as the statistical treatments conducted here, without the uncertainty of the validity of the statistical treatments used.

The Army followed this recommendation.

Agreed. The maximum detected values have been added to Tables A-5 and A-6.

Specific Comments - Human Health:

All specific comments relating to the human health risk assessment were adequately addressed.

New Comments:

Comment 1: Page 3-6, Section 3.2.2, Identification of Chemicals of Potential Concern (COPCs): The second paragraph under the heading "Soil" indicates that chloroform was not retained as a COPC for surface soil because it was detected at levels below the PQL in 1 out of 13 samples. The frequency of detection (FOD) is greater than 5% and, as such, eliminating this chemical is in conflict with the last paragraph on Page 3-5 which indicates that organics will be eliminated only if the FOD is less than 5%. Revise to address this apparent inconsistency.

Response 1: Upon review of the data, it was determined that the detection of chloroform at a value of 2 J was the result of a lab error, and is not considered a reliable data value. The table has been revised to reflect that the concentration of chloroform in sample SB13-7-1 is 12 U µg/kg. This detection is below the quantitation level and is not considered part of the data set. Therefore, chloroform will not be added as a COPC. This explanation has been added to the text for clarification.

Comment 2: Page 3-16, Section 3.3.5.2, Exposure Scenarios: The paragraph under the "Recreational Visitor" scenario indicates that the assumed exposure for this receptor is two weeks a year for five years. This exposure scenario is not conservative enough. If the area potentially will be used as a recreational facility, it is possible that a nearby resident could visit on a regular basis. Additionally, it would be appropriate and more conservative to evaluate the youth recreational users and adult recreational users in addition to child recreational users. Not only would these analyses result in risk estimates for these receptors, but it would also allow for the calculation of the lifetime cancer risk for the recreational user.

Response 2: The recreational visitor is assumed to reside at the site during a camping event and the camping event is assumed to last two consecutive weeks (24 hours/day, 14 days/year) each year for 5 years. As presented in Appendix B, with exposure to groundwater prevented, the total cancer risks and hazard indices for residential receptors, who are exposed to COCs at the site 350 days/year, are within the EPA risk limits. Therefore, although more conservative exposure scenarios (i.e., exposure more than two weeks a year for five years) are not evaluated for this mini risk assessment, they are not expected to result in unacceptable risk based on the risk evaluation for residential scenario.

flow is in conflict with the upgradient and downgradient designations for the wells. Revise accordingly.

Response 2: The Army believes that based on historic knowledge and groundwater monitoring results that the west disposal pits do not exist. A 1960s report on the disposal of IRFNA discussed the "disposal site" and the construction of 6 pits (east disposal area). The location marked on an old map appears to be in an area that was east of the future Duck Pond. It should be noted that the Army investigated the assumed west disposal area due to the presence of the aboveground piping. It appears that the piping was installed in the event that it was required at a later date. Groundwater results show that the nitrate concentrations are not elevated in the assumed area of the west disposal area. The nitrate concentrations (up to 0.17 ppm) are well below the Class GA standard of 10 mg/l. As a comparison, the nitrate concentrations are over 1,000 times higher in the east disposal area.

Since there is no actual source material, upgradient and downgradient determinations cannot be made. The text will be revised accordingly.

The presumed groundwater flow is now discussed in new Section 2.5.4 and shown on Figure 2-6.

Comment 3: Page 3-4, Section 3.2.1.1, QA/QC Methods: The fifth sentence in this section uses the phrase "field equipment decontamination event." Revise text for clarity.

Response 3: Agreed. One field equipment blank was collected each time the field equipment was decontaminated in order to detect possible sources of contamination introduced from field sampling equipment or from carry over from one sample to the next. The text has been revised.

Comment 4: Page 3-5, Section 3.2.1.3, Data Validation: The second sentence of this section uses the term "sample reservations." Please correct this text.

Response 4: Agreed. The text should read "sample preservations". The text has been revised.

Comment 5: Page 3-11, Section 3.3.4.2, Fate and Transport: The second to last sentence under the "Metals" heading refers to cyanide as a metal. Revise text for clarity.

Response 5: Agreed. The sentence has been rephrased as follows: "Two metals, aluminum and manganese, and cyanide were considered COPCs in groundwater.

Response to the Comments from New York State Department of Environmental Conservation

Subject: Draft Final Decision Document – Mini Risk Assessment for the Inhibited Red Fuming Nitric Acid (IRFNA) Disposal Site (SEAD-13)
Seneca Army Depot
Romulus, New York

Comments Dated: December 12, 2002

Date of Comment Response: March 28, 2003

Army's Response to NYSDEC Comments:

Comment 1: In NYSDEC's Specific Comment #1, the Department requested that "(S)urface and subsurface soil samples should be taken from within the IRFNA pits themselves (0-2 inches, plus others)." However, the Army only took one additional surface soil sample from within the IRFNA pits as indicated in Figure 2-3. One surface soil sample appears inadequate to characterize the extent of surface and subsurface contamination of IRFNA pits that are described in this report as "six elongated disposal pits (possibly seven)" that are "30 feet long, 8 feet wide and 4 feet deep." Also, for the one soil sample that was collected from the disposal pits, what type of surface soil was tested? The site description states that the pits are covered with crushed gravel and limestone fragments. Please explain the surface soil sampling methodology used.

Response 1: Disagreed. The Army submitted an initial work plan to NYSDEC and EPA for the supplemental fieldwork on January 11, 2001. A revised work plan was submitted on July 31, 2001 and this plan modified well locations slightly from the January 11, 2001 work plan. No locations were moved from the pits themselves. Both plans proposed one surface soil sampling point and no subsurface sampling points within the pits. The Army did not receive agency comments regarding the soil sample locations or the notice to proceed with sampling. The Army believed that NYSDEC considered the Army's proposed scope and sampling locations to be acceptable prior to beginning the work.

The surface soil sample collected in the disposal pit (SS13-9) was composed of shale fragments and limestone gravel. This description confirms that the sample was collected from the IRFNA pit contents. The sample was a grab sample and was collected using a spade.

The Army does not intend on performing additional surface or subsurface sampling within the disposal pits or in any other location at SEAD 13.

Comment 2: In the Army's response to NYSDEC's Specific Comment #2, the Army states that the "nitrate/nitrite concentrations in the groundwater in the IRFNA pit area have been generally consistent over time." However, the Army has not adequately defined the source of this contamination. If there is no source, then why haven't the groundwater concentrations decreased

are elevated (HI=20 and HI=40, respectively). These high HIs are solely due to ingestion and dermal contact to groundwater. If the groundwater pathway is eliminated, the total hazard indices for all residents become less than 1. The Army acknowledges that a land use restriction will be implemented to prevent the use of groundwater by future site users.

Comment 8: Although discussed in the text, there should be a figure denoting the direction of groundwater flow.

Response 8: Agreed. The direction of groundwater flow has been added to Figure 2-6.

Specific Comments:

Comment 9: Page 1-4, Section 1.3.2. Hydrology: The depth to groundwater should be indicated in this section.

Response 9: Agreed. Depth to groundwater, which varies by season and location, ranges from 1 foot to 10 feet. A new section 2.5.4 has been added to present groundwater elevation and groundwater flow information.

Comment 10: Page 2-10, Section 2.6.1.2 Semivolatile Organic Compounds: If the Army is attributing phthlates as laboratory contaminants, then the detection levels and frequency of detection should be discussed more thoroughly. This should be applied to other areas of the document where laboratory contamination is suspected as well.

Response 10: Agreed. The statement has been rephrased. "A few samples contained phthalates: bis(2-ethylhexyl)phthalate was detected five times at concentrations ranging from 27 J µg/kg to 1900 J µg/kg; di-n-butylphthalate was detected twice at concentrations of 8.6 J µg/kg and 140 µg/kg; di-n-octylphthalate was detected twice at concentrations of 7.7 J µg/kg and 210 J µg/kg. All of the identified detections were less than their respective TAGM 4046 values.

Comment 11: Page 2-14, Section 2.6.3.5, Metals: As stated in this section, eleven metals were found in the groundwater to exceed ARARs. Given that nitric acid was disposed at this site, there should be a discussion on pH levels detected and whether there is any correlation between pH and metals concentrations in the groundwater. If applicable, turbidity levels should be discussed as well.

Response 11: See Response No. 5.

Comment 12: Page 2-16, Section 2.6.4.5, Metals: If the Army is attributing higher levels of aluminum and iron to turbidity, then the actual turbidity levels should be presented in the text.

Response 12: Agreed. See Response No. 5. The turbidity data is included in the tables in Appendix A (Table A-2). The text has been revised to add turbidity data.

Comment 13: Page 5-2, Section 5.1, Expanded Investigation Results Supporting the Recommended Action: The Army should denote which document "the details of the groundwater monitoring program will be provided in."

Response 13: Agreed. The details will be provided in a Post-Closure Groundwater Monitoring Plan.

Comment 14: Figures 2-1 through 2-7: On these figures it is unclear where the suspected IRFNA pits are on the west side of the site. Therefore it is difficult to support the Army's location of monitoring wells and sampling points on the west portion of the site. Also, groundwater direction should be indicated where appropriate.

Response 14: The Army believes that based on historic knowledge and groundwater monitoring results that the west disposal pits do not exist. A 1960s Army report on the disposal of IRFNA discussed the "disposal site" and the construction of 6 pits (east disposal area). The location marked on an old map appears to be in an area that was east of the future Duck Pond. It should be noted that the Army investigated the assumed west disposal area due to the presence of the aboveground piping. It appears that the piping was installed in the event that it was required at a later date. Groundwater results show that the nitrate concentrations are not elevated in the assumed area of the west disposal area. The nitrate concentrations (up to 0.17 ppm) are well below the Class GA standard of 10 mg/l. As a comparison, the nitrate concentrations are over 1,000 times higher in the east disposal area.

The direction of groundwater flow has been added to a new Figure 2-6. In general, groundwater flows toward the Duck Pond. It should be noted that Figures 2-6 and 2-7 have been renumbered as figures 2-7 and 2-8, respectively.

Comment 15: Page 3-42, Section 3.6, Risk Characterization for Residential Land Use: The risk assessment section should be made more consistent by including this section as a sub-section under Section 3.5, Risk Characterization.

Response 15: Agreed. The section *Risk Characterization for Residential Land Use* has been renumbered Section 3.5.4.

EAST-WEST BASELINE ROAD

APPROXIMATE LOCATION OF FIRE HYDRANT AND WATER VALVE

DUCK POND

APPROXIMATE LOCATION OF VERTICAL PIPING VISIBLE IN THE WATER

MW13-12
668.29

MW13-4
667.74

MW13-5
667.92

APPROXIMATE LOCATION OF VERTICAL PIPING (POSSIBLY THE DELUGE SHOWER)

SEAD13- WEST

MW13-6
669.10

668

669

EAST-WEST BASELINE ROAD

MW13-13
668.90

MW13-14
668.15

MW13-7
665.43

MW13-3
666.16

MW13-11
661.28

APPROXIMATE LOCATION OF ABOVE GROUND PIPING

MW13-2
668.85

AREA OF IRFNA PITS

APPROXIMATE LOCATION OF VERTICAL PIPING (POSSIBLY THE DELUGE SHOWER) AND TERMINATION POINT OF PIPE.

MW13-1
669.95

SEAD 13- EAST

668

669

670

LEGEND

MW-13
670.00 Monitoring Well Location with Water Table Elevation

670 Groundwater elevation contour
Arrow indicates direction of flow

100 0 100 200 Feet

N

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SENECA ARMY DEPOT ACTIVITY
SEAD-13

FIGURE 2-6
SEAD-13 IRFNA Disposal Site
Groundwater Elevation Plan
April 2002

SCALE	DATE	
1:120	MARCH 2003	Sheet 1 of 1

EAST-WEST BASELINE ROAD

APPROXIMATE LOCATION OF FIRE HYDRANT AND WATER VALVE

DUCK POND

2002
0.014
0.005U

MW13-12

APPROXIMATE LOCATION OF VERTICAL PIPING VISIBLE IN THE WATER

MW13-4

1993/94	2001	2002
0.12	0.11	0.17
		0.005U

MW13-5

1993/94	2001	2002
0.03	0.13	0.059
		0.005U

APPROXIMATE LOCATION OF VERTICAL PIPING (POSSIBLY THE DELUGE SHOWER)

SEAD13- WEST

1993/94	2001	2002
0.16	0.076	0.086
		0.005U

MW13-6

EAST-WEST BASELINE ROAD

2002
139
1.1

MW13-13

MW13-14

MW13-7

MW13-3

2001	2002
604/582 DUP	731/804 DUP
	0.034/0.03 DUP

2002
119
2.1

MW13-11

MW13-2

APPROXIMATE LOCATION OF ABOVE GROUND PIPING

NITRATE PLUME

APPROXIMATE LOCATION OF VERTICAL PIPING (POSSIBLY THE DELUGE SHOWER) AND TERMINATION POINT OF PIPE.

AREA OF IRFNA PITS

1993/94	2001	2002
460	603	445
		0.048

SEAD 13- EAST

1993/94	2001	2002
0.01U	0.56	0.045
		0.005U

MW13-1

LEGEND

- Monitoring Well Location
- U Not detected
- DUP Duplicate Sample
- Sampling Year: 0.076 Nitrate/Nitrite - Nitrogen Concentration (mg/L)
- Sampling Year: 0.17 Nitrate Concentration (mg/L); 0.005U Nitrite Concentration (mg/L)
- Boundary of Nitrate Plume
- Delineation based on groundwater test results and geophysical survey

Note:

MW13-11, MW13-12, MW13-13 and MW13-14 were installed in 2001.

100 0 100 200 Feet

N

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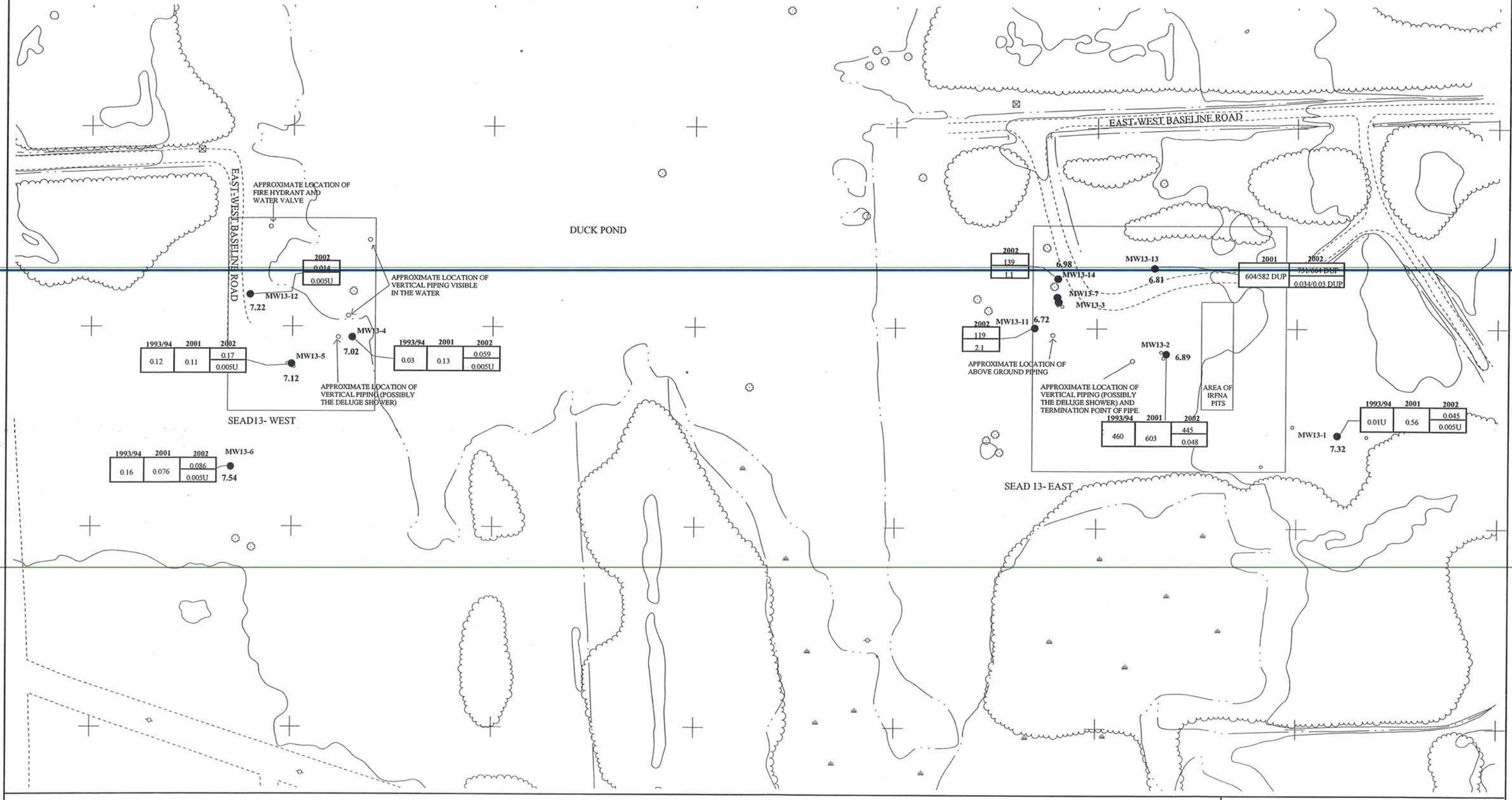
SENECA ARMY DEPOT ACTIVITY
SEAD-13

FIGURE 2-9

SEAD-13 IRFNA Disposal Site
Plume Delineation

SCALE	DATE	
1:120	MARCH 2003	Sheet 1 of 1



LEGEND

- ● 7.54 — Monitoring Well Location with pH reading taken during sampling activities
- Sampling Year: 0.076 — Nitrate/Nitrite - Nitrogen Concentration (mg/L)
- Sampling Year: 0.17 — Nitrate Concentration (mg/L)
- 0.005U — Nitrite Concentration (mg/L)

Data Qualifiers:

- U — Not detected
- DUP — Duplicate Sample

Note: MW13-11, MW13-12, MW13-13 and MW13-14 were installed in 2001.

100 0 100 200 Feet

N

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SENECA ARMY DEPOT ACTIVITY
SEAD-13

FIGURE 2-10

SEAD-13 IRFNA Disposal Site
pH Readings - April 2002

SCALE	DATE	
1:120	MARCH 2003	Sheet 1 of 1