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THIRD MEETING OF THE TECHNICAL REVIEW COMMITTEE

HELD ON: January 21st, 1993

HELD AT: The Seneca Army Depot
NCO Club
Romulus, New York

REPORTED BY: PATRICIA A. NELK

1 MR. KITTELL: Good afternoon. At the
2 risk of sounding a little pushy here, I am
3 going to kick this off. Please, everybody
4 when you speak be sure to identify who you
5 are clearly and do your very best to speak
6 authoritatively and clearly because we have
7 got a large group and people have difficulty
8 hearing you and the court recorder, who is
9 Trisha, needs to get everything down.

10 So for those of you who don't know me,
11 my name is Gary Kittell. General Cross' boss
12 is visiting here, General Benchoff
13 (phonetic), so he's tied up with him and
14 sends his regrets for missing the meeting.

15 MR. HEALY: Kevin Healy from Huntsville
16 Division, Army Corps of Engineers. I am the
17 lead engineer for the clean up work.

18 MR. STAHL: Mike Stahl. I am the
19 project manager for the contract that the
20 Army has left to do with the clean up work.

21 MR. BATTAGLIA: I am Randy Battaglia. I
22 am the project manager for the circle work.

23 MS. BUCHI: I am Kathleen Buchi, Army
24 Environmental Center.

25 MS. STRUBLE: My name is Carla Struble.

1 I am the project manager from the U.S.
2 Environmental Protection Agency.

3 MS. THOMEE: Emmy Thomee. I am with
4 the State Department of Health in Albany and
5 I represent a liaison program, which is a
6 liaison between citizens and the Bureau of
7 Environmental Registration.

8 MR. SCOTT: Robert Scott. I am with the
9 DEC and the current administration in our
10 Avon office and I am involved with all the
11 permits.

12 MR. WHITAKER: I am Jerry Whitaker,
13 public affairs officer for Seneca Army Depot.

14 MR. MATHEWS: I am Jim Mathews,
15 Environmental Protection Specialist at Seneca
16 Army.

17 MR. ABSOLOM: I am Stephen Absolom,
18 Seneca Army Depot.

19 MS. VERA: Linda Vera, citizen
20 participation and with the New York State
21 Department of Environmental Conservation.

22 MR. RICOTTA: Frank Ricotta with the New
23 York State Department of Environmental
24 Conservation, Region Avon.

25 MR. GUPTA: I am Kamal Gupta. I am with

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the New York Department of Environmental Conservation.

MR. MILLER: Jim Miller with the Seneca Army Depot.

MR. DUCHESNEAU: Michael Duchesneau, project manager for Engineering Science in Boston.

MR. BAKER: Mark Baker from Engineering Science.

MR. DOMBROWSKI: Brian Dombrowski, Seneca County Health Department.

MR. COOL: I am Bill Cool, citizen member of the committee.

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

MR. KITTELL: Okay. We have had our introductions. Once again please make an attempt to talk as clearly and as loudly as you can so that Trisha can pick up what you are saying.

Before we start the site briefings, I think what you will hear here today is some pretty positive progress on the part of the Army towards getting more funding started and you will hear about the funding picture for

1 the rest of the year and the progress that's
2 been made.

3 We had just barely finished the
4 introductions.

5 MR. DURST: Dick Durst, resident of
6 Varick and director of the Cornell Analytical
7 Chemist Laboratories.

8 MR. KITTELL: Our first speaker this
9 afternoon is Kevin Healy. He will tell you
10 what we have been up to.

11 MR. HEALY: Good afternoon. Before we
12 get started let me just say, the last TRC
13 meeting there had been a request that we
14 include a glossary of some relevant terms so
15 that anyone who is not familiar with the
16 lingo that we are using would be able to get
17 an idea of what each term stands for. At the
18 back of my presentation you will find two
19 pages of glossary of terms. Those are the
20 terms that we use predominantly. And as we
21 go along if there are any questions, things
22 that you don't understand, let me know and we
23 will be happy in the future meetings to
24 include a list of those definitions as well.

25 As we have been doing in the past, we

1 are going to discuss updates of the
2 individual projects we have been handling,
3 the two RFI's and the second is the ash
4 landfill and opening burning ground. We have
5 been handling them together and we are simply
6 going to discuss the status that is going on
7 the last couple of months. There isn't too
8 much to talk about. We are at a point of
9 just simply updating status. Last time we
10 were pretty much at the second bullet, which
11 means the Phase I was completed and Phase II
12 work addenda were being worked on. I can
13 update that a little further now by saying
14 that work plan addenda has been completed.
15 All the negotiations with the regulators has
16 been finished. We proceeded with awarding
17 contractors for implementation of the Phase
18 II field work. We are proceeding through it
19 nicely. I have nothing much to say because
20 everything is moving along very well.

21 COMMITTEE MEMBER: At the last meeting
22 we did not have funds or projects awarded.
23 So this Phase II remediation award in funding
24 is a pretty important milestone.

25 MR. HEALY: The second -- okay. Mr.

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Kittell asked me to emphasis the contract that we have currently in place to do the Phase II field work will take us all the way through record and decision. It is not as if we have to put out another contract which would do that which would cause needless delays.

MR. KITTELL: The record of decision is where everyone jointly agrees and the public participation agrees with what is being presented to actually fix the problem.

MR. HEALY: The next concern would be the solid waste management units. And this is a copy of a slide from the last time but as a reminder this is how we have broken down solid waste management units. These are the units which have actually graduated to areas of concerns, which are those SWMU's which we will do follow-up work on. There are three notes on the bottom which explain what each of these designations are to the side. They will group them for you so you know exactly how you plan to proceed on each one.

All right. The first set that we are going to discuss is the high priority areas

1 of concerns. These are Seneca's areas of
2 concern. The ones that Seneca feels need to
3 be approached first. The reason we are
4 calling it "Seneca's high priority areas of
5 concern" is it involves a few SWMU's or areas
6 of concern that were considered to be a
7 moderate priority when we did the SWMU
8 classification report. Seneca felt it was
9 important to include some of these moderate
10 areas of concern in the first groupings and
11 that we get going on those as soon as
12 possible. All right. A listing with a
13 little better definition. These are the
14 actual designations for those high priority
15 areas of concern.

16 MR. KITTELL: Just a little explanation
17 as to why we put more on to this high
18 priority list than was originally surfaced in
19 the SWMU classification report. We are
20 trying here to get work done in a worst first
21 scenario situation but to take advantage of
22 the funding available at the time the funding
23 was available. There seems to be funding
24 available to do more than just the high areas
25 of concern so we took the next three on the

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list and added that on. It is partly out of a desire to get things done but also being reactive to funding opportunities.

MR. HEALY: Those are the names and designations of the high priority areas of concern.

MR. MILLER: If anyone is interested SEAD-1 and 13 were two moderate areas of concern.

MR. HEALY: That was Jim Miller. By way of update, these are the status investigations. The final work plan revisions will probably be here by March of '93. We are presently reviewing the work plan with the regulators and trying to revise it according to their concerns. And we anticipate that field work will be initiated by early spring. And the contracts for implementing those have already been awarded. We don't expect any delays based on our procurement process. That is all ready in place and we just need to finalize the work plan and get some good weather so we can get started.

Next would be status update for the

1 moderate priority areas of concern. Those
2 are defined on the next page as a couple
3 little notes down there. Not much importance
4 but just to give you an idea as how we plan
5 to approach these moderate areas of concern.
6 As far as the update on the status, we have
7 already awarded the contract for preparation
8 of the work plan. The work plan is presently
9 being prepared. We expect the completion of
10 the draft work plan by May of '93. That will
11 be followed by regulatory review and our
12 revision as a result of that review and we
13 hope to have initiation of field work by fall
14 of 1993.

15 Now, that we have talked about the high
16 priority and the moderate priority SWMU's
17 what's left is the lower priority SWMU's or
18 the ones that we don't feel there is as much
19 a difficulty with. I will give a brief
20 update on that. Most of this discussion is
21 going to be lead by Seneca. Let me define
22 for you which ones we are referring to.
23 These are the solid waste management units
24 where additional information is required. I
25 have little notes next to them. Those little

1 dashes indicate -- let me say this, the
2 additional information comes in two forms.
3 The first is there are existing reports that
4 need to be provided and reviewed before
5 recommendations can be made. There are some
6 SWMU's where we will actually have to go out
7 and do a limited form of field sampling in
8 order to get information to render a final
9 decision. The SWMU's -- the ones that have
10 dashes next to them are the ones that are
11 going to actually necessitate additional
12 limited sampling. Those are shown in more
13 detail on the next slide.

14 MR. MILLER: Everybody, section five is
15 where you can follow along with review
16 graphs.

17 MR. HEALY: I am sorry. This plate
18 actually shows the SWMU's where the limited
19 sampling is required. Take the SWMU's off
20 the prior plate that would be marked with a
21 dash.

22 MR. DURST: Can I ask just one question?
23 I was curious on the high priority areas it
24 says IRFNA.

25 MR. HEALY: Inhibited red fuming nitric

1 acid. It is a propellant. Any more detail
2 than that, Randy, the chemist would have to
3 give to you.

4 COMMITTEE MEMBER: I have to look up
5 exact percentages. It is a mixture;
6 primarily nitric acid. It is hydrochloric
7 acid. It might be some sulfuric. It is a
8 very strong acid.

9 MR. KITTELL: The early generation
10 liquid propellant. We no longer -- it has
11 been out of the inventory for years. And
12 apparently when it was all inspected,
13 whatever the procedure for disposal was was
14 to leach it through a lime stone -- lime pit.
15 We suspect those pits are now underneath the
16 upper level of the pond area that we created
17 back in the early 70's.

18 MR. DURST: But those things wouldn't
19 really be toxic?

20 MR. KITTELL: No. They just have a
21 horrendous sounding name. We were a little
22 bit reluctant. It has been rinsed by 100
23 million gallons over the years. We are not
24 going to look at it.

25 MR. COOL: It is diluted?

1 COMMITTEE MEMBER: The lime stone would
2 neutralize the acid and render it harmless.

3 MR. KITTELL: There is no absolute
4 guarantee about that. We will go there and
5 look.

6 MR. HEALY: Those are some of the
7 SWMU's. That limited sampling still has to
8 be resolved as to exactly what it is going to
9 entail. We'll be discussing that with the
10 State and EPA in not too long a time.

11 These are the no action SWMU's; the ones
12 that through negotiations with NYSDEC, the
13 State and EPA -- the negotiations have been
14 fruitional, which these are declared no
15 action. There is no problem. No difficulty
16 at all. No further action will be taken on
17 the SWMU's. They will just be written off.
18 The decision to write them off will be
19 included and just identified as part of
20 another ROD for one of the other RI/FS. At
21 that time the public will get the opportunity
22 to review the fact that these have been
23 declared no action and you will get the
24 opportunity to disagree or agree with the
25 decision made by Seneca. The public will

1 have an opportunity to comment on that in the
2 future.

3 That is about it for an update. As far
4 as the last two pages, they are a glossary of
5 terms. If there are any other terms that
6 people don't understand, I think we will add
7 it to the list. If there are any others, let
8 me know and I will be happy to include them
9 in the next presentation.

10 MR. KITTELL: What I would like to do
11 before the next speaker starts is, Kevin gave
12 out what I would say is a rather encouraging
13 report as far as activity and funds committed
14 since the last meeting. When we talked about
15 a lot of SWMU's -- keep these number
16 straight, please. Seneca has reported 72
17 SWMU's. We and the regulators are absolutely
18 firm that 36 for sure will be looked at. And
19 what Kevin has just reported is that they are
20 either currently being studied or funding for
21 study or being prepared for work plan study.
22 Half of them -- there are 17 where we have
23 agreed that they really don't require an
24 expenditure of funds. That leaves the 19
25 that were in limbo, so to speak. And those

1 breakdown into a group where we are going to
2 do additional record searching and some where
3 we are going to go out and just do a very
4 rudimentary sample to find out just yes or no
5 if what we thought might have been there, can
6 we find it before we go to the next sampling.
7 We just don't know enough to rule it out but
8 we know enough to think we don't really want
9 to spend a ton of money looking for something
10 that is not there. Is everybody kind of
11 clear on that?

12 MR. DURST: I have a question. On those
13 sites that you have identified, are you
14 stopping now with identifying new sites or is
15 there still some investigation going on, too?

16 MR. KITTELL: This is a living list. We
17 did our level best over the -- during the
18 1980's through the requirements and as a
19 result of us being put on the NPL to identify
20 every SWMU that we could. We were at one
21 time at 50 some odd. And then we got into
22 the low to mid 60's. This list has grown by
23 one or two since we started to meet. An
24 employee will be retiring and say, "oh, gee,
25 did you realize they did such and such out

1 there and there are no records?" And we have
2 to go out and make an assessment whether that
3 is a credible accusation.

4 MR. BATTAGLIA: Several of these areas
5 were a rumor at one time and one of the
6 latest ones was a paint disposal area. It is
7 kind of like chasing a goose until you get
8 someone to say where that actually was and
9 that actually did happen. Some of -- like
10 take the paint disposal area, for example.
11 We had on maps on early studies it was on the
12 south end of the base. It is actually up
13 under the end of the pond, which is
14 two-and-a-half miles from where we had it
15 before. And luckily we have had a few people
16 on the Depot that have been here since the
17 Depot opened in '41 and they gave us a lot of
18 historical information about what actually
19 occurred at certain sites and confirmed other
20 things about where other sites might actually
21 be. And it is still ongoing. Even last week
22 we gathered some information about some of
23 these sites and it was only a month or two
24 ago that we had a spot located for the paint
25 disposal area.

1 MR. DURST: This is one thing -- in
2 reading through the transcript of the last
3 meeting I find it a little bit disturbing
4 that it is a hearsay process in locating some
5 of these sites and there weren't records.
6 And what guarantee is there in the future
7 that other sites won't all be discovered?
8 And what remediation action can be taken
9 after the fact?

10 MR. KITTELL: In laymen terms, we are on
11 the hook forever. Would you say that is an
12 accurate assessment? There is a regular
13 requirement for continuing self-monitoring
14 and self-reporting. And once it gets into
15 the system there is no way to make it go away
16 if it graduates today as an area of concern,
17 except through a ROD, and that requires the
18 public involvement. In our defense, some of
19 these sites have really nasty sounding names
20 and, in fact, there wasn't nothing there or
21 and we have a few that have benign sounding
22 names that could very well be something
23 important. A group of people have said, "do
24 you know the huge place? It used to be a
25 lake and fish there and it is full of all

1 this sort of stuff." That is kind of scary
2 so you start looking through U.S.G.S. maps
3 and old surveys at the post and you find out
4 that there never really was a lake there.
5 And the reason there is a level spot out
6 there behind houses is because it might have
7 been a hill and it is level now. It was
8 knocked off to make a parking lot. When you
9 have an employee -- when they dump paint and
10 it is all out here in this spot and you say,
11 "now you come clean with that," every time we
12 do that it adds workload and adds dollars to
13 the Army's involvement and commitment to
14 clean up. I like to think that we are doing
15 the best we can in reporting what we find
16 when we find it. There are certain processes
17 that were -- official processes that were
18 occurring and they were either records or
19 some old drawings. There is institutional
20 knowledge but there are other surreptitious
21 things that I think have gone on through
22 industrial places all over the world, Army
23 and civilian both, that you only find out
24 through the rumor mill.

25 The next presenter we asked to come up

1 was Mr. Duchesneau from Engineering Sciences,
2 Incorporated. And they are the consulting
3 contractor that adds all the horsepower to
4 our technical and physical to our major
5 resources here.

6 MR. DUCHESNEAU: Thanks, Gary. My name
7 is Mike Duchesneau. I have been the project
8 manager at the Seneca Army Depot. I work for
9 Engineering Science in Boston. Both Mark and
10 I, who is sitting over here, are responsible
11 for the technical quality of the work and to
12 make sure it is in a timely fashion.

13 The first slide I have is an
14 organizational chart. You can't tell a
15 player without the program. This, so to
16 speak, is the program that we have. I am
17 here. We have already gone around the table
18 and introduced a few folks; Carla, Randy,
19 Kamal. Both Carla and Kamal are regulator
20 folks in review work. We have Mike Stahl,
21 who is project manager. And Kevin Healy, who
22 will be involved on a technical basis. To
23 support our efforts we have a subcontractor
24 that helps us with our work and making sure
25 that we have safe clearance to sites. We

1 have laboratory support. The laboratory is
2 State certified and the contract for the
3 laboratory is also certified by Missouri
4 River Division, which is the technical branch
5 of the corps for approving laboratories. And
6 we have field registration support, which
7 includes surveyors, drillers, that kind of
8 stuff. We employ or have included as far as
9 our support people who are small
10 disadvantaged businesses. We have a minority
11 owned business who is performing surveying
12 work. We have a women owned business who is
13 performing drilling work. We try to
14 incorporate the letter of the Federal
15 Acquisition Regulations to encourage small
16 businesses.

17 The program that I have outlined for you
18 today is kind of stepping back a second and
19 telling you what our goals were and what our
20 accomplishments were for the Phase I work
21 that we have done at the RI and RI program at
22 the opening burning ground and the ash
23 landfill and to describe to you some of our
24 Phase II activities which we will be
25 performing.

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To begin establishing the project's goals we are interested in quantifying the nature and extent of any of the residues which remain at both of these sites. We want to establish a high quality data base. We have a lot of decisions to make as far as what needs to be remediated and what the risk is. And we have determined that we need to have quality data to support those decisions. We will be evaluating several alternatives. And the choice of alternatives that we pick are based on that data. We want to make sure that data is from a sufficient level that would support that decision. And we want to determine the understanding of the relationship between the sites and the surrounding environment. As part of the risk assessment, we have to assess environmental risk and human health risk. Also of importance is to determine the background concentrations of chemical constituents in the ground water and we want do that in a timely and cost effective matter.

The approach in general we take at these types of investigations and the one that we

1 have used here is to establish strong lines
2 of communication with the regulatory folks,
3 which we have done, and follow the guidance
4 documents which are followed by EPA and
5 NYSDEC, New York State Department of
6 Environmental Conservation, which we have
7 done. The quality issue of the data, we
8 establish and maintain data quality
9 objectives. EPA has established five levels
10 of data quality. First level, one, more or
11 less for health and safety support. Our
12 folks are not exposed to any gross
13 contamination. The fifth level being a very
14 high quality level for analytical
15 requirements that are not typically done. We
16 will be utilizing in this program Level IV
17 data, which is clip data; otherwise known as
18 contract lab data. We also specify in our
19 work approved EPA methodologies and
20 investigative techniques something that is
21 important to me and that I have been involved
22 in quite a bit. We try to utilize screening
23 techniques as much as possible to help guide
24 us in the work that we are performing. The
25 investigation that we typically perform is an

1 interactive type process. We have a good
2 idea what we are going to find and we go
3 along that direction. But while we are doing
4 the work if we are on site screening and
5 information comes back to us that will help
6 us support future work, we will go with that
7 also. Again, as I said, we want to maintain
8 cost and schedule is something that I am
9 obviously involved in. We have a system in
10 Boston where I am from to do that.

11 MR. DURST: From that I gather your lab
12 is in compliance with the GLP regulations of
13 the EPA, Good Laboratory Practices.

14 MR. DUCHESNEAU: Yes. The NYSDEC clip
15 requirements are very stringent requirements.
16 The labs are screened and proved for being on
17 the list of a group of labs that can bid on
18 these types of programs. They have to have
19 performance evaluations work. They have to
20 follow strict protocols in terms of QA, which
21 is surrogate spikes, matrix spikes and
22 re-analysis of data when they are out. I
23 could get into the details. It is a very
24 stringent process. The most stringent
25 process that I am aware of.

1 MR. HEALY: The Army does evaluations of
2 labs. In addition to meeting EPA and State
3 requirement they also meet the Army's
4 requirements as well. So I think what you
5 are referring to, the GLP's probably much
6 less rigorous than what we are operating
7 under here as we perform.

8 MR. DUCHESNEAU: In terms of when to
9 calibrate, it is all specified in the
10 statement of work these laboratories follow
11 to perform their analytical quantities.

12 In terms of the OB ground, which I will
13 discuss first, we have agreed to perform a
14 two phase system. Again getting back to the
15 interactive nature of investigations, we go
16 out and see what we have in the first cut and
17 based on that first cut we will make some
18 midcourse corrections and perform the second
19 phase for this project. We performed the
20 first phase. We are well underway into the
21 second phase. The constituent to be
22 evaluated -- we have identified in here -- we
23 look for all of these particular constituents
24 for the OB ground. The ones that have come
25 back as the most significant would be the

1 explosives and heavy metals. We have not
2 found significant quantities of
3 semi-volatile, volatiles, no PCBs, low level
4 of nitrates in the ground water and pH is not
5 a problem. When we set the program up, we
6 decided to do several screening -- several
7 layers of screening. Here we have got heavy
8 metals. We identified lead. We are
9 performing what is called a Level Two
10 analysis -- getting back to the five levels
11 of data quality -- and that is a quick screen
12 with an instrument that is not as
13 sophisticated as the Level IV analysis. We
14 will screen for explosives in a similar
15 fashion. Volatile organics. And we have
16 also done an amount of geophysics. We are
17 trying to take a broad brush over the area.
18 Are there any areas that are high in these
19 constituents that would lead us to focus our
20 investigation in this particular area?
21 Because this was a facility that open burned
22 emissions or PEPS, projections, explosives
23 and pyrotechnics, we have to UXO so we are
24 safe in what we are doing. We have utilized
25 the subcontractor as I mentioned. We employ

1 remote control drilling to maintain another
2 safety. We perform a lot of electromagnetic
3 surveys to scan the area for any metal
4 objects and ground penetrating radar surveys.

5 MR. DURST: This is future? That Phase
6 II hasn't been done?

7 MR. DUCHESNEAU: Phase II hasn't been
8 done but Phase I has. All of these are
9 pretty much incorporated.

10 MR. KITTELL: Phase II is ongoing as we
11 speak.

12 MR. DURST: Oh, it is?

13 MR. DUCHESNEAU: Yes.

14 MR. KITTELL: Phase II is ongoing and
15 Phase II will include all the way to the end.

16 MR. DURST: I was just curious if any
17 unexploded ordnances were found?

18 MR. DUCHESNEAU: Yes, quite a bit. What
19 I mean is something that has been half
20 demolished. Those kind of things that
21 support people will identify -- identify and
22 make sure that we don't handle it.

23 MR. BATTAGLIA: Let me add, the open
24 burning ground is part of the same facility
25 as open detonation. It is a regulated unit.

1 We are a permit application. We were
2 operating it as a facility where we dispose
3 of old ammunitions by opening burning or open
4 detonation. It was not always necessarily
5 managed in an appropriate manner. Back in
6 the 50's when it operated then they may not
7 have policed the area for an unexploded
8 ordnance that was detonated back then. That
9 is what we might find, parts not completely
10 destroyed. The way we operate now is we
11 operate in such a way the items are
12 completely destroyed. The difference between
13 open burning and open detonation is a
14 particular material which most completely
15 destroys it in the best way. That is why in
16 that area unexploded ordnances is a primary
17 concern. That is the other reason why we are
18 doing the studies; to determine if there is
19 any contamination in that area from past
20 operations.

21 MR. DUCHESNEAU: When we began to
22 prepare the work plan, the first thing we did
23 is identify the areas in the media that we
24 wanted to look at for the opening burning
25 ground. There are nine former burning pads

1 that, as Randy was saying, PEPS were actually
2 burned on the ground there. There is burns
3 surrounding each of the pads. And apparently
4 the idea was when the burn was going on, they
5 wanted to have some kind of containment to
6 make sure the stuff didn't get out of
7 control. We are investigating those. The
8 low hill -- there is a low lying hill that is
9 approximately two thousand feet long. We are
10 looking at an area between each pad. We call
11 them grid bores. These are areas between
12 each pad during the operation of the facility
13 that material wasn't kicked out or somehow
14 dispersed in between the pad. Ground water,
15 we will be evaluating that with monitoring
16 wells. Surface soil, downwind soil samples.
17 During the burn it was a very energetic
18 process, as you might imagine. We are
19 looking at evaluating the soil at the surface
20 for particulants that may have been deposited
21 due to dispersion of the wind during the
22 burn. Surface water, Reeder Creek is very
23 close by. We are investigating Reeder Creek
24 and some on site water. We are looking in
25 sediment from Reeder Creek and the sediment

1 from those standing water columns or water
2 areas on the site. As I mentioned, we are
3 looking also at background soils to help
4 establish what the background concentration
5 is, particularly in metals, soil and water.

6 We have done an examination of the
7 biota. In terms of accomplishment, what we
8 have accomplished from Phase I -- I will give
9 you a brief outline here. As far as soil
10 sampling goes, we have done 22 pad borings.
11 Of those borings we have completed 83 soil
12 samples and we have screened for TNT, which
13 is an explosion indicator for explosive lead
14 and total volatile organics. Based on that
15 we have selected 44 soil samples. For the
16 grid borings we have done 22 locations also.
17 Again 57 soil samples have been screened.
18 Thirty-nine have been selected for Level IV
19 protocols. The idea here is to broad brush,
20 as I mentioned, and come back and focus on
21 selected samples. Obviously, there are cost
22 savings between Level II and Level IV and we
23 are trying to focus what we analyze with the
24 more expensive analytical requirements. The
25 berm excavations, we have done 33 locations

1 so we collected 33 soil samples. We have
2 screened all of them and we selected half of
3 those for Level IV analysis.

4 The follow up -- as we go on from Phase
5 I, we have sampled surface water and sediment
6 in six locations in Reeder Creek and 10 on
7 site surface water sediment spots. In terms
8 of ground water, we have a total of 28
9 monitoring wells scattered throughout the
10 area of the site. That helps define ground
11 water direction, velocity and constituents
12 dissolved in the ground water. We have
13 sampled biotic and bentic. We have done a
14 fish survey within Reeder Creek to determine
15 if the constituent -- if fish that are there
16 are consistent with what you would expect
17 with a healthy community. Is the opening
18 burning ground adversely affecting the fish?
19 We have done a terrestrial assessment. And
20 we have gone out and trapped mice and done a
21 survey as to how many mice are there to
22 compare whether we would be at the type of
23 level and dispersity of creatures we would
24 expect for a healthy environment.

25 In terms of Phase II, the follow up to

1 the Phase I, we are going to continue sample
2 soils. We have got planted 22 pad borings,
3 another 14 grid borings, 28 more berm
4 excavations. We have not sampled the low
5 lying hill of Phase I. We will be doing a
6 substantial amount of sampling for the low
7 lying hill. Eleven downwind surface soil
8 samples. And we have established during
9 Phase I -- we identified an area called the
10 burn kettle. We collected four samples
11 around the perimeter of that burn kettle.
12 For surface we have an additional 10 more
13 locations on site and three locations on
14 Reeder Creek. Ground water, we will be
15 adding six more ground monitoring wells to
16 define ground water direction.

17 I have included here a map that is part
18 of the Phase I PSCR. The PSCR is a
19 preliminary site contract summary report.
20 That is basically the culmination of the
21 Phase I work that we have done and I guess
22 what I would like to do here is just point
23 out some of the locations of what I have been
24 talking about. Here is Reeder Creek here and
25 Reeder Creek flows toward Lake Seneca. This

1 is the open detonation area. These are the
2 pads here. There are nine of them. And this
3 is areas here that we have identified which
4 are the on site low lying areas where surface
5 water collects and sediment collects. As I
6 have been mentioning, we sampled the grid
7 surrounding the pad. We have done borings on
8 the pads, pad borings. And we have done grid
9 borings within the areas in between here.
10 The low lying hill, I believe, is shown here.
11 And we came to find out that is somewhat
12 incorrect. The hill actually extends a
13 little further down this way and we will be
14 supplementing that on additional work in
15 Phase II. Ground water generally flows
16 toward Reeder Creek. We have established
17 that, which is this way.

18 In terms of what we have found overall,
19 generally we found elevated levels of heavy
20 metals and explosives in all of the berms
21 surrounding all of the pads. On the pad
22 borings we found approximately 70, maybe 50
23 or 60 percent of what we have sampled may
24 come up with what we considered to be
25 explosive and metals. As you get out further

1 in the grid borings, that percentage drops to
2 approximately 25, 30 percent or so. So as
3 you would expect, as you go away from the
4 more impacted areas, which would be the berms
5 and the pads themselves, the level and
6 quantity of materials that you find are less.

7 I think in terms of a conceptual model
8 at this date for how we see the site and what
9 the problems are, ground water is very
10 shallow here. There is not a lot of
11 thickness. The aquifer (phonetic) is very
12 thin; five to ten feet would be the maximum
13 thickness. Ground water velocity is not very
14 fast. We are not finding any materials
15 dissolved in the water that we would consider
16 to be a plume. Normally, you would expect
17 the plume to emanate at one spot and move out
18 with the ground water toward Reeder Creek.
19 We are not finding that. We are finding one
20 or two wells that have metals dissolved in
21 the water. But when we filter that the
22 levels are much less. We think it is a
23 function of the fact that these wells are
24 highly turbid. So what we are saying is, in
25 our mind what happens as the rainfall comes

1 in there is a potential for leaching or
2 mixing with materials on the berms, on the
3 pads, and there is a surface water run off
4 which collects in a lot of these areas that
5 we have talked about but not a lot of ground
6 water.

7 MR. MILLER: Could you just comment
8 briefly on what you found in the aquatic
9 assessment of Reeder Creek?

10 MR. DUCHESNEAU: Sure. I said that it
11 was a very healthy assessment. Mackerel and
12 I am not sure what other fish there was
13 there. There was a certain type of Mackerel
14 that was very sensitive to heavy metal
15 concentrations, which would lead us to
16 believe that Reeder Creek had not been
17 adversely affected. We found a healthy
18 diversion of fish, very small fish, but
19 nonetheless fish that would be for a stream
20 of that size. As far as I can tell, the
21 aquatic and terrestrial assessments that were
22 done indicates a thriving community.

23 MR. COOL: Did any of your tests include
24 the outlet where it enters the lake where the
25 sediment is?

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MR. DUCHESNEAU: I believe that would be --

MR. HEALY: We are talking the lake?

MR. COOL: I am sorry. Where the stream enters Seneca Lake.

MR. DUCHESNEAU: No. We are looking to what was happening up here.

MR. SCOTT: Robert Scott with DEC. You mentioned ground water flows to Reeder Creek. Which way is bedrock? Is that just surface ground water or is that ground waters?

MR. DUCHESNEAU: That is a good question. The aquafer (phonetic) is here. In terms of the question, a logical cross section -- we have a horizon. The agricultural layer of soil, which is a clay and below that a gravel and below that is weather shale and below that is more shale which goes down approximately seven hundred feet. Occasionally you run into some limestone even deeper than that. The overburden aquafer (phonetic) is in the till and that weather shale zone, which is maybe five feet thick in terms of the thickness of the water column. Below that is rock and we simply are

1 not -- we haven't found any bedrock wells
2 here to explain that.

3 MR. SCOTT: When you did the
4 investigation, did you encounter any drain
5 tiles prior to when the base was constructed?

6 MR. DUCHESNEAU: No.

7 MR. BATTAGLIA: There are a lot of
8 places like that on the Depot, in and around
9 the Depot.

10 MR. COOL: Does this bedrock slant
11 toward the creek or slant more toward the
12 lake?

13 MR. DUCHESNEAU: I don't know. I think
14 it is fairly flat here and I would tend to
15 think it slopes towards the creek because
16 that is the way the land slopes.

17 MR. COOL: I know we tend to think the
18 general fall is towards the lake. Maybe your
19 ground water is not going towards the creek?

20 MR. DUCHESNEAU: I can't discuss that.
21 I have to pull out the maps. I don't have it
22 on the top of my head. It is in the maps and
23 we can look at it.

24 MR. DURST: As far as the biota
25 sampling, did you do any vegetation sampling

1 in terms of longer term bio-culmination in
2 trees as for more chronic types of plant
3 exposure?

4 MR. DUCHESNEAU: No.

5 MR. DURST: Are you planning do that?

6 MR. DUCHESNEAU: No.

7 MR. DURST: Why?

8 MR. DUCHESNEAU: I guess we didn't see
9 that as a problem at this stage of the game.
10 It is something we can talk about. We were
11 interested, I think, in looking at Phase I as
12 to evaluate, you know, if we have a gross
13 problem here, is it heavy contaminated to the
14 point where it is devoid of life and that
15 kind of thing. And what we are seeing is it
16 is not the case. We are finding some
17 elevated spots where there are some elevated
18 levels of heavy metals and to a lesser degree
19 explosives. But it is not wide spread and
20 the levels aren't high to the point -- they
21 are elevated but not high to the point where
22 we need to do an emergency action here. So I
23 guess the idea here was to go through and
24 look and see what we have and step back and
25 make an evaluation. You raised a good point.

1 MR. DURST: Another thing I wanted to
2 find out. When you go from your Level II
3 screening to the Level IV and start reducing
4 down the number of sites, do you do this with
5 DEC or EPA oversight?

6 MR. DUCHESNEAU: We have established in
7 our work plan a decisionry (phonetic) that
8 we follow. And basically we send those
9 samples to the laboratory. The laboratory
10 does the Level II screening. And based on
11 our decisionry (phonetic), which we discuss
12 with all the regulatory people, samples are
13 selected from the column of soil that we
14 submit to the lab and it is the highest --
15 for example, the highest for explosive or for
16 TNT would get the Level IV analysis for
17 explosive. The highest for lead would get
18 the Level IV analysis for the metals. And
19 the highest for the volatiles would get the
20 volatile organic screening. There is a
21 couple of different ways I could go. What if
22 you don't find anything in the screen for the
23 volatile? Which one do you pick? That is
24 all described in the work plan. But there is
25 a decisionry (phonetic) to establish that.

1 What we came up with after we have done our
2 screening after every location is a Level IV
3 at the surface regardless of what the
4 screening results tell us. Our exposure
5 pathways that we have identified during our
6 conceptual model of this program was we
7 expected surface soil to be the most likely
8 exposure pathway for our risk assessment. So
9 the top sample at the surface gets the Level
10 IV no matter what. And then at the column --
11 the soil column as we go down we continue to
12 sample. The one that is selected on Level IV
13 is selected for screening. We end up with a
14 surface soil sample. This is something that
15 is based on the highest indications of the
16 screening results.

17 COMMITTEE MEMBER: That decision as to
18 which is the highest is made by you and your
19 lab people?

20 MR. DUCHESNEAU: Correct. We specify
21 what that number is. I believe it is for
22 volatiles a 100; PCBs and for metal -- for
23 TNT, I think it is, one, one PCB.

24 MR. HEALY: They actually make the
25 decision but that decision is not a haphazard

1 one. It is based on a procedure that is set
2 out and has been approved by the regulators.

3 COMMITTEE MEMBER: As far as the
4 terrestrial assessment, which concerns an
5 analysis of the visual inspection, was
6 anything done of the plants around the site?

7 MR. DUCHESNEAU: There was really --
8 other than the burning pads and the roads,
9 there is no overt indication of stress
10 vegetation.

11 MR. DURST: That would be acute exposure
12 rather than many years to be accumulated in
13 the growing plants. It could be a good
14 indication of past exposure. Would you be
15 concerned about heavy metals taken up by the
16 plants and ingested by animals?

17 MR. DUCHESNEAU: That assessment of past
18 exposures rather than worrying about somebody
19 eating the plants, that didn't concern me.

20 MR. KITTELL: One thing I might add,
21 because of the activities involved here,
22 bulldozing and that kind of thing, there is
23 not a lot of vegetation out here. There are
24 some. As you pull bulldozers around there to
25 do the operations that are done by the Depot,

1 a lot of those plants get chewed up. This is
2 a very active area in terms of moving earth.
3 The plants come and go as a result.

4 MR. BATTAGLIA: We bulldoze the area
5 around there for fire control. That is
6 probably why that berm on the south side, a
7 thousand foot long hill, was disturbed
8 because they bulldozed over it just to clear
9 the grass around there for fire control,
10 safety purposes.

11 MR. KITTELL: Back to the question about
12 the ground water and the bedrock layer. The
13 ground water flow and the elevation of
14 bedrock was determined during the Phase I. I
15 was just -- I was checking to make sure that
16 we had that on the charts back there. If you
17 would like to take a look at that later, the
18 information is available. But simply the
19 ground surface does mirror the bedrock layer.
20 That is pretty much why Reeder Creek runs in
21 that direction rather than north to the lake.
22 There is rock off to the left of that chart.
23 The rock goes up the land, goes up and the
24 water goes the other way.

25 MR. COOL: Okay. The other question, as

1 far as you drop out from -- the prevailing
2 winds would be to the southeast and north;
3 you wouldn't be looking west any place?

4 MR. HEALY: No.

5 MR. COOL: But water would be carried
6 down towards the outlet?

7 MR. DUCHESNEAU: Maybe it is a good time
8 to show this slide. This is the proposed
9 Phase II surface water location sample
10 points. It is a bigger scale than the one we
11 just looked at. We can see Reeder Creek and
12 here is the site. We have proposed to sample
13 a lot more on site because we think that
14 makes sense in terms of what the -- what's
15 happening in the process at the site but we
16 have also added surface water sampling
17 locations further down Reeder Creek than we
18 had before to evaluate some of what your
19 concerns are.

20 MR. HEALY: It is surface water and
21 sediment.

22 MR. DUCHESNEAU: The base boundary is
23 downstream on this.

24 MR. COOL: Reeder Creek is on the north?

25 MR. BATTAGLIA: Base boundary is really

1 about three thousand feet due west.

2 COMMITTEE MEMBER: You can pick up the
3 base boundary on the second handout.

4 MR. DURST: That map right there would
5 show the boundary where Reeder Creek
6 discharges.

7 MR. COOL: That is near Route 96.

8 MR. HEALY: On the very top of that
9 chart right there you see a hashed in area.
10 That is the cross section of the patrol road,
11 probably two or 300 yards in from the base
12 boundary. You can see where sediment -- we
13 are sampling above that point where the
14 stream discharges. The stream certainly
15 discharges downstream where any contribution
16 from this site would be in at least two
17 locations, if not three.

18 MR. DUCHESNEAU: We have one here, one
19 here and one here.

20 COMMITTEE MEMBER: We have, in fact,
21 done downwind soil sampling.

22 MR. SCOTT: Is there a sampling point on
23 the delta where Reeder Creek enters Seneca
24 Lake?

25 MR. DUCHESNEAU: Are you asking me is it

1 on this map or --

2 MR. SCOTT: No. Is there a sample
3 location where Reeder Creek appears?

4 MR. DUCHESNEAU: No. We have not done
5 that or included that. Again our thought
6 process here is let's find out what's going
7 on at the areas close to where we perceive
8 the source to be. If we find something
9 there, we will proceed further downstream.

10 MR. RICOTTA: Frank Ricotta. I have a
11 question about the monitoring wells you
12 referred to, some that were turbid.

13 MR. DUCHESNEAU: Yes.

14 COMMITTEE MEMBER: Did you have an
15 explanation why the wells were turbid? Was
16 there sand packed around the stream?

17 MR. DUCHESNEAU: Yes. The materials
18 that we are screening is high clay and I mean
19 there is no way of preventing all of the
20 clay -- the fine particles of the clay from
21 penetrating through the well stream.

22 MR. HEALY: The validity of data because
23 of that issue has been a complication for us
24 here since we very first started almost a
25 dozen years ago collecting ground water data

1 because of differences of opinion of filtered
2 or unsampled; that is the situation that has
3 evolved over the years.

4 COMMITTEE MEMBER: I see in the Phase II
5 there is additional ground water monitoring.
6 Are those two locations to be selected?

7 MR. DUCHESNEAU: The levels -- the areas
8 of the high metal are kind of sporadic, here
9 and there. There is no established plume.
10 Basically, we are putting those wells in to
11 better define the flow of ground water, the
12 direction of ground water. There is a
13 concern that there could be some radial flow
14 and that ground water might not be moving
15 directly here but may, in fact, flow in areas
16 to the left and right. We are putting those
17 wells in to better define those types of
18 potentials. The other reason we are looking
19 is to get more information on the permeable
20 and migration potential for the weathered
21 bedrock. During this program -- I haven't
22 mentioned this. During the program we
23 installed well clusters and we screen wells
24 in the till, in the clay till, and then below
25 that in the weather shale to determine

1 whether or not there was a permeable pathway
2 of the weather till. When we did the
3 permeable calculation on those two wells
4 located near each other, which make up a
5 cluster, the permeables were basically the
6 same within the error of the measurement.

7 MR. COOL: Isn't it likely that with all
8 the earth shattering and explosions that
9 occurred that the ground is quite porous,
10 more so than usual, in a shale of that type
11 and water is proceeding straight down to
12 quite a deep depth where before it might
13 disperse?

14 MR. DUCHESNEAU: We have some previous
15 information that was done by another
16 consultant back in 1989, I believe, that did
17 rock coring at a five foot depth and found
18 the upper two or three feet were fairly
19 weathered as you got further down.

20 MR. COOL: So the explosives didn't have
21 any effect on it?

22 MR. DUCHESNEAU: It is hard to say what
23 caused the cracking. If you put a glacier
24 two miles thick of ice on top of this shale,
25 it would do a lot of damage. Most of the

1 fracturing are due to glaciation.

2 MR. HEALY: We have been monitoring
3 noise and that. We have had action. We have
4 been using both noise and vibration to try
5 and establish if there is some sort of
6 geologic propagation from the detonations
7 that we are doing to the nearest receptor,
8 which is the yellow house outside the
9 boundary. The vibration we were able to
10 measure on that house was greater from when a
11 truck went by. The earth is just a huge
12 sink. It takes a lot of damping for that.

13 MR. COOL: I can tell you in days
14 past -- and I have lived here all my life --
15 the explosions used to be a great deal more
16 than they are now. I live about three miles
17 as the crow flies and I tell you that far
18 away it was shaking the house many times when
19 I was young.

20 MR. HEALY: I am not denying that.
21 Vibration does emanate out from the site.
22 What we found is shock waves going through
23 the air. It is not a shock wave going
24 through the ground. I think the other thing
25 is the OB ground is what we are talking about

1 now and it is mostly where they burn as
2 opposed to open detonation.

3 MR. BATTAGLIA: We detonate 150 pound
4 birr (phonetic) hole and it is buried under
5 the dirt for noise control.

6 MR. DUCHESNEAU: That is over here. Not
7 over here. I guess to follow-up and to
8 finish up on the OB ground I have another
9 slide here that highlights the locations of
10 the proposed Phase II sampling spots. Just
11 briefly show you that. Here is the low lying
12 hill. You can see we have got quite a bit of
13 samples slated for here. The big squares are
14 the proposed samples for Phase II and the --
15 I know you can't see this but the little
16 squares here are what we did during Phase I.
17 We are basically supplementing what we had
18 during the Phase I.

19 Moving on to the ash landfill. Again
20 our investigative approach was two phases. I
21 think you already have seen this one. But
22 the constituents of concern no longer include
23 explosives; rather we have added herbicides.
24 The areas to be investigated, basically, the
25 ash landfill and adjacent areas,

1 non-combustible landfill. Things that
2 weren't perceived as being combustible for
3 the incinerator were brought to the area
4 adjacent to the ash landfill. We are looking
5 at ground water and we have included a
6 bedrock investigation. We are doing soils
7 and surface water different from the OB
8 ground. We have added soil gas where we will
9 be measuring the vapor of the interspatial
10 spaces of the soil. We are measuring air, as
11 far as health and safety monitoring goes
12 during the program, sediment in the Canadeha
13 (phonetic) streams and some of the creeks and
14 some of the springs that are surrounding this
15 area and we are measuring background. Again
16 we have done another biota sampling;
17 screening techniques that are utilized as
18 opposed to the OB ground, which include TNT,
19 metals and volatiles. We are performing soil
20 gas survey to help define the areas where we
21 want to focus our soil borings. And we are
22 doing quite a bit of geophysics. We are
23 doing a electromagnetic survey followed by
24 ground penetrating radar survey, which could
25 indicate an area of buried drums or areas

1 which could constitute a source of volatiles.
2 We are doing a fracture trace analysis to
3 help better define and give us some
4 information where to place our bedrock
5 monitoring wells.

6 As far as the accomplishments go on the
7 Phase I, we have performed soil gas surveys.
8 We collected 76 samples throughout the area,
9 which were based on an initial geophysical
10 survey. We did a very broad brush. I think
11 it was 18 lines of at least a thousand feet
12 each sampling at 50 foot intervals or I think
13 it was -- was it 50 or 100? Fifty foot
14 intervals. The electromagnetic work.
15 Following that soil gas was performed and
16 every one of the geophysical anomalies that
17 was identified as having a signature that
18 would be representative of a drum or a buried
19 metal object that maybe an indicator of the
20 past disposal activities.

21 We are also adding surface water and
22 sediment. I am sorry. We have performed
23 surface water and sediment sampling at nine
24 locations; four of which are surface water.
25 We have been able to collect nine sediment

1 samples. When we went to a lot of these
2 locations, we weren't able to find water
3 because a lot of the streams had dried up.
4 We performed 31 soil borings and collected 94
5 surface and subsurface samples. We have 31
6 ground water wells. We collected 31 ground
7 water wipes. We did dust wipes. And we did
8 biotus sampling similar to the OB ground.

9 In terms of the Phase II, as a follow-up
10 to our Phase I, as I mentioned, we are
11 performing a photo-lineament and fracture
12 trace analysis. And this helps identify
13 trends and patterns of ground water fractures
14 within the rock. We are performing VLF
15 surveys, a low frequency survey, to help
16 identify the depth to the water and depth to
17 the rock. We are adding an additional 50
18 locations in soil gas to better define an
19 area where we think the majority of the
20 source of the volatile organics have
21 dissolved in the water. We have developed 10
22 test pits to determine the geophysical
23 anomalies. We have soil boring locations.
24 Installed eight additional monitoring wells.
25 These are overburden wells and we will be

1 performing -- we will be installing eight
2 bedrock wells. These will be in clusters.
3 Four wells will be double cased to 20 feet in
4 the rock; and four will be tripled cased
5 below the 20 foot zone down to a maximum of
6 100 feet. The reason we are double casing
7 and tripling casing these wells is to help
8 make sure that any of the material that is at
9 the surface that could be contaminated are
10 not drawn down to the lower depths.

11 As far as being consistent with what we
12 have in the OB, here is the ash landfill maps
13 that are in the PSCR and also in the plan
14 addendum we just admitted. And I will point
15 out a couple things of interest. We have the
16 non-combustible landfill indicated here. The
17 old municipal incinerator is right there.
18 And we have a former cooling pond in this
19 area. What you see here is the array of the
20 matrix of the monitoring wells and the ground
21 water plume that we think is emanating from
22 an area in here. The reasons these lines are
23 dashed is because as a result of our Phase I
24 work we have identified this area in here
25 based on soil gas and follow-up with soil

1 borings as an area of highly contaminated or
2 impacted soils with TCE. The highest pit we
3 had in terms of total volatiles were -- was
4 at an approximate location around here. That
5 was, I think -- was it 600 PPM, Mark?

6 COMMITTEE MEMBER: About in that area.

7 MR. DUCHESNEAU: The oil survey, which I
8 did a lot of work out in here. We are saying
9 in our opinion the ground water plume
10 probably does extend out in here as a result
11 of this area. That seems to be of a problem.
12 So we dashed the line because we think it
13 goes further this way. And we have added the
14 additional monitoring wells to help define
15 that. We have added an up gradient well
16 below detectable limits. We have added wells
17 to better define this extent here. We have
18 added bedrock wells, as I said, to
19 investigate potential for migration within
20 the bedrock.

21 COMMITTEE MEMBER: There must have been
22 some time that the TCE was dumped in that
23 area?

24 MR. DUCHESNEAU: Yes. We have a finding
25 of a lot of breakdown products of TCE which

1 is found in a lot of these wells. It is a
2 breakdown of Trichlorethylyne (phonetic) and
3 some of the lesser chlorethylyne (phonetic)
4 is another one we found. It is consistent
5 with what we would expect. TCE is very
6 persistent. And when it breaks, it breaks
7 down to one TCE and it is no bargain either.

8 Just to finish up here, I want to show
9 you where we were planning to go for
10 additional borings. It is the bend in the
11 road. Borings will be pretty much all in
12 this area here. I think what this shows is
13 that in some of the previous borings we had
14 it is hard to tell. Here, this is one that
15 we did and another one. So we are going to
16 be defining more in here. Again the idea is
17 to go back and perform soil gas, more or
18 less, across this area and define where it is
19 and follow up based on the soil gas with soil
20 borings to determine the nature and extent of
21 impacts in this area.

22 I guess if there are any other
23 questions, that is all pretty much I had to
24 say. I think that gives you a good overview
25 of what we have been doing and where we plan

1 on going from here. Thank you.

2 MR. HEALY: Mr. Duchesneau and his firm
3 he's represented have been with us on this
4 project now for three years and they are on
5 retainer for up to another two. They have
6 accumulated quite a degree of institutional
7 knowledge of the site and we have heard they
8 think they will be with us through record
9 decision on quite a few more sites.

10 MR. DUCHESNEAU: Hopefully.

11 MR. BATTAGLIA: Let me first say again I
12 am Randy Battaglia. I am with Seneca. Let
13 me first summarize what we have talked about
14 today. We talked about all our solid waste
15 managements, SWMU's. We also talked about
16 the two sites we are doing extensive
17 investigation on; namely, the open burning
18 ground and the old landfill area. I want to
19 first remind everybody all these technical
20 documents will eventually be in our
21 administrative record in Willard. And if
22 anybody at any time has any questions, all
23 you have to do is call us and we can explain
24 how certain things are being done or in any
25 particular areas.

1 The process in general that we go
2 through is first a preliminary assessment,
3 which is also like a historical review of
4 information. We have -- as Gary said, we
5 interviewed a lot of people on the Depot that
6 used to work here in the old days and we
7 confirmed rumors and found sites that are
8 spread around the Depot. The second step is
9 if that historical information determines --
10 it looks like there maybe contamination at a
11 site, there is a site investigation. After
12 that site investigation if that shows that
13 there is contamination there, then you go
14 into the full remedial investigation
15 feasibility process, which is what we were
16 doing with the Phase I. And now we are in
17 the Phase II because we didn't have enough
18 information in the Phase I to complete the
19 study to remediate the site. And I am going
20 to talk about that after.

21 This is more tied in to what Kevin
22 talked about. And one of the questions we
23 had in the last TRC is, where are they on the
24 Depot? In the -- I don't think you made the
25 last meeting, did you? Did you ever get a

1 fact sheet. We had a fact sheet we handed
2 out.

3 MR. DURST: I got the transcript.

4 MR. BATTAGLIA: One off our handouts at
5 the last TRC meeting, which we can give you,
6 was a fact sheet on all the other sites on
7 Seneca Army Depot. It had a brief background
8 and a general consensus on the Seneca on the
9 status of each particular site that we know
10 about to date. Actually, it had all 72 on
11 that fact sheet.

12 First I want to orient everybody on
13 Seneca Army Depot in general. I heard a few
14 comments today about where things really are.
15 Over on this side of the Depot is the Town of
16 Romulus; on the east side, this is Route 96,
17 right along here; over here on the west side
18 is Route 96-A; this is Canadeha (phonetic)
19 Creek; and this is the land that the Depot
20 owns down on the lake. The open burning
21 ground is over in this corner. This again
22 over here is the gate on 96-A of Seneca Army
23 Depot. And over here is the gate on Route 96
24 on Seneca Army Depot. And again this leads
25 north. Okay. That gives everybody -- this

1 is the lower quadrant tower down on the
2 southeast corner of the Depot. This is the
3 airfield area and 96-A runs along here.

4 MR. DURST: That is not right. Here,
5 the airstrip is on the other side of 96-A.

6 MR. HEALY: That is the railroad.

7 MR. BATTAGLIA: I am following the
8 railroad. Reeder Creek along the open
9 burning area runs along this way and actually
10 discharges into Seneca Lake over in here, far
11 off the Depot. And the area that we were
12 looking at is right in here, the burning
13 area. All these numbers on this particular
14 map is our areas of concerns that we are
15 going to look at. We have prepared a work
16 plan for the first 10 areas of concerns.
17 These maps are in our handout. I am going to
18 show my list up here and you can look at our
19 handouts for the maps and that is at the very
20 back of the handout.

21 We are going to look at map one. These
22 are the names of the first 10 areas of
23 concern that we are going to look at. We
24 have two work plans right now that summarize
25 the work that is going to be done for site

1 investigations of these other solid waste
2 management units and where they are on the
3 Depot. Okay. I am probably going to have to
4 go back and forth here. SEAD-45 is an open
5 detonation area and that is, as you saw in
6 Mike's presentation, right next to the open
7 burning area which is right here. That is
8 because there is some potential for some
9 explosion that is going to be done.

10 Our second site investigation, if we
11 find significant contamination, we are going
12 to go into a full investigation as we are for
13 the opening burning area. SEAD-57 is the EOD
14 area. That maybe some of the loud noise we
15 hear especially on weekends. Our civilian
16 employees run the opening burning and open
17 detonations ground. The military have used
18 their range in the past. It is the solid
19 waste management because in the past they
20 have disposed of items that they have
21 discovered. In the EOD area they do above
22 ground detonations. That is a significantly
23 larger noise. I presume that is why I have
24 heard it on the weekends in Waterloo.

25 SEADS-25 and 26 are over on the east

1 side of the Depot. Twenty-five is over near
2 this. This is where we are right now. Again
3 Route 96 is here. SEAD-25, just you go out
4 there and look at it. It looks like a little
5 gravel pad. And SEAD-26 is a raised gravel
6 pit with a bentonite (phonetic) pit. In Both
7 of these areas, currently at SEAD 26, the
8 Depot performs fire training in that area.
9 And previously they used SEAD-25 for fire
10 training. Fire training area is a good case
11 where it sounds relatively benign for a site.
12 The Army fire training areas are notorious in
13 contaminants.

14 MR. KITTELL: Not just the Army. It has
15 been a problem all over the country. It is a
16 convenient way to help out the firemen and
17 dispose of their wastes.

18 MR. BATTAGLIA: SEAD-24 -- let me also
19 mention incidentally here that the old
20 landfill area is down in this area here. And
21 there is some drainage that ends up in
22 Canadeha (phonetic) Creek from the old
23 landfill area. And again the farm house that
24 we have been testing is just over -- just
25 over here, down Smith Vineyard Road.

1 SEAD-24 is a powder burning pit. That
2 is about all we know about it, other than
3 location. It kind of presumes they used to
4 burn TNT powder from the munitions wash out
5 facility, which is over in this facility,
6 down south on the Depot. One of the
7 operations they performed in the past and
8 currently at some other facilities is they
9 wash out projectiles or bombs or artillery
10 bombs with steam and water to get the chunks
11 out and they open burn the chunks. In those
12 days they didn't treat any waste water that
13 came off of there and the stuff is water
14 soluble. We expect there is some
15 contamination out there. How much, we don't
16 know. We have been doing a lot of research
17 to find out what actually went on out there.
18 The building doesn't even exist anymore.
19 Some people worked out there and they showed
20 me this is where the building used to be.
21 There is no leach base. The water just came
22 out and that was it. We are going to look
23 there first. There is a pond that had always
24 been associated with the wash out from that
25 plant and it is called a leach field because

1 that is what the early report said, "the
2 leach field." I put a little more faith in
3 the guy that used to work there who said that
4 it came out in a pipe into the ditch. That
5 pond might not be contaminated from that
6 facility. Whether it ran off down in a ditch
7 or soaked in there and how much they used it,
8 we don't know. And from what we have been
9 able to find out from the operation, this
10 powder burning pit is about the same time
11 frame that this was operable.

12 One other thing that we do when we are
13 looking at these sites, first we look for
14 potential contaminants of concern. With
15 munitions operations you can have heavy
16 metals, propellants and explosives, which are
17 basically the same compound. We look for
18 those as indicators first. If we find that
19 and you go into a full remedial feasibility
20 study, you will look for anything that might
21 be there and do extensive -- you get into an
22 ecological assessment and seeing what kind of
23 impact you have on the environment. You
24 don't go that far in an initial site
25 investigation.

1 One of the ones that we had found in our
2 travels around the Depot was included in our
3 high priority areas of concern is SEAD-11.
4 We have a lot of areas on the Depot called
5 old construction debris landfills or
6 construction debris or just fill areas. It
7 is common practice when you build buildings
8 you have a lot of excavated materials to
9 landfill on the post. A lot of these could
10 be construction debris or fill material. You
11 just don't know if anybody way back when they
12 used that area, if they put any drums in
13 there or not. We are investigating anything
14 like a fill area that we have. This
15 particular one we have no information about
16 the dates that was used there. So the good
17 site -- this particular one is not that deep
18 as far as what the general grade of that area
19 is. Some of our initial studies are some of
20 the geophysical work and you go out there and
21 get what you can with ground penetrating
22 radar. You can get something like a printout
23 that is like a chart, basically, and you get
24 signatures and anomalies that tell you there
25 maybe something like a drum buried in a

1 particular spot. And you could go out and do
2 a test and see what it is.

3 The last two on our -- last three on our
4 high priority list is the IRFNA, which is
5 SEAD-13. This is Romulus over here. This is
6 what we call the duck pond area, which we
7 created in the late 70's, early 80's. This
8 is a flooded road over here. There is
9 evidence that this -- that is what existed on
10 both sides of this pond. That is a
11 particular site that we used to have on this
12 side of the Depot. And from talking to the
13 Depot people that were involved in the
14 investigations we found where it really was.

15 One of the recent things we found in the
16 opening burning ground is this burn kettle.
17 Just last week I was talking about that.
18 They said they used to burn it in a furnace
19 there. I said, "well, where is the
20 foundation?" And there wasn't any
21 foundation. It was like a small furnace. So
22 that might be what they are calling a burn
23 kettle. I don't know if that is an actual
24 piece of equipment.

25 COMMITTEE MEMBER: We got that term from

1 our USO term contractor, who had seen similar
2 types of furnaces there and identified them
3 as a burn kettle. Whether or not it is or
4 isn't --

5 MR. BATTAGLIA: As a burn area or dirt
6 area?

7 COMMITTEE MEMBER: It is a small
8 furnace. They just use the term burn kettle.

9 MR. BATTAGLIA: That would be likely it
10 could be out there because with ammunitions
11 operations if you have any equipment that has
12 handled explosives, they always burn it
13 before they dispose of it. They would have
14 taken something like that and may have taken
15 it out to the demo grounds to flash it or
16 burn it, to render it safe and dumped it over
17 on the side there. Whether or not that is
18 actually what they used back then we don't
19 know. We still might be able to confirm
20 that. I will take the guy out there and we
21 will see if that is what it was.

22 We have been really discovering things
23 right along. Some of these areas we just
24 didn't realize it was an area until we were
25 out there and found it. Other ones -- like

1 the paint disposal area was always a rumor.
2 Until you at least have a spot and have
3 something firm or someone saying that is
4 where it was, you are really chasing a ghost
5 or a rumor. A lot of these were rumors at
6 one time and we confirmed them as a site and
7 tried to find out more about what actually
8 went on at the time.

9 On our second list of site maps we are
10 currently preparing a work plan for doing
11 site investigations at these sites. Again
12 some of these maybe better or worse than the
13 other lists. After we investigate the sites
14 they may prove not to be a problem. Other
15 ones that may not seem like a problem may
16 turn out to be worse. Anything that shows
17 any kind of contamination in a site
18 investigation that has elevated levels will
19 require going into the full detailed
20 investigations.

21 Taking it from the top. SEAD-58 we
22 found when Lisa and Ray were up here last
23 week.

24 COMMITTEE MEMBER: Yes.

25 MR. BATTAGLIA: An employee here found

1 it early. We have a booster station here
2 that is near here. That booster station is
3 for our drinking water supply. This area
4 here is out in the middle of the woods. And
5 we went out there and there is some debris.
6 Looks like there was some farm houses. There
7 is some -- it looks like about 20 gallon
8 drums. I have to bring one of the ammo guys
9 out there to see if they are old propellant
10 drums. This area had been rumored to have
11 DDT drums. That is what the story was. We
12 went out there and looked around and finally
13 found an area where there was a few drums
14 lying around. DDT was one of our primary
15 things. They might be propellants from the
16 old days. We might have other propellants
17 out there, too.

18 Similarly SEAD-67, which is over on the
19 east side -- we have a sewage treatment plant
20 here that takes sewage from Romulus, the
21 south end of the Depot. And there is some
22 funny looking hills on a little dirt road out
23 behind there. When -- Gary gathered a lot of
24 people together and asked about any potential
25 areas and they said dump sites were out here.

1 It could be dirt or other things back in
2 there.

3 SEAD-68, which is a building over in
4 here, used to be an old pesticide shop. Just
5 because it was used many years ago we don't
6 know what their practices were back then and
7 we don't know how they would have got ridden
8 of rinse water. That is on there as an area
9 of concern.

10 SEADS-50 and 54, over here, along Route
11 96-A by the warehouses, used to be a tank
12 farm. We currently do store rutile
13 (phonetic), which is ore, and asbestos in
14 this tank farm. This tank used to have a
15 number of tanks, anywhere from 50 to 90. We
16 don't really know the exact number. You can
17 go out there and see areas.

18 MR. KITTELL: We are talking above
19 ground, dry storage tanks.

20 MR. DURST: What is rutile (phonetic)?

21 MR. BATTAGLIA: Titanium ore. SEAD-46
22 is called a small arms range. That is over
23 here on the east side of the Depot. What
24 they used to do then is -- they have a berm
25 there, which is a hill. They used to fire

1 rockets at this hill. And I have found
2 circular berms along some brush there. They
3 used to call it an EOD area. There used to
4 be a firing range there. Anywhere there is
5 an association with munitions and disposal of
6 munitions we always have an investigation for
7 the ordnance. When we get to that one, we
8 are also going to do a site investigation and
9 have -- people know what stress vegetation
10 looks like, too. You can go out there and
11 see what really is out there.

12 SEAD-44 is a QA lab. We recently got
13 some good information about this as of last
14 week. There is two locations to this. Over
15 in this area there is kind of like a pad and
16 there is a bermed area and there is another
17 place here that used to have a building. And
18 they used to test mines. They used to
19 detonate mines above ground at one of these
20 areas. The other area they used to test time
21 fuses but we don't know if they used to
22 actually detonate the fuses or test the
23 timers on them. So these are areas that all
24 we really knew about them before is that they
25 were there. They might have been in those

1 two places. We have very little historical
2 information about these.

3 SEAD-5 is sewage sludge piles. We have
4 stock piled sewage sludge in SEAD-5 for a
5 number of years. This is, by definition, a
6 solid waste management unit and became an
7 area of concern. This may -- we have tested
8 sewage sludge and actually the DEC has also
9 tested our sewage sludge. This is one of the
10 areas because the sewage sludge is stored
11 there for so many years some of them are old
12 piles and we don't know what is in them.

13 SEAD-59 was a rumor at one time. We
14 went out there and investigated. It is a
15 funny looking hill. It looks like they put
16 stuff in there. The story was they
17 landfilled sludge out in this area.

18 SEAD-62, we have a number of areas
19 around this. This is building 606.
20 Currently it is our pesticide shop. Look at
21 62, 69, 43 and 56. In and around 606 there
22 is a disposal area; 606 used to be a missile
23 test facility. We currently store herbicides
24 and pesticides there. This whole area is
25 going to be investigated for any contaminants

1 or for any SWMU's that we think to be there.
2 It could contain sulfate, which was a
3 pesticide many years ago. There is rumored
4 that it was buried on the Depot. I was told
5 there might be a couple people that know. I
6 am still trying to find out. It would save
7 us a lot of money looking for them.

8 The old missile test facility; during
9 our walk around last week I talked to someone
10 who said that they used to have a chemist
11 there and they used to test IRFNA, which made
12 sense. The IRFNA that was bad from there was
13 disposed of here. That made a lot of sense
14 because of the time frames involved. I
15 really don't know if they used to fire
16 missiles or what they used to do there. But
17 they used to. There was an area that they
18 had that was a storage facility. Actually,
19 it is currently building 135. They moved the
20 building over in here. There is a concrete
21 pad there. It looks like a building that
22 used to stand there. They used IRFNA there.
23 And the chemist that used to work there used
24 to sample the IRFNA. And when it was
25 expired, they disposed of it. In the general

1 practices of ammo people when they dispose of
2 something, they want to render it harmless so
3 usually they detonate it or burn it. The use
4 of IRFNA -- we have an old study of 1959 of
5 soil disposability of IRFNA for any potential
6 damage back in those days. Because it is
7 acid and they want to render it harmless they
8 would either burn it, which purportedly they
9 did, or they poured it into pits poured with
10 lime stones. I believe we are going to find
11 lime pits out there. But they probably did
12 put lime stone in those pits and we can
13 probably find them, either pits or trenches.

14 SEAD-63 is -- I have in this area. This
15 line here is a high security fence line; that
16 is the one that has the lights around it.
17 SEAD-63, that used to -- they had pits where
18 they buried miscellaneous components and just
19 because we are not sure what they might have
20 buried there we are going to investigate that
21 site.

22 SEAD-12 has two locations; one out here
23 in a field and the other one over next to
24 some buildings. And SEAD-12 is radioactive
25 waste burial areas. I think we mentioned in

1 the previous TRC meeting in 1986 we dug up
2 these sites and they found some laboratory
3 waste at one of them but we did not have
4 enough documentation and information from
5 what was done then and what was found then to
6 satisfy what you have to have for Super Fund
7 Sites. We are going to go back and relook at
8 these with a full site investigation.

9 SEAD-9 is called the old scrap wood site
10 and it is actually an old landfill and it is
11 a landfill area and it is over here. Again
12 the Depot's gate is here and an electrical
13 substation over here. And it could have been
14 all construction debris or could have been
15 just dirt or stone or it could have been a
16 regular landfill with garbage. But from our
17 reports we have not been told or found
18 anybody that said that they used to dispose
19 of garbage in there.

20 We have other areas, SEAD-64, which
21 reportedly were where garbage was disposed of
22 when the incinerator was not operating
23 properly and/or before just that period of
24 time between 1974 and 1979 when the
25 incinerator was operating. So SEAD-64 has

1 four locations. This one here is about a
2 mile square. We really don't know where it
3 is but that is where they said it was, which
4 is due south of the landfill area and due
5 west of our airfield. It has an area down
6 here on the south end. When we drive up in
7 here, it looks like a fill area. There is an
8 area over here which is a fill area and --
9 let's see, the other one is out in here. We
10 had a proposed permit application for
11 operating a landfill. It was reported that
12 there was debris area out there. I couldn't
13 find it when I went out there looking for it.
14 We do have some walls here that we tested
15 when we first put them in just for
16 perimeters. We never completed the permit
17 application for that. After the incinerator
18 burned down we just shifted it off post. And
19 just because there are garbage disposal
20 areas, just like any landfill, we know the
21 garbage was a primary material we put in
22 there. We are going to be investigating
23 that.

24 SEAD-60, this is building 609, down in
25 this area, over on the southeast corner of

1 the Depot. We found they had a pipe that
2 discharged out of the building and looked
3 like oil had been blowing on the ground and
4 there is an oil spot there. That might be a
5 case of a small removal project. If there is
6 only a small amount of contamination, it
7 might be a quick removal process to clean up
8 that area.

9 SEAD-70 is building 2110, fill area.
10 This is one I just found one day I was out
11 there for other things. They have a training
12 area out there. I was checking up on the
13 soldiers and I walked over there and this is
14 a landfill and we didn't have it on our SWMU
15 list and that is when we added it.

16 And SEAD-71 is an alleged paint
17 disposal, which when we finally confirmed
18 it -- it is over in this area near SEAD-59.
19 And that is basically -- it was right there.
20 And we don't really know how big it was. The
21 whole general area had been developed. There
22 is a row that runs through there and a couple
23 buildings that run through there. We have to
24 find out about that.

25 We have another list and map three,

1 which is solid waste management units or
2 SWMU's, that require additional information.
3 Gary mentioned the list of no action SWMU's
4 and SWMU's requiring additional information.
5 We have a couple categories for SWMU's
6 requiring additional information. This basic
7 list of SWMU's are things that there is
8 enough question with the historical
9 information that we had about these sites
10 that the State wanted a little more
11 information and some they wanted limited
12 sampling and some they wanted previous
13 documentation, either test results or studies
14 that we had.

15 Starting with the ones that they want
16 additional test information and/or studies is
17 SWMU Number 27, which is over in this area.
18 This, incidentally, is where the industrial
19 plant equipment division is located on
20 Seneca. They have four or five buildings
21 over here that they use and these are all
22 warehouses. These are all administrative
23 buildings. SEAD-27 is the steam cleaning
24 waste water tank. It is a trench pit and a
25 concrete floor and we had always disposed of

1 that steam cleaning waste water as a
2 hazardous waste. Its penetrated from steam
3 cleaning industrial plant equipment. It was
4 a pit in a floor and could not be permitted
5 as a hazardous waste tank because you cannot
6 inspect it for leaks. We are undergoing
7 closure of that pit. That will be included
8 in the SWMU classification report that
9 summarizes all of these. If that shows that
10 it has contamination of ground water, we are
11 out of the scope of what we can remediate
12 inhouse and that will be go in the RFI
13 process because we are talking about two
14 different scopes of two different funding
15 processes.

16 SEAD-28 is an underground waste oil
17 tank, two of them. SEAD-29, which is
18 building 732, is up in the north end of the
19 Depot. SEAD-30, which is building 118,
20 underground waste oil tank, which is over in
21 here. Thirty-one is building 117; that is
22 another underground waste oil tank.
23 Twenty-eight, twenty-nine, thirty and
24 thirty-one are all underground waste oil
25 tanks that we are going to provide a

1 statement with tank tightness test results or
2 the information from the removal that we did
3 for building 118. And that is where they
4 just didn't have any information about these
5 underground waste tanks. And so we had other
6 information that they had not seen yet so we
7 are going to provide that. They are going to
8 make a judgment based on that.

9 SEAD-48 is a pitch blend ore storage
10 area. That is a row of igloos. Some people
11 call them bunkers. They are concrete covered
12 buildings. That is this entire row. This
13 entire row was remediated in '86, Gary, '85
14 or '86?

15 MR. KITTELL: Right there in that time
16 frame.

17 MR. BATTAGLIA: '85 or '86. Pitch blend
18 ore is uranium ore. It had been stored in
19 these igloos as part of the Manhattan
20 Project. Back in those days they were not
21 too careful how they stored it. There is
22 radioactive contamination in those igloos and
23 in the drains that exit those igloos. The
24 area was surveyed and it was remediated.
25 They abraded the concrete to remove some of

1 the contamination in those igloo areas. For
2 further information all we have is the close
3 out report by the NRC. And the State wanted
4 more information. We had some previous
5 information about just where the
6 contamination was and how it was to be
7 removed. We are going to be providing those
8 reports to that and it would be included in
9 the SWMU class report.

10 SEAD-72, DEC had some comments on our
11 mixed waste storage facility, which is up
12 here near the north end of the Depot. This
13 is a facility that we are undergoing a permit
14 process for as a hazardous waste storage
15 facility. They had some questions on the
16 radioactive part of that.

17 The rest of the ones on this list are
18 down for what we had talked about earlier,
19 for limited sampling. And again how much
20 limited sampling we are still talking about
21 with the State and EPA for the following
22 ones. A number of these are associated with
23 boiler plants on Seneca Army Depot. Building
24 718 and 321 we have boiler plants and blow
25 down leach pits and on the ground waste oil

1 tanks. These areas are located -- 718 is up
2 here and around that we have SWMU's 41 and
3 32. Building 319, another boiler plant, is
4 over in here. And we have SEAD-34 and 38,
5 solid waste ground oil tank and a leach pit.
6 And 121, which is over here, which has the
7 same two items and two associated SWMU's.
8 Because there are leach pits there we agreed
9 we were going to do some limited sampling
10 around there. It is whatever water would be
11 in boiler blow down. Now, that is the actual
12 furnace that is blowing down, is it; or is it
13 cooling the cycle water?

14 AUDIENCE MEMBER: In a steam boiler you
15 add certain chemicals to condition the water
16 and protect the metallic components of the
17 system. Periodically during the day,
18 normally three times a day, they use the
19 steam pressure in the boiler to blow liquid
20 off the boiler. It comes off very hot and it
21 has got some very --

22 AUDIENCE MEMBER: Tannic acid.

23 MR. MILLER: Caustic acid.

24 AUDIENCE MEMBER: That went into the
25 leach pit. They are either leached out into

1 the soil or went down a drain. Sometime, I
2 think it was in '79 or '80, '81 that was
3 pointed out as a problem to us and we since
4 connected those to sanitary sewers and they
5 go to a facility to be cleaned.

6 MR. BATTAGLIA: Moving on, SEAD-10 is
7 our present scrap wood site. We also use
8 this for fire training when there is a big
9 pile of wood there. We agreed to do limited
10 sampling. We did sample the ash from the
11 burning. It got to be a big pile of ash and
12 we had to dispose of it. These days it has
13 to be tested before we can send it to Seneca
14 Metals. We tested it and it was not
15 hazardous. We disposed of most of it already
16 as far as the ash pile. That is another one
17 that is down for limited sampling.

18 Building 357 is ore storage, which is
19 SEAD-49. This ore is naturally radioactive.
20 The State had some concerns about potential
21 radioactivity from spills and so forth. One
22 of the things we discussed is having someone
23 from their radiation department in the
24 Department of Health come out and do surveys
25 of some of these areas like that. That is

1 still up in the air. We haven't really
2 firmed up what we are going to do for limited
3 sampling there.

4 SEAD-51 is herbicide usage perimeter,
5 high security area. This is this area -- it
6 is a triple fence and it is a total kill area
7 for maintenance around this fence line. Its
8 been maintained like that for a number of
9 years. The State had enough concerns about
10 herbicide use around there that we agreed to
11 do some sampling. It is often common with
12 herbicide use that there will be residual
13 herbicide from permitted uses of herbicide;
14 especially in a total kill area where you
15 need a residual in there to maintain the
16 sterile soil. There is also enough question
17 historically about what was done in there and
18 what herbicides they used in that fence line
19 in the past. We also have a previous study
20 with some results on there that they are
21 going to take a look at and we are going to
22 go on from there about how much limited
23 sampling and after that whether or not we are
24 going to go into a site investigation.

25 Building 608 and 612, ammunition

1 breakdown area, SEAD-52, that is out in this
2 area here, down in the southeast end of the
3 Depot. They used to have a pneumatic
4 conveyer from building 612 to 608. The more
5 they caught it in 608 -- they had a wet
6 system. You just dump it out on the ground
7 when they got the propellant out. There
8 maybe some propellant that had been dissolved
9 into the water and then just discharged out
10 on the ground. We are going to do some
11 sampling in 608 for propellants.

12 And the last one on limited sampling is
13 pesticide storage near building five and six.
14 Purportedly over in this area there is two
15 buildings, five and six -- it was reported
16 they used to store pesticides on a couple
17 pads there. We are going to do some limited
18 sampling for pesticides in the event some had
19 been disposed of or just simply spilled.

20 My last list does not have a map with
21 it. We have all these SWMU's on a overall
22 map of the Depot, every SWMU that we have
23 designated. All 72 are on a map. I do not
24 have one prepared. No action SWMU list.
25 First there are a number of SWMU's, six of

1 them, that are already included in the
2 investigation feasibility studies at the ash
3 landfill and opening burn ground. There are
4 a number of SWMU's for the remedial
5 investigation sites. Just by definition we
6 had to designate these as separate SWMU's.
7 All these no action solid waste management
8 units have been agreed to be not of a concern
9 by the regulators of Seneca. They are all on
10 the SWMU list and will be included in a
11 record or decision in all public documents.
12 There is a background on all these in the
13 fact sheets that we handed out. I am going
14 to briefly go over them.

15 Building 307 and 301, hazardous waste
16 conforming facility. Where we store
17 hazardous waste for off post. Building 301.
18 when we did transformers here. These are
19 specially constructed facilities for storing
20 liquid hazardous waste.

21 SWMU Number 7 is a shale pit. There is
22 a couple areas on the Depot that I believe
23 when the Depot was built they used to mine
24 shale for base for the roads. This is a big
25 area. This is located over by the gate on

1 96-A. Right now we are filling that with
2 clean fill. We have the guards that inspect
3 that as a -- they control the gate to that
4 area. We monitor that and inspect that
5 before we fill in the area.

6 MR. KITTELL: We started that while this
7 current generation of management is right
8 here. We got hands on personal knowledge
9 that its been controlled. Whereas with other
10 fill areas you have to discover one who knows
11 what has gone in there. This area is fenced,
12 controlled and signed. We operate it as a
13 clean fill area.

14 MR. BATTAGLIA: I call it Gary's
15 landfill. But it is clean. By definition we
16 have two incinerators where we incinerate
17 paper, classified documents. And because it
18 is a waste and you are disposing of it there,
19 these by definitions are solid waste
20 management. Three sewage treatment plants
21 and this is now a pump station. It is no
22 longer a sewage treatment plant but it used
23 to be.

24 Building 718, 121 and 319 are oil
25 burning boilers. After discussing this with

1 regulators they felt the actual burners were
2 not a concern. The waste oil tanks at those
3 burners, incidentally, are number six fuel
4 oil, which we used to mix our waste oil with.
5 We used to mix it in that tank and then burn
6 it. We stopped doing that mostly
7 operationally.

8 MR. KITTELL: It didn't work very well.

9 MR. BATTAGLIA: It was kind of like tar.
10 And also because the number six is so thick
11 that we feel -- Seneca feels there is not
12 much of a chance of contamination from those
13 tanks since it looked like it is pretty much
14 self-sealing. So there is no tank tightness
15 test for those. They are really because of
16 number six. We had also agreed to do the
17 leach pits in and around those buildings. We
18 will include those tanks around that area
19 because it is geographically near it.

20 Building 106 was a medicine lab years
21 ago. From what we discussed about the
22 history of that everybody agreed it was not a
23 concern as far as any ground water
24 contamination.

25 Building 321 and 806 stored radiation;

1 it was radiation calibration source storage
2 areas. A calibration -- radiation
3 calibration source is a small source of
4 radiation. It is NRC regulated. It is a
5 specific source for calibrating geiger
6 counters and other detection equipment like
7 that. This is on here as a site. It was a
8 material storage area. Their labs were
9 there. There is never waste at those
10 buildings but they are on a previous document
11 as a site. After we explained what they were
12 and how the operations were conducted we felt
13 it was not a concern.

14 The munitions storage igloos again was
15 not -- they were not waste so our position
16 was they should not be solid waste management
17 units. Gary had said this list is not a
18 permanent list. Things can move on it. This
19 is one that we kind of tabled because the
20 State had concerns about potential spills of
21 munitions or anything in those igloos. We
22 felt they are munition storage and they are
23 Army materials and things like that. We
24 didn't feel it was a concern. Right now this
25 is a no action. If the State comes back and

1 says such and such happened in another place
2 and we would like to at least look at these,
3 it may turn up, it may go into limited
4 sampling or something like that as another
5 step.

6 Building 357 is tannin storage. This
7 tannin is tannic acid. We stored it in a dry
8 powder form in bags in this building and
9 tannin is not a -- it is not a hazardous
10 substance under the Super Fund. It is used
11 for tanning leather and as a food additive.
12 It is not hazardous. Why should this be a
13 site? The regulators had agreed with us and
14 this is another case similar to the
15 ammunitions storage igloos and the
16 calibration sources. They were on a previous
17 document as a potential site and it is
18 really -- it was not a concern.

19 Building 718 has a separate underground
20 waste oil tank. This is a double wall
21 fiberglass tank that we had installed in
22 compliance with new tank regulations which
23 were new back in '86. This had passed
24 test -- tank tightness tests and it was not a
25 concern because of its construction.

1 The last one, SEAD-65, there is a couple
2 pad areas out in the ammunition area near
3 where most of the SWMU's were that reportedly
4 stored acid on them. We went out there with
5 the regulators and there were a couple pad
6 areas that supposedly somebody stored acid.
7 We took a look and agreed they were not a
8 concern.

9 I would like to re-emphasize we gave out
10 fact sheets for all these sheets and I gave a
11 general overview, just whereabouts they are
12 on the Depot. If anybody has any questions
13 about specific sites either now or at any
14 time, all you got to do is ask.

15 MR. DURST: It is sort of conspicuous in
16 its absence. There is no sites around the
17 air strip. Is that being considered as far
18 as oil spills and fuel spills over the years
19 and dumping of oil after its been drained
20 from engines and so on?

21 MR. HEALY: The airstrip was never used
22 to service aircraft. Aircraft that came here
23 were transient and they would come in and
24 either off load or reload and leave. There
25 were certainly some fueling that went on out

1 there. It was not until just recently that
2 we were in any position to provide boat fuel
3 to the aircraft. As far as de-icing goes, I
4 believe the de-icing that we did has been
5 only -- been a rare occasion with water with
6 a fire truck. We don't have any de-icing
7 equipment. We didn't have enough indication
8 that that sort of activity had gone on out on
9 the tarmac where we had to worry about it.
10 Obviously, the helicopters, they are -- they
11 are furnished in the maintenance bay in what
12 used to be the green building -- the brown
13 building. If you have driven up in that
14 area, it used to be an old fire department.
15 And they have been serviced in there on
16 concrete and I don't believe there was any
17 floor drains associated with that. We
18 haven't had any smoking guns and we haven't
19 had any hints that there is something bad
20 that is going on out in the airfield.

21 MR. BATTAGLIA: If no one has any
22 questions about any of the other sites right
23 now, I guess I am done.

24 MR. KITTELL: The interagency agreement
25 adds a cooperative umbrella to the legal

1 partnership that the State and Army and EPA
2 has, that is signed by the State. And as I
3 said at the last meeting, we don't expect the
4 EPA is going to spend more than just a few
5 minutes on that. They have been a component
6 on it right along and very helpful to getting
7 it to this stage. And the interagency
8 agreement is also something that further ties
9 us to continue to report, monitor and be
10 responsible for those things.

11 If there is no or questions or answers
12 on this thing, the next agenda topic would
13 really be to pick a time and date for the
14 next Technical Review Committee. We once
15 again suggest it be held at the NCO Club,
16 Seneca Army Depot. Thursdays would be good
17 for everybody? March would be the month.

18 MR. COOL: April.

19 COMMITTEE MEMBER: April.

20 MR. KITTELL: The bidding right now for
21 the next Technical Review Committee is
22 sometime during the month of May because
23 Randy is going to be out or tight with April.
24 And it is suggested by Carla and Kevin we
25 could have a significant amount to report on

1 construction accomplishments come May.
2 Thursdays -- the bidding right now is
3 Thursday the 13th of May, 12:30 in the
4 afternoon at the Seneca Army Depot, NCO Club.

5 MR. DURST: Could I just add? I would
6 like to commend the Army and the contractors
7 for which looks like a very thorough job. I
8 am still very much disturbed by the fact the
9 historical records are so bad. I continually
10 worry that there are sites out there that we
11 know nothing about and that is my only real
12 concern.

13 MR. KITTELL: We talked about that
14 somewhat at the last meeting, you know, and I
15 guess the comment that I made is the things
16 that you see in the news with -- what's the
17 place out on Long Island? I mean, the
18 concern was we have been running some
19 hazardous nuclear waste dump out here. That
20 is not the case. We still honestly believe
21 the biggest sleeping giant that we have
22 disturbed is the ash landfill. The potential
23 is certainly there for the fire training pit.
24 How the geology there is different. It is
25 perched up on a little bluff and it is a

1 lot -- quite a ways away from the
2 installation boundary. There are railroad
3 cuts on both sides of that. I am not saying
4 we are not going to find other things out
5 there but I think that the big ones have been
6 corralled. As far as operating records go,
7 those things that were done as part of the
8 operation seems to have been done. We are
9 drawing things. Oh, by the way, this looks
10 like it could have been a landfill. But when
11 we found it, it is a level spot that looks
12 unnatural next to a building. I think any
13 student of recent history would consider how
14 we consider the use of automobiles and the
15 safety of automobiles. And what was
16 considered standard practice 20 years ago is
17 certainly criminal at this point. You are
18 right about loose operating records. I think
19 it is not just the Army. I think you will
20 find the industry in general in the last 30
21 or 40 years since the chemical revolution has
22 started has got some pretty loose and sloppy
23 practices.

24 MR. COOL: You could go back to when the
25 Depot was constructed and find where the

1 contractors dumped their waste paints and
2 plumbing goods when they cleared out. They
3 must have had a landfill here at someplace
4 but who knows where.

5 MR. KITTELL: I would like to add a
6 little point. Everything that was done with
7 this stuff at the time they were dumped is
8 pretty much standard practice. They probably
9 did it as a matter of course without keeping
10 records. So that is one of the reasons why
11 it would be difficult to find records as to
12 where this stuff was buried.

13 MR. COOL: Have you gone back and looked
14 at any of the aerial photos of the
15 construction days?

16 MR. KITTELL: We have somewhat of a
17 photo archive, I think.

18 MR. BATTAGLIA: We found a lot of old
19 photos.

20 MR. KITTELL: We found a lot of old
21 photos of level spots.

22 MR. COOL: The conservation service and
23 Cornell has quite a few.

24 AUDIENCE MEMBER: We are doing that as
25 we develop work plans.

1 MR. KITTELL: I think the original SWMU
2 came off an EPA. We still haven't found out
3 where those guys got theirs.

4 MR. BATTAGLIA: Research Center in Las
5 Vegas.

6 MR. KITTELL: They were dated, what, in
7 the 50's?

8 MR. BATTAGLIA: Some are 50's and 60's
9 and some are later. They showed certain
10 areas on the Depot and potential source
11 areas.

12 MR. KITTELL: If I were correct, every
13 single one of those is on the list or it is a
14 problem. You could be up there by the ball
15 field and from that area it would look like,
16 "what's going on down there?" It is a valid
17 concern and who knows what we're going to
18 find here or anywhere else. We have really
19 been doing it with the resources available to
20 us as far as the historic records and
21 photographs and antidotal records are level
22 best. The areas of concern list shows that
23 we have been doing, at least in my opinion, a
24 100 percent confession, so to speak, of
25 everything and anything that could have been

1 a concern. We have not been saying on the
2 side, "let's keep it quiet and see if they
3 find it."

4 MR. DURST: Somewhere in one of the past
5 documents I read about a radio-chemical
6 laboratory. On the report we just heard,
7 apparently, there were two sites; pitch blend
8 and the special weapons area. Was there any
9 potential contamination near where this
10 laboratory was?

11 MR. KITTELL: Randy talked about that.
12 In the special weapons area he talked about
13 the two places. One of them was a concrete
14 vault or pit near the woods. We uncovered
15 that. There wasn't anything in that. And
16 the other one was there was this laboratory
17 that we were talking about and apparently
18 there was a tank and they would wash their
19 coveralls and whatnot. And it was theorized
20 that contaminated water might have gotten
21 down in that tank. That was a tank that was
22 dug out and sampled the water. We didn't
23 find anything. But we don't have -- we don't
24 have records of the quality that is required
25 now under anything, correct?

1 MR. BATTAGLIA: That's correct.

2 MR. KITTELL: And then the last one,
3 which we didn't touch on today but we did
4 talk about at the last meeting, was this
5 classified components area and that burial
6 area that caused a concern. I characterized
7 that as you have the equivalent with the old
8 style watches with the old glowing numbers
9 and having accumulated two or three barrels
10 of that. I keep forgetting. Who are the
11 guys out of Long Island?

12 MR. BATTAGLIA: I don't know. Kevin is
13 from Long Island.

14 AUDIENCE MEMBER: Brookhaven.

15 MR. COOL: Power plant.

16 MR. KITTELL: That is actually better
17 because it has a concrete box around it and
18 limited history.

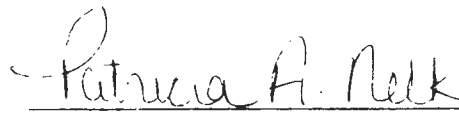
19 Are we ready to adjourn? Does anybody
20 have anything that they want to add or
21 discuss or ask? Okay. We are adjourned.
22 The next meeting is May 13th at twelve thirty
23 in the afternoon right here.

24 * * *

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

1
2
3 I, Patricia Ann Nelk, hereby certify that I reported
4 in stenotype shorthand the proceedings had on the 21st day
5 of January, 1993, in the matter of the Technical Review
6 Committee.

7 And that the foregoing transcript, herewith numbered
8 pages 2 through 98, is a true, accurate and correct record
9 of those stenotype shorthand notes.
10

11 
12 Patricia Ann Nelk

13 DATED AT: Rochester, New York
14 this 15th day of February, 1993.
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SENECA ARMY DEPOT

TECHNICAL REVIEW COMMITTEE



H A N D O U T S

JANUARY 1993

TECHNICAL REVIEW COMMITTEE

HANDOUT

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I

AGENDA FOR JANUARY 21, 1993 TRC MEETING

FINAL AGENDA
THIRD MEETING OF THE SENECA ARMY DEPOT
TECHNICAL REVIEW COMMITTEE (TRC)

Location:
Seneca Army Depot
NCO Club
Second Avenue & South Street
Please enter Depot via Post 1
(Main entrance adjacent State Rt. 96)

THURSDAY, JANUARY 21, 1992

- 12:30-12:35 Welcome
 Gary Kittell, Seneca Army Depot
- 12:35- 1:15 Site Briefing Status Update
 Kevin Healy, Huntsville Division US Army Corps of
 Engineers
- 1:15- 2:00 Ash Landfill and OB Grounds Fieldwork Overview
 Engineering Science (ES) Inc. of Boston Ma.
- 2:00- 2:15 Investigation of Additional Information SWMU's
 Seneca Army Depot
- 2:15- 2:30 Question and Answer Session
 Open Discussion
- 2:30- 2:45 Set Date & Agenda for next TRC meeting
 Open Discussion

Any questions regarding this agenda should be directed to Seneca Army
Depot, Mr. James Miller (607) 869-1532

II

SITE BRIEFING STATUS UPDATE NOTES

presentation by

U.S Army Corps of Engineers, Huntsville Division

**THIRD MEETING OF THE
TECHNICAL REVIEW
COMMITTEE**

SENECA ARMY DEPOT

21 JANUARY 1993

STATUS UPDATE

ASH LANDFILL AND OPEN BURNING GROUND SITES

REMEDIAL INVESTIGATIONS

- o PHASE I COMPLETED**
- o PHASE II WORK PLAN ADDENDA COMPLETED**
- o PHASE II CONTRACTS AWARDED**
 - FIELD WORK BEGAN IN DECEMBER 1992**
 - EXPECT FIELD WORK COMPLETION BY
APRIL 1993**
 - RI REPORT/FEASIBILITY STUDY**
 - RECORD OF DECISION**

SOLID WASTE MANAGEMENT UNITS

UNIVERSE OF THE AREAS OF CONCERN

SEAD-3	*	SEAD-23	*	SEAD-59	-
SEAD-4	'	SEAD-24	'	SEAD-60	-
SEAD-5	-	SEAD-25	'	SEAD-62	-
SEAD-6	*	SEAD-26	'	SEAD-63	-
SEAD-8	*	SEAD-43	-	SEAD-64	-
SEAD-9	-	SEAD-44	-	SEAD-67	-
SEAD-11	'	SEAD-45	'	SEAD-68	-
SEAD-12	-	SEAD-46	-	SEAD-69	-
SEAD-13	'	SEAD-50	-	SEAD-70	-
SEAD-14	*	SEAD-54	-	SEAD-71	-
SEAD-15	*	SEAD-56	-		
SEAD-16	'	SEAD-57	'		
SEAD-17	'	SEAD-58	-		

- * INDICATES A PORTION OF AN EXISTING OPERABLE UNIT, IE. RI/FS INVESTIGATIONS ARE CURRENTLY UNDERWAY.
- ' INDICATES THAT THESE AOC'S ARE CURRENTLY SCHEDULED AS THE INITIAL TEN AOC'S TO UNDERGO SITE INVESTIGATIONS (HIGHEST PRIORITY).
- INDICATES THAT THESE AOC'S ARE CURRENTLY SCHEDULED AS TO INVESTIGATED UNDER THE CONTRACT FOR SITE INVESTIGATIONS AT THE SECOND SET OF AOC'S (MODERATE PRIORITY).

STATUS UPDATE

**SENECA ARMY DEPOT'S
HIGH PRIORITY AREAS OF CONCERN**

HIGH PRIORITY AREAS OF CONCERN

- SEAD-4 MUNITIONS WASHOUT FACILITY LEACH FIELD**
- SEAD-11 OLD CONSTRUCTION DEBRIS LANDFILL**
- SEAD-13 IRFNA DISPOSAL SITE**
- SEAD-16 ABANDONED DEACTIVATION FURNACE - BLD. S-311**
- SEAD-17 EXISTING DEACTIVATION FURNACE - BLD. 367**
- SEAD-24 ABANDONED POWDER BURNING PIT**
- SEAD-25 FIRE TRAINING AND DEMONSTRATION PAD**
- SEAD-26 FIRE TRAINING PIT**
- SEAD-45 OPEN DETONATION GROUNDS**
- SEAD-57 EXPLOSIVE ORDNANCE DISPOSAL AREA**

SITE INVESTIGATIONS

- o FINAL WORK PLAN REVISIONS EXPECTED BY MARCH 1993**
- o SI FIELD WORK INITIATED BY MAY 1993. ACTUAL CONTRACTS FOR IMPLEMENTATION HAVE BEEN AWARDED.**

STATUS UPDATE

**SENECA ARMY DEPOT'S
MODERATE PRIORITY AREAS OF CONCERN**

MODERATE PRIORITY AREAS OF CONCERN

SEAD-5

SEAD-59

SEAD-9

SEAD-60

SEAD-12

SEAD-62

SEAD-43 **

SEAD-63

SEAD-44

SEAD-64

SEAD-46

SEAD-67

SEAD-50 *

SEAD-68

SEAD-54 *

SEAD-69 **

SEAD-56 **

SEAD-70

SEAD-58

SEAD-71

*** SWMU'S 50 AND 54 WILL BE INVESTIGATED AS ONE AOC.**

**** SWMU'S 43, 56 AND 69 WILL BE INVESTIGATED AS ONE AOC.**

SITE INVESTIGATIONS

- o CONTRACT FOR WORK PLAN PREPARATION AWARDED.**

- o WORK PLAN PREPARATION ON-GOING**
 - COMPLETION OF DRAFT BY MAY 1993**
 - REGULATORY REVIEW AND REVISION DURING SUMMER 1993**
 - INITIATION OF FIELD WORK BY FALL 1993**

III
GLOSSARY OF HAZARDOUS WASTE SITE
REMEDICATION TERMS

prepared by

U.S Army Corps of Engineers, Huntsville Division

GLOSSARY OF TERMS

AREA OF CONCERN (AOC) - EITHER (A) A SOLID WASTE MANAGEMENT UNIT (SWMU) WHERE RELEASES OF HAZARDOUS SUBSTANCES MAY HAVE OCCURRED OR (B) LOCATIONS WHERE THERE HAS BEEN A RELEASE OR THREAT OF A RELEASE INTO THE ENVIRONMENT OF A HAZARDOUS SUBSTANCE, POLLUTANT OR CONTAMINANT UNDER CERCLA.

CERCLA - ACRONYM FOR THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT OF 1980. THIS WAS THE LEGISLATION THAT SET UP THE SUPERFUND PROGRAM, WHICH IS THE PROGRAM UNDER WHICH THE WORK AT SENECA AD IS BEING CONDUCTED. RI/FS IS OFTEN USED AS A GENERIC TERM TO REFER TO THE OVERALL CERCLA PROCESS.

PRELIMINARY ASSESSMENT (PA) - FIRST STEP IN THE CERCLA PROCESS. SUCH AN ASSESSMENT INVOLVES RECORD SEARCHES, INTERVIEWS AND OTHER RESEARCH REQUIRED TO DETERMINE PAST PRACTICES AND THE POTENTIAL FOR PAST CONTAMINATION.

REMEDIAL INVESTIGATION/FEASIBILITY STUDY (RI/FS) - THIRD STEP IN THE CERCLA PROCESS. THE PURPOSE IS TO DEFINE AND DELINEATE CONTAMINATION CONFIRMED DURING THE *SITE INVESTIGATIONS* (RI) AND STUDY ALTERNATIVES FOR REMEDIATION (FS).

GLOSSARY OF TERMS (CONTINUED)

SARA - ACRONYM FOR THE "SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT" OF 1986. THIS WAS LEGISLATION REQUIRED TO REAUTHORIZE AND EXTEND THE ORIGINAL CERCLA LEGISLATION.

SITE INVESTIGATION (SI) - SECOND STEP IN THE CERCLA PROCESS. INVESTIGATIONS INVOLVE ACTUAL FIELD SAMPLING IN ORDER TO CONFIRM/DENY SUSPICIONS THAT WERE RAISED IN THE PRELIMINARY ASSESSMENT.

SOLID WASTE MANAGEMENT UNIT (SWMU) - ANY DISCERNABLE WASTE MANAGEMENT UNIT FROM WHICH HAZARDOUS CONSTITUENTS MIGHT MIGRATE IRRESPECTIVE OF WHETHER THE UNIT WAS INTENDED FOR THE MANAGEMENT OF SOLID AND/OR HAZARDOUS WASTE.

TRICHLOROETHYLENE (TCE) - MAIN CONTAMINANT AT THE ASH LANDFILL. IT IS KNOWN AS A VOLATILE ORGANIC COMPOUND (VERY HIGH VAPOR PRESSURES CAUSE RAPID VOLATILIZATION). TCE WAS USED EXTENSIVELY IN ARMY AND PRIVATE MANUFACTURING/MAINTENANCE OPERATIONS AS A SOLVENT, MOST NOTABLY FOR DEGREASING METAL MACHINE PARTS. IT IS NOW CONSIDERED A SUSPECTED CARCINOGEN. IT IS ALSO KNOWN AS TRICHLOROETHENE AND ITS BREAKDOWN PRODUCTS ARE DICHLOROETHYLENE AND VINYL CHLORIDE.

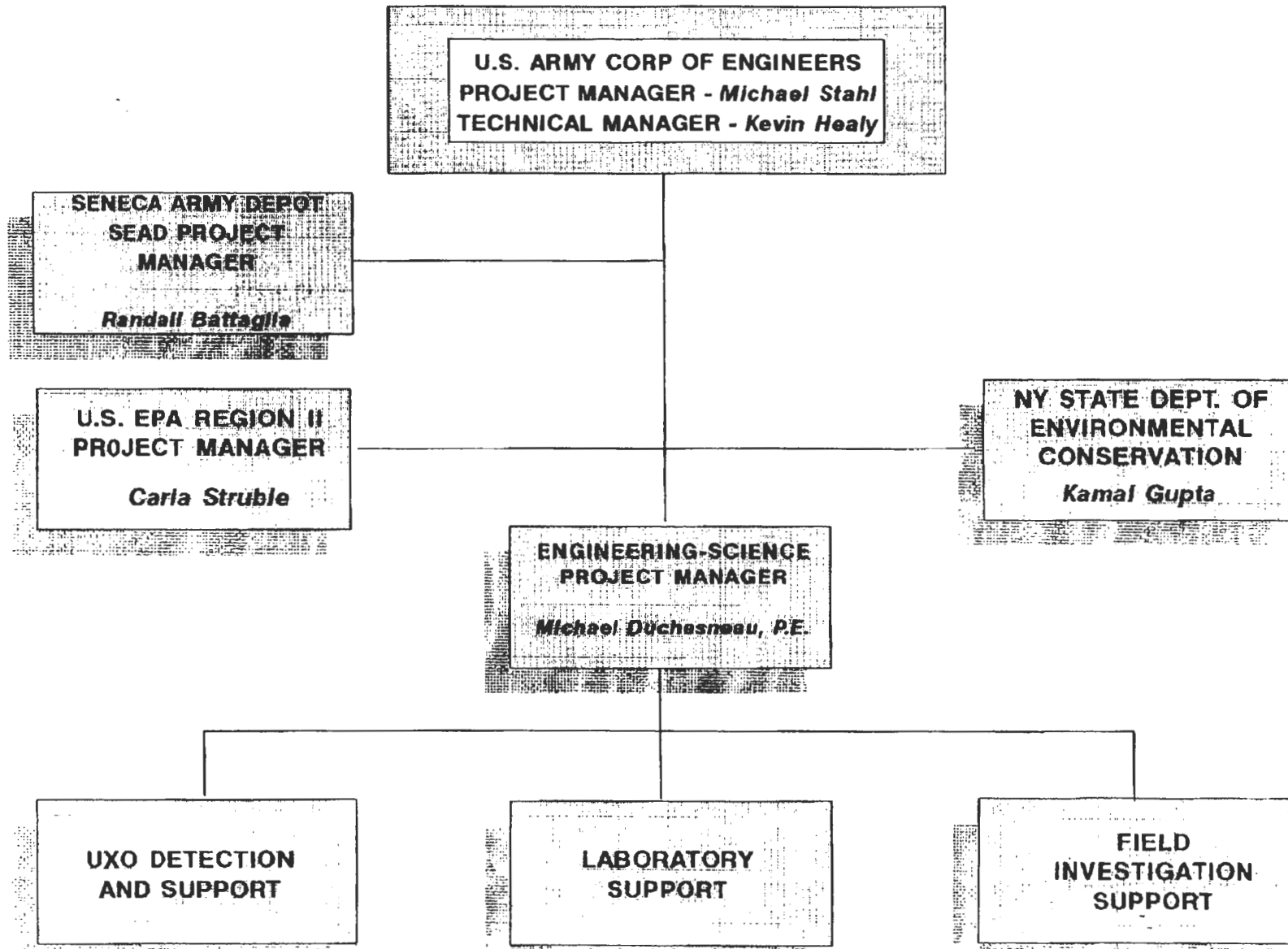
IV

**ASH LANDFILL AND OB GROUNDS FIELDWORK
OVERVIEW NOTES**

prepared by

**Engineering Science, Inc.
Boston Massachusetts**

SENECA ARMY DEPOT PROJECT ORGANIZATION CHART



REMEDIAL INVESTIGATION (RI) OF THE FORMER OPEN BURNING GROUNDS & ASH LANDFILL

GOALS

- QUANTIFY THE NATURE, EXTENT AND CONCENTRATION OF ANY RESIDUES REMAINING
- ESTABLISH A HIGH QUALITY DATABASE FOR USE DURING THE DETERMINATION OF HUMAN AND ENVIRONMENTAL RISK, PREPARATION OF THE RI REPORT AND EVALUATION OF REMEDIAL ALTERNATIVES
- DETERMINE A COMPLETE UNDERSTANDING OF THE INTERLATIONSHIP BETWEEN THE SITE AND SURROUNDING ENVIRONMENT
- DETERMINE BACKGROUND CONCENTRATIONS OF CHEMICAL CONSTITUENTS IN SOIL & GROUNDWATER
- PERFORM A TIMELY AND COST-EFFECTIVE ENVIRONMENTAL INVESTIGATION

REMEDIAL INVESTIGATION (RI) OF THE FORMER OPEN BURNING GROUNDS & ASH LANDFILL

INVESTIGATIVE APPROACH (General)

- ESTABLISH LINES OF COMMUNICATION WITH EPA AND NYSDEC;
INCORPORATE ALL REVIEW COMMENTS
- FOLLOW EPA AND NYSDEC GUIDANCE DOCUMENTS
- ESTABLISH AND MAINTAIN DATA QUALITY OBJECTIVES (DQO)
- PREPARE DETAILED WORKPLAN
- SPECIFY EPA APPROVED ANALYTICAL AND INVESTIGATIVE TECHNIQUES
- UTILIZE SCREENING TECHNIQUES WHENEVER POSSIBLE
- MAINTAIN COST AND SCHEDULE

REMEDIAL INVESTIGATION (RI) OF THE FORMER OPEN BURNING GROUNDS & ASH LANDFILL

INVESTIGATIVE APPROACH AT THE OB GROUNDS



TWO-PHASED PROGRAM



CONSTITUENTS TO BE EVALUATED

- Explosives
- Heavy Metals
- Semi-Volatile Organics
- Volatile Organics
- PCBs/Pesticides
- Nitrates
- pH



SCREENING OF SOIL SAMPLES

- Heavy Metals - Lead
- Explosives - TNT
- Volatile Organics - Total Volatiles
- Geophysics



UXO CLEARANCE (REMOTE CONTROL DRILLING)



ELECTROMAGNETIC SURVEYS



GROUND PENETRATING RADAR SURVEYS

REMEDIAL INVESTIGATION (RI) OF THE FORMER OPEN BURNING GROUNDS & ASH LANDFILL

INVESTIGATIVE APPROACH AT THE OB GROUNDS



AREAS AND MEDIA TO BE EVALUATED

- Former Burn Pads (9) - Pad Borings
- Berms Surrounding Each Pad - Berm Excavations
- Low Lying Hill (2000 ft) - Hill Excavations
- Area Between Each Pad - Grid Borings
- Groundwater - Monitoring Wells
- Surface Soil - Downwind Soil Samples
- Surface Water - Reeder Creek & On-Site
- Sediment - Reeder Creek & On-Site
- Background Soils & Water
- Biota

REMEDIAL INVESTIGATION (RI) OF THE FORMER OPEN BURNING GROUNDS & ASH LANDFILL

PHASE 1 - OB GROUNDS ACCOMPLISHMENTS



SOIL SAMPLING

- ▶ **PAD BORINGS (22 Locations)**
 - 83 Soil Samples Screened using Level II
 - 44 Soil Samples Analyzed Using Level IV Protocols

- ▶ **GRID BORINGS (22 Locations)**
 - 57 Soil Samples Screened Using Level II
 - 39 Soil Samples Analyzed Using Level IV Protocols

- ▶ **BERM EXCAVATIONS (33 Locations)**
 - 33 Soil Samples Screened Using Level II
 - 16 Soil Samples Analyzed Using Level IV Protocols

REMEDIAL INVESTIGATION (RI) OF THE FORMER OPEN BURNING GROUNDS & ASH LANDFILL

PHASE 1 - ~~OB~~ GROUNDWORK ACCOMPLISHMENTS



SURFACE WATER AND SEDIMENT SAMPLING

- ▶ 6 Surface Water Samples and 6 Sediment Samples in Reeder Creek
- ▶ 10 On-Site Surface Water and 10 Sediment Samples



GROUNDWATER SAMPLING (28 Monitoring Wells)



BIOTA SAMPLING

- ▶ Aquatic Assessment
 - Benthic Invertebrate Assessment
 - Fish Assessment
 - Terrestrial Assessment

REMEDIAL INVESTIGATION (RI) OF THE FORMER OPEN BURNING GROUNDS & ASH LANDFILL

PHASE II - OB INVESTIGATION



SOILS

- ▶ 22 Pad Boring Locations
- ▶ 14 Grid Boring Locations
- ▶ 28 Berm Excavation Locations
- ▶ 43 Low Hill Excavation Locations
- ▶ 11 Downwind Surficial Soil Sample Locations
- ▶ 4 Burn Kettle Soil Sample Locations



SURFACE WATER/SEDIMENT SAMPLING

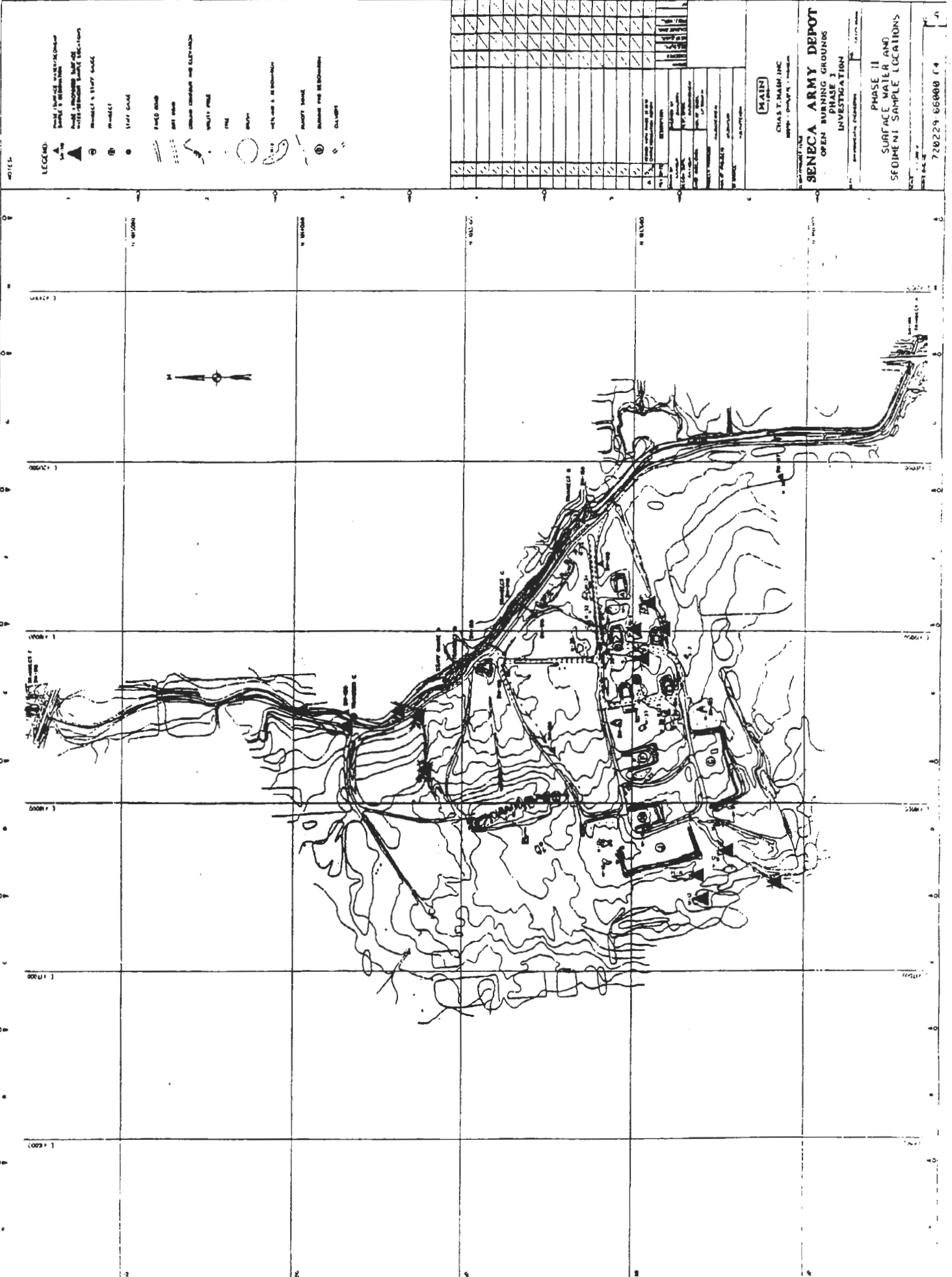
- ▶ 10 Locations On-Site
- ▶ 3 Locations Within Reeder Creek



GROUNDWATER

- ▶ 6 Monitoring Wells Added

FIGURE 27A



LEGEND

- 1. Contour Lines with Elevation
- 2. Spot Elevation
- 3. Utility Poles
- 4. Utility Lines
- 5. Filled Area
- 6. Well
- 7. Excavation
- 8. Other Features

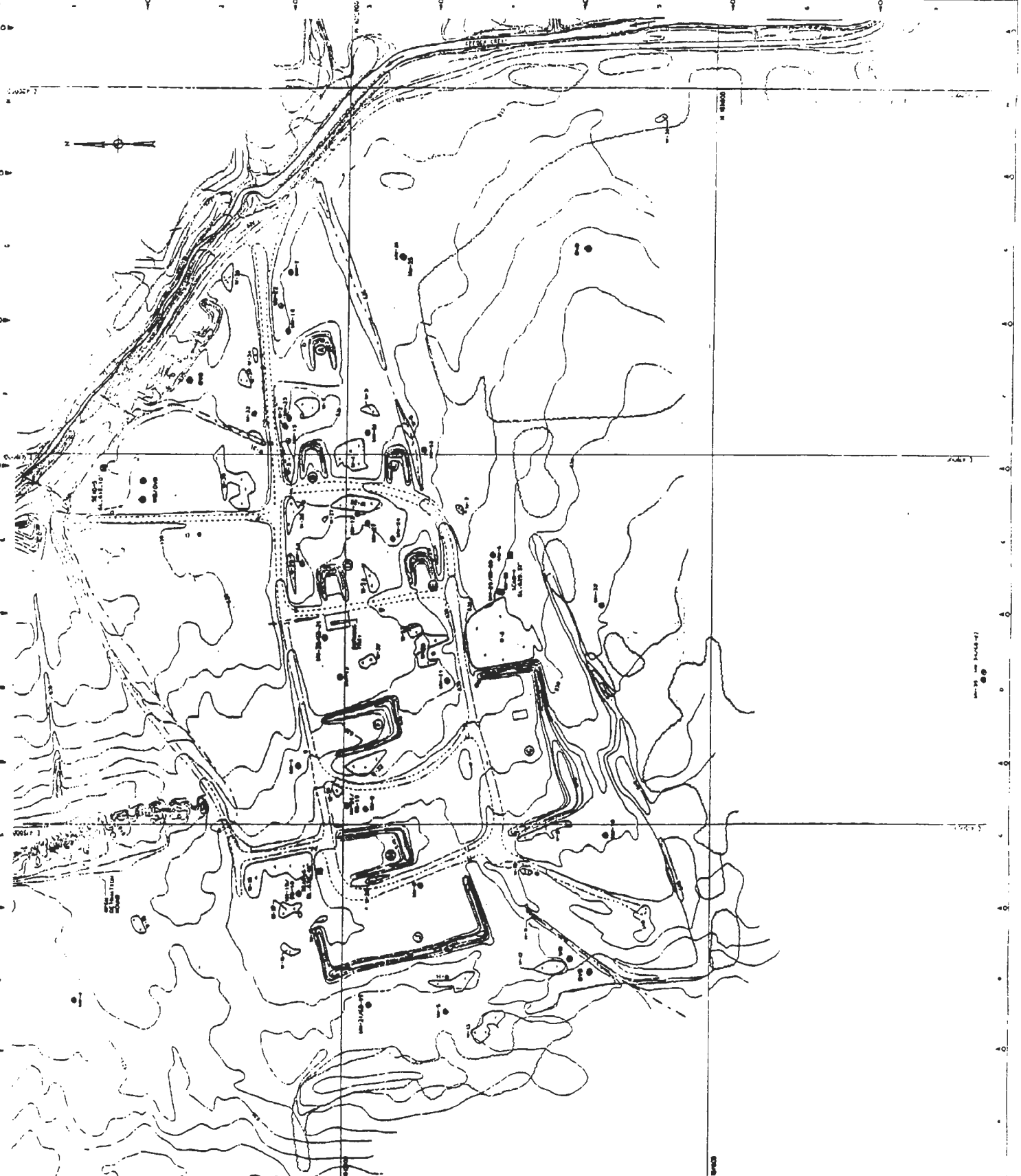
NO.	DESCRIPTION	DATE	BY
1			
2			
3			
4			
5			
6			
7			
8			
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25			

ES
ENGINEERING SCIENCE, INC.

PROJECT: **GENEVA ARMY DEPOT
OPEN BURNING GROUNDS
PHASE 2
INVESTIGATION**

PHASE I AND II
MONITORING WELL LOCATIONS

720-946-01901



REMEDIAL INVESTIGATION (RI) OF THE FORMER OPEN BURNING GROUNDS & ASH LANDFILL

INVESTIGATIVE APPROACH AT THE ASH LANDFILL



TWO-PHASED PROGRAM



CONSTITUENTS OF CONCERN

- Volatile Organic Compounds
- Semi-Volatile Organic Compounds
- Herbicides
- Pesticides / PCBs
- Heavy Metals



AREAS TO BE INVESTIGATED

- Ash Landfill and adjacent areas
- Non-Combustible Fill Landfill
- Groundwater (Overburden and Bedrock)
- Soils
- Surface Water
- Soil Gas
- Air
- Sediment
- Background
- Biota



SCREENING TECHNIQUES UTILIZED

- Soil Gas Survey
- Geophysics
 - ▶ Electromagnetic Survey
 - ▶ Ground Penetrating Radar Survey
- Fracture Trace Analysis
- Geologic Mapping of Fractures

REMEDIAL INVESTIGATION (RI) OF THE FORMER OPEN BURNING GROUNDS & ASH LANDFILL

PHASE 1 - ASH LANDFILL ACCOMPLISHMENTS

- ✓ **SOIL GAS**
 - ▶ 76 Sampling Locations
- ✓ **SURFACE WATER & SEDIMENT**
 - ▶ 9 Locations
 - 4 Surface Water Samples
 - 9 Sediment Samples
- ✓ **SOIL BORINGS**
 - ▶ 31 Locations
 - 94 Surface and Subsurface Samples
- ✓ **GROUNDWATER**
 - ▶ 31 Locations
 - 31 Groundwater Samples
- ✓ **DUST WIPES**
 - ▶ 2 Locations
 - 2 Samples
- ✓ **BIOTA SAMPLING**

REMEDIAL INVESTIGATION (RI) OF THE FORMER OPEN BURNING GROUNDS & ASH LANDFILL

PHASE II - ASH LANDFILL INVESTIGATION

- PHOTO-LINEAMENT AND FRACTURE TRACE ANALYSIS
- GEOPHYSICAL SURVEY
 - ▶ Very Low Frequency Survey (VLF)
- SOIL GAS SURVEY
 - ▶ 50 Locations
- TEST PITS
 - ▶ 10 Test Pits
- SOILS
 - ▶ 16 Soil Boring Locations
- OVERBURDEN MONITORING WELLS
 - ▶ 8 Monitoring Wells
- BEDROCK MONITORING WELL CLUSTERS
 - ▶ 4 Double Cased to 20 Feet
 - ▶ 4 Triple Cased to a maximum of 100 Feet

NOTES:

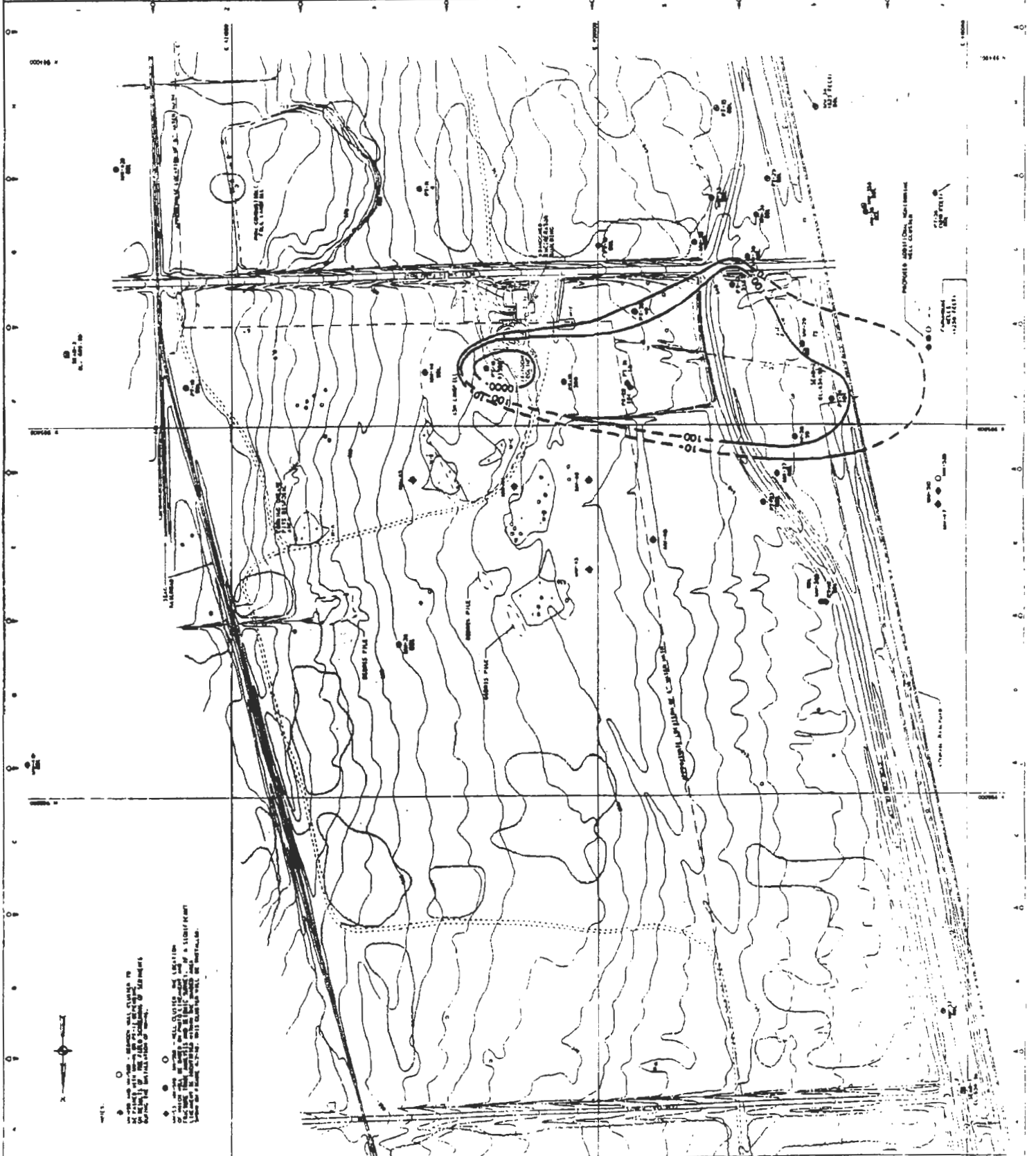
1. THE LOCATION OF MONITORING WELLS 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

LEGEND:

- POINT SHALLOW MONITORING WELL
- POINT DEEP MONITORING WELL
- POINT SHALLOW MONITORING WELL
- POINT DEEP MONITORING WELL

SOURCE:

ES
ENGINEERING SCIENCE, INC.
SENECA ARMY DEPOT
WORK PLAN APPENDIX
R1/F5
ASH LANDFILL



V

ADDITIONAL INFORMATION SWMU's SESSION NOTES

prepared by

Seneca Army Depot

STATUS UPDATE

ADDITIONAL INFORMATION SWMU'S

(DISCUSSION TO BE LED BY SEAD)

SWMUS WHERE ADDITIONAL INFORMATION IS REQUIRED

SEAD-10 -

SEAD-39 -

SEAD-27

SEAD-40 -

SEAD-28

SEAD-41 -

SEAD-29

SEAD-48

SEAD-30

SEAD-49 -

SEAD-31

SEAD-51 -

SEAD-32 -

SEAD-52 -

SEAD-33 -

SEAD-66 -

SEAD-34 -

SEAD-72

SEAD-38 -

SWMUS WHERE LIMITED SAMPLING IS REQUIRED

SEAD-10

SEAD-40

SEAD-32

SEAD-41

SEAD-33

SEAD-49

SEAD-34

SEAD-51

SEAD-38

SEAD-52

SEAD-39

SEAD-66

NO ACTION SWMU'S *

SEAD-1

SEAD-36

SEAD-2

SEAD-37

SEAD-7

SEAD-42

SEAD-18

SEAD-47

SEAD-19

SEAD-53

SEAD-20

SEAD-55

SEAD-21

SEAD-61

SEAD-22

SEAD-65

SEAD-35

*** SWMU'S HAVE BEEN DESIGNATED AS "NO ACTION"
BY AGREEMENT REACHED BETWEEN SEAD, EPA II
AND NYSDEC .**

VI

MAPS SHOWING VARIOUS AREAS OF CONCERN

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