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CROWS LANDING
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OVERVIEW OF NAVY'S INSTALLATION RESTORATION PROGRAM NASA CROWS LANDING

PUBLIC MEETING

February 9, 2012

6:30 P.M.

at

Best Western Villa Del Lago, 2959 Speno Drive
Patterson, CA 95363

Ref No. 10977
REPORTED BY: JENNIFER M. MACATO, CSR NO. 13363

1 PRESENT

2

3 JAMES SULLIVAN
BRAC Environmental
4 Coordinator
Department of the Navy
5
TONY GUIANG
6 Navy Project Manager, BRAC
PMO
7 Department of the Navy

8 MURRAY WUNDERLY
PG, CHG
9 Principal, Terra Pacific
Group
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1 I N D E X

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3 PAGE

INTRODUCTORY REMARKS
4 James B. Sullivan..... 4

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6 Presentation Begins..... 6

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1 P R O C E E D I N G S
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3 MR. SULLIVAN: My name is Jim Sullivan. I'm a
4 civilian employee with the U.S. Department of the Navy
5 also a former Navy sailor. And we're here today for
6 proposed planned public meeting for the former naval
7 auxiliary landing field and former NASA flight facility
8 Crows Landing.
9 So just a couple of administrative items: If
10 haven't had a chance to sign in -- don't worry about
11 jumping up now -- just before you leave, we'd
12 it if you can sign in.
13 We are -- we do have a stenographer here to
14 record the meeting. So what we'll be doing for tonight
15 is we'll have a presentation. We'll open the floor to
16 formal public comments. And then we'll be here until
17 8:30, an informal open house, if you'd like to stay and
18 talk to us one-on-one, and you can still provide a
19 comment to the stenographer during the open-house
20 So I think since we don't have that large a
21 group, if no one minds, I'd like -- or if people would
22 like to, it's not a requirement. We can go around the
23 room and have everyone introduce themselves. It's not
24 requirement, though. If we can start over on this
25 MR. GUIANG: Hello, everyone, I'm Tony Guiang,

1 Navy Project Manager for Site 17.
2 MR. ANDERSON: I'm Mike Anderson. I'm the
3 commander of 168, American Legion. And I'm here for
4 veterans and also for the well-being of what's going to
5 happening to the control tower. That's one of our main
6 things.
7 MR. BOGGS: Hi, everyone. Keith Boggs,
8 Stanislaus County.
9 MR. NOLAN: Jim Nolan, consultant with the
10 of Patterson.
11 MR. COLLETTE: Mike Collette with the City of
12 Patterson.
13 MR. WUNDERLY: Murray Wunderly, I'm the
14 environmental consultant for the Navy's project.
15 MS. SHAW: Laura Shaw, Patterson resident.
16 MR. SULLIVAN: I guess we'll start from the
17 front.
18 MS. D'ONOFRIO: I'm Francesca D'Onofrio, State
19 California Department of Toxic Substances.
20 MR. ISSINGHOFF: And I'm Greg Issinghoff with
21 State of California Regional Water Quality Control
22 MS. ALVES: We're the Alveses, and we live
23 down from the base.
24 MR. ALVES: We're in the end of the runway.
25 MS. PICKENS: Tammy Pickens from the

1 of Toxic Substances Control.
2 MS. ALVES: What'd you say?
3 MS. PICKENS: Tammy Pickens, Department of
4 Substance Control.
5 MR. ARROYO: Peter Arroyo. I own and operate
6 railroad company near Patterson.
7 MR. PARTRIDGE: Jonathan Partridge with
8 Newspaper.
9 MR. EVANS: Lee Evans, just a resident.
10 MR. MARTINEZ: Tony Martinez. I live just
11 the way from where they do (indicating).
12 MR. SULLIVAN: Well, thank you very much, all,
13 for coming tonight. So we'll go ahead and start the
14 presentation, if I can figure out how to get this thing
15 work.
16 ++++
17 So this is the proposed plan; it is the Navy's
18 proposal for the cleanup. And so the Navy is managing
19 cleanup for the known former Naval auxiliary landing
20 field. And through the base's federal Department of
21 Defense base closure process, the base was selected for
22 closure.
23 In the case of Crows Landing, the property was
24 transferred to NASA, who operated it for a period of
25 years. And then under -- under federal legislation,

1 property is now being -- now in the process of being
2 transferred to the County. But throughout this all --
3 throughout this period, the Navy is still managing the
4 cleanup program.
5 So we're -- our office is the Navy BRAC, Base
6 it stands for Base Realignment and Closure. Because in
7 some cases we do base closures, as in Crows Landing; in
8 other cases, we also do alignments. But sometimes when
9 base closes, some of those missions are still needed
10 so they need to be realigned or relocated to other
11 around the country. So that's part of our mission as
12 well.
13 So the Navy BRAC Program Management Office
14 is located in San Diego, and we report to the
15 of the Naval facilities engineering command in
16 We also receive local support. There's a local Navy
17 engineering office called Southwest Division that's
18 located in San Diego.
19 So the Navy has an Installation Restoration
20 Program to cleanup bases. This -- it's the same --
21 the same program at both active operating bases and
22 closing bases. And, in fact, the cleanup here started
23 before the -- before the base was even selected for
24 closure, and the cleanup would occur regardless of
25 the base was closing or not. We have cleanup

1 going on at active bases as well.
2 So the purpose of the Navy's Installation
3 Restoration Program is to identify -- identify,
4 investigate and assess, characterize and clean up
5 hazardous substances; to figure out where they are, and
6 come up with a solution to clean them up and to reduce
7 risk to human health and the environment, you know,
8 past operations and spills.
9 We operate under what's called the Federal
10 Comprehensive Environmental Response, Compensation and
11 Liability Act or CERCLA. It's also known as the
12 Superfund. Now, this is no -- Crows Landing is not a
13 Superfund site, but as a -- as a federal project, we're
14 required to operate within those same rules.
15 So, ultimately, our goal is to get the -- get
16 sites -- all the sites cleaned up and achieve what's
17 referred to as site closure in concert with the
18 agencies.
19 And at what point were you starting, Tony?
20 MR. GUIANG: You need to do this part.
21 MR. SULLIVAN: I'm doing this one too?
22 MR. GUIANG: Yeah.
23 MR. SULLIVAN: Oh, okay. Sorry.
24 I don't think we have this on the slide, but
25 don't do this alone. I mean, we're part of a project

1 team. So that project team includes the Navy, the
2 Department of Toxic Substances Control, the Regional
3 Board, and then we work in association with the County.
4 So this is -- this is a step-by-step process
5 CERCLA. This is the standard CERCLA process that would
6 used at any site. It starts with a -- a preliminary
7 assessment and site inspection; that's when you go out
8 identify what sites there may be and, perhaps, collect
9 some initial data to determine, you know, is this a
10 that needs potential investigation and cleanup. So
11 in the -- we're in the shaded phase now, so we've
12 completed the first two steps.
13 Now, once we've determined that the site needs
14 be further investigated and potentially cleaned up, we
15 move into the Remedial Investigation/Feasibility Study
16 phase. What the Remedial Investigation does is just
17 an investigation; it's to identify what's there, where
18 is, and in what quantities to -- to basically get all
19 facts, just like being a detective.
20 So once we have all the facts about the site
21 through the Remedial Investigation, which also includes
22 determining what risks there may be, then we can move
23 the Feasibility Study phase. And the Feasibility Study
24 stage is where we -- once we know what the problem is,
25 the Feasibility Study looks at various alternatives to

1 to perform that cleanup. So it lays out a whole range
2 alternatives and what the cost and the pros and cons
3 So once we've got that complete, then we can
4 then we can move to the phase that we're in now in the
5 Proposed Plan. So the Proposed Plan takes one of those
6 alternatives that we've identified in the Feasibility
7 Study and proposes it as the Navy's cleanup solution.
8 And as part of that Proposed Plan process, we
9 gathered from the public input, which is why we did --
10 which is why we distributed the Proposed Plan to the
11 public, had a 30-day public comment period, including a
12 public meeting that we're having here tonight.
13 So we're here tonight to tell you what we've
14 and to -- to seek your comments, either at this meeting
15 anytime during the 30-day public comment period. Then
16 after we have -- we have gathered all those comments,
17 Navy, DTSC, the Water Board will work to address all
18 comments and come to a determination of: Do those
19 comments, as part of the decision-making process is to
20 is to whether or not we proceed with that proposed --
21 the proposed plan or maybe look at something else.
22 And then once we -- once we made the decision
23 the cleanup, then that's documented in what's called
24 Record of Decision. So the Record of Decision is a --
25 a formal document signed by the Navy; in this case, the

1 Navy, DTSC, and the Water Board, and that memorializes
2 cleanup decision.
3 And then we move into the remedial design,
4 is the design phase; and the remedial action, which is
5 actually going out there and performing the cleanup.
6 then the cleanup will -- in this case, because it --
7 because it deals with groundwater, will operate for
8 period of time, we'll be -- we'll be monitoring it,
9 gathering data, and working with the agency to
10 whether it's -- it's effective or not.
11 And then, ultimately, between the Navy, DTSC,
12 the Water Board will make a decision that we've
13 our objective, and we can close the site. So the
14 Plan summarizes all the investigations and presents the
15 preferred alternative -- or the proposed alternative,
16 then provides an opportunity for public input before we
17 make a decision, and then it will be further
18 So all of the comments we receive will be --
19 be responded to in what's called a Responsiveness
20 And that Responsiveness Summary will be part of the
21 record, and that's the Record of Decision. So it will
22 be documented.
23 So at this point, I'll -- I can turn it over
24 Mr. Tony Guiang. And Tony is the actual Navy project
25 another Navy employee; he's the project manager for

1 project.
2 MR. GUIANG: Thanks, Jim. Thanks for the
3 introduction.
4 Again, my name is -- for those of you who came
5 late, my name is Tony Guiang; I am the Navy project
6 manager for Site 17, also known as the Administration
7 Groundwater Plume, Crows Landing.
8 As Jim mentioned, the purpose of this meeting
9 to familiarize you with the Proposed Plan, which many
10 you -- or, hopefully, many of you got in the mail. And
11 you need a copy, we have some copies over there at the
12 table for you guys to get.
13 Before I go any further, something very
14 in this Proposed Plan are some definitions in the back
15 with some acronyms. We're going to be going over a lot
16 acronyms in here, and so to familiarize yourself with
17 those acronyms are there's a glossary in the back of
18 Proposed Plan, which will really help.
19 MR. SULLIVAN: Oh, let me just add to this.
20 know, I think in a small group like this, if you'd like
21 ask any, you know, clarification questions during the
22 course of the presentation, you know, please feel free
23 do so.
24 MR. GUIANG: Okay. This slide basically
25 an outline of the topics that we're going to cover

1 tonight, which includes a site description background,
2 current conditions, and a little bit on the planned
3 use of the site. I'm going to go over some of the
4 environmental investigations that have been conducted
5 the site, basically, to help assess the nature and
6 of the potential contaminants that may have been there
7 a result of past activities.
8 I'm really going to focus in on two of the
9 investigations that Jim mentioned earlier, which are
10 Remedial Investigation/Feasibility Study. This is
11 combined -- this is where we identify the chemicals of
12 concern at the site. We establish the Remedial Action
13 Objectives; those are the objectives that we want to
14 accomplish once we implement the remedy. We provided
15 remedial alternatives to address the contaminants at
16 site.
17 And then I'm going to go over a Preferred
18 Remedial Alternative Selection Process; how we came up
19 with the preferred remedy that you're going to be
20 in the proposed plan. And I want to add too, that, you
21 know, the Navy didn't just come up all of a sudden and
22 this is the preferred remedy we have. Oversight from
23 very beginning, from the regulatory agencies, from the
24 Francesca at DTSC and Gregg from the Water Board. And
25 then last, we'll close the meeting off with some

1 instructions on how you, as the community, could
2 your comments or questions to the proposed plan.
3 Okay. So I'm sure everybody knows where Crows
4 Landing is. It's located between Crows Landing and
5 Patterson, California. This site is -- the entire
6 facility is comprised of a little bit over 1500 acres,
7 which about a little over 1300 have already been
8 transferred over to the County. So we're working --
9 really talking about, probably about 176 acres left
10 to transfer.
11 The facility includes two former runways and
12 their aprons, some former -- the only thing that's left
13 the site now are some abandoned building pads from the
14 facilities that used to be there. Right now, also, the
15 State police is currently using the property to -- for
16 some exercises, I believe. And I'm not sure how often
17 they use it, but I know they use part of the land to
18 their vehicles and do some exercises.
19 Now, since the primary focus of the remedy is
20 address the impact of groundwater, I thought it would
21 important to talk a little bit about the hydrogeology
22 the site. We're working basically --
23 MR. SULLIVAN: I was going to say, Tony, the
24 overall site boundaries is the dark line, and ours at
25 Site 17 is the smaller blue boundary area.

1 MR. GUIANG: Well, actually, this is the
2 entire -- what we call Site 17 Administration Area
3 the three source areas within this.
4 MR. ANDERSON: That's the 170 acres?
5 MR. GUIANG: The 176 acres; it includes this
6 (indicating), but I believe there's also some other
7 that haven't been transferred over --
8 MR. ANDERSON: Just about 80 acres or so?
9 MR. GUIANG: Yeah. So there's still some
10 that haven't bee transferred over to the County.
11 MR. BOGGS: They're claimed, just haven't been
12 transferred over.
13 MR. GUIANG: Right. So as I was mentioning,
14 hydrogeology groundwater employees basically to the
15 north/east, so along this direction (indicating). And
16 we're working with -- we have four discrete groundwater
17 zones, shallow, mid shallow, mid deep, and deep
18 Currently, the Navy is monitoring groundwater
19 72 wells located throughout Site 17; and that includes
20 also monitoring some off-site wells, which is in this
21 up here (indicating). Actually, it's a little bit
22 about right here (indicating), on the Escobar property.
23 We're monitoring some off-site wells as well.
24 As I mentioned earlier, the Administration
25 Plume is a commingled plume from the three source

1 which is basically IRP site 17, UST site 117, and UST
2 Cluster 1. The UST sites right here (indicating) were
3 where former underground storage tanks. This area
4 here (indicating) was an actual dispenser. And they
5 jet fuel and such over here along (indicating) --
6 MS. ALVES: Is that where they cleaned those
7 the motors and all the engines right in that area?
8 MR. GUIANG: Up here (indicating)?
9 MS. ALVES: Yeah, all that blue --
10 MR. GUIANG: Yeah, there was a lot of --
11 MS. ALVES: And they were working on that
12 ago. I can't -- you know what the girl told me when I
13 called San Diego, she told me that -- said that they
14 blowing something into the ground -- something. I
15 know. That's what she told me. They would blow
16 in the ground to spread that fuel out, so I was just
17 wondering.
18 MR. GUIANG: Yeah. I think, for the most
19 these UST sites, it's just from basic leaking
20 storage tanks.
21 MR. ANDERSON: Were those JP-4 tanks that they
22 had on for the fighters later on in years, where they
23 the JP-4 in those tanks, aviation fuel? It's the real,
24 real bad stuff.
25 MR. GUIANG: Right.

1 MR. ANDERSON: So in those two sections right
2 there, those two tanks were moved out; is what you're
3 saying? And now they're monitoring them, or they're
4 cleaning them up?
5 MR. GUIANG: Well, no. There's still --
6 MR. ANDERSON: No?
7 MR. GUIANG: -- there's no activity at all
8 happening at the bases. There's no tanks there --
9 MR. ANDERSON: But they were contaminated by
10 JP-4?
11 MR. GUIANG: Yeah, there were past activities
12 there. And that's what's happening, there were, like,
13 underground storage --
14 MR. SULLIVAN: Yeah, as part of the Remedial
15 Investigation Study, we look at the history of the
16 focus a little -- or look at where the locations were,
17 the activities that may have resulted in some sort of a
18 spill. And then that's where we focused our
19 and collected the data.
20 And I'm sorry. If any of you have a question
21 would like to speak, it would help for our stenographer
22 you can identify yourself by name. It would help for
23 transcript.
24 MR. ANDERSON: Mike Anderson, American Legion
25 Post 168.

1 MR. GUIANG: A little bit about the site
2 background of Crows Landing: The facility was
3 commissioned in 1942, served as a training field for
4 War II. It was decommissioned in 1946, and then served
5 the outlying landing area for Alameda and for Moffett.
6 Activities that have been occurring at the site were
7 active through the 1980s, and the Navy and even the
8 Guard had some facilities at the base. NASA as well
9 maintained some research facilities at the base.
10 In 1994, NASA assumed custody of the facility,
11 and that's when they actually closed many of their
12 operations. And there was an Act of Congress in 1999
13 directed NASA to transfer the remaining property over
14 the County. So NASA had the original plan of actually
15 transferring the 1300 acres -- well, they did transfer
16 about a little over 1300 acres to the County in 2004.
17 the plan is to transfer over the remaining -- you know,
18 remaining parcels by the end of this year, the hope.
19 But, obviously, before the transfer can take
20 place, the Navy has to conduct the environmental
21 at the site, and we are making sure that the chemicals
22 concern from the previous activities at the site are
23 the -- meet the regulatory criteria for those
24 contaminants, so that the site can be used for
25 agricultural, industrial, and/or commercial uses.

1 So there's been several environmental
2 investigations that have been occurring at the site
3 1987. Jim mentioned that -- Jim mentioned earlier that
4 the -- the investigations around 1987 were basically
5 preliminary assessments, trying to find out, looking at
6 old records, seeing what they did at the site,
7 the potential contaminants that may have resulted or
8 been left at the site through activities.
9 In 1995, we had several interim remedial
10 that were conducted to treat soil and groundwater from
11 three source areas. So that was happening since about
12 1995. And a lot of these remedial actions were to
13 the soil contaminants.
14 And I haven't really mentioned soil up until
15 and that is because a lot of those remedial actions
16 were conducted actually addressed the soil
17 So, for example, I believe it was in IRP site 17; it
18 determined that the chemically impacted soil was
19 around a force sump. So when they removed the soil
20 the force sump, then the contaminants were gone as
21 So right now we're really concentrating or
22 focusing our efforts on cleaning up the contaminants
23 are still left in groundwater. As I mentioned, the
24 remedial investigations occurred in 1995 to 1996. This
25 really where an extensive sampling program was

1 at the site to further characterize the nature and
2 of the contaminants. And this is followed, obviously,
3 with the semi-annual groundwater monitoring of the --
4 the wells at the site.
5 As I mentioned, we're monitoring about 72
6 and also monitoring off-site wells. And between 2008
7 2010, we conducted some Bioremediation Treatability
8 Studies. And this was really, really helpful to us
9 because we were able to take the results of the studies
10 and, you know, help feed in on our alternatives, like,
11 which alternative would work best.
12 And then finally the Feasibility Study, which
13 completed in 2011. This is -- at this point, we've
14 already identified using all the data from previous
15 investigations, especially data from the Bioremediation
16 Treatability Studies. We were able to come up with
17 alternatives that would best address the contaminants
18 are at the site.
19 So by the end of the Feasibility Study, we
20 have already established what our contaminants were.
21 came up with Remedial Action Objectives; what we want
22 accomplish as a result of the remedy. And we've also
23 selected the preferred alternatives that are being
24 presented in this Proposed Plan.
25 So, basically, the chemicals of concern at the

1 site include benzene 1,2-DCA or dichloroethane, carbon
2 tetrachloride, chloroform, which is a by-product of
3 tet, and the petroleum hydrocarbons, TPH gasoline,
4 jet fuel. So we found that those are the contaminants
5 that exceed the cleanup goals currently at the site.
6 The -- what we hope to accomplish at the
7 completion of our remedy is we hope to make the site
8 protective of human health and the environment, protect
9 the beneficial uses of the groundwater; and by
10 implementing the remedy, we were going to prevent
11 off-site migration of the contaminants.
12 And also, we're going to make sure that the
13 remedy complies with ARARs. And ARARs are regulations,
14 state -- federal or more stringent state regulations
15 we need to -- that each remedy has to comply with.
16 Okay. So in this chart basically are the --
17 shows the four remedial alternatives that we came up
18 On the right-hand column, the remedial alternative No.
19 "The No Action." Obviously, that's not doing anything
20 the site. And as you can tell, the time of years to
21 complete is 24. And I'm not really sure how we came up
22 with the 24.
23 MR. SULLIVAN: And we're required to do the
24 Action" to establish as a baseline, not that we were
25 thinking of doing nothing. But it's -- the no-action

1 alternative is there as a baseline to measure the other
2 alternative.
3 MR. GUIANG: So this is a really important
4 because it really kind of describes each of the
5 alternatives, what each involves. Approximate cost to
6 implement the remedy, and the approximate time of years
7 for the remedy to come to completion to where we've
8 reached our remedial action objective.
9 And I'm going to introduce the consultant that
10 the Navy is working with later on; he's going to be
11 to provide you with a better explanation of these
12 alternatives.
13 As I mentioned, you know, we just didn't come
14 and say, Yeah, we're going to choose alternative four,
15 that's going to be the remedy for the site. What we
16 in the Feasibility Study is use comparative analysis,
17 where we rank -- ranked from high -- ranked the
18 alternatives from high to low; with low being the least
19 likely to achieve our remedial action objective, and
20 being the most likely to achieve our objective. And
21 that's the chart right there (indicating).
22 And what we do is compare the alternatives to
23 nine criteria, there's nine criteria there. There's
24 only -- there's only seven here. Yeah, there's only
25 here because we left off the last part, which is date

1 acceptance and community involvement. But, as you see,
2 what we did -- what this chart does is if you take each
3 action, we rate it or compare it to the column up
4 So, for example, for No Action -- I always use
5 that as the easiest one. No Action, the -- let's see.
6 The cost for "No Action" is zero. To implement No
7 that would be ranked very high because it would be very
8 easy to implement No Action, obviously.
9 And so by doing this comparative analysis, we
10 came up with No. 4 as our preferred alternative for the
11 site, which is Enhanced Bioremediation with
12 Monitor Natural Attenuation and ICs. We feel that that
13 going to be the alternative that best -- will be most
14 protective of human health and the environment.
15 Now I'm going to turn over the floor to Murray
16 Wunderly, who will provide us with a more thorough
17 description of the alternatives.
18 MR. WUNDERLY: Thanks, Tony. As Tony said, my
19 name is Murray Wunderly. I am the environmental
20 consultant working with the Navy on this project. And
21 firm was the one who went through and did the
22 Study and evaluated all these different Remedial
23 Alternatives; and, ultimately, we came up with the
24 preferred remedy of Enhanced Bioremediation with
25 Recirculation.

1 And it's a bit of a mouthful, but it's really
2 conceptually quite, quite simple. There's several
3 we know based on all of the investigations that have
4 done at the site over the years: We know what the
5 contaminants are; we know where they are; we know what
6 their concentrations are; and we know that this
7 of contaminants that we find out there also degrade
8 naturally in the subsurface.
9 Now, unfortunately, they don't degrade as
10 as we would like them to, but they do degrade. There
11 a series of tests done that Tony had mentioned earlier.
12 think it was the Biotreatability Studies done between
13 and 2010. And the purpose of those studies was really
14 see if there's a way that we can speed up that
15 process for those contaminants.
16 And there are substances that you can inject
17 an aquifer that do cause contaminants to degrade more
18 rapidly, and there's a number of these different
19 that are out there. And the Treatability Test really
20 looked at evaluating several of those compounds and
21 how effective each of them was. And at the end of the
22 day, it was found that, yes, you can cause these
23 to degrade faster in the subsurface there. The
24 was not really in getting the compound to degrade, but
25 challenge was really distributing this substance

1 the aquifer, so that you can actually treat a larger
2 The way it was done in the Treatability Study;
3 was injected at a single location. A well would be
4 drilled into the aquifer and a substance was injected.
5 And it was very effective at treating groundwater in a
6 small area around that well. At a site like this,
7 you have a relatively large area that requires
8 to go in and inject it would require a large number of
9 wells spaced fairly close together. And you can
10 that that gets fairly costly fairly quickly, if you
11 very large area.
12 So the concept behind the Enhanced
13 with Recirculation Alternative is that rather than just
14 injecting it at one location and relying on it to treat
15 small area around there, we incorporated extraction
16 pumping wells and reinjection from injection wells to
17 basically circulate the water through these aquifers.
18 And in this process, there would be 14 new
19 groundwater extraction wells, which would extract from
20 various depth ranges over the area that requires
21 treatment, about 170 gallons a minute, run through a
22 treatment system which would remove any of the
23 contaminants from that water.
24 The water would then be amended with one of
25 substances identified in the Treatability Study that

1 enhances degradation of a compound of concern. That
2 would then be reinjected into the aquifer, and that
3 process of extraction and injection, like I say, would
4 circulate this -- this substance throughout the
5 And you'd really get rid of the contaminants
6 two fronts: You'd be pulling them out of the
7 and treating them in a treatment system; and you'd also
8 enhancing the speeding up the rate at which they
9 in the ground themselves. And this process is
10 significantly more effective than the other
11 that were looked at.
12 The other alternatives would all take 20-plus
13 years in order to reach the remedial goals for
14 groundwater. Under this alternative it was less than
15 that time; it was about eight years. Now, during that
16 eight-year time period, there are several other things
17 that would be done out there. There would be
18 of the groundwater; groundwater samples would be
19 and analyzed to see what the concentrations of
20 contaminants were in groundwater to verify that they
21 in fact, degrading as anticipated; and to check on the
22 size of the plume and ensure that the plume was
23 shrinking over time, as anticipated.
24 Additionally, there would be land use
25 in place, deed restrictions similar to what there are

1 the site right now; but they would basically restrict
2 certain land uses, such as putting in a well in that
3 treatment zone. So you wouldn't be able to do anything
4 like that. And those -- those land use restrictions
5 stay in place for the duration of the treatment, which
6 would be about eight years in this case.
7 And that's -- that's pretty much the remedy in
8 nutshell.
9 MR. ANDERSON: Question.
10 MR. WUNDERLY: Sure.
11 MR. ANDERSON: Mike Anderson, Post Commander
12 How long would those 14 new groundwater
13 extraction wells -- would they be left there or --
14 I -- I'm not too good on this. I don't know whether
15 are bigger wells or maybe -- well, I'm asking for
16 generations to come, my grandchildren and other
17 Will they stay there, or will they be solidly closed up
18 concrete?
19 MR. WUNDERLY: They -- they would be. And
20 there's a process for --
21 MR. ANDERSON: Don't know if it's a good
22 or not.
23 MR. WUNDERLY: No, it's a good question.
24 are drilled. They are usually drilled under a permit,
25 there are certain requirements. They have to be done a

1 certain way and have to be approved. And in this
2 particular case when these wells were finished, when
3 use was finished, the site was remediated; they would
4 abandoned by a State-permitted process. And in that
5 abandonment process they're overdrilled, and then
6 filled with grout or cement or something like that to
7 it to the surface --
8 MR. ANDERSON: And closed up?
9 MR. WUNDERLY: -- and that would be part of
10 remedy, and that would happen at the end.
11 MR. ANDERSON: Okay.
12 MR. SULLIVAN: And the term used is
13 "abandonment," but it doesn't mean walk away from it --
14 MR. ANDERSON: It means closed and sealed --
15 MR. SULLIVAN: -- formal process of closing
16 well in association with the Water Board and making
17 that the well is properly closed.
18 MR. ANDERSON: This would -- this would cover
19 people that are farmers for our food crops that come
20 of the valley, right? And it also covers the people
21 might go onto that site?
22 You know, see, on this plan here it says for
23 eight years. I understand that in the eight-year
24 would people already be going into that site, so to
25 development, knocking on our door out there real hard?

1 Would they be allowed to come onto the site at that
2 when this process is going on for eight years to start
3 construction?
4 MR. WUNDERLY: This -- the construction phase
5 the development is sort of a different aspect of the
6 project.
7 MR. ANDERSON: But coming together?
8 MR. WUNDERLY: This sort of an application
9 doesn't -- you wouldn't have to stay off the site for
10 fully for that period.
11 MR. ANDERSON: Okay. That's -- that's it.
12 MR. WUNDERLY: I mean, it can be designed
13 around --
14 MR. ANDERSON: It's workable then?
15 MR. WUNDERLY: Yes.
16 MR. ANDERSON: That's good. That answers my
17 question. Thank you very much.
18 MS. ALVES: Can I ask? They want to build
19 that -- they want that train in there. What do they
20 it's going to bring in, the same type of stuff you have
21 there on the board? It's not going to -- these people
22 here, what we need is a big hospital out there, an
23 Care. We don't have -- you can't get from here to
24 in time if somebody was real sick. We need something
25 here, not these little dinky things that they're

1 around town. They don't need that out there.
2 What do they want to waste it on a train
3 going to have -- bring in garbage. And then they say
4 trucks, dozens of trucks will be in and out of there.
5 That isn't the place for the air base. That air base
6 deserves something better than that. And that wouldn't
7 put contamination in the ground, if they had a hospital
8 there.
9 MR. WUNDERLY: Understood. And the purpose of
10 this meeting is really --
11 MS. ALVES: I know. It's about all the
12 contaminations there. But they should be over by now,
13 years.
14 MR. ANDERSON: Oh, I agree on that.
15 MR. SULLIVAN: So the Navy -- the Navy mission
16 her is to complete the cleanup, so that the property
17 be transferred by NASA to the County. Because under
18 federal -- federal law regulation, we can't transfer
19 property unless it is clean. There is, actually,
20 another -- there's now another -- an avenue called
21 Transfer, but that's a whole -- that's a whole separate
22 process as well.
23 But, typically, like in this particular case
24 Crows Landing, we're going to be cleaning this last
25 of property, and then that would allow, NASA, as the

1 property owner, to turn it over to the County for
2 use. So our mission is to complete the cleanup, so
3 NASA can turnover the property.
4 MS. ALVES: Well, I was born and raised on
5 ranch; it started with propellers and then the jets.
6 MR. MARTINEZ: Well, my name is Tony, and I am
7 concerned about that. So it will take about eight
8 in order to complete, and you can't transfer it until
9 clean?
10 MR. SULLIVAN: Yeah. And I may need some help
11 from my DTSC and Water Board associates. But,
12 we -- we have to achieve some state of cleanup that we
13 all agree on before the property can transfer;
14 otherwise -- that doesn't necessarily mean it can't be
15 it can't be used. But it just can't be transferred out
16 federal ownership.
17 And as I mentioned earlier, there is another
18 process called "Early Transfer"; although, I'm not sure
19 applies in this case -- or a lease, yeah. But the
20 ownership of the property typically wouldn't transfer
21 out of the federal government --
22 MR. BOGGS: Jim, do you have any photographs
23 what these wells look like? Because I think that maybe
24 the public perception -- at least, it was mine a decade
25 ago, that they looked something like oil rigs or some

1 large -- they're extremely minute, interesting pieces
2 technology. And once the system is in play, the
3 is really in play with regards to development.
4 MR. WUNDERLY: Yeah. I mean, there's a number
5 ways that -- that these particular wells can be
6 constructed. And, you know, the -- the final design is
7 step that will come in the future here. But there are
8 wells that are mounted into the middle of streets; for
9 example, they're flush mounted. You can't see them,
10 everything is below ground.
11 So, I mean -- and other than that, typically,
12 they stick up a couple feet out of the ground, you
13 And these are not -- these wells that we would be
14 about here are not pumping the volumes of water that a
15 typical ag well is, where you see them with the large
16 motors and everything. These are much, much smaller;
17 they're pumping, you know, maybe several tens of
18 minute at most, instead of hundreds of gallons a
19 So they can be engineered to be, you know,
20 with the ground if you needed them to; it's not an
21 infrastructure. And the treatment system on this; I
22 that would be a compound, a small compound with, you
23 treatable water that would be fenced off wherever you
24 choose to put it.
25 UNIDENTIFIED SPEAKER: On the contamination;

1 City takes their drinking water from the lower.
2 based on what we've heard here, most of the stuff is
3 perched above that on the clay later; is that true?
4 MR. WUNDERLY: Yeah. And the clay is hard
5 And when you're saying "upper" and "lower," we -- we're
6 as Tony said, there's four main zones within what
7 calling the upper aquifer here, which are the zones
8 interested in. And, yes, and that's the focus of this
9 remedy.
10 UNIDENTIFIED SPEAKER: Is there any in the
11 from the lower aquifer as well? Have you found
12 down there?
13 MR. WUNDERLY: There hasn't been -- yeah, I
14 the majority -- that clay is a pretty competent clay,
15 the majority is in this shallow aquifer. I mean, we
16 there some --
17 MR. GUIANG: Yeah, I think most of the wells
18 shallow aquifer. But the off-site wells are closer to
19 some deep aquifers, and we continue to monitor those.
20 UNIDENTIFIED SPEAKER: And you're not finding
21 anything?
22 MR. GUIANG: Well, those were the ones off-
23 But we are finding various trace amounts, and that's
24 we know that -- you know, at least, we know that some
25 the plume has moved off-site. But like Murray said, by

1 implementing this remedy, it's going to stop that
2 migration.
3 MR. ANDERSON: And including those other
4 MR. GUIANG: And increase it in time.
5 MR. ANDERSON: In time. Well, the reason is
6 son is a chemical engineer, and I would like to have
7 the people out here to have a thing sent to us all that
8 will break down; like, the benzene, okay, a really good
9 understanding of what all these things that are in
10 so that the people can really -- I mean, I don't
11 understand.
12 I mentioned to my son tonight before I was
13 to the meeting, he said, "Dad, get me some kind of
14 I'll give you a whole idea of what they have under
15 and tell you exactly what it is."
16 I would appreciate that for the public too, to
17 see what's coming through our water system to be
18 like that, so we wont have no surprises down the line.
19 Not for me, maybe, but later on for our grandkids and
20 survivors after us.
21 They've been out (indicating) -- that lady in
22 farm there; they've been there for years, and I can
23 imagine what they have gone through all those years
24 But this is for now going into the 2000s with the Navy
25 working together on it. I'd like to see if they can

1 out a broad thing, maybe to us that are here tonight,
2 us exactly what --
3 I mean, I am reading this, okay, "cancer risk
4 thresholds," okay. But I -- I need to have what --
5 benzene, what it really -- I mean, I can read it, but
6 son can give me a breakdown of it and tell me all the
7 things that are built into it, okay.
8 Because I see the 17 injection wells and the
9 groundwater, that's 31 things. But the 14 groundwater,
10 the injection wells are working with the groundwater;
11 that what the farmers have to know too?
12 MR. WUNDERLY: These wells here, the 14 and
13 17, are wells that would be new wells that is -- would
14 put in -- in the -- within the site area that we're
15 talking about here. And then those wells would extract
16 and inject all within that area, and they would
17 cause the groundwater to recirculate through the system
18 between, you know, the perimeter of those wells
19 on-site.
20 UNIDENTIFIED SPEAKER: Like a pool filter?
21 MR. WUNDERLY: I'm sorry?
22 UNIDENTIFIED SPEAKER: Like a pool filter?
23 MR. ANDERSON: But a big giant one.
24 MR. WUNDERLY: Yes, that's one way of looking
25 it.

1 MR. ANDERSON: Yeah, thank you very much.
2 MR. WUNDERLY: Yes, sir?
3 MR. MARTINEZ: Okay. Again, Tony the farmer.
4 How far down do those filters -- like he was
5 calling it -- filters go down? Because I have a strata
6 water that comes in at 14 feet.
7 MR. WUNDERLY: Yeah. Groundwater site is
8 typically -- it starts at about 50 feet here,
9 You put a well in, you'll see groundwater at about
10 50 feet. And we're talking about extracting down to
11 225 feet, which will be the top of the clay.
12 MR. SULLIVAN: Go ahead.
13 MR. ARROYO: Peter Arroyo. What's your
14 concentration of benzene in any of the wells?
15 MR. WUNDERLY: There's a -- there's benzene at
16 couple thousand parts per billion near UST Cluster 1,
17 localized.
18 MR. ARROYO: LPH or floating product on any of
19 the wells?
20 MR. WUNDERLY: Not currently, no. There have
21 been in the past. They did this Treatability Study
22 was done out there, in that particular area as part of
23 treatability there. They were injecting air into the
24 ground doing air disparaging. And they had seen some
25 elements there at the beginning of that, but weren't

1 seeing by the time they were done with the project.
2 MR. SULLIVAN: So I think we're kind of
3 to segue into public comments. So I think maybe we're
4 going to finish the presentation, and then I'll go
5 the public comment process. And then we'll just open
6 the floor with comments to make sure we capture all of
7 that.
8 Oh, so we're there anyway. So we're done,
9 So we published a proposed plan, which many of
10 you had received by mail. It's also available on our
11 Web site, and it's also in the Patterson library. So
12 30-day public comment period started on January 20th,
13 it goes through February 21st. You can submit comments
14 orally or written comments during this meeting. You
15 submit comments by postal mail, by e-mail, or by fax.
16 We just ask that -- that -- that it be
17 no later than February 21st. On the other hand, we
18 want you to -- you don't need to risk a speeding ticket
19 get to the post office to have it postmarked by the
20 You know, if it comes in a couple days after that,
21 still going to take your comments.
22 So the comments would be going to me, Jim
23 Sullivan. That's our San Diego address and my Navy
24 e-mail. We went to -- we used to have an e-mail system
25 where each organization had its own e-mail; then

1 decided, no, we're going to have an e-mail address for
2 entire United States Navy, all several hundred thousand
3 us.
4 So if your name is John Smith, your -- there's
5 lot of John Smiths, and apparently there's, at least, a
6 couple of James B. Sullivans. So my address is
7 James.B.Sullivan2. So if the "2" is not there, it's
8 to go to another James, and he won't know what it's
9 And then -- oh, that's not our fax number,
10 my phone number, my desk phone number. I hope it's
11 correct. I'll have to check to see if it's correct in
12 Proposed Plan document, but --
13 And then so the document is -- is in the
14 as well. And I was just at the library before the
15 meeting. And, partially, I think to answer one of your
16 questions, all of -- all of our major documents, since
17 early days of the investigation program, are in the
18 Patterson library at -- there's a shelf about this wide
19 (indicating), and it looks like there's about four or
20 shelves. It's actually a lot more documents than I
21 thought we had, so that's another resource for you.
22 And then we do put some documents up on our
23 Web site. I think the Navy Web site address is in the
24 Proposed Plan document. It's the --
25 MS. ALVES: Sir, can I ask a dumb question?

1 MR. SULLIVAN: Yes.
2 MS. ALVES: When do -- when are they going out
3 and doing all this at the base?
4 MR. SULLIVAN: Pardon?
5 MS. ALVES: When do they go out and do all
6 testing at the base?
7 MR. SULLIVAN: Oh, when will we do the actual
8 cleanup?
9 MS. ALVES: Yeah. I never see anybody out
10 MR. GUIANG: Well, no. Currently -- currently
11 are monitoring the base so --
12 MS. ALVES: You are?
13 MR. GUIANG: -- there will be, like, one or
14 people out there monitoring, taking samples. In fact,
15 they're out there now.
16 MS. ALVES: Now I'm going to go out there.
17 time, like I said, I went out there and there was just
18 four chairs and some binoculars and nobody around and
19 guy. They said they were working on the one where the
20 airplanes, where they had the fuel and that. So I went
21 another day. But now they found out I was going out
22 there; they locked the gate on us, so I wanted --
23 MR. GUIANG: I'll check up on them tomorrow.
24 MS. ALVES: Huh?
25 MR. GUIANG: I'll go check up on them tomorrow

1 and make sure they're out there working.
2 And in response to your abandonment of wells.
3 We're going to be abandoning a lot of the wells that we
4 feel are no longer helping to delineate our clean -- or
5 adding anything to the investigation. And the reason
6 this is we don't want any open conduits left out there
7 a kid to come in and poor stuff in.
8 I mean, obviously, we clean up what we, you
9 what we made. Some of these wells that are no longer
10 helping to delineate to the plume, we're adding to the
11 investigation, we're actually abandoning.
12 MR. ANDERSON: You mean you're bringing it
13 to the bare bottom?
14 MR. GUIANG: Yes.
15 MR. SULLIVAN: Okay. So I think that was the
16 last line slide. Okay, and that's just the project
17 contacts: Myself with the Navy; Francesca D'Onofrio
18 the State Department of Toxics; Greg Issinghoff here
19 the Regional Water Quality Control Board; And Keith
20 from the County.
21 All right. Well, at that point then, we'll
22 from the presentation phase to the formal public
23 phase, and so I'll open the floor. And if you would
24 to make a public comment, you know, regarding the
25 Plan; if I could just ask if you can state your name

1 the record and make your comment. And we'll go through
2 this formal public comment period.
3 Then we'll close the formal part of the
4 but then we'll still be here to answer questions and
5 with you one-on-one. And during that -- during that
6 open-house phase after the formal meeting, if you would
7 still like to make a comment to this -- to the
8 stenographer, you can go over and make your comments.
9 So you can either make your comment in public
10 during this formal comment phase, or later on during
11 the -- during open-house portion of the meeting. So
12 ends our presentation, and I'll officially open the
13 to the public comments.
14 MR. BOGGS: I'll make a comment. Keith Boggs,
15 Stanislaus County, Chief Executive Officer.
16 Stanislaus County is appreciative of the
17 consistent and ongoing cleanup efforts performed by all
18 cleanup parties, including the US Navy, DTSC, Regional
19 Water Quality Control Board, and consultant entities.
20 The Stanislaus County is supportive of the
21 recommended remediation strategy identified in the
22 Proposed Plan dated January 2012. And the preferred
23 remedy is cost-effective, it prevents off-site
24 groundwater contamination, and works diligently to
25 both human health and the environment.

1 MR. SULLIVAN: Is there any other public
2 comments?
3 MR. ANDERSON: One question. When the -- and
4 this is Mike Anderson, Post Commander 168.
5 When the base was turned over, and this was
6 ten years ago?
7 MR. SULLIVAN: In 1994 -- well, from -- the
8 property was transferred from the Navy to NASA in 1994.
9 And then NASA -- Keith can better answer that --
10 transferred some of the property from NASA to the
11 MR. ANDERSON: Because I know I came out here
12 the -- when they had the County come out, and they
13 ownership. And that was a long time ago, you know.
14 MR. BOGGS: October 2004.
15 MR. ANDERSON: 2004. And you look at the
16 pictures today, it looks the same. I know the Navy has
17 been out there. And I'm having the same feeling down
18 there, are these pads that are being -- the buildings
19 are being knocked down, are they clean already?
20 I mean, like, let's say the officer's club;
21 it's knocked down, and are they leaving the pad or are
22 they pulling the concrete up and taking that too?
23 MR. SULLIVAN: Keith can -- I -- I can't
24 really -- because I'm worried about the cleanup. I --
25 MR. ANDERSON: The cleanup would basically go

safety. Because concrete is the same thing -- when I working for Lucky stores, when our pad -- when I was in San Leandro, we had one of the biggest pollutions at field depot, where we used to load our trucks at two different areas. And they were fully compatible with construction laws of California, and we still leaked into the ground from our concrete.

Is that concrete that's on those pads; is that concrete contaminated or are they being cleaned up and shipped away by the Environmental Protection Agency? they putting rules on that, so that those pads will be cleaned back to what is called bare bottom, back to earth? Is that what you guys are doing on that too?

MR. BOGGS: The building structures that are that exist on parcel C, where these three locations they're focusing their cleanup efforts, have simple-quality-type constructions that are on the pad. There was no mechanic workshops in those --

MR. ANDERSON: So there's no contamination?

MR. BOGGS: No contamination in these --

MR. GUIANG: And like I said -- excuse me, As I said, we actually got closure for the soil in three areas that I was mentioning. So soil is not the focus of our contaminants.

1 MR. ANDERSON: Oh, you're just doing the
2 MR. GUIANG: Yeah.
3 MR. BOGGS: The County took ownership of about
4 1364 acres in October of 2004, when you were out there
5 under the tent, and the whole thing. And -- and the
6 remaining plus or minus 180 acres of that; over 100 of
7 those acres are actually clean and ready for transfer
8 have been ready for transfer, right, about 18, 19
9 We're waiting on NASA to make that transfer.
10 MR. ANDERSON: Oh, okay. So they've been the
11 ones, for whatever reason --
12 MR. BOGGS: They will make that transfer to
13 County. So really it has taken what was an issue of
14 noncontiguousness, like almost like a piece of Swiss
15 cheese for the cleanup. And we'll solidify this to
16 a single central most easterly portion of Bell Road,
17 parcel C, where the tower is and the road structure is,
18 the lone and last cleanup entity. And that was that
19 little square -- the little square that they showed
20 Now, since 2004 we reached out to the
21 and we worked with the Crows Landing Steering Committee
22 look at the best reuse for those two airstrips, and
23 were a whole lot of ideas. For several years the idea
24 was, you know, big birds, Pacific Rim, strawberries to
25 Asia; and, you know, quite honestly, it did not pan

1 It was not realistic, and it had its own set of noise
2 environmental issues. And so we've been moving forward
3 with our division.
4 Now, the young lady that has concerns about
5 trains, I would be the one you talk to about that. For
6 this evening, this is about the groundwater issue.
7 MS. ALVES: But you also said that the Navy
8 requested that we have an airport out there?
9 MR. BOGGS: Actually, the Navy has nothing to
10 with this relationship, other than their responsibility
11 clean this place up. And NASA; when they transferred
12 property to the county, in Public Law 106-84, signed by
13 then President Clinton said, That we would like some
14 airport piece to remain, if we're going to transfer
15 to you. So the airport has to exist.
16 MS. ALVES: Well, that's okay. I'm fine with
17 some airport strip, but I'm not fine with a train.
18 Everybody gets killed at that -- a good woman just got
19 killed the other day in that crossing --
20 MR. BOGGS: So there will be a jet --
21 MS. ALVES: Yeah.
22 MR. BOGGS: -- they don't really like the air
23 component because it's part of the transfer. And what
24 says in there is that, the NASA folks get to use it
25 they would like to, provided it doesn't get in our way.

1 So, actually, today, you can -- you can see on
2 occasion a NASA unmanned -- because they're not allowed
3 have a manned aircraft out there because it's not an
4 airport, but it looks like one. But it's not
5 as such, the big, yellow X. They're out there on
6 with these unmanned drone technology. They are techie
7 guys, and they are doing research with that sort of
8 So you see that out there.
9 We're also farming 1112 acres with Wheeler and
10 Sons, and we have the sheriff, not State police, the
11 sheriff has a mutual agreement with multiple
12 organizations, defensive driving on the tarmac. And
13 that's why you see those cars. Then you've got the
14 Navy and the various environmentalists out there doing
15 their good work. And so -- and then the master
16 is doing his seek-work process. So it's actually quite
17 busy place.
18 MS. ALVES: Now we know the cops are out there
19 because they drive around with their sirens and go
20 (descriptive sound). I hear them going off.
21 MR. SULLIVAN: So any other public comments?
22 So if not, we'll close the formal part of the
23 meeting, and then move into the open-house phase.
24 still be here to talk to you and answer your questions.
25 And if you would like to provide a comment directly to

1 stenographer, you can.
2 So, again, I'd like to really thank everyone
3 coming tonight. And do make sure, if you haven't
4 in before you -- when you came in, to please sign in
5 before you leave. Because we'd like to identify
6 who was at the meeting, and make sure that you stay on
7 mailing list for future information as we move towards
8 selection of the cleanup of -- as we move to make a
9 decision on the cleanup.
10 MS. ALVES: There was a lady I had contact
11 she just -- she was from San Diego. You could write to
12 her, and she'd write back or you'd call her --
13 MR. SULLIVAN: Oh, that was --
14 MS. ALVES: -- and I don't know who she was,
15 know.
16 MR. SULLIVAN: That was one of my associates
17 several years ago.
18 MS. ALVES: Then all of a sudden it all
19 There was never -- it was kind of interesting, though.
20 But I think she said they --
21 MR. SULLIVAN: Okay. So please feel free to
22 contact me by phone or e-mail. So what was listed as
23 fax is actually -- let me double-check to see. That
24 have my correct phone numbers there on the contact
25 as well as the other members of our project team.

1 So you have my phone and my e-mail. So please
2 contact me if you have any questions, and we're
3 interested in any comments that you have through the
4 comment period. So thank you very much.
5 (Proceedings concluded.)
6 +++++
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I, JENNIFER M. MACATO, a Certified Shorthand Reporter of the State of California, duly authorized to administer oaths, do hereby certify:

That the foregoing proceedings were taken before me at the time and place herein set forth; that any witnesses in the foregoing proceedings, prior to testifying, were duly sworn; that a record of the proceedings was made by me using machine shorthand which was thereafter transcribed under my direction; that the foregoing transcript is a true record of testimony given.

Further, that if the foregoing pertains to the original transcript of a deposition in a Federal Case, before completion of the proceedings, review of the transcript ( )was ( )was not requested.

I further certify I am neither financially interested in the action nor a relative or employee of any attorney or party to this action.

IN WITNESS WHEREOF, I have this date subscribed my name.

Dated: FEBRUARY 22, 2012

JENNIFER M. MACATO CSR #13363

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++++ 4:2 6:16

+++++ 3:8 48:6

1

1 16:2 21:18 36:16

1,2-DCA 21:1

100 44:6

106-84 45:12

10977 1:17

1112 46:9

117 16:1

1300 14:7 18:15,16

13363 1:17 49:24

1364 44:4

14 25:18 27:12 35:8,9,12 36:6

1500 14:6

168 5:3 17:25 27:11 42:4

17 5:1 12:6 14:25 15:2,19 16:1 19:17 35:8,13

170 15:4 25:21

176 14:9 15:5

18 44:8

180 44:6

19 44:8

1942 18:3

1946 18:4

1980s 18:7

1987 19:3,4

1994 18:10 42:7,8

1995 19:9,12,24

1996 19:24

1999 18:12

2

2 38:7

2000s 34:24

2004 18:16 42:14,15 44:4,20

2008 20:6 24:12

2010 20:7 24:13

2011 20:13

2012 1:9 41:22

20-plus 26:12

20th 37:12

21st 37:13,17,19

225 36:11

24 21:21,22 30:12

2959 1:13

3

30-day 10:11,15 37:12

31 35:9

4

4 3:4 23:10

5

50 36:8,10

6

6 3:6

6:30 1:11

7

72 15:19 20:5

8

8:30 4:17

80 15:8

9

9 1:9

95363 1:13

A

abandoned 14:13 28:4

abandoning 40:3,11

abandonment 28:5,13 40:2

able 20:9,16 22:10 27:3

acceptance 23:1

accomplish 13:14 20:22 21:6

achieve 8:16 22:19,20 31:12

achieved 11:12

acres 14:6,9 15:4,5,8 18:15,16 44:4,6,7 46:9

acronyms 12:15,16,17

Act 8:11 18:12

action 11:4 13:12 20:21 21:19,24 22:8,19 23:3,4,5,6,8 49:16,17

actions 19:9,12,15

active 7:21 8:1 18:7

activities 13:7 17:11,17 18:6,22 19:8

activity 17:7

actual 11:24 16:4 31:19 39:7

actually 11:5 15:1,21 18:11,14 19:16 25:1 26:22 30:19 38:6,20 40:11 43:23 44:7 45:9 46:1,16 47:23

add 12:19 13:20

adding 40:5,10

Additionally 26:24

address 10:17 13:15 14:20 19:12 20:17 37:23 38:1,6,23

addressed 19:16

administer 49:3

Administration 12:6 15:2,24

administrative 4:9

ag 32:15

agencies 8:18 13:23

agency 11:9 43:10

ago 16:12 31:25 42:6,13 47:17

agreement 46:11

agricultural 18:25

ahead 6:13 36:12

air 30:5 36:23,24 45:22

aircraft 46:3

airplanes 39:20

airport 45:8,14,15,17 46:4

airstrips 44:22

Alameda 18:5

alignments 7:8

allow 30:25

allowed 29:1 46:2

alone 8:25

already 14:7 20:14,20 28:24 42:19

alternative 11:15 13:18 20:11 21:18 22:1,2,14 23:10,13 25:13 26:14

alternatives 9:25 10:2,6 13:15 20:10,17,23 21:17

22:5,12,18,22 23:17,23 26:10,12
ALVES 5:22,24 6:2 16:6,9,11 29:18 30:11 31:4 38:25 39:2,5,9,12,16,24 45:7,16,21 46:18 47:10,14,18
Alveses 5:22
am 12:5 23:19 31:6 35:3 49:15
amended 25:24
American 5:3 17:24
amounts 33:23
analysis 22:16 23:9
analyzed 26:19
and/or 18:25
Anderson 5:2 15:4,8 16:21 17:1,6,9,24 27:9,11,21 28:8,11,14,18 29:7,11,14,16 30:14 34:3,5 35:23 36:1 40:12 42:3,4,11,15,25 43:20 44:1,10
answer 38:15 41:4 42:9 46:24
answers 29:16
anticipated 26:21,23
anybody 39:9
anything 21:19 27:3 33:11,21 40:5
anytime 10:15
anyway 37:8
apparently 38:5
application 29:8
applies 31:19
appreciate 4:11 34:16
appreciative 41:16
approved 28:1
approximate 22:5,6
aprons 14:12
aquifer 24:17 25:1,4 26:2,4 33:1,7,11,15,18
aquifers 15:17 25:17 33:19
ARARs 21:13
area 12:6 14:25 15:2,20,24 16:3,7 18:5 25:1,6,7,11,15,20 35:14,16 36:22
areas 15:3,6,9,25 19:11 43:5,24
Arroyo 6:5 36:13,18
Asia 44:25
aspect 29:5
assess 8:4 13:5
assessment 9:7
assessments 19:5
associates 31:11 47:16
association 9:3 28:16
assumed 18:10
Attenuation 23:12
attorney 49:17
authorized 49:2
auxiliary 4:7 6:19
available 37:10
avenue 30:20
aviation 16:23
away 28:13 43:10

B

background 13:1 18:2
bad 16:24
bare 40:13 43:12
base 5:23 6:21 7:5,6,7,9,23,25 17:15 18:8,9 30:5 39:3,6,11 42:5
based 24:3 33:2
baseline 21:24 22:1
bases 7:10,20,21,22 8:1 17:8
base's 6:20
basic 16:19
basically 9:18 12:24 13:5 14:22 15:14 16:1 19:4,18 20:25 21:16 25:17 27:1 31:11 35:16,18 42:25
bee 15:10
beginning 13:23 36:25
Begins 3:6
behind 25:12
believe 14:16 15:6 19:17
Bell 44:16
beneficial 21:9
benzene 21:1 34:8 35:5 36:14,15
best 1:13 20:11,17 23:13 44:22
better 22:11 30:6 42:9
bigger 27:15
biggest 43:3
billion 36:16
binoculars 39:18
Bioremediation 20:7,15 23:11,24 25:12
Biotreatability 24:12
birds 44:24
bit 13:2 14:6,21 15:21 18:1 24:1
blow 16:15
blowing 16:14
blue 14:25 16:9
board 5:21 9:3 10:17 11:1,12 13:24 28:16 29:21 31:11 40:19 41:19
Boggs 5:7 15:11 31:22 40:19 41:14 42:14 43:15,21 44:3,12 45:9,20,22
born 31:4
bottom 40:13 43:12
boundaries 14:24
boundary 14:25
BRAC 2:3,6 7:5,13
break 34:8
breakdown 35:6
bring 29:20 30:3
bringing 40:12
broad 35:1
build 29:18
building 14:13 43:15
buildings 42:18
built 35:7

busy 46:17
by-product 21:2

C

CA 1:13
California 5:19,21 14:5 43:6 49:2
cancer 35:3
capture 37:6
carbon 21:1,2
Care 29:23
cars 46:13
case 6:23 10:25 11:6 27:6 28:2 30:23 31:19 49:12
cases 7:7,8
category 24:6
cause 24:17,22 35:17
cement 28:6 43:18
central 44:16
CERCLA 8:11 9:5
certain 27:2,25 28:1
certainly 48:2
Certified 49:1
certify 49:3,15
chairs 39:18
challenge 24:23,25
chance 4:10
changed 42:12
characterize 8:4 20:1
chart 21:16 22:21 23:2
check 26:21 38:11 39:23,25
cheese 44:15
chemical 34:6
chemically 19:18
chemicals 13:11 18:21 20:25
CHG 2:8
Chief 41:15
chloroform 21:2
choose 22:14 32:24
circulate 25:17 26:4
City 5:9,11 33:1
civilian 4:4
claimed 15:11
clarification 12:21
clay 33:3,4,14 36:11
clean 8:4,6 30:19 31:9 40:4,8 42:19 44:7 45:11
cleaned 8:16 9:14 16:6 34:17 43:9,12
cleaning 17:4 19:22 30:24 43:13
cleanup 6:18,19 7:4,20,22,24,25 9:10 10:1,7,23 11:2,5,6 18:20 21:5 30:16 31:2,12 39:8 41:17,18 42:24,25 43:17 44:15,18 47:8,9
Clinton 45:13
close 11:13 13:25 25:9 41:3 46:22
closed 18:11 27:17 28:8,14,17
closer 15:21 33:18
closes 7:9
closing 7:22,25 28:15
closure 6:21,22 7:6,24 8:17 43:23
closures 7:7
club 42:20
Cluster 16:2 36:16
Coast 18:7
collect 9:8
collected 17:19 26:18
Collette 5:11
column 21:18 23:3
combined 13:11
comes 36:6 37:20
coming 6:13 29:7 34:12,17 47:3
command 7:15
commander 5:3 27:11 42:4
comment 4:19 10:11,15 37:5,12 40:22,24 41:1,2,7,9,10,14 46:25 48:4
comments 4:16 10:14,16,18,19 11:18 14:2 37:3,6,13,14,15, 21,22 41:8,13 42:2 46:21 48:3
commercial 18:25
commingled 15:25
commissioned 18:3
Committee 44:21
community 14:1 23:1 44:20
company 6:6
comparative 22:16 23:9
compare 22:22 23:3
compatible 43:5
Compensation 8:10
competent 33:14
complete 10:3 21:21 30:16 31:2,8
completed 9:12 20:13
completion 21:7 22:7 49:13
complies 21:13
comply 21:15
component 45:23
compound 24:24 26:1 32:22
compounds 24:18,20,22
Comprehensive 8:10
comprised 14:6
concentrating 19:21
concentration 36:14
concentrations 24:6 26:19
concept 25:12
conceptually 24:2
concern 13:12 18:22 20:25 26:1
concerned 31:7
concerns 45:4
concert 8:17
concluded 48:5
concrete 27:18 42:22 43:1,7,8,9
conditions 13:2

conduct 18:20
conducted 13:4 19:10,16 20:7
conduits 40:6
Congress 18:12
cons 10:2
consistent 41:17
constructed 32:6
construction 29:3,4 43:6
constructions 43:18
consultant 5:9,14 22:9 23:20 41:19
contact 47:10,22,24 48:2
contacts 40:17
contaminants 13:6,15 18:24 19:7,13,20,22 20:2,17,20 21:4,11 24:5,7,15,17 25:23 26:5,20 43:25
contaminated 17:9 43:9
contamination 19:16 30:7 32:25 41:24 43:20,21
contaminations 30:12
continue 33:19
control 5:5,21 6:1,4 9:2 40:19 41:19
Coordinator 2:4
copies 12:11
cops 46:18
copy 12:11
correct 38:11 47:24
cost 10:2 22:5 23:6
cost-effective 41:23
costly 25:10
country 7:11
county 5:8 7:2 9:3 14:8 15:10 18:14,16 30:17 31:1 40:20 41:15,16,20 42:10,12 44:3,13 45:12
couple 4:9 32:12 36:16 37:20 38:6
course 12:22
covenants 26:24
cover 12:25 28:18
covers 28:20
criteria 18:23 22:23
crops 28:19
crossing 45:19
Crows 1:6 4:8 6:23 7:7 8:12 12:7 14:3,4 18:2 30:24 44:21
CSR 1:17 49:24
current 13:2
currently 14:15 15:18 21:5 36:20 39:10
custody 18:10

D

Dad 34:13
dark 14:24
data 9:9 11:9 17:19 20:14,15
date 22:25 49:18
dated 41:22 49:20
day 24:22 39:21 45:19
days 37:20 38:17
deals 11:7
decade 31:24
decided 38:1
decision 10:22,24 11:2,12,17,21 47:9
decision-making 10:19
decommissioned 18:4
deed 26:25
deep 15:17 33:19
Defense 6:21
defensive 46:12
definitions 12:14
degradation 24:14 26:1
degrade 24:7,9,10,17,23, 24 26:8
degrading 26:21
Del 1:13
delineate 40:4,10
Department 2:4,7 4:4 5:19,25 6:3,20 9:2 40:18
deposition 49:12
depot 43:4
depth 25:20
describes 22:4
description 13:1 23:17
descriptive 46:20
deserves 30:6
design 11:3,4 32:6
designed 29:12
desk 38:10
detective 9:19
determination 10:18
determine 9:9 11:9
determined 9:13 19:18
determining 9:22 19:6
developer 46:15
development 28:25 29:5 32:3
dichloroethane 21:1
Diego 7:14,18 16:13 37:23 47:11
diesel 21:3
different 23:22 24:18 29:5 43:5
diligently 41:24
dinky 29:25
directed 18:13
direction 15:15 49:9
directly 46:25
discrete 15:16
disparaging 36:24
dispenser 16:4
distributed 10:10
distributing 24:25
division 7:17 45:3
document 10:25 38:12,13,24
documented 10:23 11:17,22
documents 38:16,20,22
done 10:13 24:4,11,12 25:2 26:17 27:25 36:22 37:1,8
D'Onofrio 5:18

40:17
door 28:25
double-check 47:23
dozens 30:4
drilled 25:4 27:24
drinking 33:1
drive 1:13 46:19
driving 46:12
drone 46:6
DTSC 10:17 11:1,11 13:24 31:11 41:18
duly 49:2,7
dumb 38:25
duration 27:5
during 4:19 10:15 12:21 26:15 37:14 41:5,10,11

E

earlier 13:9 15:24 19:3 24:11 31:17
early 30:20 31:18 38:17
earth 43:13
easiest 23:5
easterly 44:16
easy 23:8
effective 11:10 24:21 25:5 26:10
efforts 19:22 41:17 43:17
eight 26:15 27:6 28:23 29:2 31:7
eight-year 26:16 28:23
either 10:14 41:9
elements 36:25
else 10:21
e-mail 37:15,24,25 38:1 47:22 48:1
employee 4:4 11:25 49:16
employees 15:14
engineer 34:6
engineered 32:19
engineering 7:15,17
engines 16:7
Enhanced 23:11,24 25:12
enhances 26:1
enhancing 26:8
ensure 26:22
entire 14:5 15:2 38:2
entities 41:19
entity 44:18
environment 8:7 21:8 23:14 41:25
environmental 2:3 5:14 8:10 13:4 18:20 19:1 23:19 43:10 45:2
environmentalists 46:14
Escobar 15:22
especially 20:15
establish 13:12 21:24
established 20:20
evaluated 23:22
evaluating 24:20
Evans 6:9
evening 45:6
everybody 14:3 45:18
everyone 4:23,25 5:7 47:2,5
everything 32:10,16
exactly 34:15 35:2
example 19:17 23:4 32:9
exceed 21:5
excuse 43:22
Executive 41:15
exercises 14:16,18
exist 43:16 45:15
explanation 22:11
extensive 19:25
extent 13:5 20:1
extract 25:19 35:15
extracting 36:10
extraction 25:15,19 26:3 27:13
extremely 32:1

F

facilities 7:15 14:14 18:8,9
facility 4:7 14:6,11 18:2,10
fact 7:22 26:21 39:14
facts 9:19,20
fairly 25:9,10
familiarize 12:9,16
farm 34:22
farmer 36:3
farmers 28:19 35:11
farming 46:9
faster 24:23
fax 37:15 38:9 47:23
Feasibility 9:23,25 10:6 20:12,19 22:16 23:21
February 1:9 37:13,17
federal 6:20,25 8:9,13 21:14 30:18 31:16,21 49:12
feed 20:10
feel 12:22 23:12 40:4 47:21
feeling 42:17
feet 32:12 36:6,8,10,11
fenced 32:23
field 4:7 6:20 18:3 43:4
fighters 16:22
figure 6:14 8:5
filled 28:6
filter 35:20,22
filters 36:4,5
final 32:6
finally 20:12
financially 49:15
finding 33:20,23
fine 45:16,17
finish 37:4
finished 28:2,3
firm 23:21
first 9:12
five 38:19
flight 4:7
floating 36:18
floor 4:15 23:15 37:6 40:23 41:12
flush 32:9,19
focus 13:8 14:19 17:16 33:8 43:25

focused 17:18
focusing 19:22 43:17
folks 45:24
food 28:19
force 19:19,20
foregoing 49:4,6,10,11
formal 4:16 10:25 28:15 40:22 41:2,3,6,10 46:22
former 4:5,6,7 6:19 14:11,12 16:3
forth 49:5
forward 45:2
Francesca 5:18 13:24 40:17
free 12:22 47:21
front 5:17
fronts 26:6
fuel 16:5,16,23 21:4 39:20 43:6
fully 29:10 43:5
future 13:2 31:1 32:7 47:7

G

gallons 25:21 32:17,18
garbage 30:3
gasoline 21:3
gate 39:22
gathered 10:9,16
gathering 11:9
generations 27:16
gets 25:10 45:18
getting 24:24
giant 35:23
girl 16:12
given 49:10
glossary 12:17
goal 8:15
goals 21:5 26:13
gone 19:20 34:23
government 31:21
grandchildren 27:16
grandkids 34:19
green 43:12
Greg 5:20 40:18
Gregg 13:24
ground 16:14,16 26:9 30:7 32:10,12,20 36:24 43:7
groundwater 11:7 12:7 14:20 15:14,16,18 19:10,23 20:3 21:9 25:5,19 26:6,14,18,20 27:12 35:9,10,17 36:7,9 41:24 45:6
group 2:9 4:21 12:20
grout 28:6
Guard 18:8
guess 5:16
Guiang 2:5 4:25 8:20,22 11:24 12:2,5,24 15:1,5,9,13 16:8,10,18,25 17:5,7,11 18:1 22:3 33:17,22 34:4 39:10,13,23,25 40:14 43:22 44:2
guy 39:19
guys 12:12 43:13 46:7

H

half 26:14
hand 37:17
happen 28:10
hard 28:25 33:4
haven't 4:10 15:7,10,11 19:14 47:3
having 10:12 42:17
hazardous 8:5
headquarters 7:14
health 8:7 21:8 23:14 41:25
hear 46:20
heard 33:2
Hello 4:25
help 12:18 13:5 17:21,22 20:10 31:10
helpful 20:8
helping 40:4,10
hereby 49:3
herein 49:5
he's 11:25 22:10
Hi 5:7
high 22:17,18,19 23:7
highest 36:13
history 17:15
honestly 44:25
hope 18:18 21:6,7 38:10
hopefully 12:10
hospital 29:22 30:7
house 4:17
Huh 39:24
human 8:7 21:8 23:14 41:25
hundred 38:2
hundreds 32:18
hydrocarbons 21:3
hydrogeology 14:21 15:14

I

ICs 23:12
I'd 4:21 34:25 47:2
idea 34:14 44:23
ideas 44:23
identified 10:6 20:14 25:25 41:21 46:4
identify 8:3 9:8,17 13:11 17:22 47:5
II 18:4
I'll 11:23 34:14 37:4 38:11 39:23,25 40:23 41:12,14
I'm 4:3,25 5:2,3,13,18,20 8:21 13:3,8,17 14:3,16 17:20 21:21 22:9 23:15 27:14,15 31:18 35:21 39:16 42:17,24 45:16,17
imagine 25:9 34:23
impact 14:20
impacted 19:18
implement 13:14 22:6 23:6,8
implemented 19:25
implementing 21:10 34:1
important 12:13 14:21 22:3

include 21:1
includes 9:1,21 13:1 14:11 15:5,19
including 10:11 34:3 41:18
incorporated 25:15
increase 34:4
indicating 6:11 15:6,15,21,22 16:2,4,5,8 22:21 34:21 38:19
industrial 18:25
informal 4:17
information 47:7
infrastructure 32:21
initial 9:9
inject 24:16 25:8 35:16
injected 25:3,4
injecting 25:14 36:23
injection 25:16 26:3 35:8,10
input 10:9 11:16
inspection 9:7
Installation 1:5 7:19 8:2
instead 32:18
instructions 14:1
interested 33:8 48:3 49:16
interesting 32:1 47:19
interim 19:9
introduce 4:23 22:9
introduction 12:3
INTRODUCTORY 3:3
investigate 8:4
investigated 9:14
investigation 9:10,16,17,21 17:15,18 38:17 40:5,11
Investigation/ Feasibility 9:15 13:10
investigations 11:14 13:4,9 19:2,4,24 20:15 24:3
involvement 23:1
involves 22:5
IRP 16:1 19:17
isn't 30:5
Issinghoff 5:20 40:18
issue 44:13 45:6
issues 45:2
items 4:9
it's 4:22,23 7:20 8:11 9:16,17 11:10 14:4 15:21 16:19,23 21:25 24:1 27:21,23 29:14,20,21 30:11 31:8 32:20 34:1 37:10,11 38:7,8,10,11,20, 24 42:21 45:23 46:3,4,16

J

James 2:3 3:4 38:6,8
James.B.Sullivan 2 38:7
January 37:12 41:22
JENNIFER 1:17 49:1,24
jet 16:5 21:4 45:20
jets 31:5
Jim 4:3 5:9 12:2,8 13:9 19:3 31:22 37:22
John 38:4,5
Jonathan 6:7
JP-4 16:21,23 17:10
jumping 4:11

K

Keith 5:7 40:19 41:14 42:9,23 43:22
kid 40:7
killed 45:18,19
knocked 42:19,21
knocking 28:25
known 6:19 8:11 12:6

L

lady 34:21 45:4 47:10
Lago 1:13
land 14:17 26:24 27:2,4
landing 1:6 4:7,8 6:19,23 7:7 8:12 12:7 14:4 18:2,5 30:24 44:21
large 4:20 25:7,8,11 32:1,15
larger 25:1
last 13:25 22:25 30:24 40:16 44:18
late 12:5
later 16:22 22:10 33:3 34:19 37:17 41:10
Laura 5:15
law 30:18 45:12
laws 43:6
lays 10:1
leaked 43:6
leaking 16:19
Leandro 43:3
lease 31:19
least 22:18 31:24 33:24 38:5
leave 4:11 47:5
leaving 42:21
Lee 6:9
Legion 5:3 17:24
legislation 6:25
less 26:14
let's 23:5 42:20
Liability 8:11
library 37:11 38:13,14,18
likely 22:19,20
line 14:24 34:18 40:16
list 47:7,24
listed 47:22
little 13:2 14:6,7,21 15:21 17:16 18:1,16 29:25 44:19
live 5:22 6:10
load 43:4
local 7:16
localized 36:17
located 7:14,18 14:4 15:19
location 25:3,14
locations 17:16 43:16
locked 39:22
lone 44:18
long 27:12 42:13
longer 40:4,9
lot 12:15 16:10 19:12,15

38:5,20 40:3 44:23
low 22:18
lower 33:1,5,11
LPH 36:18
Lucky 43:2

M

MACATO 1:17 49:1,24
machine 49:8
mail 12:10 37:10,15
mailing 47:7
main 5:5 33:6
maintained 18:9
major 38:16
majority 33:14,15
Management 7:13
manager 2:6 5:1 11:25 12:6
managing 6:18 7:3
manned 46:3
Martinez 6:10 31:6 36:3
master 46:15
may 9:8,22 13:6 17:17 19:7 31:10 32:23
maybe 10:21 27:15 31:23 32:17 34:19 35:1 37:3
mean 8:25 28:13 29:12 31:14 32:4,11,21 33:13,15 34:10 35:3,5 40:8,12 42:20
means 28:14
measure 22:1
mechanic 43:19
meet 18:23
meeting 1:8 4:6,14 10:12,14 12:8 13:25 30:10 34:13 37:14 38:15 41:3,6,11 46:23 47:6
members 47:25
memorializes 11:1
mentioned 12:8 13:9 15:24 19:3,14,23 20:5 22:13 24:11 31:17 34:12
mentioning 15:13 43:24
mid 15:17
middle 32:8
migration 21:11 34:2 41:23
Mike 5:2,11 17:24 27:11 42:4
minds 4:21
mine 31:24
minus 44:6
minute 25:21 32:1,18
mission 7:11 30:15 31:2
missions 7:9
Modesto 29:23
Moffett 18:5
monitor 23:12 33:19
monitoring 11:8 15:18,20,23 17:3 20:3,5,6 26:17 39:11,14
months 44:8
motors 16:7 32:16
mounted 32:8,9
mouthful 24:1
move 9:15,22 10:4 11:3 40:21 46:23 47:7,8
moved 17:2 33:25
moving 45:2
multiple 46:11
Murray 2:8 5:13 23:15,19 33:25
mutual 46:11
Myself 40:17

N

NASA 1:6 4:7 6:24 18:8,10,13,14 30:17,25 31:3 42:8,9,10 44:9 45:11,24 46:2
Natural 23:12
naturally 24:8
nature 13:5 20:1
naval 4:6 6:19 7:15
Navy 2:4,6,7 4:4,5 5:1 6:18 7:3,5,13,16,19 9:1 10:17,25 11:1,11,24,25 12:5 13:21 15:18 18:7,20 22:10 23:20 30:15 34:24 37:10,23 38:2,22,23 40:17 41:18 42:8,16 45:7,9 46:14
Navy's 1:5 5:14 6:17 8:2 10:7
necessarily 31:14
neither 49:15
Newspaper 6:8
nine 22:23
no-action 21:25
nobody 39:18
noise 45:1
Nolan 5:9
noncontiguousness 44:14
nor 49:16
north 15:14
north/east 15:15
nothing 21:25 45:9
nutshell 27:8

O

oaths 49:3
objective 11:13 22:8,19,20
objectives 13:13 20:21
obviously 18:19 20:2 21:19 23:8 40:8
occasion 46:2,5
occur 7:24
occurred 19:24
occurring 18:6 19:2
October 42:14 44:4
office 7:5,13,17 37:19
Officer 41:15
officer's 42:20
officially 41:12
off-site 15:20,23 20:6 21:11 33:18,22,25 41:23
oh 8:23 12:19 30:14 37:8 38:9 39:7 44:1,10 47:13
oil 31:25
okay 8:23 12:24 14:3 21:16 28:11 29:11 34:8 35:3,4,7

36:3 37:8 40:15,16 44:10 45:16 47:21
old 19:6
one-on-one 4:18 41:5
ones 33:22 44:11
ongoing 41:17
on-site 35:19
onto 28:21 29:1
open 4:15,17 37:5 40:6,23 41:12
open-house 4:19 41:6,11 46:23
operate 6:5 8:9,14 11:7
operated 6:24
operating 7:21
operations 7:25 8:8 18:12
opportunity 11:16
orally 37:14
order 26:13 31:8
organization 37:25
organizations 46:12
original 18:14 49:12
otherwise 31:14
ours 14:24
outline 12:25
outlying 18:5
overall 14:24
overdrilled 28:5
Oversight 13:22
OVERVIEW 1:5
owner 31:1
ownership 31:16,20 42:13 44:3

P

P.M 1:11
Pacific 2:9 44:24
pad 42:21 43:2,19
pads 14:13 42:18 43:8,11
PAGE 3:2
pan 44:25
paper 34:13
parcel 30:24 43:16 44:17
parcels 18:18
Pardon 39:4
park 14:17
partially 38:15
particular 28:2 30:23 32:5 36:22
parties 41:18
Partridge 6:7
party 49:17
past 8:8 13:7 17:11 36:21
Patterson 1:13 5:10,12,15 6:6,7 14:5 37:11 38:18
people 4:21 28:19,20,24 29:21 34:7,10 39:14
per 36:16
perception 31:24
perched 33:3
perform 10:1
performed 41:17
performing 11:5
perhaps 9:8
perimeter 35:18
period 6:24 7:3 10:11,15 11:8 26:16 28:23 29:10 37:12 41:2 48:4
permit 27:24
pertains 49:11
Peter 6:5 36:13
petroleum 21:3
PG 2:8
phase 4:19 9:11,16,23 10:4 11:4 29:4 40:22,23 41:6,10 46:23
phone 38:10 47:22,24 48:1
photographs 31:22
Pickens 5:25 6:3
pictures 42:16
piece 44:14 45:14
pieces 32:1
plan 6:17 10:5,8,10,21 11:14 12:9,14,18 13:20 14:2 18:14,17 20:24 28:22 37:9 38:12,24 40:25 41:22
planned 4:6 13:2
play 32:2,3
please 12:22 47:4,21 48:1
plume 12:7 15:2,25 26:22 33:25 40:10
plus 44:6
PMO 2:6
point 8:19 11:23 20:13 40:21
police 14:15 46:10
pollutions 43:3
pool 35:20,22
poor 40:7
portion 41:11 44:16
post 5:2 17:25 27:11 37:19 42:4
postal 37:15
postmarked 37:16,19
potential 9:10 13:6 19:7
potentially 9:14
preferred 11:15 13:17,19,22 20:23 23:10,24 41:22
preliminary 9:6 19:5
PRESENT 2:1
presentation 3:6 4:15 6:14 12:22 37:4 40:22 41:12
presented 20:24
presents 11:14 12:24
President 45:13
pretty 27:7 33:14
prevent 21:10
prevents 41:23
previous 18:22 20:14
primary 14:19
Principal 2:9
prior 49:6
probably 14:9
problem 9:24
proceed 10:20
proceedings 48:5 49:4,6,8,13
process 6:21 7:1 9:4,5 10:8,19 13:18 24:15

25:18 26:3,9 27:20 28:4,5,15 29:2 30:22 31:18 37:5 46:16
product 36:18
program 1:6 7:4,13,20,21 8:3 19:25 38:17
project 2:6 5:1,14 8:13,25 9:1 11:24,25 12:1,5 23:20 29:6 37:1 40:16 47:25
propellers 31:5
properly 28:17
property 6:23 7:1 14:15 15:22 18:13 30:16,19,25 31:1,3,13,20 42:8,10 45:12
proposal 6:18
proposed 4:6 6:17 10:5,8,10,20,21 11:13,15 12:9,14,18 13:20 14:2 20:24 37:9 38:12,24 40:24 41:22
proposes 10:7
pros 10:2
protect 21:8 41:24
Protection 43:10
protective 21:8 23:14
provide 4:18 14:1 22:11 23:16 46:25
provided 13:14 45:25
provides 11:16
public 1:8 4:6,16,18 10:9,11,12,15 11:16 31:24 34:16 37:3,5,12 40:22,24 41:2,9,13 42:1 45:12 46:21
published 37:9
pulling 26:6 42:22
pumping 25:16 32:14,17
purpose 8:2 12:8 24:13 30:9
putting 27:2 29:25 43:11

Q

Quality 5:21 40:19 41:19
quantities 9:18
question 17:20 27:9,21,23 29:17 38:25 42:3
questions 12:21 14:2 38:16 41:4 46:24 48:2
quickly 24:9 25:10
quite 24:2 44:25 46:16

R

railroad 6:6
raised 31:4
ranch 31:5
range 10:1
ranges 25:20
rank 22:17
ranked 22:17 23:7
rapidly 24:18
rate 23:3 26:8
rather 25:13
reach 26:13
reached 22:8 44:20
reading 35:3
ready 44:7,8
real 16:23,24 28:25 29:24
realigned 7:10
Realignment 7:6
realistic 45:1
really 12:18 13:8 14:9 19:14,21,25 20:8 21:21 22:3,4 24:1,13,19,24,25 26:5 30:10 32:3 34:8,10 35:5 42:24 43:24 44:13 45:22 47:2
reason 34:5 40:5 44:11
receive 7:16 11:18
received 37:10
recirculate 35:17
Recirculation 23:11,25 25:13
recommended 41:21
record 4:14 10:24 11:21 41:1 49:7,10
records 19:6
reduce 8:6
Ref 1:17
referred 8:17
regarding 40:24
regardless 7:24
regards 32:3
Regional 5:21 9:2 40:19 41:18
regulation 30:18
regulations 21:13,14
regulatory 8:17 13:23 18:23
reinjected 26:2
reinjection 25:16
relationship 45:10
relative 49:16
relatively 25:7
relocated 7:10
relying 25:14
remain 45:14
remaining 18:13,17,18 44:6
REMARKS 3:3
remedial 9:15,16,21 11:3,4 13:10,12,15,18 17:14 19:9,12,15,24 20:21 21:17,18 22:8,19 23:22 26:13
remediated 28:3
remediation 41:21
remedy 13:14,19,22 14:19 20:22 21:7,10,13,15 22:6,7,15 23:24 27:7 28:10 33:9 34:1 41:23
remove 25:22
removed 19:19
report 7:14
REPORTED 1:17
Reporter 49:2
requested 45:8 49:14
require 25:8
required 8:14 21:23
requirement

4:22,24
requirements 27:25
requires 25:7,20
research 18:9 46:7
resident 5:15 6:9
resource 38:21
responded 11:19
response 8:10 40:2
responsibility 45:10
Responsiveness 11:19,20
Restoration 1:6 7:19 8:3
restrict 27:1
restrictions 26:25 27:4
result 13:7 20:22
resulted 17:17 19:7
results 20:9
reuse 44:22
review 49:13
rid 26:5
right-hand 21:18
rigs 31:25
Rim 44:24
risk 8:7 35:3 37:18
risks 9:22
road 44:16,17
room 4:23
rules 8:14 43:11
run 25:21
runway 5:24
runways 14:11

S

safety 43:1
sailor 4:5
samples 26:18 39:14
sampling 19:25
San 7:14,18 16:13 37:23 43:3 47:11
seal 28:6
sealed 28:14
sections 17:1
seeing 13:19 19:6 24:20 37:1
seek 10:14
seek-work 46:16
seen 36:24
segue 37:3
selected 6:21 7:23 20:23
selection 13:18 47:8
semi-annual 20:3
send 34:25
sent 34:7
separate 30:21
series 24:11
served 18:3,4
seven 22:24
several 19:1,9 24:2,20 26:16 32:17 38:2 44:23 47:17
shaded 9:11
shallow 15:17 33:15,18
Shaw 5:15
she'd 47:12
shelf 38:18
shelves 38:20
sheriff 46:10,11
shipped 43:10
shorthand 49:1,8
showed 44:19
shows 21:17
shrinking 26:23
sick 29:24
sign 4:10,12 47:4
signed 10:25 45:12 47:3
significantly 26:10
similar 26:25
simple 24:2
simple-quality-type 43:18
single 25:3 44:16
sir 36:2 38:25
sirens 46:19
site 5:1 8:13,17 9:6,7,9,13,20 11:13 12:6 13:1,3,5,12,16 14:5,13,22,24,25 15:2,19 16:1 18:1,6,21,22,24 19:2,6,8,17 20:1,4,18 21:1,5,7,20 22:15 23:11 24:4 25:6 27:1 28:3,21,24 29:1,9 35:14 36:7 37:11 38:23
sites 8:16 9:8 16:2,19 34:3
size 26:22
slide 8:24 12:24 22:3 40:16
small 12:20 25:6,15 32:22
smaller 14:25 32:16
Smith 38:4
Smiths 38:5
soil 19:10,13,14,16,18,19 43:23,24
solidify 44:15
solidly 27:17
solution 8:6 10:7
somebody 29:24 37:25
son 34:6,12 35:6
Sons 46:10
sorry 8:23 17:20 35:21
sort 17:17 29:5,8 46:7
sound 46:20
source 15:3,25 19:11
Southwest 7:17
spaced 25:9
speak 17:21
SPEAKER 32:25 33:10,20 35:20,22
speed 24:14
speeding 26:8 37:18
Speno 1:13
spill 17:18
spills 8:8
spread 16:16
square 44:19
stage 9:24
standard 9:5
stands 7:6
Stanislaus 5:8 41:15,16,20
start 4:24 5:16 6:13 28:24 29:2
started 7:22 31:5 37:12
starting 8:19 37:2
starts 9:6 36:8

state 5:18,21 14:15 21:14 31:12 40:18,25 46:10 49:2
State-permitted 28:4
States 38:2
stay 4:17 27:5,17 29:9 47:6
Steering 44:21
stenographer 4:13,19 17:21 41:8 47:1
step 32:7
step-by-step 9:4
steps 9:12
stick 32:12
stop 34:1
stopped 47:18
storage 16:3,20 17:13
stores 43:2
strata 36:5
strategy 41:21
strawberries 44:24
streets 32:8
stringent 21:14
strip 45:17
structure 44:17
structures 43:15
studies 20:8,9,16 24:12,13
stuff 16:24 29:20 33:2 40:7 46:7
submit 37:13,15
subscribed 49:18
substance 6:4 24:25 25:4 26:4
substances 5:19 6:1 8:5 9:2 24:16 25:25
subsurface 24:8,23
sudden 13:21 47:18
Sullivan 2:3 3:4 4:3 5:16 6:12 8:21,23 12:19 14:23 17:14 21:23 28:12,15 30:15 31:10 36:12 37:2,23 39:1,4,7 40:15 42:1,7,23 46:21 47:13,16,21
Sullivans 38:6
summarizes 11:14
Summary 11:19,20
sump 19:19,20
Superfund 8:12,13
support 7:16
supportive 41:20
sure 14:3,16 18:21 21:12,21 27:10 28:16 31:18 37:6 40:1 47:3,6
surface 28:7 32:2
surprises 34:18
survivors 34:20
Swiss 44:14
sworn 49:7
system 25:22 26:7 32:2,21 34:17 35:17 37:24

T

table 12:12
taking 39:14 42:22
talk 4:18 14:21 41:4 45:5 46:24
talking 14:9 32:13 35:15 36:10
Tammy 5:25 6:3
tanks 16:3,20,21,23 17:2,8
tarmac 46:12
team 9:1 47:25
techie 46:6
technology 32:2 46:6
ten 42:6
tens 32:17
tent 44:5
term 28:12
Terra 2:9
Test 24:19
testifying 49:7
testimony 49:10
testing 39:6
tests 24:11
tet 21:3
tetrachloride 21:2
thank 6:12 29:17 36:1 47:2 48:4
Thanks 12:2 23:18
that's 5:5 7:11,17 9:7 10:23 11:21 14:12 15:4 16:15 17:12,18 18:11 21:19 22:15,21 27:7 29:11,16 30:2,21 33:8,23 35:9,24 37:23 38:9,21 40:16 43:8 45:16 46:13
themselves 4:23 26:9
thereafter 49:9
there's 7:16 12:17 15:6,9 17:5,7,8 19:1 22:23,24 24:2,14,18 27:20 30:20 32:4 33:6 36:15 38:4,5,18,19 43:20
they're 15:11 17:3 28:5 29:25 32:1,9,17 39:15 40:1 43:17 46:2,5
they've 34:21,22 44:10
thorough 23:16
thousand 36:16 38:2
thresholds 35:4
throughout 7:2,3 15:19 26:4
ticket 37:18
today 4:5 42:16 46:1
tomorrow 39:23,25
tonight 4:14 6:13 10:12,13 13:1 34:12 35:1 47:3
Tony 2:5 4:25 6:10 8:19 11:24 12:5 14:23 23:18 24:11 31:6 33:6 36:3
top 36:11
topics 12:25
towards 47:7
tower 5:5 44:17
town 30:1
Toxic 5:19 6:1,3 9:2
Toxics 40:18
TPH 21:3
trace 33:23
train 29:19 30:2 45:17

training 18:3
trains 45:5
transcribed 49:9
transcript 17:23 49:10,12,14
transfer 14:10 18:13,15,17,19 30:18,21 31:8,13,18,20 44:7,8,9,12 45:14,23
transferred 6:24 7:2 14:8 15:7,10,12 30:17 31:15 42:8,10 45:11
transferring 18:15
treat 19:10 25:1,14
treatability 20:7,16 24:19 25:2,25 36:21,23
treatable 32:23
treating 25:5 26:7
treatment 25:7,21,22 26:7 27:3,5 32:21
trucks 30:4 43:4
true 33:3 49:10
trying 19:5
turn 11:23 23:15 31:1
turned 42:5
turnover 31:3
type 29:20
typical 32:15
typically 30:23 31:20 32:11 36:8

U

U.S 4:4 46:13
ultimately 8:15 11:11 23:23
underground 16:3,19 17:13
understand 28:23 34:11
understanding 34:9
Understood 30:9
unfortunately 24:9
UNIDENTIFIED 32:25 33:10,20 35:20,22
United 38:2
unless 30:19
unmanned 46:2,6
upper 33:5,7
Urgent 29:22
UST 16:1,2,19 36:16
usually 27:24

V

valley 28:20
various 9:25 25:20 33:23 46:14
vehicles 14:18
verify 26:20
veterans 5:4
Villa 1:13
volumes 32:14

W

waiting 44:9
walk 28:13
War 18:4
Washington 7:15
waste 30:2
water 5:21 9:2 10:17 11:1,12 13:24 25:17,23,24 26:1 28:16 31:11 32:14,23 33:1,10 34:17 36:6 40:19 41:19 44:1
ways 32:5
Web 37:11 38:23
we'd 4:11 47:5
we'll 4:14,15,16 5:16 6:13 11:8 13:25 37:5 40:21 41:1,3,4 44:15 46:22,23
well-being 5:4
wells 15:19,20,23 20:4,5,6 25:9,16,19 27:13,15,23 28:2 31:23 32:5,8,13 33:17,18 35:8,10,12,13,15,18 36:14,19 40:2,3,9
we're 4:5 5:22,24 7:5 8:13,25 9:10,11 10:4,12,13 12:15,25 14:8,22 15:16,23 19:21 20:5 21:12,23 22:14 30:24 33:5,7 35:14 36:10 37:2,3,8,20 38:1 40:3,10,11 44:9 45:14 46:9 48:2
West 7:13
Western 1:13
we've 9:11,13 10:3,6,13 11:12 20:13,22 22:7 33:2 45:2
What'd 6:2
whatever 44:11
Wheeler 46:9
WHEREOF 49:18
wherever 32:23
whether 7:24 10:20 11:10 27:14
whole 10:1 30:21 34:14 44:5,23
wide 38:18
WITNESS 49:18
witnesses 49:6
woman 45:18
wondering 16:17
wont 34:18
work 6:15 9:3 10:17 20:11 46:15
workable 29:14
worked 44:21
workers 27:16
working 11:9 14:8,22 15:16 16:11 22:10 23:20 34:25 35:10 39:19 40:1 43:2
works 41:24
workshops 43:19
World 18:3
worried 42:24
worry 4:10
write 47:11,12
written 37:14
Wunderly 2:8 5:13 23:16,18,19 27:10,19,23 28:9 29:4,8,12,15 30:9 32:4 33:4,13 35:12,21,24 36:2,7,15,20

Y

yellow 46:5

you'll 36:9
young 45:4
yourself 12:16 17:22
you've 46:13

Z

zero 23:6
zone 27:3
zones 15:17 33:6,7

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March 20, 2012

Project No NAV-1048

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RE: Transmittal of Electronic versions of the Draft & Final Proposed Plan and Public Meeting Transcript, Site 17 Administration Area Groundwater Plume NASA Crows Landing Flight Facility Crows Landing, California. Contract No. N62473-08-C-9205

Dear Ms. Silva:

Please find enclosed three CDs containing the Draft Proposed Plan, the Final Proposed Plan, and the public meeting transcript and other associated meeting documents, respectively for the Crows Landing project referenced above.

If you have any questions or concerns please call me at (619)297-1991 x25.

Respectfully submitted,

Terra Pacific Group Incorporated

Murray Wunderly
Project Manager

Enclosures: CD of Final Proposed Plan
CD of Draft Proposed Plan
CD of February 9, 2012 Public Meeting transcript and associated public meeting documents