NYSDEC

51-84

File

SEAD 13

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 7, 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

the State believes that the Army has overlooked the actual source area, i.e., the disposal pits. Since the proposed future use of SEAD-13 is conservation/recreation, there is the potential for human contact, either by a construction worker, park worker or recreational visitor. Because the source was not addressed, and this exposure scenario was not addressed in the mini-risk assessment, the NYSDOH considers the risk assessment incomplete. At a minimum, a source area management plan is needed until the requested disposal pit information, as described below, is evaluated.

Response 4: Disagreed. The Army believes that the source of contamination has been sufficiently delineated. See Response No. 1. The Army disagrees that the source area was not evaluated in the minirisk assessment. There was one surface soil sample (SS-13-9) that was collected from the source materials. The risk assessment did not show unacceptable risk for contact with surface soil.

Comment 5: Clarification is sought as to why soil boring samples were not collected within the disposal pits. It is unclear how much soil, if any, is actually in the pits or if the disposal pits are even considered soil. The analysis of the waste for contaminants of concern (i.e., degradation products of IRFNA) and the physical parameter of pH would allow for a more complete evaluation of the potential for future exposures and additional migration of contaminants to surrounding soil and groundwater. In addition, the pH of the soil and groundwater adjacent to the pit area was not examined. As stated above, this information is necessary to evaluate the potential of (disposal pit related) decreased pH of soil or groundwater to leach "site background" inorganics not related to the disposal of IRFNA from surrounding soils into groundwater and subsequently the Duck Pond. In the document discussion of groundwater contamination, the Army states that some of the elevated inorganics, decreased pH and background leaching may also be the cause. Without turbidity data or dissolved inorganic/pH data, these two scenarios cannot be separated as to which may be the cause of the elevated inorganics.

Response 5: See Response No. 1 for rationale behind the subsurface exploration program. As stated above, the Army believes that the source has been sufficiently delineated, based on geophysical and groundwater data.

As shown on Figure 2-7, a review of groundwater sampling parameters shows that the pH of the groundwater at SEAD-13 is not lowered and is in the same range as the pH of groundwater at other background locations at SEDA. The pH measured at the site does not cause additional leaching of metals.

The elevated metals concentrations correlate with higher turbidity levels. The maximum concentrations of magnesium, iron, manganese and chromium were all detected in the September 2001 sampling round in MW-13-13 where the turbidity measurement was 999 NTUs as compared to a turbidity of 13.7 NTUs in April 2002. In general, the metals results were significantly lower

where turbidity values were lower. For instance, the following table of results for MW-13-13 demonstrates this.

Analyte	September 2001 (ug/l)	September 2001 Duplicate (ug/l)	April 2002 (ug/l)
Turbidity	999 NTUs	999 NTUs	13.7 NTUs
Aluminum	39,700	70,900	27.2
Chromium	62.5	109	<1.4
Copper	25.9	35	<1.4
Iron	57,300	97,900	59.2
Lead	27.1	32.5	0.8
Manganese	1,740	3,210	397
Nickel	80.2	134	9.5
Zinc	146	223	1.9

The Army does not dispute that there are metals concentrations that are exceeding Class GA Standards, however, there is no defined plume of high metals concentrations. As demonstrated above, the highest concentrations of metals were due to a sampling event where high turbidity groundwater was analyzed.

A new Section 2.6.3.7 has been added to summarize the turbidity and pH data.

Comment 6: Has the groundwater contamination been sufficiently delineated? If so, please provide a plume sketch, depicting both nitrate/nitrite and metals contamination.

Response 6: The groundwater contamination has been sufficiently delineated. Figure 2-7 provides a plume sketch, as well as nitrate/nitrite data.

As discussed in Response No. 5, there is no metals plume map to present.

Comment 7: There should be a conclusions section, preceding the Army's recommendations. In this conclusions section, the Army should indicate that SEAD-13 failed a residential risk assessment.

Response 7: The conclusions are presented in Section 3 and 4 and reiterated in Section 5. An additional section is not required. The results of the residential risk assessment are presented in Section 3.5.4 (formerly numbered Section 3.6). In the same manner that risk is not an issue for a recreation/conservation land use scenario, risk is not a threat to human health under a residential scenario. The risk assessment showed that the cancer risk to a future resident (child and/or adult) is within EPA's acceptable range. The non-cancer risks for the resident adult and resident child

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 reusers.

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 2-7.

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 will be 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-octylphthahlate 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 value.

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-?. In general, groundwater flows toward the Duck Pond.

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.

PARSONS ENGINEERING SCIENCE, INC.

30 Dan Road • Canton, Massachusetts 02021-2809 • (781) 401-3200 • Fax: (781) 401-2575

January 11, 2001

Mr. Julio F. Vazquez, Project Manager
U.S. Environmental Protection Agency, Region II
Superfund, Federal Facilities Section
290 Broadway, 18th Floor
New York, NY 10007-1866

Mr. James Quinn, Project Manager
Bureau of Eastern Remedial Action
Division of Hazardous Waste Remediation
New York State Department of Environmental Conservation
50 Wolf Road, Room 208
Albany, NY 12233-7010

Subject: **Proposed Additional Sampling in Support of a Final Decision at the Inhibited Red Fuming Nitric Acid Disposal Site (SEAD-13) at Seneca Army Depot Activity (SEDA), Romulus New York**

Dear Mr. Vazquez and Mr. Quinn:

In response to comments received on the *Draft Decision Document, Mini-Risk Assessment, SEAD-13, Inhibited Red Fuming Nitric Acid (IRFNA) Disposal Area,* and recent discussions regarding the final disposition of SEAD-13, Parsons Engineering Science, Inc. (Parsons ES) proposes to conduct additional sampling at SEAD-13. The purpose of the additional sampling is to resolve concerns raised regarding data gaps that may exist for groundwater, soil and sediment and establish a baseline monitoring program from future sampling efforts. Once these additional data points have been collected, Parsons ES will update the *Draft Decision Document, Mini-Risk Assessment* and revise the draft document.

The proposed outcome for this site was to restrict the use of groundwater through a land use restriction. This recommendation was based upon the presence of nitrate in groundwater. Nitrate is a likely residual from the neutralization of nitric acid, a process that occurred in former IRFNA disposal pits, located at this site. The concentration of nitrate in groundwater at only one well, MW-13-2, was above the 10 mg/L NYSDEC and EPA criteria for groundwater that could be used as a source of potable water. Seven monitoring wells were installed in areas adjacent to and within the former disposal pits. The former disposal pits were located using geophysical techniques that were successful in identifying the presence of elevated soil conductivity. The presence of nitrate at the site appears to be limited to one of these two areas.

The additional work proposed herein is intended to confirm that nitrate in groundwater at this site is limited to one of these areas. Additionally, Parsons proposes to collect a number of surface soil samples at the 0-2 inch depth in the area of the former disposal pits to confirm that the neutralized IRFNA is unavailable for human and ecological contact. Our plan will also involve resampling of sediment and surface water at locations adjacent to the site to confirm that neutralized nitrate has not migrated to the adjacent surface water bodies. Our proposed program will involve analyses of samples for nitrates, metals and semi-volatile organic compounds. We believe that this effort will sufficiently address comments that have been provided by your agencies.

The proposed sampling program will include:

- Installation of three (3) additional monitoring wells, MW13-8, MW-13-9 and MW13-10,
- Collection of three (3) subsurface soil samples during the installation of each new monitoring well,
- Sample one round of groundwater at the existing five (5) monitoring wells and the three (3) new monitoring wells,
- Collection of surface soil (0-2 inches) samples at nine (9) locations, (3 of the 9 locations will correspond to the locations where a monitoring well is proposed), and
- Collection of surface water and sediment samples at three (3) existing locations and three (3) new locations, one new location will be from an upstream location of the site.

This data will be used to supplement data collected in 1993 and 1994 and all the data will be used for the Decision Document-Mini Risk Assessment.

All sampling procedures will follow the procedures established in the Generic RI/FS work plan. The attached Figure 1 shows the location of proposed groundwater, surface soil, sediment, surface water and subsurface soil sampling points. The parameters for sample analysis and the rationale of the additional sampling is presented in the attached tables, Table 1 and Table 2.

Please feel free to call me at (781) 401- 2492 if you have any questions or comments.

PARSONS ENGINEERING SCIENCE, INC.

Sincerely,

Michael Duchesneau, P.E.
Project Manager

cc: Distributed by email with follow-up mailing
Stephen Absolom, SEDA
Janet Fallo, USACOE
Kevin Healy, USACOE

Table 1
Sampling Location and Rationale for Sampling

Media	Sampling Location	Rationale for Sampling
Groundwater	Existing Wells MW13-1, -2, -3, -4, -5, -6, -7	Establish baseline for future sampling; Determine any trends in groundwater concentrations; If concentrations are decreasing then data may support a decision that no further action is appropriate. (Proposed sampling is in response to NYSDEC's General Comment 1 and Specific Comment 2 from comments dated April 25, 2000).
	Proposed Wells MW13-8, -9, -10	Determine if a groundwater plume exists; if present, data will be used to delineate the plume. The sampling locations are within the area of elevated ground conductivity, according to the EM geophysical survey conducted during the Expanded Site Inspection (ESI) in 1995. (Proposed sampling is in response to EPA's Comment and Recommendation Letter dated July 14, 2000 and NYSDEC's Specific Comment 3 from a letter dated April 25, 2000)
Surface Soil	SS13-1, -2, -3, -5, -6, -7, -8	Obtain exposure point concentrations from area of the former IRFNA pits. Sample locations are based upon the former pit boundaries, as described by the geophysical survey, historical photographs and visual observations. Sampling will determine if neutralized IRFNA is present at or near the surface (Proposed sampling is in response to NYSDEC's Specific Comments 1, and 4).
Subsurface Soil	MW/SB13-8, -9, -10	Determine the vertical extent of the neutralized IRFNA. Sampling will be conducted at locations within areas of high EM geophysical conductivity. (Proposed sampling is in response to EPA's recommendations dated July 14, 2000 and NYSDEC's Specific Comment 3)
Sediment/Surface Water	SD/SW13-4, -5, -6	Determine if neutralized IRFNA residuals are present in sediment/surface water above NYSDEC/EPA surface water criteria or upstream concentrations.

Table 2
Analysis Parameters and Rationale for Analysis

	Analytical Parameters	Rationale for Analysis
1	Turbidity for water samples	High turbidity may cause overestimation of dissolved metal concentrations, used to test the validity that the sample is free of influence from suspended solids.
2	Nitrate/Nitrite-Nitrogen	An indicator compound for the presence of IRFNA; May pose human health risk by ingestion of groundwater with nitrate concentrations greater than 10 mg/L..
3	Semivolatile organic compounds: phenol, 1,4-dichlorobenzene, 4-methylphenol and Di-n-octylphthalate	Detected during previous ESI sampling. Compounds exceeded TAGM values in surface soil samples. Will be used to evaluate threat via mini-risk assessment. Resampling to confirm the presence of this compound in soil. Compound may pose limited ecological concern; Ecological HQ was greater than 1.
4	Metals: aluminum, antimony, arsenic, beryllium, chromium, copper, iron, lead, magnesium, manganese, nickel, potassium, silver, sodium, thallium, zinc	Detected during the previous ESI sampling program; Compounds exceeded the respective guidelines or standards (*e.g.,* TAGM values for soil, the New York State Ambient Water Quality Standards and Guidelines for groundwater); iron, aluminum, chromium in the groundwater may pose human health concern; (HQ>1 by ingestion of groundwater pathway); copper, iron, potassium, and silver may pose ecological concerns; Ecological HQ>1.

SEAD-13
file

PARSONS ENGINEERING SCIENCE, INC.

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June 27, 2001

Mr. Julio F. Vazquez, Project Manager
U.S. Environmental Protection Agency, Region II
Superfund, Federal Facilities Section
290 Broadway, 18th Floor
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Ms. Alicia Thorne
Bureau of Eastern Remedial Action
Division of Hazardous Waste Remediation
New York State Department of Environmental Conservation
50 Wolf Road, Room 208
Albany, NY 12233-7010

Subject: **SEAD-13, Inhibited Red Fuming Nitric Acid (IRFNA) Disposal Area Sampling Notification Letter, Seneca Army Depot Activity, Romulus, NY**

Dear Mr. Vazquez and Ms. Thorne:

Parsons Engineering Science, Inc (Parsons) is preparing to install three monitoring wells, and collect groundwater, surface soil, subsurface soil, sediment, and surface water samples at SEAD-13, the Inhibited Red Fuming Nitric Acid (IRFNA) Disposal Area. The proposed sampling plan for additional investigation at this site was communicated to you in a letter dated January 11, 2001. Sample collection will begin on July 30, 2001.

If you wish to collect split-samples or audit sampling activities, please notify me at 781-401-2492.

Sincerely,
PARSONS ENGINEERING SCIENCE, INC.

Jacqueline Travers/for

Michael Duchesneau, P.E.
Project Manager

cc: Stephen Absolom, SEDA
Maj. David Sheets, USACOE, Huntsville
Kevin Healy, USACOE, Huntsville
Tom Enroth, USACOE, NY District

Jul 27, 2001

Mr. Julio F. Vazquez, Project Manager
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Superfund, Federal Facilities Section
290 Broadway, 18th Floor
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Ms. Alicia Thorne, Project Manager
New York State Department of Environmental Conservation
Division of Hazardous Waste Remediation
Bureau of Eastern Remedial Action
625 Broadway, 11th Floor
Albany, NY 12233-7015

Subject: **Proposed Modification to Additional Sampling in Support of a Final Decision at the Inhibited Red Fuming Nitric Acid Disposal Site (SEAD-13) at Seneca Army Depot Activity (SEDA), Romulus New York**

Dear Mr. Vazquez and Ms.Thorne:

In a letter dated January 11, 2001, Parsons Engineering Science, Inc. (Parsons) responded to comments received on the *Draft Decision Document, Mini-Risk Assessment, SEAD-13, Inhibited Red Fuming Nitric Acid (IRFNA) Disposal Area,* and recent discussions regarding the final disposition of SEAD-13. In that letter, Parsons proposed locations for additional soil. Sediment, surface water, and groundwater sampling at SEAD-13 to resolve concerns raised regarding data gaps that may exist and establish a baseline monitoring program for future sampling efforts. On further review of the groundwater and geophysical data Parsons proposes to modify the January proposal. Once these additional data points have been collected, Parsons ES will update the *Draft Decision Document, Mini-Risk Assessment* and revise the draft document.

The work proposed herein is intended to confirm that nitrate in groundwater at this site is limited to one of these areas. Additionally, Parsons proposes to collect a number of surface soil samples at the 0-2 inch depth in the area of the former disposal pits to confirm that the neutralized IRFNA is unavailable for human and ecological contact. Our plan also involves the resampling of sediment and surface water at locations adjacent to the site to confirm that neutralized nitrate has not migrated to the adjacent surface water bodies. Our proposed program will involve analyses of samples for nitrates, metals and semi-volatile organic compounds. We believe that this effort will sufficiently address comments that have been provided by your agencies.

The proposed sampling program includes:

- Collection of surface soil (0-2 inches) samples at ten (10) locations, (4 of the 10 locations will correspond to the locations where a monitoring well is proposed), and
- Collection of surface water and sediment samples at three (3) existing locations and three (3) new locations, one new location will be from an upstream location of the site (not shown on map).
- Installation of four (4) additional monitoring wells, MW-13-9, MW13-10, MW13-11, and MW13-12,

- Collection of two (2) subsurface soil samples during the installation of each new monitoring well,
- Sample one round of groundwater at the five (5) existing monitoring wells and the four (4) new monitoring wells,

This data will be used to supplement data collected in 1993 and 1994 and all the data will be used for the Decision Document-Mini Risk Assessment.

All sampling procedures will follow the procedures established in the Generic RI/FS work plan. The attached Figure 1 shows the location of proposed groundwater, surface soil, sediment, surface water and subsurface soil sampling points. The parameters for sample analysis and the rationale of the additional sampling is presented in the attached tables, Table 1 and Table 2.

Please feel free to call me at (781) 401- 2492 if you have any questions or comments.

PARSONS ENGINEERING SCIENCE, INC.

Sincerely,

Clifford R. Lippitt, CPG
Task Manager

cc: Distributed by email with follow-up mailing
Stephen Absolom, SEDA
Janet Fallo, USACOE
Kevin Healy, USACOE

Inhibited Red Fuming Nitric Acid Site (SEAD 13)
Chronology of Events

Seneca Army Depot Activity, Romulus, New York
(Continued)

Date	Action	Attachment
June 27, 2001	Sampling Notification Letter – Start July 30, 2001	Yes
July 27, 2001	Proposed modification to work plan – proposes revised well locations (see figure)	Yes
August – September, 2001	Performed additional work including sampling of four new and 5 existing wells.	
February 26, 2002	Submit Notice of Intent to Proceed, Groundwater Sampling, SEAD-13, April 8, 2002 (2nd round)	
April, 2002	Conduct second round of groundwater sampling	
October 30, 2002	Submit DRAFT FINAL Decision Document including responses to USEPA Comments dated July 14, 2000	
December 12, 2002	NYSDEC comments on the DRAFT FINAL Decision Document. (Additional source characterization, inadequate plume definition, HHRA questions).	Yes
January 30, 2003	USEPA issues comments on DRAFT FINAL Decision Document (General and specific HHRA questions, background issues, minor others).	Yes
March 6, 2003	Draft responses to NYSDEC/EPA comments – sufficient plume and source definition	Yes

Inhibited Red Fuming Nitric Acid Site (SEAD 13)
Chronology of Events

Seneca Army Depot Activity, Romulus, New York

Date	Action	Attachment
November 14, 1995	Submit DRAFT RI/FS Work Plan	
December 11, 1995	Submit FINAL ESI at Three Moderate Priority AOCs (SEADs 11, 13, and 57)	
January 1996	NYSDEC comments - DRAFT Scoping Plan for SEAD-13. (questions semivolatile results and directs Army to use F&W Impact Analysis as Guidance)	
December 1996	USEPA comments on DRAFT SEAD-13 Project Scoping Plan.	
December 1996	NYSDEC comments on DRAFT SEAD-13 Project Scoping Plan.	
May 1997	USEPA issues comments on DRAFT FINAL Project Scoping Plan for SEAD-13	
July 25, 1997	USEPA issues comments on FINAL Scoping Plan for SEAD-13.	
September 26, 1997	Resubmit FINAL Project Scoping Plan for SEAD-13	
August 29, 1999	Submit DRAFT RI Report	
August 31, 1999	Army letter - conduct min-risk assessment at SEAD-13 to show no risk.	
January 4, 2000	Analysis of SW for aluminum to address risk	
April 28, 2000	DRAFT Decision Document, Mini-Risk Assessment, SEAD-13	
July 14, 2000	USEPA comments on DRAFT Decision Document – Comments focused on specifics of human health/ecological risk assessment	
July 26, 2000	NYSDEC comments on DRAFT Decision Document and Mini-Risk Assessment - request source characterization, plume definition, SW/SED samples	
September 19, 2000	Army agrees to collection additional data to establish baseline conditions.	
January 11, 2001	Submit Work Plan for additional work – 3 wells, 3 subsurface, 9 surface soil, 3 SW/SED samples	Yes

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 5, 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 as 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.

Similarly, although youth recreational users and adult recreational users were not evaluated, risks for residential receptors can be used as conservative surrogates. Since risks for residential receptors are within the EPA limits with a restriction on groundwater use placed at the site, it is concluded that risks for adult recreational users would be within the EPA limits with exposure to groundwater prevented.

General Comments – Ecological Risk Assessment:

Comment 1: The response provided adequately addresses the concerns presented in the comment. As the response states, the Process Document was followed correctly during the compilation of the SLERA, and the conclusions of the ERA portion of the mini risk assessment correspond with the Process Document requirements for the conclusion of a SLERA. However, common practice is to compare maximum concentrations of detected contaminants in each media to predetermined screening values as a way of determining those contaminants that should be considered COPCs in the ERA.

Response 1: Comment noted. A screening-level ecological effects evaluation (i.e., Step 1.3) was not performed for this mini-ERA to reduce the list of COPCs. This is a conservative approach as all compounds detected were retained as COPCs, and, therefore, this approach will not affect the risk assessment results.

Specific Comments – Ecological Risk Assessment:

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

Specific Comments – Nonrisk Related:

New Comments:

Comment 1: Figure 1-2, Wind Rose Syracuse, New York: The predominant wind directions differ substantially between the wind rose charts presented in the April 2000 Draft Decision Document and the October 2002 Draft Final Decision Document. Revise accordingly.

Response 1: Acknowledged. The Wind Rose Figure included in the October 2002 Draft Final Decision Document reflects the most current conditions at SEDA. The figure provided in the April 2000 document is outdated.

Comment 2: Page 2-5, Section 2.4.3, Groundwater: This paragraph indicates that for SEAD-13-West, monitoring well 13-(1)2 is upgradient and monitoring well 13-6 is a downgradient well. The paragraph also indicates that the presumed direction of groundwater flow was to the northeast for SEAD-13-West. Based on Figure 2-3, the presumed groundwater

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 2-7.

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.

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

MW13-4

MW13-5

APPROXIMATE LOCATION OF VERTICAL PIPING (POSSIBLY THE DELUGE SHOWER)

SEAD13- WEST

MW13-6

PIPE ORIGINATES FROM PUMPING STATION LOCATED SOUTH OF SITE.

EAST-WEST BASELINE ROAD

MW13-14

MW13-15

MW13-7

MW13-3

NEW MW13-11

MW13-2

APPROXIMATE LOCATION OF ABOVE GROUND PIPING

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

AREA OF IRFNA PITS

MW13-1

SEAD 13- EAST

LEGEND

- Monitoring Well Location
- Approximate location of underground piping, based on EM Survey.

CHANGES TO WORK PLAN

120 0 120 240 Feet

N

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SENECA ARMY DEPOT ACTIVITY
SEAD-13

FIGURE 2-6

SEAD-13 IRFNA Disposal Site
Approximate Location of Underground Piping

SCALE	DATE	
1:120	OCTOBER 2002	Sheet 1 of 1

O:\SENECA\SE ROP_SA.APR

SEAD13-A

EAST-WEST BASELINE ROAD

APPROXIMATE LOCATION OF FIRE HYDRANT AND WATER VALVE

SS13-1

SW/SD13-5

MW13-10/ SB13-10/SS13-2

APPROXIMATE LOCATION OF VERTICAL PIPING VISIBLE IN THE WATER

SS13-3

SB13-10

MW13-4/SB13-4

SS13-4

MW13-5/SB13-5

SW/SD13-2

SB13-9

APPROXIMATE LOCATION OF VERTICAL PIPING (POSSIBLY THE DELUGE SHOWER)

SEAD13- WEST

MW13-6 SB3-6 LOCATED 141' WEST

DUCK POND

SW/SD13-3

SEAD 13

EAST-WEST BASELINE ROAD

SW/SD13-1

SW/SD13-4

MW13-8/SB13-8/SS13-5

MW13-9/SB13-9/SS13-6

MW13-7

MW13-3/SB13-3

SS13-7

MW13-2/SB13-2

SS13-9

SB13-7

SS13-8

APPROXIMATE LOCATION OF ABOVE GROUND PIPING

APPROXIMATE LOCATION OF VERTICAL PIPING (POSSIBLE THE DELUGE SHOWER)

AREA OF IRFNA PITS

MW13-1/SB13-1

SB13-8

SEAD 13- EAST

LEGEND

- Existing Monitoring Well Location
- Existing Soil Boring Location
- Existing Surface Water/Sediment Location
- Proposed Monitoring Well Location
- Proposed Surface Water/Sediment Location
- Proposed Surface Soil Location

100 0 100 200 Feet

N

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SENECA ARMY DEPOT ACTIVITY

SEAD-13

FIGURE 1

PROPOSED ADDITIONAL SAMPLING LOCATIONS

SCALE	DATE	REV
1:100	JAN 2001	Sheet 1 of 1

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EAST-WEST BASELINE ROAD

APPROXIMATE LOCATION OF FIRE HYDRANT AND WATER VALVE

DUCK POND

MW13-12

2002
0.014
0.005U

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

MW13-14

MW13-15

2001	2002
604/582 DUP	731/664 DUP
	0.034/0.03 DUP

MW13-7

MW13-3

2002
119
2.1

MW13-11

MW13-2

NITRATE PLUME

APPROXIMATE LOCATION OF ABOVE GROUND PIPING

APPROXIMATE LOCATION OF VERTICAL PIPING (POSSIBLY THE DELUGE SHOWER)

AREA OF IRFNA PITS

1993/94	2001	2002
460	603	445
		0.048

1993/94	2001	2002
0.01U	0.56	0.045
		0.005U

MW13-1

SEAD 13- EAST

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)

Note:

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

120 0 120 240 Feet

N

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SEAD-13

FIGURE 2-7

SEAD-13 IRFNA Disposal Site
Nitrates/Nitrites in Groundwater

SCALE	DATE	
1:120	OCTOBER 2002	Sheet 1 of 1

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E 747750
N 1007750
E 748000
E 748250
E 748500
E 748750
E 749000
SEAD13A
EAST-WEST BASELINE ROAD
SEAD13
APPROXIMATE LOCATION OF FIRE HYDRANT AND WATER VALVE
APPROXIMATE LOCATION OF VERTICAL PIPING VISIBLE IN THE WATER
DUCK POND
APPROXIMATE LOCATION OF ABOVE GROUND PIPING
AREA OF IRFNA PITS
SEAD13-WEST
SEAD13-EAST
N
N 1007250
44
42
40
39
38
37
36
35
34
33
32
31
30
29
28
27
26
25
24
23
22
21
20
19
18
17
16
14
13
11
9
CONDUCTIVITY (mS/m)
LEGEND
MINOR WATERWAY
MAJOR WATERWAY
FENCE
UNPAVED ROAD
BRUSH LINE
LANDFILL EXTENT
RAILROAD
GROUND SURFACE ELEVATION CONTOUR
760
SURVEY MONUMENT
ROAD SIGN
DECIDUOUS TREE
FIRE HYDRANT
MANHOLE
GUIDE POST
POLE
UTILITY BOX
COORDINATE GRID (250' GRID)
OVERHEAD UTILITY POLE
MAILBOX/RR SIGNAL
50 0 50 100
(feet)
PARSONS
PARSONS ENGINEERING SCIENCE, INC.
CLIENT/PROJECT TITLE
SENECA ARMY DEPOT ACTIVITY
DEPT. ENVIRONMENTAL ENGINEERING
Dwg. No. 720476-02000
FIGURE 2-5
SEAD-13 IRFNA DISPOSAL SITE
EM SURVEY, APPARENT CONDUCTIVITY
SCALE
DATE
REV
GEOSOFT

PARSONS ENGINEERING SCIENCE, INC.

50 Lan Road • Canton, Massachusetts 02021-2809 • (781) 401-3200 • Fax (781) 401-2575

January 11, 2001

File
SEAD 13

Mr. Julio F. Vazquez, Project Manager
U.S. Environmental Protection Agency, Region II
Superfund, Federal Facilities Section
290 Broadway, 18th Floor
New York, NY 10007-1866

Mr. James Quinn, Project Manager
Bureau of Eastern Remedial Action
Division of Hazardous Waste Remediation
New York State Department of Environmental Conservation
50 Wolf Road, Room 208
Albany, NY 12233-7010

Subject: **Proposed Additional Sampling in Support of a Final Decision at the Inhibited Red Fuming Nitric Acid Disposal Site (SEAD-13) at Seneca Army Depot Activity (SEDA), Romulus New York**

Dear Mr. Vazquez and Mr. Quinn:

In response to comments received on the *Draft Decision Document, Mini-Risk Assessment, SEAD-13, Inhibited Red Fuming Nitric Acid (IRFNA) Disposal Area,* and recent discussions regarding the final disposition of SEAD-13, Parsons Engineering Science, Inc. (Parsons ES) proposes to conduct additional sampling at SEAD-13. The purpose of the additional sampling is to resolve concerns raised regarding data gaps that may exist for groundwater, soil and sediment and establish a baseline monitoring program from future sampling efforts. Once these additional data points have been collected, Parsons ES will update the *Draft Decision Document, Mini-Risk Assessment* and revise the draft document.

The proposed outcome for this site was to restrict the use of groundwater through a land use restriction. This recommendation was based upon the presence of nitrate in groundwater. Nitrate is a likely residual from the neutralization of nitric acid, a process that occurred in former IRFNA disposal pits, located at this site. The concentration of nitrate in groundwater at only one well, MW-13-2, was above the 10 mg/L NYSDEC and EPA criteria for groundwater that could be used as a source of potable water. Seven monitoring wells were installed in areas adjacent to and within the former disposal pits. The former disposal pits were located using geophysical techniques that were successful in identifying the presence of elevated soil conductivity. The presence of nitrate at the site appears to be limited to one of these two areas.

The additional work proposed herein is intended to confirm that nitrate in groundwater at this site is limited to one of these areas. Additionally, Parsons proposes to collect a number of surface soil samples at the 0-2 inch depth in the area of the former disposal pits to confirm that the neutralized IRFNA is unavailable for human and ecological contact. Our plan will also involve resampling of sediment and surface water at locations adjacent to the site to confirm that neutralized nitrate has not migrated to the adjacent surface water bodies. Our proposed program will involve analyses of samples for nitrates, metals and semi-volatile organic compounds. We believe that this effort will sufficiently address comments that have been provided by your agencies.

The proposed sampling program will include:

- Installation of three (3) additional monitoring wells, MW13-8, MW-13-9 and MW13-10,
- Collection of three (3) subsurface soil samples during the installation of each new monitoring well,
- Sample one round of groundwater at the existing five (5) monitoring wells and the three (3) new monitoring wells,
- Collection of surface soil (0-2 inches) samples at nine (9) locations, (3 of the 9 locations will correspond to the locations where a monitoring well is proposed), and
- Collection of surface water and sediment samples at three (3) existing locations and three (3) new locations, one new location will be from an upstream location of the site.

This data will be used to supplement data collected in 1993 and 1994 and all the data will be used for the Decision Document-Mini Risk Assessment.

All sampling procedures will follow the procedures established in the Generic RI/FS work plan. The attached Figure 1 shows the location of proposed groundwater, surface soil, sediment, surface water and subsurface soil sampling points. The parameters for sample analysis and the rationale of the additional sampling is presented in the attached tables, Table 1 and Table 2.

Please feel free to call me at (781) 401- 2492 if you have any questions or comments.

PARSONS ENGINEERING SCIENCE, INC.

Sincerely,

Michael Duchesneau, P.E.
Project Manager

cc: Distributed by email with follow-up mailing
Stephen Absolom, SEDA
Janet Fallo, USACOE
Kevin Healy, USACOE

Table 1
Sampling Location and Rationale for Sampling

Media	Sampling Location	Rationale for Sampling
Groundwater	Existing Wells MW13-1, -2, -3, -4, -5, -6, -7	Establish baseline for future sampling; Determine any trends in groundwater concentrations; If concentrations are decreasing then data may support a decision that no further action is appropriate. (Proposed sampling is in response to NYSDEC's General Comment 1 and Specific Comment 2 from comments dated April 25, 2000).
	Proposed Wells MW13-8, -9, -10	Determine if a groundwater plume exists; if present, data will be used to delineate the plume. The sampling locations are within the area of elevated ground conductivity, according to the EM geophysical survey conducted during the Expanded Site Inspection (ESI) in 1995. (Proposed sampling is in response to EPA's Comment and Recommendation Letter dated July 14, 2000 and NYSDEC's Specific Comment 3 from a letter dated April 25, 2000)
Surface Soil	SS13-1, -2, -3, -5, -6, -7, -8	Obtain exposure point concentrations from area of the former IRFNA pits. Sample locations are based upon the former pit boundaries, as described by the geophysical survey, historical photographs and visual observations. Sampling will determine if neutralized IRFNA is present at or near the surface (Proposed sampling is in response to NYSDEC's Specific Comments 1, and 4).
Subsurface Soil	MW/SB13-8, -9, -10	Determine the vertical extent of the neutralized IRFNA. Sampling will be conducted at locations within areas of high EM geophysical conductivity. (Proposed sampling is in response to EPA's recommendations dated July 14, 2000 and NYSDEC's Specific Comment 3)
Sediment/Surface Water	SD/SW13-4, -5, -6	Determine if neutralized IRFNA residuals are present in sediment/surface water above NYSDEC/EPA surface water criteria or upstream concentrations.

Table 2
Analysis Parameters and Rationale for Analysis

	Analytical Parameters	Rationale for Analysis
1	Turbidity for water samples	High turbidity may cause overestimation of dissolved metal concentrations, used to test the validity that the sample is free of influence from suspended solids.
2	Nitrate/Nitrite-Nitrogen	An indicator compound for the presence of IRFNA; May pose human health risk by ingestion of groundwater with nitrate concentrations greater than 10 mg/L..
3	Semivolatile organic compounds: phenol, 1,4-dichlorobenzene, 4-methylphenol and Di-n-octylphthalate	Detected during previous ESI sampling. Compounds exceeded TAGM values in surface soil samples. Will be used to evaluate threat via mini-risk assessment. Resampling to confirm the presence of this compound in soil. Compound may pose limited ecological concern; Ecological HQ was greater than 1.
4	Metals: aluminum, antimony, arsenic, beryllium, chromium, copper, iron, lead, magnesium, manganese, nickel, potassium, silver, sodium, thallium, zinc	Detected during the previous ESI sampling program; Compounds exceeded the respective guidelines or standards (*e.g.,* TAGM values for soil, the New York State Ambient Water Quality Standards and Guidelines for groundwater); iron, aluminum, chromium in the groundwater may pose human health concern; (HQ>1 by ingestion of groundwater pathway); copper, iron, potassium, and silver may pose ecological concerns; Ecological HQ>1.

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File
INFO Repository
SEAD 13

October 27, 2004

Mr. Scott Bradley
U.S. Army Corps of Engineers
Engineering and Support Center, Huntsville
Attn: CEHNC-FS-IS
4820 University Square
Huntsville, AL 35816-1822

Subject: **Approval/Responses on July 2004 Final Decision Document for the Inhibited Red-Fuming Nitric Acid (IRFNA) Disposal Site (SEAD-13), Seneca Army Depot Activity**

Dear Mr. Bradley:

NYSDEC reviewed the July 2004 Final Decision Document and approved the completion of the Remedial Investigation for SEAD-13, Inhibited Red-Fuming Nitric Acid (IRFNA) Disposal Site at the Seneca Army Depot Activity (SEDA) located in Romulus, New York in a letter dated August 31, 2004. Attached please find (1) Army responses to NYSDEC comments included in the approval letter, (2) Army responses to EPA comments received on August 25, 2004 on the July 2004 Final Decision Document, and (3) one replacement page (Page 1-1) for the Decision Document. A PDF version of replacement page 1-1 has been distributed via email.

This work was performed in accordance with the Scope of Work (SOW) for Delivery Order 0023 under Contract DACA87-95-D-0031.

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

Enclosures

cc: Mr. S. Absolom, SEDA
Mr. T. Enroth, CENAN
Mr. K. Hoddinott, USACHPPM (PROV)
Mr. C. Boes, USAEC

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October 27, 2004

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

Mr. Joseph White
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: **Approval/Responses on July 2004 Final Decision Document for the Inhibited Red-Fuming Nitric Acid (IRFNA) Disposal Site (SEAD-13), Seneca Army Depot Activity**

Dear Mr. Vazquez/Mr. White:

NYSDEC reviewed the July 2004 Final Decision Document and approved the completion of the Remedial Investigation for SEAD-13, Inhibited Red-Fuming Nitric Acid (IRFNA) Disposal Site at the Seneca Army Depot Activity (SEDA) located in Romulus, New York in a letter dated August 31, 2004. Attached please find (1) Army responses to NYSDEC comments included in the approval letter, (2) Army responses to EPA comments received on August 25, 2004 on the July 2004 Final Decision Document, and (3) one replacement page (Page 1-1) for the Decision Document. A PDF version of replacement page 1-1 has been distributed via email.

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

Enclosures

cc: S. Absolom, SEDA
T. Enroth, USACE
E. Kashdan
C. Bethoney, NYSDOH
C. Boes, AEC
K. Hoddinott, USACHPPM
S. Bradley, USACE

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1.0 INTRODUCTION

1.1 OBJECTIVE OF THIS DOCUMENT

On behalf of the United States Army (Army), Parsons is submitting this Decision Document for SEAD-13, located at the Seneca Army Depot Activity (SEDA or the Depot) in Romulus, New York. The goals of this decision document for the Inhibited Red Fuming Nitric Acid Disposal Site (IRFNA), SEAD-13, are to:

1. Assemble and summarize all of the currently known information about the site from the Expanded Site Investigation (ESI) in 1993/1994 and supplemental sampling conducted from 2000 to 2002;

2. Compare the available data and information with applicable guidance levels and standards and conduct a mini risk assessment in order to determine if there is an indication of potential threats to human health and the environment at the site;

Additional information clarifying and substantiating recommendations pertinent to SEAD-13 is provided in the following sections of this Decision Document.

1.2 HISTORIC OVERVIEW

The SEDA lies between Cayuga and Seneca Lakes in New York's Finger Lake Region, near the communities of Romulus and Varick, NY. SEDA encompasses approximately 10,600 acres of land and contains more than 900 buildings that provide more than 4.4 million square feet of space, including approximately 1.3 million square feet of storage space. Since its inception in 1941, the mission of the SEDA was the management of various military items, including munitions. Management of these items required areas and facilities for storage, quality assurance testing, range testing, munitions washout, deactivation furnaces and other support areas such as ordnance detonation. In addition, administrative and plant operational facilities were also established in support of the depot mission. Waste management was integrated with the SEDA management mission.

Management waste materials produced from these operations has been in accordance with the requirements of the Resource Conservation Recovery Act (RCRA). As part of the requirements of RCRA, the Depot identified a total of 72 Solid Waste Management Units (SWMUs). In 1990, the Depot was included in the federal section of the National Priority List (NPL). As a federal facility listed on the NPL, provisions of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA - 42 USC § 9620e) required that the US Army investigate the sites known to exist at SEDA and complete all necessary remedial investigations and actions at the facility. In accordance with this stipulation, the US Army, the US Environmental Protection Agency (EPA), and

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

Subject: NYS Inactive Hazardous Waste Disposal Site No. 8-50-006
Final Decision Document SEAD-13
Seneca Army Depot
Romulus, New York

Comments Dated: August 31, 2004
Date of Comment Response: October 27, 2004

Army's Response to Comments

GENERAL COMMENTS

The NYSDEC and the NYS Department of Health have reviewed the July 2004 Final Decision Document for SEAD-13, Inhibited Red Fuming Nitric Acid (RFNA) Disposal for the Seneca Army Depot site and approve the completion of Remedial Investigation at SEAD-13.

The next phase will be the PRAP and ROD proposal for this site and below are some comments which are intended to be helpful to you in the selection of the remedy for this site.

Comment 1: A restriction of groundwater use along with monitoring of groundwater contaminants until groundwater standards are achieved is recommended in the Decision Document. We understand that future use of the area encompassing SEAD-13 is conservation/recreation with the potential for children and adults to frequent the IRFNA site and some type of engineering controls would be necessary to prevent access to the neutralizing pit areas.

Response 1: Assessment of SEAD-13 under the CERCLA process will continue by completing a Proposed Plan and Record of Decision (ROD). The Army concurs with NYSDEC's recommendations that the proposed remedy for SEAD-13 will include a groundwater use restriction and a groundwater monitoring program until contaminant concentrations achieve GA and MCL standards. Language in the Proposed Plan and ROD will address the types of groundwater use controls, such as engineering controls, that would be necessary to prevent access to the site groundwater.

The future land use for SEAD-13 is defined as Conservation/Recreation. Based on the results of the risk assessment completed for the site, no risk was determined for remaining soils and pit areas at SEAD-13. Therefore, engineering controls for the site, beyond the groundwater use restriction, will not be recommended.

Comment 2: From our previous discussion of this site at the BCT Meetings, the remedy will use the natural attenuation provided by the adjacent wetlands on the migrating plume of nitrate/nitrite-nitrogen

concentrations above the NYS Ambient Water Quality Standard (AWQS) for groundwater classified as GA. Since the remedy selection will include a comparative analysis of some potential remedies, I ask that at least one remedy be compared that will enhance the flow of contaminants to the wetland and lessen the timeframe for completion of the remediation. Given the small volume of contaminant remaining at the site and the large wetland area, I would suspect that it would be more cost effective to more rapidly move this remedy to completion rather than continually monitor, report and track this site far into the future.

Response 2: The Army has recommended institutional controls for site groundwater. The Army has noted that natural attenuation is occurring and will reduce the high levels of nitrate/nitrite in the groundwater. The Army has no intention of evaluating additional alternatives to address site groundwater more rapidly due to the low permeability of the soils and the absence of significant water in the formation. The final recommendation is presented in this Decision Document. No further analysis will be performed. The remedy proposed in this Decision Document will be presented as the Army's selected remedial alternative discussed in the Proposed Plan and, subsequently, the ROD.

Army's Response to Comments from the US Environment Protection Agency

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

Comments Dated: August 25, 2004

Date of Comment Response: October 27, 2004

Army's Response to Comments

1. GENERAL COMMENTS

Comment 1: Section 1.1, Page 1-1. Listed goal number 3 for this document gives the impression that the recommendations came before the systematic analysis of the data. To provide a recommendation of no action without the required analysis is inappropriate.

Response 1: The third goal has been deleted. A replacement page for page 1-1 is enclosed.

2. HUMAN RISK ASSESSMENT

Comment 1: Overall, the mini-risk assessment does not strictly follow the currently prescribed risk assessment methodology and formatting that is generally completed for sites in Region 2. However, as the document indicates, the procedures used to complete this evaluation are based upon the Decision Criteria Document dated March 1998, thus it is understandable that there are deviations from the current standard protocol. Given that, we focused our comments on the major differences between the 1998 approach and the current approach used in Region 2. The majority of the comments are directed towards making the evaluation more transparent, through the use of standard reporting tables, with some additional comments on screening procedures and exposure parameters. Although the changes requested are not expected to change the outcome of the evaluation, we feel the changes are needed to achieve consistency with the standard approach currently used within our Region and the Agency.

Response 1: The Army received your comment letter dated August 25, 2004 on the Final Decision Document for SEAD-13 and acknowledges that standard protocol for conducting human health risk assessments has evolved since the beginning of this project. The assumptions used in the development of the risk assessment presented in the Final Decision Document for SEAD-13 (July 2004) are more conservative than the assumptions incorporated in the current approach used by EPA, Region 2. Therefore, the costly and time-consuming exercise of updating the risk assessment would result in a less conservative analysis. Since EPA agrees that the conclusions of the risk assessment would not be

affected by updating the risk assessment procedures, it is the Army's position that additional modifications to the risk assessment are unwarranted and will not be completed.

Assessment of SEAD-13 under the CERCLA process will continue by completing a Proposed Plan and a Record of Decision (ROD).

Comment 2: Section 3.2.2, Page 3.5. The elimination of compounds from the quantitative risk assessment through comparison with background values is no longer a standard practice in the Agency. The current approach is to include all compounds that exceed screening values (i.e. Region IX Preliminary Remediation Goals (PRGs) or other appropriate screening values) as contaminants of potential concern and the potential risks and hazards are estimated for these compounds. The relationship to background concentrations are discussed, either qualitatively or quantitatively (depending on the degree of importance), in the risk characterization and uncertainty section. This allows the risk and hazards associated with the site to be quantitatively evaluated while at the same time allowing the contribution of background compounds to be evaluated in the risk management decision.

Additionally, in this section it appears that the compounds detected on the site were not screened using any health-based criteria and instead all those compounds that were not eliminated due to background considerations or frequency of detection considerations were carried through into the quantitative risk assessment. It is recommended to first screen all compounds that were detected using the Region IX PRGs and then employ the use of the frequency of detection procedure to further eliminate any compounds that are infrequently detected. Comparison to background should not be used to eliminate any compounds. Also, the use of a 95% UCL as the exposure point concentration is recommended, not the use of the maximum detected concentration (unless less than 10 samples were collected, in which case the maximum value would be the correct value). Please document your use of the maximum detected concentration.

Response 2: Refer to response to Comment 1. The Army does not believe that the time-consuming exercise of revising the risk assessment to reach the same conclusions is necessary.

Comment 3: Section 3.3.5.9, Page 3-27. Please confirm that recreational visitors would not swim in Duck Pond. The current exposure scenario only assumes that there would be occasional contact with sediment and surface water via a wading event.

Response 3: A review of the risk assessment suggests that dermal exposure for a recreational visitor would not cause a risk, even if it was assumed that the frequency and duration of the receptor's contact with surface water increased.

In addition, the Duck Pond is relatively shallow. Therefore, it is not conducive to swimming, and human contact with this surface water would most likely be limited to wading.

Comment 4: Page 3-31, first Paragraph. There is a reference to EPA's CRAVE for the development of slope factors. The Agency relies on slope factors that are listed on the Integrated Risk Information System (IRIS) for risk assessment purposes.

Response 4: Refer to response to Comment 1.

Comment 5: Page 3-37, last Paragraph. This paragraph indicates that all chemicals detected that were potentially site-related were retained in the assessment. This statement is not accurate as chemicals that did not exceed background concentrations and chemicals that were infrequently detected were eliminated. The uncertainty section will need to be revised once the recommendations provided above are followed.

Response 5: Refer to response to Comment 1.

Comment 6: Tables 3.2-1 to 3.5-1. These tables are provided as summary tables to present the results of the quantitative assessment of potential risks and hazards. The Agency uses a standard reporting format that is outlined in Risk Assessment Guidance for Superfund – Part D. This format consists of ten standard tables. Using a standard reporting method allows all of the information that is needed to clearly understand the potential risks and hazards to be located and evaluated. Several pieces of data that are generally reported within these standard tables would benefit by being in this document. Specifically, information that is reported on RAGS Part D Table 2 that shows the concentrations detected on the site, the screening values, and potential ARARs/TBCs and RAGS Part D Table 7 and 8 which shows the risks and hazards associated with each individual chemical, as well as the cumulative sum. RAGS Part D tables should be included in this document.

Response 6: Revising the formats of the tables will not affect the results of the risk assessment or the conclusions for this site. Therefore, at this time, the tables will not be revised.

Comment 7: Tables 3.3-1. There are several exposure parameters that should be revised. Specifically, the inhalation rate for a part worker should be increased to $20m^3$/day as this is a standard worker inhalation rate and it would better reflect the inhalation rate based on the type of work that a part worker would undertake. The inhalation rate for a recreational child visitor should also be revised to $12m^3$/day, which represents the standard value used for a child. In addition, for the construction worker, it is recommended to change the inhalation rate to $20m^3$/day, the ingestion rate to 330 mg/day, and the exposure frequency to 180 days per year, unless there is site-specific information that supports the use of 250 days/year.

Response 7: Refer to response to Comment 1. The risk assessment conclusions would not change even if these parameters were changed.