

BEFORE THE
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

PUBLIC MEETING
FOR PRESENTATION OF THE
PROPOSED PLAN FOR
BOUNDARY OPERABLE UNIT CLEANUP
AT THE AEROJET GENERAL SUPERFUND SITE

RANCHO CORDOVA CITY HALL
CITY COUNCIL CHAMBERS
2729 PROSPECT PARK DRIVE
RANCHO CORDOVA, CALIFORNIA

WEDNESDAY, MAY 15, 2013

7:00 P.M.

Reported by:
Ramona Cota

ACCELERATED BUSINESS GROUP

(916) 851-5976

APPEARANCES

US Environmental Protection Agency and Contractor Support

Jackie Lane, Community Involvement Coordinator

Kevin Mayer, Remedial Project Manager

Gary Riley, Remedial Project Manager

Dina Calanchini, CH2M HILL

Tom Lae, CH2M HILL

Other Regulators Present

Alex MacDonald
State of California, Environmental Protection Agency
California Regional Water Quality Control Board
Central Valley Region

Steve Ross
California Department of Toxic Substances Control

Also Present

Rick Bettis
Sacramento Central Groundwater Authority

Janis Heple, Chairperson
Aerojet Community Action Group (CAG)

Burt Hodges
Save the American River Association

Pam Martin

Jimmy Spearow
Aerojet Community Action Group

Allen Tsao

Alta Tura
Habitat 2020
Environmental Council of Sacramento (ECOS)

Dan Waligora

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1 two project managers and myself, and we will also have some
2 contact information on the presentation itself.

3 Tonight in addition to our presentation we will be
4 taking verbal public comment so we do have a court reporter
5 here. So I am asking people to make sure that when they do
6 speak they speak loudly and clearly.

7 The formal comment period for this proposed plan
8 is May 8 through June 7 and comments in writing can be
9 mailed, e-mailed or faxed but have to be postmarked no later
10 than June 7 and they will be addressed to Gary Riley. His
11 contact information is also in our fact sheet.

12 When the project manager is up presenting the plan
13 we ask that you hold your questions until the end of his
14 presentation. We did hand out some question cards so that
15 you can capture your questions and we can talk about that
16 after the presentation has ended. We hope that it will be
17 under 30 minutes. And then at that time we can address
18 clarification questions on the presentation only.

19 When at that time if I feel that your question is
20 leaning towards more of a comment nature I will kind of
21 interrupt you and ask you to state your name and your
22 representation because that will become part of the public
23 record that we have to respond to.

24 Now, what happens with the comments that we
25 receive tonight and anything that we receive in writing, we

1 will -- EPA will consider all those comments as they make
2 the final decision for the site and they will be responded
3 to in what we call a Responsiveness Summary, which will be
4 part of our Record of Decision. The Record of Decision is
5 actually how we memorialize our selected cleanup remedy for
6 the site.

7 And then how you will know that document is ready,
8 we will put a notice in the paper and we will send you a
9 short summary of the selected remedy in the mail. So that
10 is why I want you to make sure that you are my mailing list.

11 And then the Record of Decision will also be sent
12 to the site's local repository and that is also on your fact
13 sheet, those locations.

14 And then we will also put it on a PDF on our EPA
15 web page and that information is in your fact sheet as well.

16 Two things I just wanted to talk about, and most
17 of the people that are here know where all our restrooms and
18 places are. You go two halls down and make a left and
19 they're right there for your convenience.

20 But I also wanted to reiterate for those that are
21 not part of the Aerojet Community Advisory Group that they
22 do have meetings here every other month and the next meeting
23 is at 7:00 p.m. here at this building next door on July
24 17th. So we would love to have you come to those meetings
25 and support that activity. The purpose of the CAG is to

1 receive updates and to give information to the regulators
2 that are overseeing the site as well as to the Aerojet
3 representative that comes to that meeting. And the CAG
4 Chairperson is here, her name is Janis Heple, and she is
5 sitting right there. So if anybody wants to talk to her
6 they can and you can learn more about that activity.

7 I just want to introduce a couple of people and
8 then we'll have Gary start the presentation.

9 We have Kevin Mayer; everyone knows who Kevin is.
10 He is our project manager for the Western and Perimeter
11 Groundwater, which we call Operable Units 3 and 5.

12 We have Steve Ross from the Department of Toxic
13 Substances Control. He is one of our state regulators that
14 assists us on the site and is the lead for DTSC.

15 We have Alex MacDonald from the Regional Water
16 Control Board who is also a lead state representative.

17 And of course, Gary Riley, who is going to present
18 tonight on the proposed plan for the Boundary Operable Unit
19 and he also oversees the Operable Units 7 through 9.

20 Tonight Gary will present, give us a brief history
21 on the site, he'll talk about the alternatives that EPA has
22 considered and then he'll talk about EPA's preferred cleanup
23 and then he'll address clarification questions.

24 I think that's all I have to talk about except
25 after he finishes his responses to clarifying questions we

1 can either start right into the public comment or we can
2 take a break. And I'll check in with you guys, how you're
3 feeling about that at the time.

4 And then I will be recognizing people to do public
5 comment and we have a free microphone that we can -- will
6 help with that process. Okay? So without further adieu, if
7 there's no other questions, I'll have Gary come up.

8 REMEDIAL PROJECT MANAGER RILEY: Thanks everyone
9 for coming and bearing with me as I adjust the height of the
10 podium here. Is my audio level good for everyone?

11 (Affirmative responses from the audience.)

12 REMEDIAL PROJECT MANAGER RILEY: It doesn't
13 remember the position like an SUV.

14 Well thanks, Jackie, and let me add my welcome to
15 everyone for coming here tonight and thanks for your
16 interest in this cleanup project as we seek input on our
17 next cleanup plan for the Aerojet Superfund site.

18 In my presentation tonight I'll go over some
19 background information on the project and then give a quick
20 update on the progress we have made so far. Then I'll
21 describe the specific environmental problems in the Boundary
22 Operable Unit and discuss the details of tonight's plan.
23 This will include the range of cleanup alternatives that EPA
24 investigated and our preferred alternative for doing this
25 cleanup.

1 Just a refresher. A lot of folks in the audience
2 have been attending our CAG meetings for a long time and our
3 quite familiar with the Superfund process. But I'd like to
4 briefly touch here on the process that we use to investigate
5 and clean up Superfund sites.

6 We begin with historical and other studies to
7 investigate where sources of contamination may have been
8 released to the environment. We investigate where this
9 contamination may have traveled into soil and where it may
10 have traveled into groundwater.

11 We then conduct a remedial investigation, which is
12 a study of the extent and amount of contamination that are
13 present at the site.

14 Once we gather the remedial investigation
15 information and perform a feasibility study to evaluate the
16 range of cleanup options we propose a cleanup plan and
17 formally solicit input from the community. And that is what
18 we are doing tonight and that is what we are doing through
19 the public comment period on this proposed plan.

20 As Jackie said, once we get public comment and
21 input on the plan we will respond and then prepare a Final
22 Record of Decision and then move on to designing and
23 performing the cleanup.

24 Here is the Aerojet site in the regional setting.
25 A lot of us here are familiar with this since we are here in

1 Rancho Cordova. What we see here is the Aerojet Superfund
2 Site, the land portions, which measure about 5,900 acres.
3 It's a large site, almost six miles in this direction and
4 about three miles wide, of the Aerojet facility.

5 Chemical spills and waste disposal since the 1950s
6 due to operations at the site have resulted in contamination
7 to soil and to groundwater. Some of that has formed a
8 groundwater plume which has migrated beyond the facility
9 boundaries that you see in this slide and I'll talk about
10 those plumes later and how we have addressed those to date.

11 Up until today there has been a substantial amount
12 of environmental investigation and cleanup progress at the
13 Aerojet site. The earliest investigations that identified
14 the initial contamination problem resulted in EPA proposing
15 to include the site on its Superfund National Priorities
16 List in 1982.

17 We entered into a consent decree with Aerojet
18 along with our state regulatory partners, the Department of
19 Toxic Substances Control and the Regional Water Quality
20 Control Board, to oversee Aerojet's investigation and
21 cleanup of the contamination.

22 The groundwater cleanup began in the mid-1980s.

23 And as these studies progressed over the entire
24 area of the site we determined that it would be easier to
25 manage the site and more effective to divide it into

1 operable units. You've heard us talking about these
2 operable units already in the presentation. These are areas
3 of the site that we use to manage and prioritize cleanup.

4 As Jackie suggested, we have already issued
5 Records of Decision and selected cleanups for two of these
6 operable units that we call the Western Groundwater and
7 Perimeter Groundwater operable units and those were issued
8 in 2001 and 2010, respectively.

9 This is a list of the nine operable units that the
10 site has been divided into for management purposes. Again,
11 two of the units, the Western Groundwater and Perimeter
12 Groundwater operable units have already had cleanup plans
13 selected and those groundwater treatment systems are in
14 place and operating.

15 The Boundary operable unit, Operable Unit 6 that
16 we are talking about here tonight, is the first of the
17 operable units that are located on the Aerojet Superfund
18 site within the land boundary and begins the process of
19 investigating the sources of contamination to groundwater
20 and addressing the remaining operable units following
21 Boundary, which are the Island, Eastern and Central operable
22 units. Later in the process we will propose a Record of
23 Decision for Operable Unit 1, which we consider the entire
24 site and will be the final Record of Decision at the site.

25 Again, the operable units are geographic areas of

1 the site that make sense to investigate and clean up
2 together.

3 The first of these operable units to be studied
4 were the Western and Perimeter areas of the site where
5 groundwater contamination had migrated, again, beyond the
6 Aerojet facility boundary. These plumes extend, again here
7 in the center we have the Aerojet Superfund Site. The
8 plumes have extended to the northwest, southwest and south.

9 So a number of off-site plumes have been addressed in these
10 prior operable units.

11 The groundwater extraction and treatment systems
12 for this groundwater have already been built and they are in
13 place and preventing the plume from expanding and protecting
14 water supply wells from contamination. These systems
15 include both containment wells, wells to capture the edge of
16 the plume and prevent it from expanding, as well as an inner
17 barrier of wells closer to the facility that prevent
18 additional mass from entering into these plumes. Again,
19 with the groundwater being addressed we are moving on to the
20 operable units on the facility where the sources of
21 contamination to groundwater are located.

22 Another way of thinking about this cleanup
23 approach might be considering a target. The groundwater
24 extraction and treatment systems that currently operate are
25 containing the edges of the plume to prevent the plume from

1 expanding and getting larger as well as removing massive
2 contamination from these plumes.

3 We are moving on and tonight's presentation
4 addresses a source operable unit, in this case the Boundary
5 Operable Unit, which again represents the bull's-eye, the
6 area in the site where contamination can be migrating from.

7 So let's look at the center of this target. The
8 Boundary Operable Unit here, again, this is the main Aerojet
9 facility. The Superfund Site is a portion of Aerojet's
10 facility, again, 5,900 acres of Aerojet's total property
11 holdings. The Boundary Operable Unit, the subject of
12 tonight's plan, is outlined in light green and shaded in
13 dark green. It's dispersed from the northern portion of the
14 site and then wraps around to the west and southwest and
15 includes just over 700 acres of land area.

16 Again, there is a green outline and a green
17 shading, which might be more apparent in the handouts. The
18 solid green shaded areas are management areas of the site
19 where in this operable unit Aerojet historically conducted
20 manufacturing, testing or other industrial activities.
21 Those activities could have resulted in spills of chemicals
22 directly to the ground or leaks from tanks, piping or sumps
23 that may have allowed chemicals to travel into soil and to
24 groundwater.

25 The 700 acres of the Boundary Operable Unit also

1 includes open space areas which are outlined in a single
2 green line. These are areas that didn't have industrial
3 manufacturing processes that resulted in a lot of chemical
4 use or chemical release but they were still investigated as
5 part of this operable unit to make sure we weren't
6 overlooking any sources.

7 We are proposing the cleanup now for the Boundary
8 Operable Unit because the studies are completed and EPA and
9 the agencies have enough information to recommend a path
10 forward for cleanup, select a preferred alternative and then
11 finalize that decision to move on with actually doing the
12 cleanup.

13 More complex and larger sources of contamination
14 in the center of the site in active and more substantial
15 industrial areas are under investigation, have been sampled
16 and we are continuing to investigate those areas and will be
17 the subject of future proposed plans.

18 The samples that we collected for each of the
19 potential chemical source areas in the Boundary Operable
20 Unit came from all of these environmental media. Most often
21 samples were collected of soil or soil vapor. Soil vapor is
22 the air that is underground located in-between soil
23 particles.

24 So we sampled soil, the soil vapor itself and then
25 also took samples to determine whether impacts had reached

1 groundwater or could potentially reach groundwater. Other
2 samples were collected of surface water and sediment from
3 creeks and drainages in the area to determine whether the
4 sediments were contaminated or the surface water itself was
5 transporting chemicals.

6 An example of one specific management area in the
7 Boundary Operable Unit is the Administration Area East. The
8 large buildings you see here were involved in manufacturing,
9 research, development and testing of liquid rocket
10 manufacturing. You can get a sense from this aerial
11 photograph that these are large buildings. You see the
12 parking lots extending all around these large industrial
13 buildings. And what you may be able to see on your handouts
14 is that there are various storage tanks, piping and storage
15 areas located around the edges. and in fact in these
16 buildings, that are places where chemicals could have been
17 released and gotten into soil and groundwater.

18 All of the potential source areas in this
19 management area and all of the potential sources in the
20 Boundary Operable Unit were thoroughly investigated by
21 Aerojet's sampling program. The program was overseen by EPA
22 and by our state partners, Department of Toxic Substances
23 Control and the Water Board.

24 Just as an example, and I recognize this is a very
25 complicated figure. The square symbols here show the

1 locations in Administration Area East, the area that we were
2 just looking at the photograph of. Each of these squares
3 represents a location where a surface soil sample was
4 collected. The idea here is to understand that the coverage
5 of these samples is throughout the area, it's around the
6 source areas and it included the source areas and the extent
7 of where the contamination came to be.

8 Many more samples were collected of deeper soil,
9 soil at depth, soil vapor and groundwater involved in each
10 of the Boundary area management areas. The sampling
11 extended under a rigorous sampling program until the sources
12 were fully characterized and the agencies were able to
13 determine the nature and extent of the contamination. And
14 this similar process to what you see here for the
15 Administration Area East was followed throughout the
16 Boundary Operable Unit.

17 Once the environmental data were collected from
18 soil, groundwater, soil vapor and other samples, we followed
19 the established protocol for Superfund sites to use this
20 information to conduct a risk assessment process for both
21 human health and ecological receptors.

22 The Risk Assessment looked at how people and how
23 ecological receptors, animals, could potentially be exposed
24 to contaminants of concern that were detected in the
25 Boundary Operable Unit.

1 We used EPA and other agencies' health standards
2 to conservatively compare these concentrations to the
3 potential exposures that people could receive both under the
4 current use of the property and in the case of any
5 redevelopment and future use of the property.

6 For example, the Risk Assessment specifically
7 includes the potential for future residence, for people to
8 live on portions of the site that may be redeveloped for
9 residential use, and provided us with a basis to recommend a
10 cleanup that's protective of those uses.

11 So combined with the health standards and the
12 future and current exposure scenarios, the Risk Assessment
13 allowed the agencies to identify the contaminants at the
14 site that we call contaminants of concern. Those
15 contaminants that could pose a risk and we need to take a
16 cleanup action.

17 So I touched on future land use and possible
18 redevelopment at the site. The future land use scenarios
19 were based on land use plans and proposals for redevelopment
20 areas at and around the site. The land areas of the
21 Boundary Operable Unit are currently zoned for industrial
22 use and are being used for industrial purposes by Aerojet,
23 however, a portion of the area is proposed for
24 redevelopment.

25 One such area at the Boundary Operable Unit is a

1 portion of the Administration Area known as Administration
2 Area West. That is proposed for inclusion in the Easton
3 Place mixed-use and transit-oriented development.

4 Portions of another management area at the
5 Boundary Operable Unit Line 5 overlap a proposed Westborough
6 Phase 2 development.

7 Industrial use is the planned future use for the
8 remainder of the Boundary Operable Unit so much of the area
9 in this operable unit will remain zoned and used for
10 industrial purposes.

11 The cleanup that EPA is proposing is to protect
12 both current and future land use in the Boundary Operable
13 Unit.

14 The results of the sampling program and the risk
15 assessment showed that these were the primary contaminants
16 of concern requiring cleanup actions. The complete list of
17 more than 50 contaminants of concern are provided in Table 2
18 of the proposed plan. Again, these are some of the primary
19 drivers of risk and those that are driving the extent of the
20 cleanup but EPA will propose cleanup for all contaminants of
21 concern.

22 Our proposed cleanup plan is based on these three
23 objectives. The plan will prevent exposure to soil
24 contamination that could pose an unacceptable risk under
25 both the current and future land use scenarios. That

1 applies to both people and to the environment.

2 The objectives will also prevent migration of
3 contamination into groundwater to protect beneficial uses of
4 that groundwater. And that includes potential future use of
5 that groundwater as a drinking water source, although the
6 groundwater is currently undergoing cleanup for larger
7 plumes.

8 The cleanup objectives would also prevent exposure
9 to contaminants from migrating from groundwater into indoor
10 air. This would prevent the migration of VOCs through vapor
11 intrusion and ensure that we are protective of any future
12 buildings at the site.

13 The specific numeric cleanup goals for each
14 contaminant of concern are proposed in both the proposed
15 plan and will be finalized in the Record of Decision. They
16 are for soil, indoor air and for soil for protection of
17 groundwater. They include both the current use scenario,
18 industrial use, as well as potential future residential use
19 for areas of the site that are proposed for redevelopment.

20 The cleanup levels would also, again, prevent
21 sources of contamination from migrating from soil into
22 groundwater. That is being done to enhance the
23 effectiveness of the groundwater extraction and treatment
24 systems that already exist around the site and at the extent
25 of the plume.

1 So with the need for cleanup action established in
2 the Risk Assessment, EPA evaluated a range of cleanup
3 methods that could be used to achieve our cleanup objectives
4 and goals. The baseline that EPA has to consider under
5 Superfund guidance is a No Action alternative, here listed
6 as Alternative 1. And that is to evaluate conditions as
7 they are if they were not to change. That is not a
8 satisfactory method for addressing the contamination in this
9 operable unit, it's simply a baseline.

10 A second alternative considered was Institutional
11 Controls, Alternative 2, which take the form of restrictions
12 on future use of the property to prevent sensitive uses of
13 that property such as residential use or schools or day care
14 centers in areas that are not appropriate for those uses.

15 There are also institutional controls that require
16 vapor barriers, mitigation systems on new buildings that
17 would prevent potential vapor intrusion, migration into
18 indoor air from volatile organic chemicals that are in
19 groundwater.

20 The fourth alternative we considered was to remove
21 contaminated soil and contaminated soil vapor. The primary
22 method of achieving this would be through excavation and
23 off-site disposal of contaminated soil. To dig up, remove
24 and dispose of the soil in an approved facility, removing it
25 from the site.

1 Soil vapor extraction is used for volatile organic
2 chemicals to draw the chemicals out of soil by removing air
3 from the sub-surface and treating it.

4 The four primary alternatives for cleanup were
5 evaluated using the nine criteria that EPA uses for all
6 Superfund cleanup decisions. While the intent is not to
7 show all these details in this slide, Table 3 from the
8 proposed plan gives a summary of the comparison and the
9 relative strengths and weaknesses of each alternative.

10 A full circle, a dark, colored-filled circle,
11 indicates an alternative that complies fully with each of
12 EPA's nine criteria. A partially filled symbol indicates a
13 less-effective method of meeting that compliance and open
14 circles indicate those alternatives that don't meet specific
15 criteria.

16 The threshold criteria that any selective cleanup
17 must meet are overall protection of human health and the
18 environment and compliance with regulations. So EPA must
19 propose cleanup alternatives that meet those criteria.

20 We also compare the alternatives on their relative
21 strengths based on the ability to implement them, both over
22 the short term and the long term, and for their
23 effectiveness over those periods. There is also preference
24 given to those alternatives that permanently treat or remove
25 contamination from the site.

1 We also considered state environmental agency
2 input into this process.

3 And importantly, we solicit formal community
4 involvement and public comment. And that is what we are
5 doing here tonight and during the public comment period.

6 So if I could return to this figure to just
7 quickly refresh in our minds the location of the Boundary
8 Operable Unit before I show the proposed cleanup for each
9 area.

10 The primary areas, again, where risks needing
11 cleanup were addressed, are in former industrial areas in
12 the administration area near the main gate at the north end
13 of Aerojet. Line 2 and Line 5, manufacturing areas to the
14 northwest, and then in the area of the former Chemical Plant
15 2 down in the far southwest corner of the site.

16 Our most preferred and effective cleanup
17 alternative is to remove contamination by excavating
18 contaminated soil, removing it from the site and disposing
19 of it in an approved facility. Or in the case of VOCs,
20 using soil vapor extraction to, again, remove the
21 contamination.

22 In some areas where excavation is not feasible due
23 to depth or to the presence of existing buildings or utility
24 lines we propose to use capping to cover that contamination
25 and prevent exposure to that contamination and prevent it

1 from migrating. Such capping are generally barriers or
2 generally pavement or soil barriers that are maintained to
3 prevent exposure to contamination and keep the contamination
4 in place.

5 This figure shows EPA's recommended cleanup
6 alternatives for, in this case, the Administration Area of
7 the Boundary Operable Unit. The eastern portion of this
8 area is in industrial use and is planned to remain in
9 industrial use by Aerojet.

10 Much of the soil contamination in this area is
11 close to or under existing and active buildings. Therefore,
12 we are proposing to use capping to contain contamination and
13 protect people from exposure to this contamination in the
14 areas that you see highlighted in purple here. These areas
15 are located near and adjacent to these manufacturing
16 buildings in the Administration Area East.

17 The dark blue shows excavation areas where
18 contaminated soil will be excavated and removed. That
19 includes the contamination in the Administration Area West
20 area, which is in the location of the future Easton Place
21 development. In one case in the future development we are
22 proposing to use a capping remedy, that's in the purple
23 shown here, and that reflects contamination at a depth that
24 is impractical to excavate, and that can be safely managed
25 in place and protected.

1 The light blue shows areas that are proposed for
2 soil vapor extraction. These are volatile organic chemicals
3 in soil that are located here and around these buildings.
4 Soil vapor extraction will remove that contamination and
5 treat it and clean up to protective standards.

6 We are also proposing institutional controls in
7 this area that would restrict areas to industrial use if
8 they are only appropriate for industrial use after cleanup.

9 There will also be institutional controls in place
10 over a large area of the site to address offsite groundwater
11 plumes that are migrating from other operable units and this
12 would involve using vapor barriers to protect buildings from
13 vapor intrusion until those plumes are cleaned up.

14 The Line 2 and Line 5 North areas are located to
15 the west of the Administration Area. Our proposed cleanup
16 in this area will permanently remove contamination using
17 excavation and soil vapor extraction. Here the cleanup,
18 again, is to remove this contamination down to acceptable
19 risk levels. This includes excavation in the Line 2 North
20 area and excavation of contaminated soil in the Line 5 North
21 area over here. Again, which partially overlaps with the
22 future Westborough Phase 2 development.

23 Vapor extraction will also be used in the area
24 where VOCs are present and institutional controls are
25 proposed to, again, provide vapor barriers on future

1 buildings. That will prevent intrusion of any VOCs into
2 future buildings until the groundwater cleanup from other
3 operable units is complete.

4 The former Chemical Plant 2 area located to the
5 southwest at the southwestern corner of the facility will be
6 cleaned up using a combination of excavation, of excavating
7 contaminated soil, and using vapor extraction to remove VOCs
8 from the soil. This is to allow both continued industrial
9 use of the site but also to protect the environment, to
10 protect ecological receptors in this currently vacant
11 portion of the Aerojet site. In other words, there are not
12 active industrial activities going on here and there is the
13 potential for animals to be exposed to the contamination.

14 So the dark blue areas show contaminated areas
15 that are being excavated, primarily to protect ecological
16 receptors. And then the light blue shows areas where soil
17 vapor extraction would be used to reduce the concentrations
18 of VOCs in soil to levels acceptable for industrial use.

19 There's also in the light purple area out to the
20 upper right there, we call it the Dredge Pit and Eastern
21 Basin Area, that area is a deep pit where dredge mining left
22 a large depression in the ground and that in the past has
23 received some -- episodically received waste from the
24 Chemical Plant 2 area. So that area is proposed for capping
25 with clean fill, again, to prevent the environment and

1 animals from being exposed to residual contaminants there.

2 And again, EPA is accepting comments through June
3 7th, as Jackie touched on. We are also pleased to answer
4 clarifying questions now and to receive public comments in
5 this forum. And those comments will be responded to in
6 writing and considered as we move forward to our cleanup.
7 Thank you.

8 COMMUNITY INVOLVEMENT COORDINATOR LANE: So if you
9 have any questions, I have a mic.

10 MR. WALIGORA: I would like some clarification on,
11 I guess a couple of issues, and it might not necessarily
12 directly involve the proposed plan here. But with the
13 migration of the groundwater plumes off the site, how long
14 has that been in place, your barriers, and how well has that
15 been working to control migration from, initially, the
16 source?

17 Also another question is, you showed areas there
18 that were parking lots and pavements and yet you mentioned
19 soil. How is soil collected there and at what depths?

20 And then finally --

21 COMMUNITY INVOLVEMENT COORDINATOR LANE: Let him
22 answer those two first. Can you help me with those first
23 two questions?

24 REMEDIAL PROJECT MANAGER RILEY: Sure. Thanks,
25 Jackie, I'll start with those two. The groundwater plumes

1 are being contained by active groundwater extraction and
2 treatment systems that are in place and have been in place
3 for some time. My fellow project manager, Kevin Mayer from
4 EPA, is personally overseeing those, those cleanups. IF you
5 don't mind speaking to --

6 REMEDIAL PROJECT MANAGER MAYER: The answer to
7 your question is that we are -- mostly they're working very,
8 very well. There are some areas that we are professionally
9 looking at to deal with uncertainties where we don't see it
10 moving past our line but we think we need more monitoring
11 wells that are modeling to really get a stronger sense of
12 certainty. And we meet very regularly and push forward to
13 see where our monitoring data really need to be improved and
14 we're making improvements all the time.

15 But basically the answer is, yeah. The production
16 wells, a lot of production wells are being protected. They
17 are not being contaminated any further than they have been
18 since 10, 12 years ago. There is still a lot more work to
19 do with tightening up those, those areas where we are not
20 absolutely certain that we've got them both contained. On
21 the outer barrier, but more importantly, in the inner
22 barrier area. Did that answer that question? There is more
23 to do and there is more proof to --

24 MS. HEPLER: He asked a different question. He
25 asked how well it's being controlled from the source area?

1 REMEDIAL PROJECT MANAGER MAYER: Okay. The source
2 areas are going to be addressed specifically in other
3 operable units, including Operable Unit -- the Boundary
4 Operable Unit. And the very next operable unit is the
5 Islands where there are very high concentrations of the
6 major contaminants. What we intended to do was to protect
7 the people off the Aerojet property first and then get into
8 those source units. So no, they have not been formally and
9 certainly not fully addressed, those sources, of which we've
10 got dozens of major sources.

11 COMMUNITY INVOLVEMENT COORDINATOR LANE: So the
12 idea was to pull in the contamination in the groundwater and
13 then work on the source.

14 REMEDIAL PROJECT MANAGER RILEY: And I can
15 speak --

16 COMMUNITY INVOLVEMENT COORDINATOR LANE: He had a
17 second question.

18 REMEDIAL PROJECT MANAGER RILEY: Well I can speak
19 to how we're addressing those sources as parts of the source
20 operable units, both the Boundary Operable Unit and the
21 future operable units that we talked about.

22 As Kevin described, the groundwater plume is
23 contained by the previous actions that Kevin is talking
24 about, which we are continually refining and monitoring to
25 improve. And then the sources are being investigated as

1 parts of these operable units, including the Boundary
2 Operable Unit.

3 So each potential source, in the Boundary Operable
4 Unit there are probably about 31 potential source areas
5 where something in the past could have resulted in a
6 release. There are 331 of those sites throughout the
7 Superfund Site. Each of those is being investigated for its
8 impact to groundwater and its potential impact to soil and
9 to people. Maybe I could speak specifically how we're doing
10 it in the Boundary Operable Unit with respect to soil
11 sampling, because I think that was the second question.

12 MR. WALIGORA: That was the second one.

13 REMEDIAL PROJECT MANAGER RILEY: I'll go to the
14 figure. So what I showed was surface soil locations, so
15 that's generally soil that is probably a foot or less deep.

16 But in every location in these parking lots -- so you're
17 right, in the case of the Administration Area East, almost
18 all these soil sampling locations are under pavement.
19 They're under concrete, asphalt, or in some cases, actually
20 under buildings. And the samples were collected by boring
21 through, cutting a hole in the concrete or in the pavement
22 and beginning to collect a sample by auguring down with a
23 drill rig.

24 MR. WALIGORA: So they were actual soil samples.

25 REMEDIAL PROJECT MANAGER RILEY: Yes, they were

1 soil samples. Yes, they would not be of the asphalt or the
2 gravel that's right under the asphalt. And then the
3 sampling continued down, potentially all the way down to
4 groundwater. So the sampling plan was designed to collect
5 samples around the potential sources, compare that data to
6 the standard, the health standards that we're using to
7 define the contamination, and then continue to collect
8 samples until we got far enough down or far enough out to
9 know the true extent of those, of those contamination areas.

10 COMMUNITY INVOLVEMENT COORDINATOR LANE: Do you
11 have another question?

12 MR. WALIGORA: If I have a moment, if nobody else
13 is curious. A big one is that you mentioned many different
14 sites there and different -- many sites and different
15 alternatives. And yet this document here shows one, one of
16 the -- the nine balancing criteria seem to be given for the
17 whole operable unit itself, the Boundary proposed plan. And
18 when you have the different alternatives that are being
19 chosen, apparently, or recommended to the different sites,
20 shouldn't each of those have the nine balancing criteria run
21 against them so that it makes sense?

22 REMEDIAL PROJECT MANAGER RILEY: An answer is we
23 did that evaluation for each area, in the feasibility study
24 for each area where the risk assessment indicated there is a
25 risk and we need to take action. Every single one of those

1 areas was evaluated for cleanup using any of the options you
2 see in that table or a combination of options in that table.

3 The table in the proposed plan is to reflect since
4 of the probably 65 or so areas where we are proposing to
5 take action, each of -- each of those had a screening
6 process where we considered applying each of those
7 alternatives to it.

8 And the preference, as was captured in the table
9 in the proposed plan, is that removing contaminated soil,
10 removing contaminated material is the most effective and
11 preferred method in those cases where it's possible to do
12 that. And that's applying those nine criteria to balance
13 implementability, the effectiveness in the short and long
14 term with our ability to excavate soil, for example.

15 For example, soil that's under a building that
16 isn't posing a direct current risk can be managed in place
17 as long as that building or other cover remains on top of
18 the soil. And the institutional controls would include a
19 regular inspection process, a maintenance process and review
20 to make sure that remains protected into the future.

21 MS. MARTIN: You had mentioned one alternative is
22 to excavate and remove soil. And I wanted to know where
23 that soil would go and if you have any wild guess as to how
24 much soil would be transported and where it would go?

25 REMEDIAL PROJECT MANAGER RILEY: The soil would be

1 -- at this level in the Record of Decision we specify sort
2 of the cleanup method and it would be to an approved, off-
3 site landfill. So depending on the amount of contamination
4 and the type of contamination that's in the soil, different
5 landfills are able to accept that. The potential landfills
6 range from out-of-state hazardous waste disposal facilities
7 to hazardous materials landfills within the state of
8 California. I'm sorry, the other part of your question was?

9 COMMUNITY INVOLVEMENT COORDINATOR LANE: The
10 amount, the possible amount.

11 REMEDIAL PROJECT MANAGER RILEY: The amount. I
12 ran some calculations. I guess one thing to know is these
13 are where we believe our excavations need to start. But it
14 will be defined by the confirmation sampling we take at the
15 edges of those excavations. So we will remove those areas
16 and then take confirmation samples around the edges to see
17 if we have met our cleanup goals. And if we haven't met
18 them we would continue to remove soil until we do.

19 At this stage I would think we're talking on the
20 order of tens of thousands of cubic yards of soil to be
21 removed, maybe 50,000. Again, the final amounts would be
22 set in the remedial design. So the next phase after we
23 issue the Record of Decision is Aerojet will prepare a
24 detailed design for the cleanup and that will specify where
25 and how deep the cleanup will go.

1 And all those locations and depths are already
2 known, predicted, based on the data that we do have. But
3 again, once those are removed, the confirmation samples will
4 tell us if we have met our cleanup goals or if we have to
5 continue to remove more material.

6 COMMUNITY INVOLVEMENT COORDINATOR LANE: Any more
7 clarification questions?

8 MR. BETTIS: Could you give a more detailed
9 description when you talk about the methodology of the
10 design and the parameters used for preparing the decision.
11 What exactly does it consist of how do you design it?

12 REMEDIAL PROJECT MANAGER RILEY: The vapor barrier
13 systems that would go into, into new buildings in the areas
14 where the need to be in place because of potential migration
15 of contamination from groundwater into indoor air, those
16 include vapor barriers. So a version of the barrier that
17 goes under slab-on-grade construction normally to prevent
18 moisture from intruding. It's a, in some cases a thicker or
19 stronger barrier against not only moisture, which can damage
20 a foundation, but the actual soil gas itself from migrating
21 into the building. That includes sealing any penetrations
22 to make sure those vapors cannot get into the building.
23 There are other methods that would be described in the
24 design too in terms of ventilating slabs, ventilating sub-
25 surface spaces to ensure that vapors don't build up or

1 collect. That's the general design of those.

2 MR. BETTIS: Is there inspections, follow-up
3 inspections?

4 REMEDIAL PROJECT MANAGER RILEY: There would in
5 institutional controls and where we would need to maintain
6 vapor barriers we would set forth in the remedial design how
7 we would ensure that those systems remain in place, remain
8 effective. And then as part of our periodic review of our
9 cleanup, every five years, which we do for Superfund sites,
10 we would continue to assess the protectiveness of
11 everything, including our institutional controls and
12 engineering and vapor barriers.

13 MR. TSAO: Just a follow-up question to this
14 gentleman's question. On the soil vapor extraction, is
15 there an IC component to go with that? It wasn't clear in
16 the document.

17 REMEDIAL PROJECT MANAGER RILEY: We would use --
18 the institutional control, the soil vapor extraction is to
19 achieve residential, unrestricted cleanup levels. Once the
20 soil vapor extraction system is done operating, it's met
21 those cleanup goals, there wouldn't necessarily need to be
22 institutional controls in those locations. But while the
23 cleanup is taking place or if the cleanup is for industrial
24 use only, institutional controls would be required in those
25 areas. There are actually existing restrictions on the site

1 until we put our cleanup and our final institutional
2 controls in place. So there are a form of institutional
3 controls on the property right now and those would continue
4 to restrict development until we complete a cleanup in an
5 area.

6 MR. BETTIS: This is part of the Central
7 Groundwater Basin and there's, you know, significant changes
8 in land use land and there's changes in water supply unless
9 they implement the, you know, the (inaudible) project and
10 all. Are those sort of things being monitored? Because
11 when you start changing the groundwater levels outside of
12 the project area that could impact movements within the
13 area.

14 COMMUNITY INVOLVEMENT COORDINATOR LANE: That
15 sounds like a comment.

16 MR. BETTIS: Okay.

17 COMMUNITY INVOLVEMENT COORDINATOR LANE: Could you
18 at least say your full name and spell it for the reporter.

19 MR. BETTIS: Rick Bettis, B-E-T-T-I-S. Actually,
20 I'm on the Central Basin Groundwater Authority board and
21 that's why that comes to mind, because we talk about these
22 things.

23 COMMUNITY INVOLVEMENT COORDINATOR LANE: So when
24 we go into public comment maybe you can go a little bit in-
25 depth on that so that we can answer that question.

1 MR. SPEAROW: Just a quick comment. This is Jimmy
2 Spearow, I'm speaking as a member of the CAG. That it's not
3 clear at all in terms of what cleanup levels are in various
4 portions of the proposed plan, it's just not enough detail
5 to see the different sections there. Which sections would
6 be cleaned up to unrestricted residential, for example,
7 versus -- there needs to be a lot more detail.

8 COMMUNITY INVOLVEMENT COORDINATOR LANE: Can you
9 state your name and spell it.

10 MR. SPEAROW: Jimmy Spearow.

11 COMMUNITY INVOLVEMENT COORDINATOR LANE: Okay.

12 MR. SPEAROW: S-P-E-A-R-O-W.

13 COMMUNITY INVOLVEMENT COORDINATOR LANE: So we'll
14 consider that part of the comment.

15 Any other clarification questions for the
16 presentation? If not --

17 MR. TSAO: I have one.

18 COMMUNITY INVOLVEMENT COORDINATOR LANE: Oh, I'm
19 sorry.

20 MR. TSAO: Regarding the soil vapor extraction.
21 How long do you expect it to run and does it need to be run
22 all the time, like 24/7?

23 REMEDIAL PROJECT MANAGER RILEY: In general the
24 specifics of that would come out in the design once we do a
25 pre-design investigation and plan the extraction rate and

1 plan how long the cleanup would take. In general, the
2 systems need to achieve the cleanup criteria in a reasonable
3 time frame, so we would tend for them to not have to operate
4 longer than they need to. They generally operate 24/7 once
5 they're turned on.

6 For folks who aren't familiar, they're not unlike
7 a giant vacuum into the ground through wells screened above
8 the water table in the soil. They operate, generally
9 operate full-time, 24/7. But once they begin to achieve
10 their cleanup standards oftentimes they are turned off to
11 see if they've achieved those final cleanup standards
12 without any increase or rebound, we call it, in the
13 concentrations.

14 And sometimes it actually does become effective to
15 run one of those systems intermittently to remove the
16 contamination, turn it off, allow the concentrations to
17 build up again to provide more mass to remove and then the
18 system is started back up. But they wouldn't be -- the
19 system would not be turned off until the cleanup levels as
20 specified in the ROD are met.

21 MR. TSAO: I have a couple more.

22 COMMUNITY INVOLVEMENT COORDINATOR LANE: Okay. So
23 if this could be the last question because it's getting kind
24 of late and then we're going to have to go to rush --

25 MR. TSAO: I have several.

1 COMMUNITY INVOLVEMENT COORDINATOR LANE: Okay.

2 MS. HEPLE: And you know, this is a huge document.
3 It's only 8:00 o'clock.

4 MR. TSAO: I'm going to ask real quick then. Page
5 16 of your slides. If you can go there, just a
6 clarification question. So I want to ask, the planned
7 future land use. Who decides the planned future land use?
8 Is it EPA, Aerojet, who does that?

9 REMEDIAL PROJECT MANAGER RILEY: Under Superfund,
10 EPA conducts an assessment of the reasonably anticipated
11 future land use for a Superfund site.

12 The short answer is, EPA does not determine the
13 future use of the site, it is determined by both the
14 property owner and by the local planning authorities that
15 have planning jurisdiction here. In the case of the -- the
16 Aerojet facility spans a number of jurisdictions and
17 potential jurisdictions. In the case of the Boundary
18 Operable Unit the land use plans are approved by both, I
19 believe in the area of the Easton Place by Sacramento County
20 and the potential Westborough Phase 2 development by the
21 City of Rancho Cordova.

22 MR. TSAO: Thank you. And on the -- I have a
23 couple of questions if it's okay with you. On page 16 of
24 the proposed plan.

25 REMEDIAL PROJECT MANAGER RILEY: Okay.

1 MR. TSAO: Under Alternative 4, Source Removal/
2 Reduction. There's solid circles down the column and
3 there's a kind of a bull's-eye circle. I guess that's for
4 "SVE would satisfy the preference for treatment." The
5 bull's-eye circle under the footnote also states this
6 "Partially meets criterion." And my question is, is there
7 any other alternative that would fully meet the criteria?

8 REMEDIAL PROJECT MANAGER RILEY: The reason that's
9 a "partially meets the criterion" is that excavating and
10 removing contaminated soil, while very effective at removing
11 that contamination from, in this case the Aerojet site here,
12 it does not remove or destroy those contaminants from that
13 soil, it's taken to a landfill and managed in that landfill.
14 There are technologies that can remove some contaminants
15 from soil through washing or heating or other treatment
16 technologies. In general those are for highly contaminated
17 materials because the amount of energy or complexity or the
18 time line for implementing that requires extensive and a lot
19 of contamination.

20 The Boundary Operable Unit is not a heavy
21 industrial area relative to the other portions of the
22 Aerojet site and the concentrations are generally -- of
23 contaminant are generally low. And while they present a
24 potential risk they are not concentrated enough in terms of
25 area or extent where some of these other technologies would

1 be feasible to implement. So the screening in the
2 feasibility study addressed a broader range of technologies
3 and they are not being recommended in the proposed plan.

4 MR. TSAO: Okay. But those technologies, not all
5 of them are presented in this table?

6 REMEDIAL PROJECT MANAGER RILEY: Well, the table
7 is intended to summarize the comparison of all the
8 alternatives that went into the feasibility study. So all
9 nine criteria and actually a screening of every potential
10 applicable technology, an initial screening is conducted in
11 the feasibility study. And some technologies were not
12 carried forward for evaluation because they weren't
13 applicable to the specific circumstances in this operable
14 unit.

15 MR. TSAO: Okay. Figure 3.

16 REMEDIAL PROJECT MANAGER RILEY: Yes.

17 MR. TSAO: Okay. Under the Legend it shows
18 Alternative 3, 4. I guess 4 for Excavation and another 4
19 for Soil Vapor Extraction. It does not show Alternative 2,
20 which is a EPA recommended remedy.

21 COMMUNITY INVOLVEMENT COORDINATOR LANE: In the
22 proposed plan?

23 REMEDIAL PROJECT MANAGER RILEY: You're referring
24 to Alternative 2, institutional controls?

25 MR. TSAO: Right, because -- institutional

1 controls. At least for a couple of the remedial action
2 areas it is recommended by EPA.

3 REMEDIAL PROJECT MANAGER RILEY: The institutional
4 controls are shown on Figure 3.

5 MR. TSAO: Oh.

6 REMEDIAL PROJECT MANAGER RILEY: Perhaps it is not
7 visible in the smaller version of Figure 3. But the cross-
8 hatched area does reflect the institutional controls that
9 are proposed.

10 MR. TSAO: Okay. I would recommend that we make
11 clear, like maybe if you have -- you call it out as
12 Alternative 2.

13 REMEDIAL PROJECT MANAGER RILEY: Okay. It is
14 Alternative 2. We would -- we'll make it clear in the
15 Record of Decision.

16 MR. TSAO: Yeah. It's just not clear to me
17 because on page one there are two remedial action areas
18 being recommended for Alternative 2 and that's AE-SV-R-1 and
19 R-3. And so I would think that the figure would show where
20 they are and what the proposed remedy is. But it doesn't
21 seem like it's shown here.

22 REMEDIAL PROJECT MANAGER RILEY: AE-SV, the soil
23 vapor remedial areas are shown on the figure in light blue.
24 And the intent, again, to show the area of institutional
25 controls in the brown cross-hatching is to show those areas

1 where institutional controls are being proposed. I guess
2 the intent was to be more descriptive than simply
3 Alternative 2 but to specify that these are areas where
4 institutional controls will be in place. But we will --

5 COMMUNITY INVOLVEMENT COORDINATOR LANE: Correct
6 that.

7 MR. TSAO: And what is soil flushing? It's not
8 explained in the proposed plan.

9 REMEDIAL PROJECT MANAGER RILEY: Soil flushing
10 could be employed in one of the areas where contaminated
11 soil will be removed.

12 MR. TSAO: What is that?

13 REMEDIAL PROJECT MANAGER RILEY: In general, that
14 technology is using -- as are being done in other portions
15 of the Aerojet site, are cycling nutrients or other methods
16 through soil to remove -- again, to meet the Alternative 4
17 criterion of removing contamination from soil to flush,
18 essentially wash the soil to remove the contamination from
19 the soil to provide another alternative for removal,
20 methodology and technology. That's not broadly applicable
21 to this operable unit; there is one location where that
22 could be employed.

23 COMMUNITY INVOLVEMENT COORDINATOR LANE: Is there
24 another question?

25 MS. HEPLE: I wanted to ask for a clarification on

1 your answer to Allen. And that is, when he asked about the
2 soil vapor extraction and how it would be only -- it
3 partially meets the criterion for Alternative 4. Were you
4 saying that it only partially meets it because soils that
5 are removed to a hazardous waste or to whatever type of
6 landfill that they are applicable to, it would not have been
7 -- those soils would not have been treated and thus it only
8 partially meets that criteria? Was that the point you were
9 making?

10 REMEDIAL PROJECT MANAGER RILEY: Yes, it's getting
11 at the fact that Alternative 4, which is the umbrella of
12 removing contamination from soil or removing contaminated
13 soil, for vapor extraction it really does -- it actually
14 through the soil vapor phase removes contamination and
15 treats it. It eliminates that contamination from the soil
16 without digging up the soil and taking it away.

17 So if there is soil contaminated with something
18 like lead, for example, that soil needs to actually be dug
19 up to remove that lead. And when it's taken to a landfill
20 site for disposal, that contamination remains in the soil,
21 there is not a way to get that lead out of the soil. So
22 that's why the difference in the treatment component.

23 MR. WALIGORA: I'm confused on that because
24 typically if contamination is removed from the site then
25 land use controls, restrictions, and it could be -- the site

1 is then -- can be considered clean. So I'm -- the way
2 you're describing that, it confuses me a lot more because if
3 it's removed, the site then can be opened for unrestricted
4 use, therefore, it would meet the criteria. So can you
5 explain --

6 REMEDIAL PROJECT MANAGER RILEY: It would.

7 MR. WALIGORA: -- the confusion.

8 REMEDIAL PROJECT MANAGER RILEY: It would and it
9 does remove that contamination from the site and would make
10 this site suitable for unrestricted use. However, that
11 contamination does go into a landfill elsewhere and it isn't
12 permanently destroyed or treated and eliminated. So EPA
13 gives a preference, in light of all these other - all the
14 nine criteria - there is a preference to permanent solutions
15 where if we can use a technology that treats the
16 contamination, that makes it go away, there is a preference
17 for that. So in the context of this site, if we remove
18 contamination, contaminated soil to unrestricted, to
19 residential cleanup levels, there won't need to be
20 institutional controls and land use restrictions for that
21 purpose.

22 MR. WALIGORA: Can I follow-up with that one?

23 COMMUNITY INVOLVEMENT COORDINATOR LANE: Okay.

24 MR. WALIGORA: But that seems to be a chosen
25 remedy for a lot of the CERCLA sites where they consolidate

1 contaminants and then cap them so that more of the land then
2 becomes available for unrestricted use. And these are
3 specific sites that are made where the contaminants are
4 contained, either as, you know, high-level contamination
5 sites or general use. So that still confuses me how it's
6 being proposed here as, you know, the bull's-eye.

7 REMEDIAL PROJECT MANAGER RILEY: Well, a
8 consolidation remedy would be, it would be possible to
9 propose a remedy where all the contaminated soil from the
10 Boundary Operable Unit is essentially collected and then
11 placed in --

12 MR. WALIGORA: Moved to an offsite facility.

13 REMEDIAL PROJECT MANAGER RILEY: And that's what
14 we're proposing. Into a landfill would be that soil. The
15 onsite consolidation I think that you're talking about, is
16 where some sites the soil is consolidated onsite and then
17 disposed of onsite. So in that case that would -- We are
18 not proposing to take contaminated soil from Aerojet and re-
19 dispose of it onto the Aerojet property.

20 MR. WALIGORA: Okay.

21 COMMUNITY INVOLVEMENT COORDINATOR LANE: So it's
22 getting a little more confusing for other people. And I
23 think because you guys are talking about two medias, that's
24 where the divide is. Because one is for gas and one is for
25 an actual contaminant. So you're removing lead to a

1 landfill but you're removing the gas altogether; is that
2 right?

3 REMEDIAL PROJECT MANAGER RILEY: Um-hmm.

4 COMMUNITY INVOLVEMENT COORDINATOR LANE: Okay.

5 But I can understand your question is, why can't it be solid
6 because you're removing contamination.

7 MS. HEPLE: The fact that it's a partial, sort of
8 a partial solution.

9 REMEDIAL PROJECT MANAGER RILEY: The removing and
10 consolidating, if we consolidate the contamination onsite
11 that contamination then remains onsite and would remain --

12 MR. WALIGORA: I was talking more about the
13 removal action from the site entirely. But that can be a
14 comment.

15 COMMUNITY INVOLVEMENT COORDINATOR LANE: Okay.
16 Can you say your name for that discussion.

17 MR. WALIGORA: Dan Waligora, W-A-L-I-G-O-R-A.

18 COMMUNITY INVOLVEMENT COORDINATOR LANE: Thank
19 you.

20 MS. HEPLE: So I have a couple of questions since
21 you brought up the excavation. What is the maximum depth
22 criteria for remedy excavation and what is the depth
23 criteria for backfilling site DPEB-R-1? And the question
24 revolves around what establishes maximum depth.

25 REMEDIAL PROJECT MANAGER RILEY: Sure. The

1 maximum proposed excavation depth I believe is 12 feet in
2 some of the areas where contamination extends that deep.
3 That excavation depth is generally described by the depth at
4 which residential use could potentially be exposed to that
5 contaminated soil so we need a minimum of 10 to 12 feet of
6 remediated, clean soil to make an area appropriate for
7 unrestricted and residential reuse.

8 So the depth could be as deep as 12 feet or deeper
9 if the contamination and the confirmation samples tell us we
10 need to keep excavating and keep digging. In some cases, in
11 many of these cases the contamination only extends, say, to
12 2 feet in depth, so the plan will be to excavate to 2 feet,
13 collect confirmation samples. And if it meets our cleanup
14 criteria that will be the completion of the excavation.

15 For the Dredge Pit area that's proposed to be
16 backfilled to prevent ecological exposure to contamination
17 that remains there, the proposed depth of cover is 6 feet to
18 provide a minimum thickness, a barrier that prevents, would
19 prevent any ecological receptors from coming in contact with
20 contamination. So it's defined by the minimum thickness
21 necessary to prevent exposure.

22 COMMUNITY INVOLVEMENT COORDINATOR LANE: Any more
23 questions? Okay.

24 Do we have any formal comments from anyone?
25 Please state your name and spell it.

1 MR. SPEAROW: Yes, I'm Jimmy Spearow, S-P-E-A-R-O-
2 W, with the CAG, talking as a member of the CAG.

3 I think one of the real deficiencies of this is
4 that it only addresses and talks quite specifically here,
5 for example on page 17:

6 "The preferred alternatives will remove or control
7 sources of contamination from Boundary OU source
8 areas to protect current and future human and
9 ecological receptors, as well as prevent migration
10 from these sources to groundwater at
11 concentrations that may impair beneficial use."

12 It only addresses contaminants that are, are in --
13 are from Boundary OU source areas and the real problem is
14 the contamination from other source areas. And if you look
15 at your own data set of the size of the source areas, of the
16 contamination plumes, that over the last 50 years or so
17 they've migrated both TCE, NDMA and Perchlorate have
18 migrated large distances, okay, very long distances.

19 And so even if you were to address these
20 contaminants in Boundary OU, if there was regulatory failure
21 and that for some reason the contaminants in Island were not
22 addressed, then they are going to continue to migrate. They
23 are going to come right back in these areas and they are
24 going to go further. So I think that there really needs to
25 be a coupling of the cleanup at Boundary with Island and

1 other source units that have multiple contaminants. That's
2 one major point that's a flaw of this because it's not going
3 go address if there's regulatory failure. For some reason
4 it's not carried through, the cleanups in the other areas.

5 The second area I want to talk about is the
6 cleanups, the cleanup levels. Now, the CAG was not happy
7 with the screening levels for contaminants in the RI in
8 terms of our comments not being addressed there. And that
9 both oral and written, but particularly the oral comments,
10 not being addressed.

11 MaryJo told us that they would take and -- rather
12 than go back and even put an addendum on the RI or the RIFS,
13 that they would present the cleanup levels in the proposed
14 plan. And yet when I look at -- that they would use current
15 toxicity criteria for that. But when I look at this and
16 look at your Table 2a I see all kinds of examples where the
17 toxicity criteria are incorrect, they are not the current
18 toxicity criteria. I'll just give a few examples where that
19 -- there's plenty more but I'll just give a few examples of
20 where the toxicities here are really off, okay.

21 For example, under hexavalent chromium. The soil
22 cleanup level for the protection of groundwater, this is on
23 page 11. That you have it as -- the cleanup level as being
24 1,090 mg/kg. Well, the RSL for the protection of
25 groundwater, the risk level is 5.9×10^{-4} . So you're only

1 off by seven orders of magnitude, okay. That's really
2 unacceptable, okay. It's much, much too high levels.

3 When we come to lead, there's statements in here
4 that they will clean up lead to 10 micrograms per -- levels
5 that would increase blood levels by no more than 10
6 micrograms per deciliter. No, it should be to increase by
7 no more than one microgram per deciliter, which is going to
8 be 80 milligrams of lead in the soil.

9 And when it comes to naphthalene. There you list
10 the screen level, the ERA ESL cleanup at being 29 mg/kg.
11 But under the soil cleanup level for the protection of
12 groundwater you list it as being 1.4 mg/kg, while the RSL is
13 4.7×10^{-4} , so it's off by four orders of magnitude. Your
14 cleanup levels are four orders of magnitude too high. Also
15 there was no cleanup level for naphthalene in soil.

16 Under perchlorate, there you have it as being .6
17 milligrams as being the soil cleanup level for the
18 protection of groundwater and the cleanup level that was
19 actually in the RI for the protection of groundwater is .06
20 or 60 micrograms or .06 mg/kg. Now, on the basis of that
21 .06 the CAG had calculated a hazard index of 55 for
22 perchlorate to home gardening, in terms of the consumption
23 of vegetables, okay. That would be assuming that you would
24 have about 50 percent other soil amendments brought in,
25 okay. And yet, you know, it talks in here about cleaning up

1 to a hazard of not greater than one. Well that's much, much
2 higher. That's assuming at .06. At .6 it would be a hazard
3 of 550, okay, which is really not acceptable.

4 And furthermore, this is going to affect not only
5 areas that might be used for residential use on the Aerojet
6 site but any soils that might be exported, let's say once an
7 area is approved for use, they might be exported elsewhere.

8 So I think we really have a problem and I'm really against
9 having soils being exported elsewhere. If you look at the
10 DTSC 2001 clean import fill guidance, it says very
11 specifically that import fill should not be coming from
12 cleanup sites, from contaminated sites.

13 Two more examples are for TPH-diesel you've got it
14 down as a soil cleanup level of 1,000 mg. Well, the soil
15 cleanup level for the protection of groundwater for the
16 Regional Water Quality Control Board is 100 mg/kg. There's
17 also issues -- it should be 83 mg there for the protection
18 of human health and soil. That's not listed.

19 Also for TCE. There was nothing listed there for
20 soil protection, for protection of groundwater, whereas the
21 RSL is 1.6×10^{-4} . Instead all you have listed is the 42.
22 The same thing for the protection of residential use should
23 be .91 mg/kg of TCE.

24 So what I'm getting at is that this document goes
25 into too little detail, it has a number of inaccuracies in

1 it, particularly in regard to cleanup levels. And this
2 really needs to be resolved and we need to have these
3 addressed properly so that human health is protected. As it
4 is it's just not acceptable.

5 COMMUNITY INVOLVEMENT COORDINATOR LANE: Thank
6 you. Do we have any other formal comments? State your name
7 and spell it, please.

8 MR. TSAO: My name is Allen Tsao, A-L-L-E-N, T-S-
9 A-O. Thank you for hosting the presentation tonight.

10 I have a lot of comments but I just want to
11 preface it that these comments are geared toward the general
12 readability of the document, the proposed plan.

13 The proposed plan covers over 50 sites, 78 to be
14 exact by my count of Table 1, the number of remedial action
15 areas. There's separate and individual EPA-preferred
16 alternatives for each of these remedial action areas but
17 Table 3 doesn't specifically tie it to any single remedial
18 action areas. In other words, you need to run the nine NCP
19 criteria against each of these remedial action areas for the
20 general public to understand and make some sense and provide
21 some meaningful recommendation or concurrence on the EPA's
22 recommended plan.

23 Let me put it in a more concrete way. When you
24 have a proposed plan for a remedial action area and the
25 proposed plan is to do Alternative X, we cannot tell what

1 the other potential, viable alternatives are. It is really
2 difficult in this proposed plan because I can't tell, there
3 is no table for it. I can't tell what the cost of the
4 remedy will be had there been an IC or what the cost would
5 be had there been soil vapor extraction plus soil excavation
6 versus capping. There is no way for me to be able to tell.

7 The only table that provides the cost is on one
8 table that lumps everything together into three or four
9 different groups. So for me and I believe other members of
10 the public to make a meaningful comparison, there is no way
11 for us to tell whether, you know, for example, \$2 million
12 for excavation is worth it, versus \$2.5 million for capping.

13 I can't make a -- I can't make a meaningful recommendation
14 without that information.

15 I strongly recommend EPA to provide each table, a
16 table of alternatives for each remedial action area based on
17 the reason I just stated. And also break this proposed plan
18 into smaller proposed plans because there are over 78
19 remedial action areas. It's just -- I think it's -- you're
20 asking the public too much. By putting this proposed plan
21 in front of them and asking them to make some sensible and
22 meaningful comments is just -- I don't think it's doable and
23 I think you're asking them too much for it. So I would
24 strongly recommend that we break this proposed plan up to
25 smaller pieces and that way we can look at each of the

1 remedial action areas or each four or five management areas.

2 It just makes it easier that way.

3 Other readability issues. I would strongly
4 recommend that EPA add additional technical terms in the
5 glossary. For example, soil flushing, mixed use. Define
6 soil flushing, define mixed use, define institutional
7 control, define operational controls. Those are a few
8 examples. These came up when I was talking with Janis
9 Heple, our Chairwoman, who had different ideas on what
10 institutional control is. And we are both college
11 graduates. If we had this misunderstanding on what those
12 are I believe other people would too. And bold those terms
13 that are in the glossary, it just makes it for easier
14 reading of this complex proposed plan.

15 Another readability issue. It is not clear in
16 Tables 2a and 2b, which cleanup level were referred -- will
17 be used. And I think Jimmy Spearow touched on that.
18 Because for any given chemical there could be like three or
19 four cleanup levels. It's really difficult to be able to
20 tell which cleanup level is being used for the specific
21 remedial action area.

22 And by the way, the ecological number, it is not
23 clear to me that those numbers under SLERA, S-L-E-R-A, ESL
24 column, are those cleanup numbers for eco-receptors? It
25 doesn't say "cleanup level" as opposed to other columns

1 where it says specifically "soil cleanup levels." So it's
2 not clear whether those would be cleanup levels.

3 Okay. And so -- and also page 13 on the proposed
4 plan. The second bullet item it states:

5 "If eco risk exceeded screening levels and the
6 Screening Level Eco Risk Assessment recommended
7 further evaluation for an action, then the area
8 was recommended for cleanup."

9 Okay, that's an accent, I understand accents.
10 The bullet right above that states:

11 "If the potential human health risk was just above
12 1×10^{-6} , the HI was greater than 1.0, or an
13 estimated blood lead level was great than 10
14 micrograms per deciliter, then the area may have
15 been recommended for cleanup evaluation."

16 So does this mean that the area may not have been
17 recommended for evaluation as well? It's not clear.

18 And the same thing for the third bullet on page
19 13.

20 This is a general comment. There is no lat/long
21 on the maps. George Waetell, that's spelled G-E-O-R-G-E,
22 W-A-E-T-E-L-L and I, and especially George, requested the
23 lat/long information be posted on all maps. The EPA
24 promised to have this information on the maps but to this
25 day there is no lat/long on any of the figures. Please put

1 the lat/long information on the figures.

2 On page 14, Remedial Action Objectives. First
3 bullet:

4 "Prevent exposure to COCs in soils that pose an
5 unacceptable risk for present and future workers
6 and residents on the property and ecological
7 receptors on the property."

8 Please add "sediment" in addition to soils.
9 Because clearly for the Buffalo Creek area the sediment in
10 the creek are being cleaned up.

11 Also please extend your wording not just on the
12 property but off-property as well because contaminants may
13 very well have migrated off-property.

14 A related comment to that is that this proposed
15 plan doesn't address potential contaminants that may migrate
16 off-property and contaminants that may migrate on to OU-6
17 from Island OU or other areas.

18 Page 16, Table 1. I'm sorry, that's page 16,
19 Table 3. Under Alternative 2, Institutional Controls. It
20 indicates in this table that this particular alternative
21 does not reduce toxicity, mobility or volume through
22 treatment. So therefore I don't see why this alternative is
23 being proposed for some of the remedial action areas. I do
24 not support this alternative for any of the remedial action
25 areas.

1 Going back to Table 1. Please explain the
2 difference between commercial versus industrial versus mixed
3 use and residential in terms of exposure scenario for human
4 receptors.

5 And a final comment is that it does not appear
6 that the proposed -- some of the proposed actions by EPA are
7 protective, especially those that are proposed for
8 Alternative 2 as well as Alternative 4. Specifically, those
9 are proposed for doing soil vapor extraction under a mixed
10 use or residential use. If I were to buy homes I would be
11 concerned about having pipes underneath my property and
12 having it run.

13 And if that is not the case please, please do
14 indicate so. Because it sounded like from earlier
15 discussion that the cleanup will be done using SVE. Until
16 then, residents won't be able to build houses. But as it
17 stands right now the proposed plan does not accommodate that
18 since appropriate -- it tells me that when I buy property in
19 the areas that that's designated as mixed use or
20 residential, there will be, depending on where we are, the
21 remedial action area that will be source vapor extraction
22 equipment. Thank you.

23 COMMUNITY INVOLVEMENT COORDINATOR LANE: Thank
24 you. Any other public comment? Please state your name and
25 spell it for the reporter.

1 MS. TURA: My name is Alta Tura, A-L-T-A, T-U-R-A.
2 Habitat 2020 and ECOS have taken a look at the
3 proposed plan and feel that the summary is not adequate,
4 more information is needed. We are particularly interested
5 in knowing how the proposed cleanup relates to the planned
6 land uses. We want to see information on the levels of
7 concentration of the chemicals of concern and more time is
8 needed to review the plan. Thank you.

9 COMMUNITY INVOLVEMENT COORDINATOR LANE: Thank
10 you.

11 MS. HEPLE: I'd like to speak but I'm wondering if
12 I could speak from the podium so I don't have to be holding
13 the microphone.

14 COMMUNITY INVOLVEMENT COORDINATOR LANE: Okay.

15 MS. HEPLE: Hi everybody. I'm Janis Heple, I am
16 the Chair of the Citizens Advisory Committee on the Aerojet
17 Superfund Site. I just -- I wanted to come up and be able
18 to see everybody when I spoke because in reviewing this plan
19 I really concur with the comments that have been made by the
20 other speakers that there just isn't enough information for
21 us here to really be able to speak out on this plan, except
22 perhaps not in support of it.

23 Allen mentioned 78 areas, remedial action areas.
24 I for some reason had counted 75. But then it's further
25 kind of grouped into 16 management areas and then one of

1 those management areas is pulled out into three parts, the
2 Admin area. They all need a much more complete presentation
3 in order for the community to be able to weigh in on their
4 cleanup.

5 And also more time. I mean, we just have until
6 June 7th right now and we really don't have the information
7 that we would need at this point in time. Even -- I know
8 that we have the information from the remedial investigation
9 feasibility study and I know that we've had six or so
10 meetings that involved discussions of the Operational Unit
11 6. However, those meetings never really got to what we're
12 now seeing glimpses of in this proposed plan information.

13 I went back and kind of purposefully looked at
14 some of your presentations, Gary. It's like, was I, you
15 know, was I missing things? But actually we just didn't
16 really have the information that was going to tell us what
17 would actually be happening if this proposed plan was to
18 move forward.

19 And I'm glad that we were able to make some of the
20 comments that we did make last year, the letter that we
21 wrote in July from the CAG. But, you know, now there's a
22 real sense of criticalness about this issue. The objective
23 for the OU-6 remedy is to do no harm to future owners of the
24 land to be developed, based on what I believe is a one in a
25 million risk for residential or unrestricted use. And given

1 the multiple contaminations and continuing technical and
2 scientific improvements that will change the risk assessment
3 over the 100-plus years length of the remedy, the CAG feels
4 strongly that it is critical that the remedy is reasonably
5 conservative. Because if it can go wrong, it will go wrong.

6 We discussed at one of the meetings on the IRCTS,
7 the other hazardous waste site nearby, we discussed --
8 something came up about, oh, well we're only planning for
9 the next 30 years. And as you might remember if you were
10 there, and most of you were, I was somewhat incensed because
11 I have been involved working on this site for 34 years at
12 this point. And 30 years is nothing when it comes to these
13 sites.

14 And what I think those of us on the CAG are
15 concerned about is the degree to which these remedies will
16 be put in place and will be carefully followed. And if
17 there's people in homes who have vapor extraction systems
18 underneath their residences and they're not -- I mean, I'm
19 very, very concerned. It's like it's raised the bar. We're
20 not just dealing with cleanup, we're dealing with this
21 potential movement of citizens onto this property and I feel
22 a real heavy responsibility over that issue.

23 The CAG supports source reduction removal to the
24 maximum extent possible in OU-6. This will reduce OU-3 and
25 OU-5 operation time and be protective of human health.

1 Alternative 4, you know, talked about on page 16,
2 only partially meets this criteria. Now we have had some
3 discussions on that tonight and I may have been
4 misinterpreting. Again there is a need for more in-depth
5 information. I may have been misinterpreting some of the
6 way that that was intended when it talked about a partial
7 remedy. But it's mentioned that the soil vapor extraction
8 is listed to partially meet the need for reduction of
9 toxicity mobility or volume through treatment. And I guess
10 this was asked earlier tonight, what remedy would fully meet
11 the need for treatment of contamination.

12 And then I believe Allen mentioned that the
13 proposed plan does not define the remedy terms for air
14 stripping and the flushing that are mentioned in the
15 selected remedy sites. So we do want to have an explanation
16 of these, the terms. And also the combination of using the
17 soil vapor extraction, the air stripping and the flushing
18 together to meet the remedy objectives.

19 I am not positive, again, because the information
20 is slim here. And of course you guys all know how big the
21 RIFS is. We really needed a bigger volume. Seventeen pages
22 just really isn't enough for the magnitude, the 75, 78,
23 whatever it is, the entire number of sites that we're
24 dealing with here.

25 But in terms of the institutional controls, how

1 are they fully protective of human health for the six areas
2 listed in the proposed plan? The six areas include two
3 commercial areas, two of mixed use, one of residential and
4 one industrial site. And it's a little confusing in reading
5 the document because in the Summary of Remedial Alternatives
6 listing it mentions Alternative 2 as not acceptable for
7 family homes, day care centers, health care centers or
8 schools. But in the selected remedy table, Table 1,
9 Alternative 2 is listed as the remedy for mixed designated
10 sites AW-SV-R-1, L2-SV-1 and residential designation L5-SV-
11 R-3. We need a much better explanation of how the criteria
12 becomes acceptable as a stand-alone remedy.

13 Earlier Jimmy talked about the source areas,
14 predominantly, I believe, in OU-7. If development of the
15 Easton and Westborough areas was to move forward as soon as
16 this cleanup remedy, if you guys were to move forward
17 against the way the community is feeling right now and start
18 getting cleanup going and then it -- you know, development
19 would follow on the heels of that, it would be placing
20 residents over the groundwater contamination that has still
21 not been addressed that is moving out of OU-7, out of the
22 major source area. Thank you.

23 COMMUNITY INVOLVEMENT COORDINATOR LANE: Thank
24 you.

25 MR. HODGES: Thank you, Jackie. I want -- my

1 comment is to add on to what Janis had to say.

2 COMMUNITY INVOLVEMENT COORDINATOR LANE: Please
3 state your name and spell it for the reporter.

4 MR. HODGES: Okay. The name is Burt Hodges, B-U-
5 R-T, H-O-D-G-E-S, representing the Save the American River
6 Association.

7 At the end with respect to the deadline for
8 comments being June the 7th. My concern is with respect to
9 the CAG membership. The next meeting of CAG isn't until
10 July. And I guess echoing Janis' comments about time to
11 consider things and have some additional information as
12 others members of the CAG have talked about here, to
13 consider. I would -- my comment is that June 7th is too
14 early. It seems to me as a member of the CAG I wouldn't be
15 prepared to feel I could add anything significant as a
16 comment now until I learned more from the CAG members, such
17 as after the next -- at least after the next CAG meeting.
18 So I would propose that your deadline really ought to be,
19 say, August instead of June. So that's my comment, I think
20 it's too early.

21 COMMUNITY INVOLVEMENT COORDINATOR LANE: Thank
22 you. Are there any more public comments? State your name
23 and spell it.

24 MR. TSAO: This is Allen Tsao, T-S-A-O. I just
25 wanted to add that I had commented earlier to break the

1 proposed plan into smaller pieces and add more information
2 to it. Now if that proposal is not acceptable by EPA please
3 let me know right away because I know that our oral comments
4 and written comments won't be responded to until the ROD is
5 signed. So if that is not a viable option I would like to
6 know as soon as EPA can tell that. Thank you.

7 COMMUNITY INVOLVEMENT COORDINATOR LANE: Thank
8 you. Any other public comment?

9 MR. HODGES: Thank you, Jackie. Just to add a
10 little bit to my previous comment about thinking that there
11 really ought to be a delay until -- for your deadline on
12 comments to things. Part of my request would be with
13 respect to Save the American River Association, which we
14 have commented previously with respect to the residential
15 development and things. And part of my comments related to
16 giving the rest of our Save the American River Association
17 Board time to consider whether they wanted to make
18 additional comments to something like this. June the 7th
19 would be too early for that to be accomplished.

20 COMMUNITY INVOLVEMENT COORDINATOR LANE: Thank
21 you. One more?

22 MR. SPEAROW: This is Jimmy Spearow speaking as a
23 public member of the CAG. Just to follow up on my comment.
24 On Table 2a there really needs to be the concentration of
25 contaminants presented there, both the exposure point of

1 concentrations that have been presented. And it needs to be
2 for each of the different exposure units, okay.

3 For example, if you've got a region that's going
4 to be residential where you are going to have, say, a lot
5 size of an eighth of an acre or so, it's the exposure point
6 concentration of percent UCL that would be within that
7 exposure unit that would be present there. And there just
8 really isn't space for that here, okay. And there really
9 needs to be for you to understand the contaminants that
10 different receptors could be exposed to, whether it be
11 residential receptors or industrial or aquatic receptors
12 that are present there. That's, I think, an important thing
13 that we need a lot more information and needs to be expanded
14 because you have so many different exposure units and so
15 many different areas that are being addressed in the site.

16 MR. TSAO: This is Allen Tsao, A-double L-E-N, T-
17 S-A-O. I wanted to just add on to Jimmy's comment that I
18 agree with Jimmy's comments. It is not unusual to have a
19 concentration, maximum concentration, a 95 ECL concentration
20 in the proposed plan. I'm pulling a proposed plan from
21 Moffett Airfield, Site 26 from the Navy, and it's a joint --
22 I believe it's a joint proposed plan from the Navy and EPA
23 and they have a table of their concentrations in the
24 proposed plan.

25 MR. SPEAROW: Jimmy Spearow. Previously the CAG

1 CERTIFICATE OF REPORTER

2
3 I, RAMONA COTA, a Certified Electronic Reporter
4 and Transcriber, do hereby certify that I am a disinterested
5 person herein; that I recorded the United States
6 Environmental Protection Agency Public Meeting; that I
7 thereafter transcribed it.

8 I further certify that I am not of counsel or
9 attorney for any of the parties to said public meeting, nor
10 in any way interested in the outcome of said matter.

11 IN WITNESS WHEREOF, I have hereunto set my hand
12 this 20th day of May, 2013

13
14
15 /s/ Ramona Cota

16 RAMONA COTA, CERT**478
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