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Jul-Dec 93

INTERAGENCY AGREEMENT

QUARTERLY REPORT

FOR

SENECA ARMY DEPOT ACTIVITY

Submitted to

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, REGION II

AND

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

by

THE ENGINEERING/ENVIRONMENTAL MANAGEMENT SECTION OF SENECA ARMY DEPOT ACTIVITY (SEDA), PUBLIC WORKS BRANCH

DEPARTMENT OF THE ARMY
SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK 14541-5001

REPLY TO
ATTENTION OF

SDSTO-SEI-FE

MEMORANDUM FOR:

Ms. Carla Struble, P.E., Project Manager, Federal Facilities Section, Room 2930, Region 2, U.S. Environmental Protection Agency, 26 Federal Plaza, New York, NY 10278

Mr. Kamal Gupta, Project Manager, Federal Projects Section, Bureau of Eastern Remedial Action, Division of Hazardous Remediation, NYS Department of Environmental Conservation, 50 Wolf Road, Albany, NY 12233-7010

Subject: Quarterly Report

1. The emphasis of this quarterly report is on the events occurring between July 3, 1993 and December 31, 1993.

2. In accordance with para 26.1 of the Interagency Agreement (IAG) between the Army, United States Environmental Protection Agency (USEPA) and New York State Department of Environmental Conservation (NYSDEC), the following quarterly report is submitted:

a. **Minutes From Formal Meetings Held During the Reporting Period.**

On October 13, 1993, the fifth meeting of the Technical Review Committee (TRC) was held at the Seneca Army Depot Activity (SEDA's) Officers Club. This TRC meeting was proceeded by a quarterly meeting of the projects managers. Minutes for this quarters TRC meeting are enclosed as appendix 1.0.

b. **Milestones Met On Schedule, Explanation of Milestones Not Met on Schedule.**

(1) IAG Milestones:

(a) Attachment 7, Generic Schedule: met deliverable + events

(b) Proposed IAG Schedule 5.0: SEDA is revising this schedule due to slippage in fieldwork from adverse weather conditions an additional time required by regulators to review documents.

(2) Ash Landfill RI/FS Milestones:

A report prepared by Engineering Science (ES), Inc., describing field activities at the Ash Landfill site during the reporting period is enclosed as appendix 2.0.

(3) Open Burning (OB) Grounds RI/FS Milestones:

A report prepared by Engineering Science (ES), Inc., describing field activities at the Open Burning Grounds (OB) site during the reporting period is enclosed as appendix 3.0.

(4) Solid Waste Management Unit (SWMU) Investigation Milestones:

Fieldwork began at ten AOC's and at various limited sampling sites. The limited sampling is being conducted in the finalization of SWMU Classification Report (SCR). SI's will be conducted for sites in which limited sampling warrants further investigation. The SCR will be finalized in 1994. For sites which have an undetermined status, (action vs. no action), the current status will be discussed. An addendum to the SCR will finalize and document these sites in the Administrative Record in the future.

c. Inspections, Reports, and Audits and Administrative Information.

(1) FY-94 Obligation Plan Prepared

Revisions to and submission of the Obligation Plan has been completed. New guidance associated with preparation and breakdown of costs on a monthly basis for each project was incorporated.

(3) Funding Status:

Funding for the projects in the FY 94 Workplan that was approved in July of 1993 will require additional modification with respect to which projects will be executed this year. SEDA does not expect any problems with the necessary modifications as the amount required for FY 94 will not exceed the currently approved funding total.

(4) Site Visit:

The following personnel attended a site visit of the installations 25 AOC's in November of 1993: Mr. Dan Geraghty and Mr. Dave Napier of the New York State Department of Health; Ms. Alyse Pickholtz and Ms. Valerie Woodward of the New York State Department of Environmental Conservation (Albany); Mr. Robert Scott, Mr. Frank Ricotta, and Mr. Manmohou Mehta of the New York State Department of Environmental Conservation- Region 8 office. Due to the number of sites that were visited in the limited time available, this was basically a windshield tour.

d. Permit Status as Applicable.

There was no change in Seneca Army Depot Activity's RCRA facility permit status during the reporting period.

e. Personnel Staffing Status.

(1) SEDA Staffing Update:

Effective July 15, 1993 Seneca Army Depot underwent a change in command. Commanding officer, Colonel James B. Cross, was replaced by Lieutenant Colonel Roy. E. Johnson. Lieutenant Colonel Johnson has assumed the title of TRC chairmen and presided over the October TRC Meeting.

In addition to the change of command, Seneca Army Depot has been reduced to activity status and is now officially renamed as Seneca Army Depot Activity (SEDA) and is directly under the command of Tobyhanna Army Depot which is located in Tobyhanna, Pennsylvania. This activity status is a result of the recent reduction in force experienced here. An internal reorganization at Seneca Army Depot Activity followed in order to condense various organizations internally

into a more efficient work force.

The Chief of the Public Works Branch (formally Directorate of Engineering and Housing) is Stephen M. Absolom. Former director Gary W. Kittell resigned in July of 1993.

The Depots Alternate Remedial Project Manager, Mr. James Miller was replaced by Thomas Enroth. Mr. Miller also resigned in July of 1993 and has transferred to another Department of Defense installation.

Currently, Seneca's environmental staff is at a staffing level of five full time employees. - All Depots, including Seneca, has been granted the authority to hire two additional environmental employees. This will include one additional Environmental Engineer position and one Environmental Protection Specialist position. Seneca has accepted applications for these full time positions and expects to fill these slots in the near future.

(2) Training:

Representatives from the Depot's Engineering/Environmental Management Division attended various IRP related workshops during the reporting period. Mr. Battaglia attended a seminar on Technologies for Remediating Sites Contaminated with Explosives and Radioactive Wastes. This seminar was also attended by Mr. Kamal Gupta, NYSDEC, and Ms. Carla Struble.

The Eighth Annual Conference on Contaminated Soil was attended by Thomas Enroth. This conference, held at the University of Massachusetts, was centered around the topic of moving towards site closure.

f. Public Participation update

(1) Ash Landfill Administrative Record Milestones:

Seneca Army Depot has made no additions to the Ash Landfill Administrative Record File during the reporting period.

(2) OB Grounds Administrative Record Milestones:

Seneca Army Depot has made no additions to the OB Grounds Administrative Record File during the reporting period.

2. Point of contact is Mr. Thomas Enroth at (607) 869-1450.

FOR THE COMMANDER:

Stephen M. Absolom
Chief, Public Works

SDSTO-SEI-FE
Subject: Quarterly Report

Encls

CF:

Legal Office, SEDA

Commander, U.S. Army Corps of Engineers, Huntsville Division, ATTN: CEHND-PE-E (Mr. K. Healy), P.O. Box 1600, Huntsville, AL 35807

Mr. Michael Duchesneau, P.E., Engineering-Science, Inc., Prudential Center, Boston, Massachusetts 02199

Commander, U.S. Army Depot Systems Command, ATTN: AMSDS-IN-E (Mr. J. Biernacki), Chambersburg, PA 17201-4170

APPENDIX 1.0

Minutes from

the Fifth Meeting of the

Technical Review Committee (TRC)

THE FIFTH MEETING OF THE SENECA ARMY DEPOT
TECHNICAL REVIEW MEETING

REPORTED BY: PATRICIA A. NELK

MR. ABSOLOM: Okay. I think everybody is here that is going to make it this afternoon. To start with I would like to introduce Lieutenant Colonel Roy Johnson and Depot Commander.

LTC JOHNSON: I met a lot of you all. I haven't met everyone here. I look forward to meeting every one of you today. I am a new commander. My name is Roy Johnson. I am very much interested in this meeting and follow-up meetings. Commanders are personally liable under the law for environmental consequences during their tenure of command. I sent a note to Steve the other day in preparation. I think I said, "Steve, what are we doing so that my daughter's college education is not donated to the EPA?" So commanders do have that responsibility. I take it very seriously.

I look forward to continuing on in the traditions of previous commanders to do the right things and insure that we don't have any environmental problems at Seneca Army Depot Activity.

At this time what I would like to do is

turn it back over to Steve for introductions and continue with the agenda. Thank you very much.

MR. ABSOLOM: The next thing I would like to do is because Colonel Johnson is new I would like everyone to go around the table and introduce yourself so he gets a feel for who you are and who you are with.

MR. DURST: Dick Durst, director of the Cornell Analytical Labs and resident of Varick.

MR. STAFFORD: Ken Stafford, supervisor of the Town of Varick.

MR. HODDINOTF: Keith Hoddinotf, Office of the Surgeon General.

MR. SCOTT: Robert Scott, New York State Department of Environmental Conservation, administrator in Avon, responsible for this area.

MR. MEHTA: Manmohan Mehta, New York State DEC in Avon, same office.

MR. GUPTA: Kamal Gupta, New York State Department of Environmental Conservation, main office.

MS. RAFFERTY: Lani Rafferty from State

Department of Health.

MR. GERAGHTY: Dan Geraghty. I am also with the State Health Department.

MR. WHITAKER: My name is Gary Whitaker. I am a public affairs officer at Seneca Army Depot.

MR. ENROTH: Thomas Enroth, assistant project manager.

MS. STRUBLE: Carla Struble. U.S. Environmental Protection Agency. I am a project manager.

LTC JOHNSON: Pleased to have you.

MS. STRUBLE: Likewise.

MS. BUCHI: Kathleen Buchi, U.S. Army Environmental Center.

MR. BATTAGLIA: Randy Battaglia, Seneca Army Depot, project manager.

CPT. RAIMONDO: I am Captain Tony Raimondo, legal officer, Seneca Army Depot Activity.

MR. ABSOLOM: I am Steve, Chief of the Public Works at Seneca Army Depot.

MR. HEALY: Kevin Healy, lead engineer for the work that is being done on Seneca Army from the Huntsville Division.

MR. CHAPLICK: Jim Chaplick. We are the contractors that are doing most of the investigatory work at Seneca Army Depot.

MR. DUCHESNEAU: Mike Duchesneau, project manager. I work for Engineering Science. As Jim said, we are doing the remedial work.

MR. ABSOLOM: Thank you very much. We do have -- as in the past, we have a stenographer here. I ask that you speak up so that she can hear you. She'll try and transcribe verbatim what we say.

Next we are going to have the agenda. It is going out. I hope everybody got a copy of it. We are going to run it pretty much like we have in the past, the project status, on-site status. Today we are going to just go right into questions and answers. And from there we will conclude, set up our meeting for our next TRC meeting.

Before we get started with our first presenter I would like to go over a couple of other things. First from the last meeting, Mr. Kittell has since departed. He went to work for the SUNY system at the medical

center in Syracuse. I will now be part of the running operations. There should not be any change in staff activity at Seneca. Our qualified staff of Randy and Tom will still be there and still be doing things for us.

The other thing I want to talk about a little bit is, is that you read a lot in the paper about downsizing the Department of Defense. To date we have been very fortunate. It appears that the staff support we get from the Huntsville Division and from AEH, the Army Environmental Center, is going to remain in tact so we shouldn't see any changes for a while at least at Seneca. So for me that is good news to have stayed consistent with the same players throughout.

With that I would like to turn it over to Kevin Healy, our first presenter, to give us project status.

MR. HEALY: Good afternoon. This is the Fifth Meeting of the TRC. As always I am going to give an update -- a brief update of all the activity that is going on. And we normally start with a discussion of the two largest sites, which is the ash landfill and

the open burning grounds. Both of those are remedial investigation and feasibility study sites. Last time we met we were in the process of arranging to have the second phase of field work at both sites done. Since that time all the arrangements were completed. The Phase II field work itself is complete and we are presently in the process of preparing the remedial investigation and feasibility study reports. Remedial investigation reports are on their way to the regulatory agencies for review. The Army has taken a look at them. We are pleased at what we have seen. So now the next step will progress, as I said, to the regulatory reports. The reports will lag by about two months. We expect to see one of them in November and the second one will be in the January time frame. We have not seen any slippage in the schedule. We still expect the record of decision to be done in early 1995.

Next topic is the work that we are doing at the solid waste management units. And as always we will discuss first the high

priority areas of concern. We are in the process of performing site investigations. The work plans have been completed and that was as of earlier this month the review was complete. They have been accepted and approved. The field work was initiated just within the last two to three weeks. And we still expect the final conclusions to be drawn as of August of 1994. Everything appears to be on schedule as far as those investigations are concerned.

MR. DURST: Could I ask what the field work involves?

MR. HEALY: Yes. Field work involves -- depending upon what sight you are referring to it involves monitoring wells, surface soil sampling, deep boring sampling and the things that we are analyzing for mostly are the volatile organics and heavy metals with explosives in some areas and the rest will depend on which site you are talking about but predominantly VOC's and heavy metals.

MR. DURST: Thank you.

MR. HEALY: All right. And then the last topic as always is what Seneca is

referring to as the moderate priority areas. And this slide is very similar to the one I just showed you. The schedules are proceeding almost concurrently, not quite. There is a month to a little bit less of a month in between the investigations -- I am sorry -- in between the investigations for the moderate ones and the higher priority investigations. That slide is basically the same. The schedule is basically the same. And final conclusions are expected by August of '94.

As a result of those reports and the final conclusions, depending on what they say, if there is any additional work that is required then we will follow on with the full remedial investigation starting in fiscal year 1995. Okay.

And that is a brief administrative update. Everything seems to be moving very nicely. And for a little bit more detail I will introduce, as always, Mr. Mike Duchesneau from Engineering Science to give us a more detailed look of the work that's been done.

MR. DUCHESNEAU: Thanks, Kevin. What I am going to show you today is some of the information that we have put together for the RI/FS report. But to begin with just a brief outline of who the players are. I think we have already discussed most of them. The only thing of note here is Michael Stahl has been changed to Gary East as the project manager in Huntsville.

Just a brief overview. This is the open burning ground which I will be discussing first. And the open burning ground was basically nine pads. You can see here where open burning of munitions and ordnances was performed in the 40's, 50's and 60's. That process has been since abandoned. Open burning has been performed in a steel tray in this area. The focus of our investigation has on been on the residue that has remained on these pads. We have focused our investigation on the berms which surround the pads, the pads themselves and also the areas in between the pads as well as some of the drainage ditches that you can see here that drain the surface water to Reeder Creek,

which is located in this area. We have put borings and monitoring wells on both the pads and the grid borings around the pads and investigated the presence for heavy metals, explosives, semi-volatile organics which include polynucolites (phonetic), carbons and the like.

Just to show you what the geology is my next slide is a cross section. That cross section is drawn from the information that we have derived from our boring which basically runs along cross section AA. I don't have BB with me but it is essentially the same. And what you see is what we have known all along but have confirmed quite a bit better at this point and that is there is obviously some migration. You see the burn pads built up over a mantle of weathered till or till which is over some weathered shale which is the bedrock area followed by some competent shale in this area. We have installed monitoring wells to evaluate potential for vertical migration in the groundwater system so we have screened our wells in both the weathered shale and in the overburden till to evaluate

whether or not there is driving forces that could be pushing material, i.e. groundwater, into the bedrock which was a concern for us.

This is a groundwater flow map. This was drawn in April. As we suspected, groundwater movement is towards Reeder Creek; the discharge point for the groundwater. A particular note here is the location of a groundwater divide; in other words, this is a high spot where groundwater will move this way and some groundwater will move that way.

Another groundwater flow map to just identify how the groundwater flows at another time of the year. This was in January. The other one was in April. Basically you see the same thing. Again flow towards Reeder Creek as you would expect following the contours of the ground. Not to be unexpected.

The sum effort of what we have done is to come up with a risk number and the risk is evaluated in two phases. One phase is carcinogenic and the other non-carcinogenic effect. We follow EPA guidelines and establish receptor populations and establish

exposure groups. And what you see here is the sum of basically section six in our report, which is the risk assessment. The key numbers to look at are the numbers -- the bottom line numbers here. EPA for carcinogenic risk has a target value of one times ten to minus fourth and one times ten to minus six. And one increase of cancer in a population of 100,000 people. And one increase of cancer in a population of 1,000,000 people. That is ten to the minus sixth. Loosely translated that is what these numbers mean. If you are less than ten to minus fourth, then there is a problem. For NYSDEC the number that you require for carcinogenic is one ten to minus six. The number you are shooting for is lower. In terms of acceptability it is the one times ten to the minus six. That is the smaller of the two numbers.

As you can see, when we look at our current on-site workers we evaluated inhalation, ingestion of on-site soils and dermal contact to on-site soils. And we have one times ten to the five which is greater

than to the sixth number; implying that some type of remedial action is required.

We looked at current off site residents that live near the Depot. Their exposure routes were ingestion of surface water while swimming, dermal contact to surface water while swimming and ingestion of sediment while swimming and dermal contact to sediment while swimming. Someone would be wading or swimming in Reeder Creek. However unlikely that maybe we thought that would be the likely exposure route. You see the system two times ten to the minus sixth. We are still above that.

The other risk that we evaluated was future residential. In other words, if the open burning ground was developed into a residential area and we combined all of them. Actually all of the exposure routes that you have seen here as well as added ingestion of groundwater and dermal contact to groundwater say during showering or bathing because we have added all the exposures. This number is a higher number than the other two. It is four times four to the minus fifth. Again

implying needs remedial action. The key number there is one. So any number greater than one is a problem.

We have -- for the future on-site considerations we have a one point two, which there is a need to evaluate some type of remedial action.

To provide you with a little bit more detail of exactly how the work we have done is broken down I am going to show you some of the data that we have collected from the burn pads as well as later on some of the grid borings that we did that identifies some of the areas that we are concerned with. What we have provided you here is a breakdown of pad, in this case pad D, which shows the Level II lead samples that we did. And now Level II refers to our data quality level. These were screening results that we did. In other words, we went to the -- BE refers to berm excavation, which are these locales surrounding each of the burn pads. We collected soils from specific spots and sent them to the lab. Based on the Level II screening we selected the comparable soil

sample from that location and did a much more rigorous and thorough Level IV analysis. The Level IV analysis was following New York State Contract Lab Program Analytical Services Protocols, which is a very detailed QA QC process. And we get a large shipment of information including surrogate spikes, matrix recovery, blanks and all that kind of stuff. But the interesting point here I would like to make is that when you look at the Level II data and the Level IV data we have identified lead as an indicator perimeter. We find a very good correlation. For example, lead for Level II was twelve thousand PPM. When we go down further in the berm excavation area, we find another instance. The lead Level II screening data showed 8,100 and the Level IV more rigorous analysis produced information that said it was ninety thousand three hundred and eighty. Again I think there is a very good correlation between the two. This pad was a small pad and we have only performed one soil boring. Again we screened the soil that we collected as we went down into the earth.

And what you see here are the Level II data points based on the Level II screening which we selected one sample for the more rigorous Level IV analysis. The relationship here is quite good. Twelve thousand four hundred for lead in subsurface soil and sixteen thousand for the Level IV. We feel that we were able to accomplish quite a bit in this type of program, collect a lot of information at a cost effective approach.

Just another pad to show you more instances of the information that we have collected. I am focusing here on heavy metals. From our risk analysis it appears evident to us that heavy metals is the main culprit that we would like to focus our efforts on. Again here lead was for the Level II one thousand thirty; lead here is twelve hundred sixty. And again as you see our boring in the pad followed by comparable numbers.

Another point I would like to mention here is although it is not shown that well in this one generally as we go deeper in the boring on the pad we find less and less heavy

metals, which leads us to the conclusion most of the problems associated with the berm pads are at the surface. And also in the berms if we were going to deal with some type of remedial approach obviously we are going to deal with the surface of the soils and that is where quite a bit of the material is located.

Just again to show you more or less the relationships between the Level II and the Level IV but here the surface pad is in barium. We didn't do a Level II. The surface of the pad for lead and barium are fifteen sixty-five and two thousand three hundred and twenty respectively. As we get further down, it is 178 and 60. So as you go deeper and deeper in the hole, the concentrations get less and less. Pretty much as you would expect because the way the burns were done they were done at the surface. They weren't necessarily done underground and buried.

This is one of the moderate pads -- moderately sized pads. We have several borings that were performed on the pads.

Just to highlight some of the numbers here, as you can see for the Level II we start at pad boring one, which is right here. We go from a lead value at the surface of fourteen thousand at the two to four foot depth. We are talking two thousand at the four to six. It is five hundred and ninety at the six to eight. It is hundred and thirty at the deep spot. That trend is repeated over and over in a lot of these pads. Once again I think we are seeing a gradual decrease in gradual depth.

MR. HEALY: Those units are parts per million?

MR. DUCHESNEAU: It is parts per million That is a good point. We actually did -- we did upwards to 18 soil samples in the area and calculated statistically what the site background would be. It is pretty much what we have expected from what we have seen on the literature. It is 30 parts per million for lead.

Just another pad again. Not to belabor this point but generally you find a decrease. In this case it is not as dramatic. This is

berm excavation over here. Again you can see that is two to four and it is two thousand and then at the six to eight it is sixteen.

We were also quite interested in not only what was happening on the pads but what was happening around the pads. Our grid sample program that we have established included borings and samples collected from areas around the pads. And the picture we see here is a very interesting picture. This is lead in surface soils in the zero to two foot depth. It is again in milligrams per kilogram or parts per million. What we are seeing here is something we suspected would be the case and, in fact, is the case. And generally in the higher -- or the higher evaluation areas we don't really see too much of a problem here. The minimum contour we are showing is 500 PPM, which is one of the numbers that we have been -- the range of numbers that we have been thinking about. As far as remediation goes, EPA guidance talks about 500 to 1,000 PPM as kind of a ballpark area where you start looking at doing something. So we cut our contour off at 500

and we have it going up to the highest one which is I think -- I don't know -- seven thousand, is it? Seven thousand I believe. But the interesting point here is that the samples that we have found that had lead at the surface are all localized in the low areas. That seems to make some sense from the standpoint of our understanding of the site and the materials that were at the surface. You get a heavy rainstorm or some type of surface water and even those materials generally move as sediment particles down in the lower areas where they settle into the pond followed by the water and would eventually drain off into Reeder Creek. But that is what we are finding, heavy metals in the low areas coincident with the low ground elevation. These are elevated roads that raise and that act as quite a natural sedimentation basin.

What we are seeing here is copper. Again it is surface soils in parts per million. Consistent picture in the same general areas. Zinc, once again basically in the same areas. Although we are finding a

little bit of elevated numbers over here.

The other thing I would like to point out, too, when we did a statistical analysis of our soils on-site for different metals and our background soils that we collected we found that the metals that were statistically different on-site versus off site are lead, copper, zinc and barium. So we were able to show statistically that those four metals have concentrations greater at the 95 conference interval. That is why I am showing you all three of the four. But I think you get the idea.

I would like to move on to the ash landfill. This is the generalized map that we produced for the ash landfill. Now, this report is due out next week. So what I am showing you here is some preliminary drawings. The well locations are -- these are true well locations. However, the plume map that I am showing you is the old map that I showed you last time. If you recall, we had identified an area which we called the bend in the road over in this area here that we were concerned with. A lot of our Phase

II work at the ash landfill was to focus on defining that area better, which is why we have sort of dashed this line here because we believe -- and, in fact, it does -- the plume actually extends out a little bit further that way.

I guess the good news is that we have done a fairly extensive bedrock investigation program. The results of that program indicate that bedrock has not been impacted with chlorinated organics which I think is a very important point to mention. So what we are looking at here is some groundwater flow again following essentially the gradient of the land heading to the fenced property. In this area we call the bend in the road it is our area of concern and we placed several wells including well clusters, which you see three wells located here. One is in the overburden, in the till, in the upper portion of the bedrock. And another one is in the deep portion of the bedrock. The two bedrock wells here, which is pretty much down gradient in the bend in the road, are clean. The well -- the overburden well here is

slightly contaminated with TCE. So we want to, you know, draw our plume map so we can encompass that.

As part of our Phase II work, we went back out and did quite a bit of additional soil gas work to better define the extent of that area of the bend in the road. Here is the bend in the road. It is kind of a blown up picture of what we were just looking at. Overlapped here are some of our Phase I soil gas contours which are generally shown here and a couple of blobs over here. What we did is we did kind of a star pattern. We started off in an area that we suspect was the ground zero or the middle point and worked out in lines collecting soil samples and produced head space analysis. We would take a soil sample out of the split spoon sample, put it in a jar with some field gas chromatography and analyzed the head space of those gases and got an idea of how far that area of impact extended. We followed that up with some soil borings and were able to identify the extent of the problem.

As the result of that, we have drawn two

new lines that encompasses an area a little bigger than over here. Little bit bigger than the two blobs over here on Phase I and slightly different than the blob that we had on Phase I for that side. Some of our follow-up borings and some of the higher numbers that we found here at B15-91, which is right here, was I think the winner. Almost seven hundred parts per million of total chlorinated organics in that spot. As we suspected, this area here is of concern to us. Basically, the reason why is there is a groundwater plume. But we think we have defined the source of the groundwater plume. And here are the two areas. As far as if you are going to excavate, you are not going to excavate a rounded area. We kind of have drawn a box around it. And here are the two areas that we are going to be doing something about as far as remediating the soil and eliminating the source of groundwater pollution. This area comprises a total of about 15,000 cubic yards of material that will be remediated.

As far as the field investigation goes

that Kevin had talked about earlier, I wanted to share with you a schedule that we prepared highlighting some of the activities and some of the things performed. We are pretty much on schedule with this. We have UXO support throughout the project. They are there to assure us there is no issue with ordnances. We are in the process of finishing geophysics. The seismic survey is to help us define the groundwater flow. We figured if the water table would be high enough, we could see the water table. The fact of the matter is the groundwater was very low at this time of year. We are finding the depth of bedrock -- the slope to bedrock will control how the groundwater flows. The bedrock is fairly impermeable. We will be able to place our monitoring wells on the upgrading of the SWMU. The EM31 and GPR is to help us find out anything that is buried.

Following that work will be some follow-up work with soil borings in selected areas at all these SWMU's followed by some test pitting. And some of the landfills we are investigating and following-up with

monitoring wells both up-gradient and down gradient of each SWMU.

There is also the process of well development. There is some surface water settlement and surface sampling depending on the SWMU. We are wrapping this up sometime in early or late January. That is all I basically have to say.

MR. ABSOLOM: Mike, one thing. At the ash landfill you didn't address -- was there any change in the plume -- the off site plume? I know you did some more.

MR. DUCHESNEAU: Right. I am glad you brought that up. The other good news is that the wells that we had installed along the toe here to better define the boundary of the plume here have also come back clean. So the off site wells that we placed in the farmer's field are all below detectable limits and essentially clean. Which means we can draw the extent of this plume, which is basically going to be around this area here -- we can wrap that contour right up to pretty much the fence line. That is good news.

MR. HEALY: Mike, that portion that is

presumed to extend off site, that ten parts per billion, how does that relate to the drinking water level or what's allowed in drinking water?

MR. DUCHESNEAU: For vinyl chloride, two parts per billion. For TCE, five parts per billion.

MR. HEALY: You in essence have ten parts per billion as opposed to the permissible level of five?

MR. DUCHESNEAU: This is a total of TCE and vinyl chloride. These are organics. This TCE is known to breakdown both of those products.

COMMITTEE MEMBER: What was the analytical method used to analyze the water from these wells from the off site?

MR. DUCHESNEAU: NYSDEC 524.2. We have not done five twenty-four on the new wells. We simply haven't had the time to go back out and re-sample. I don't think that was something that we were going to do. We have been monitoring the off site farm house wells quarterly using 524.2. The detection limit on that is half a part per billion. For a

lot of these things as part of Phase II the existing wells we had -- we went back out and did 524.2. For the new wells that we installed we have not done the first CLP round. The plan is to do one round with CLP and then a follow-up round with 524.2 to confirm any BDL, below detectable limits, that we had on the first round which was confirmed at the low detection limit on the second round. So we have done that on all the existing wells. We haven't completed that on the newer wells that we installed.

COMMITTEE MEMBER: But you plan on doing that?

MR. DUCHESNEAU: Yes, we are planning on doing that. Any other questions? Okay.

MR. ABSOLOM: Thank you, Mike. We did really well. One thing I would like to address -- it is not on the agenda that we have -- is that we have made all the adjustments on the Charter for this committee and we will be sending that around starting next week so that you will be seeing that hopefully for a final time. And the anticipation for this mailing will be for a

signatory mailing for everyone to sign off on it. I want everybody to know that is going to happen.

Randy, did you have anything that you would like to add at this point?

MR. BATTAGLIA: Other than we heard a few comments after the last TRC meeting that I would like to hear more during the meeting. They want to know more about what's going on at the Depot or more information about the other sites. I would like to hear about it so I can have a presentation at the next meeting. A lot of times you hear more in the discussions after than we hear in the meetings. At the previous TRC meetings I made a few presentations about all the other contaminated sites on Seneca Army Depot. Right now we had a brief overview of what's going on with the investigation of those 25 sites. If there are any questions, you can call me at the office, too. One thing, it is very important to get good feedback from what's going on and what's there. I just want to offer that out as far as any questions or anything.

All these documents that we are talking about and all these reports are going to be down in Willard in the town hall. There have been records there when they are final documents. Right now we have submitted an investigation report to -- it is in a first draft -- the EPA and the State for their review. Right before it is finalized it goes out for public comment also. That will eventually all be on record down there.

MR. ABSOLOM: Could you speak as to what it is going to look like for FYI?

COMMITTEE MEMBER: It is somewhat early in the fiscal year. Currently it is 100 percent funded. Currently Congress is talking about cutting the budget by approximately a quarter but I think that Seneca is far enough up in the range that it shouldn't effect this project.

MR. ABSOLOM: Can you give us an idea of the magnitude of the funding? How much you expect Seneca is going to get for FYI '94?

COMMITTEE MEMBER: Around nine million.

MR. ABSOLOM: At this time I would like to open the floor for questions or comments.

Does anybody have any comments or questions?

COMMITTEE MEMBER: Last time there was some discussion that some of the areas on the Seneca Army Depot be considered for residential use. Can anybody -- is it too early in staging to consider discussing what those locations might be? Or is it too early to have discussions on that? Or does anybody have an idea of what might be considered for residential use in the future?

MR. ABSOLOM: I believe the conversation at the last meeting went to when we do the risk assessment. We have to -- we are currently considering all the risk assessment as converting to residential use. I believe that is what was discussed last time. As to whether or not that was a realistic use or not, at this time there are no plans for Seneca to become a residential area.

COMMITTEE MEMBER: No portions that are considered at this time?

MR. ABSOLOM: Not at this point.

MR. BATTAGLIA: The same question came up in our permit review. The only potential areas that are set up right now for

residential type use on the base was along Route 96 out by Romulus, which is military housing and the down by the lake here. The rest is industrial use. When you say risk assessment, the potential future use was considered to be those housing areas, not Romulus. Those were the facilities being considered. In the early days of our mediation program we ended up going with a potential future scenario of residential use because no one really knows if they are going to be placed on base closure. It is just the possibility of that being out there. You can't say you are going to be open forever. As to the future use of the demo grounds or open burning area for residential use, I really think it is very unlikely any open burning will ever be released by the Army for residential use. There is always the potential of an unexploded ordnance even with a survey. But that is the scenario for risk. It makes a difference when you look at the numbers when you do the risk assessment. And for anybody else that is not familiar with the risk assessment process, that is where we

get that there might be some residential use.

COMMITTEE MEMBER: I understand that. I misunderstood. I thought there was actually some areas of the Depot that would be considered for public use for residences already.

MR. DURST: When you get to the point of actually doing the remediation efforts, do you know what technology we will be using? Is everything going to be land scraped and taken off to a storage site?

MR. HEALY: Right now what we are looking at, as far as the ash landfill, for soil remediation is basically two things. Soil extraction, you drill wells in the ground and pump the gas out. That is the lesser of the two alternatives. The other would be low temperature absorption. You pick the soil up and you put it in a glorified roaster and it comes out clean. And whatever comes through the first stage is put in an after burner and the second time it is burned off.

The groundwater, it will be a pump and treat. I referred a couple meetings ago

about Professor Jules (phonetic) method, the bio-reaction. That could also be a possibility. And then also the later one we thought of called UV ozone.

MR. DUCHESNEAU: UV ozone. It is chemical oxidation using ultraviolet light combined with ozone or possibly hydrogen peroxide. There are several vendors that provide that system that can destroy the chlorinates in the liquid phase. The advantage of that is it has no air emissions.

MR. HEALY: Each of the alternatives would be pretty much enclosed. The actual treatment wouldn't cause any releases. As far as digging the soil up and moving the groundwater, we would have to take precautions to make sure nothing was released that would be harmful to anybody.

MR. DURST: Which methods would be applicable to the heavy metals?

MR. HEALY: The methods that we were just referring to, which would be more in line with the interim remedial measure which is something you do right now because you know what the source is. The metals will

pose more of a problem. We will have to wait until the end of the FS, which will be another several months away. Once that FS is done we will be able to consider the metals in their entirety. But the solutions that we talked about now as part of the RI deal with the volatiles and pHs. The metals will have to be considered more in depth in a final solution.

COMMITTEE MEMBER: We are just starting to look at the FS for the OB grounds. It is a stabilized soil washing technology in dealing with the heavy metals.

MR. DUCHESNEAU: The fact is you are not going to destroy an inorganic molecule like TCE. I am sure you are aware of that. And so the best thing you can do is stabilize the heavy metals so they are not leaching out or moving off site. Jim mentioned stabilization and possibly an on-site cap of some sort or possibly an on-site landfill. You have a containment/stabilization process.

COMMITTEE MEMBER: Mike, you mentioned the ash landfill. Do you have a number that -- do you have a number for the burn pad

area?

MR. DUCHESNEAU: Not at this time. Part of the reason is because it is so widespread. There are berms on each of the pads. And how much of those berms are impacted is the question. Is it the whole berm? Is it half the berm? In the ash landfill it is a very tight localized area. At the opening burning ground it is fairly dispersed. What we need to do is look at if we excavate all the berms what happens to the risk. Does the risk come down to a point at which we can live with? So that is the process we are going through right now as part of the FS.

MR. ABSOLOM: I would like to point out, keep in mind all these are proposals which are being considered and nothing has been finalized. No decision has been made on how we are going to do that.

MR. HEALY: Any decision that would be made is ultimately open to review by everybody involved including the public.

MR. DUCHESNEAU: The technology that we have talked about are fairly well accepted technologies. They have a track record -- a

proven track record of success and so we think that is an important factor to consider. This isn't like a research project. We are not trying to make a brave new ground, if you will. There is a lot of technologies out there that are well established to deal with these problems. I mean, TCE and heavy metals are well documented and fairly common at a lot of different sites and the remedial technologies are always documented and proven.

MR. ABSOLOM: Any other questions? If no one has any other questions, what I would like to do is establish -- get some dates or ideas for the next TRC. We have been running it on a quarterly basis. I propose sometime in maybe late January.

MR. BATTAGLIA: We are going to put it off to February 2nd. He may have some documents that are going to be submitted by Engineering Science in January. So January is real busy. Instead of having it in January we will pick February 2nd. There should be more to present. We should have more on the intermediate action of the

landfill at that time.

MR. ABSOLOM: February 2nd has been proposed. It is a Wednesday. Does that meet with everybody's schedule? Do I have any nays? Okay. That is what it will be. February 2nd we will reconvene at 12:30. I would like to come back and start reconvening at the newly remodeled NCO Club. We will confirm that. It is going to open next Monday. It shouldn't be a problem. I don't know their schedule so we will be back on the installation and you will be able to get lunch there, which is one thing you can't do here.

If nobody has any further questions or comments, I would like to adjourn. Thank you all for coming. Appreciate it.

* * *

C E R T I F I C A T I O N

I, Patricia Ann Nelk, hereby certify that I reported in stenotype shorthand the proceedings had on the 13th day of October, 1993, in the matter of the TRC Meeting.

And that the foregoing transcript, herewith numbered pages 2 through 39, is a true, accurate and correct record of those stenotype shorthand notes to the best of my ability.

Patricia A. Nelk

Patricia Ann Nelk

DATED AT: Rochester, New York

this 2nd day of November, 1993.

APPENDIX 2.0

Ash Landfill Field Activity Reports

ENGINEERING-SCIENCE, INC.

Prudential Center • Boston, Massachusetts 02199 • (617) 859-2000 • Fax: (617) 859-2043

October 29, 1993

Mr. Gary East
CEHND-PM-E
U.S. Army Corps of Engineers
Huntsville Division
106 Wynn Drive
Huntsville, Alabama 35807

SUBJECT: Remedial Investigation Third Quarterly Report (Ash Landfill)

Dear Mr. East:

This quarterly report summarizes the activities which have occurred regarding the Ash Landfill from late June to the present date.

Field activities, conducted in June, July and August, associated with the Phase 2 remedial investigation, are complete. The fieldwork was part of the contract modification required to complete the Phase 2 field program.

All overburden, shallow and deep bedrock monitoring wells were installed by early June. During the second week in June, the newly installed bedrock and overburden monitoring wells were developed. Generally, recharge rates were slow, which were consistent with the packer testing performed during the bedrock monitoring well installation.

The sampling of these monitoring wells began during the week of June 21, 1993 and was complete as of July 15, 1993. The following summarizes the SOW field tasks which have been performed:

SOW Task 1 The workplan addendum was completed in November, 1992.
SOW Task 2 Completed all 5 test pits in the Ash Landfill,
SOW Task 3 Completed all 5 test pits in the Non-Combustible Fill Landfill (NCFL),
SOW Task 4 Completed all 8 soil borings in the Ash Landfill, 4 additional borings had been added as part of the modification,
SOW Task 5 Completed all 5 soil borings in the NCFL,
SOW Task 6 Installed all 8 overburden wells, one of these monitoring wells has been added as part of the contract modification.
SOW Task 7 Completed the Photo-Lineament Analysis.
SOW Task 8 Completed the Fracture Trace Analysis.
SOW Task 9 The Very Low Frequency (VLF) geophysical survey has been completed.
SOW Task 10 The downhole geophysics has been deleted as part of the cost modification, instead, this task has been replaced with a soil gas survey, which has been completed.

SOW Task 11 The installation of bedrock wells are completed. Four (4) bedrock monitoring well clusters have been installed, each cluster included a shallow bedrock well and a deep bedrock well.

SOW Task 12 Sampling of the groundwater wells, including well development, are complete.

SOW Task 13 Aquifer Characterization, including "Packer Tests" has been completed as part of the bedrock well installation. Slug testing on the overburden and shallow bedrock wells were performed in July.

SOW Task 14 All surface water/sediment samples have been collected.

SOW Task 15 Surveying has been completed.

SOW Task 16 Soil sample data from all on-site soil borings and the surface water/sediment samples have been received from Aquatec Inc.,

SOW Task 17 Groundwater samples were submitted to Aquatec Inc. as of July 15, 1993. All laboratory data was received by August 31, 1993.

The pre-draft RI was due to army on Oct. 12, 1993 and the draft RI was due to EPA on Nov. 12, 1993, however, EPA requested that this date be changed so that their contractor TRC Inc. would be able to review the document and provide comments before the contract date of Dec. 2, 1993. Accordingly, it was decided and confirmed at the Technical Review Committee, held at the Seneca Army Depot on Oct. 13, 1993, that the pre-draft RI, without Section 6, the Baseline Risk Assessment and Section 7, the Summary and Conclusions, would be issued to all army reviewers and EPA and NYSDEC. This will allow EPA's contractor to review the document prior to contract termination. Sections 6 & 7 will be issued to the army reviewers and would be included with the draft-final submittal to all reviewers. The draft RI was submitted on October 27, 1993. The Baseline Risk Assessment has not been finalized but will be issued to the army within the next week. The Feasibility Study (FS) has begun. The pre-draft is due to the army on Dec. 3, 1993.

During the October 13, 1993 Technical Review Committee meeting the issue of Investigation Derived Waste (IDW) was discussed. Previously, ES had submitted a letter to EPA and NYSDEC dated August 28, 1993 which presented a proposed strategy to be used to determine which drum materials would be left on-site and which would be disposed of as hazardous waste. During the TRC NYSDEC indicated that the approach was acceptable, EPA has tentatively agreed with the approach but will need to confirm this with the section chief.

ES is proceeding assuming that the approach is acceptable and has performed a drum survey of this site. Based upon the IDW approach, previously mentioned, ES will provide, on a drum by drum basis, a description of the classification of the drum contents and which drum will be disposed of on-site and which drum materials will be managed as hazardous waste. This letter will be submitted to EPA and NYSDEC prior to the drum management task for concurence.

If you have any questions regarding this or any other project, please, do not hesitate to call me at 617-859-2492.

Sincerely,

ENGINEERING-SCIENCE, INC.

Michael Duchesneau, P.E.
Project Manager

cc: Mr. Kevin Healy, COE Huntsville
Mr. Randall Battaglia, SEAD
Mr. John Biernacki, DESCOM
Mr. Kieth Hoddinott, USAEHA
Ms. Wilson, CETHA-IR-S
Commander, CEMRD-EP-C

APPENDIX 3.0

OB Grounds Monthly Field Activity Reports

ENGINEERING-SCIENCE, INC.

Prudential Center • Boston, Massachusetts 02199 • (617) 859-2000 • Fax: (617) 859-2043

October 29, 1993

Mr. Gary East
CEHND-PM-E
U.S. Army Corps of Engineers
Huntsville Division
106 Wynn Drive
Huntsville, AL 35805

SUBJECT: **Delivery Order 9, Open Burning Grounds, Third Quarterly Report**

Dear Mr. East:

This quarterly report describes the activities performed since June 1993, associated with the remedial investigation at the OB Grounds.

Fieldwork was completed in April. Phase 2 data was received, beginning in May and continuing until July from the subcontractor laboratory Aquatec, Inc. Validation of the field data was completed in August. In general, the data appeared consistent with the results from the Phase 1 program, which indicated that the pad berms contained the highest concentrations of both explosives and heavy metals. The Field Sampling Letter Report was submitted on September 15, 1993 which provided the validated field data from Phase 1 and Phase 2 and a brief discussion regarding the number of samples collected, the maximum concentration detected and the constituents which were found. This letter report was intended to provide the COE with a review of the actual data before the Remedial Investigation (RI) report was issued.

The RI report began preparation shortly after the field data was collected. Field logs of the borings and the monitoring wells, evaluation of the slug test data, evaluation of the hydrological and ecological data, preparation of site maps and initiation of the baseline risk assessment was performed during the months of July, August and September. The RI was issued as a Pre-draft on September 3, 1993. Following an abbreviated two (2) weeks COE review period, an internal review session was held in Boston on September 20 and 21, 1993 to discuss the comments and resolve any remaining comments. Attending the meeting was Mr. Randall Battaglia from the Seneca Army Depot, Mr. Keith Hoddinott from the Army Environmental Hygiene Agency (AEHA) and yourself from the Corps of Engineers,(COE), Huntsville Division. Comments were received and discussed from the project's technical manager, Mr. Kevin Healy from the COE, Huntsville Division, the COE, Missouri River Division (MRD), Dr. Kathleen Buchi, PhD, from the Army Environmental Center (AEC) and other army reviewers. The meeting was successful in satisfactorily resolving all the comments. The revised RI report was then reissued to the EPA and NYSDEC on October 6, 1993 as the draft version.

The risk assessment identified heavy metals, specifically Ba, Cu, Pb and Zn, and Polynuclear Aromatic Hydrocarbons (PAHs) as constituents of concern. These metals were present at elevated levels in the surface soils of the former burn pads, the berms surrounding the pads and in some of the low lying areas at the Open Burning grounds and contributed to the majority of the risk. Groundwater was not considered as a significant pathway for any exposure scenario other than future on-site residential use.

Three (3) exposure scenarios were considered. Two (2) were current exposure scenarios and one (1) was a future scenario. Of the two (2) current exposure scenarios, the calculated total site carcinogenic and non-carcinogenic risk for was the highest for the on-site worker who was exposed due to dermal contact with on-site soils, inhalation of dust and ingestion of soils. The value for the carcinogenic risk was determined to be 1.6×10^{-5}. The non-carcinogenic risk was 0.3. The EPA target range for carcinogenic risk is 1×10^{-4} to 1×10^{-6},which we are within. For non-carcinogenic risk the EPA target value is to be below 1.0, which in this case we are below.

During the recent October 13, 1993, Technical Review Committee meeting at Seneca, the NY State Department of Health (NYSDOH) representative, who apparently will also be the person who will review the Baseline Risk Assessment, indicated that although the EPA target range is 1×10^{-4} to 1×10^{-6}, the NYSDOH target value is to be less than 1×10^{-6}, which we are not below. Army representatives, Dr. Katheleen Buchi and Mr. Keith Hoddinott, indicated that the army may not be willing to accept 1×10^{-6} as the target risk value since it is such a conservative value in addition to the conservative nature of the risk exposure scenarios themselves. For example, Massachusetts uses 1×10^{-5} as the value as well as other Superfund projects that I have been involved with. Further, to accept this risk value will mean that every individual contributor of risk will need to be below the 1×10^{-6} value, since the 1×10^{-6} target is a total site risk. The decision to accept this lower risk value will likely depend on consideration of other factors, such as the additional cost associated with the lower risk value and the difference in the amount of material which would need to be remediated as well as the need to implement a more complex technology.

The future risk scenario involved consideration of the conservative residential exposure for the OB grounds. As expected, this scenario produced the highest risks, both non-carcinogenic and carcinogenic, since it included all the current exposure scenarios in addition to ingestion of on-site groundwater. The carcinogenic risk value is 4.8×10^{-5}, which is within the EPA target range but above the NYSDOH target value, and the non-carcinogenic risk value is 1.7, which is above the EPA non-carcinogenic value of 1.0. Since the non-carcinogenic risk is above the target value of 1.0, it indicates that some type of remedial action will be required. Unless carcinogenic target risk value is 1×10^{-4}, the carcinogenic risk would indicate the need to remediate.

The question lead and the impact that this metal may have on the risk assessment was not included in the baseline risk assessment because no EPA reference dose or slope factor exists. This metal was considered separately from the risk assessment using the EPA Biokinetic Uptake Model (BKU). This model considers lead exposure to children and the resulting affect on the concentration of lead in the blood. The target value for lead in blood is 10 ug/dL. Using the 95th Upper Confidence Level (UCL) for soil, dust and water from the existing database, the estimated blood levels for this site are approximately 20 ug/Dl, about twice as much as what would be acceptable. It would appear that some remedial action would be required based upon this analysis. The EPA target values for lead in soil, based upon the BKU model is between 500 to 1000 mg/Kg. The 95th UCL for lead at the OB ground is approximately 2000 mg/Kg.

The Feasibility Study (FS) is underway. The volumes of material required to be remediated will be considered from the associated decrease in site risk levels. From this volume analysis, the risk verses the volume of material and the cost to remediate this material will be determined.

Please feel free to contact me at 617-859-2492 if you have any questions regarding this matter.

Sincerely,

ENGINEERING-SCIENCE, INC.

Michael Duchesneau, P.E.
Project Manager

cc: Mr. Kevin Healy, COE Huntsville
Mr. Randall Battaglia, SEAD
Mr. John Biernacki, DESCOM
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