# APPROVED

**Restoration Advisory Board (RAB) Meeting Minutes**
**Sierra Army Depot (SIAD)**
**6:30 pm Wednesday September 22, 2004**
**Skedaddle Inn, Herlong, California**

| Attendee | Organization | E-mail Address/Phone |
|---|---|---|
| Paul Herman | Community RAB Co-Chair | potter@psln.com /530-827-2706 |
| Lisa Huston | SIAD RAB Co-Chair | lisa.huston@sierra.army.mil/ 530-827-4205 |
| Gil Azevedo | RAB Community Member | 530-257-7422 |
| John Harris | Department of Toxic Substance Control (DTSC) | jharris3@dtsc.ca.gov 916-255-3683 |
| Anna Keyzers | Pyramid Lake Paiute Tribe | akeyzers@plpt.nsn.us 775-574-0105 ext. 15 |
| Arnold Young | RAB Community Member | 530-827-2878 |
| Larry Cowan | RAB Community Member | lcowan@frontiernet.net 530-827-3232 |
| Tim Keesey | Susanville Indian Rancheria Representative | tkeesey@sir-nsn.gov 530-251-5623 |
| Michael Dukes | ARCADIS | mdukes@arcadis-us.com 510-233-3200 |
| Cathy Armstead | Armstead Associates | cearmstead@aol.com 303-838-6969 |
| Beshara Yared | US Army Corps of Engineers, Sacto Dist | besharaGyared@USACE.eng.mil 916-557-6923 |
| Kris Escarda | DTSC | kescarda@dtsc.ca.gov 916-255-6683 |
| Michael Wolfram | US Environmental Protection Agency (EPA) | Wolfram.michael@epa.gov 415 972-3027 |
| Duane Schlusler | Community Member | 530-827-2563 |
| Michael Trainor | SIAD | Michael.Trainor@sierra.army.mil 530-827-1650 |
| Lee De Nooyer | SIAD | lldemooyer@aol.com 530-827-4349 |
| Lori Mc Donald | SIAD Public Affairs Office (PAO) | Lori.McDonald@sierra.army.mil 530-827-4343 |
| Ruth Mac | Truckee Meadows Community College (TMCC) stenographer | 775-329-3192 |
| Tej Kaur | TMCC stenographer | 775-624-6948 |
| Vicki Scott | TMCC stenographer | 775-970-5188 |

## 1.0 Ms. Huston Defense Environmental Restoration Program Manager for Sierra Army Dept, Roll Call, Reading of Minutes to the last meeting, approval of Minutes:

Ms. Huston announced that the RAB meetings would continue to be recorded by the stenographers for accuracy. The minutes from the previous RAB meeting (July 07, 2004) were reviewed and accepted by the RAB without any changes.

# APPROVED

## 2.0 Mr. Yared–USACE, Status of the cleanup on the East Shore Parcel and the finding for suitability for transfer (FOST)

Ms. Huston introduced Mr. Yared and announced he would be providing an update on the Base Realignment and Closure (BRAC) projects.

Mr. Yared initiated his presentation by explaining that the first area he would be speaking about would be the Northeast Shore West Airfield OE Parcel. He explained this area includes the OE portion of the East Shore Airfield, Amedee Electrical Substation, and the Cross Depot Access. Mr. Yared stated that this area was investigated from 1999 to 2003 and the data are presented in the Engineering Evaluation Cost Analysis (EE/CA).

Mr. Yared stated the Northeast Shore West Airfield OE Parcel had been broken up into two transfers. One of the parcels consists of 855 acres, and the other one is 136 acres. The 855 acres, was shown on the map provided as a handout to the RAB members, as parcels 1, 2, 3, and 4. The 136 acres was also identified on the same map as parcels 5 and 6. Mr. Yared explained that the land to be transferred was broken up because the US Army Corp of Engineers (USACE) couldn't finish the cleanup in time for the property transfer to take place this year. Mr. Yared also stated there was a 50 caliber berm within the 136 acre area that had recently been identified by the DTSC as requiring remediation before the transfer of the 136 acres could occur.

Mr. Yared explained the USACE performed the ordnance explosive (OE) clearance to depth of all the metal greater than 20-mm projectiles, which is about 4/5 of an inch by 4 inches. This was done on the area to be transferred this year (855 acre area) and he stated they we're working on clearing the other area (136 acre area) by the end of December.

Mr. Yared summarized the results of the OE cleanup performed on the 855 acres between April and August of this year included investigating the entire property with hand held detectors after they were calibrated to detect 20-mm projectiles to a depth of 12 inches and 37-mm projectiles to a depth of 18 inches. He also stated that the USACE removed every piece of metal that was detected OE and not OE and they found 77 OE items, which were mostly fuses and partially detonated munitions. Two of the OE items were unsafe and detonated in place. The remaining OE items will be shipped to Clean Harbors, Louisiana.

Mr. Yared stated that 74 out of the 77 items found were within 0 to 6 inches from the ground surface, and the other three were between 6 and 12 inches below ground surface. He also stated that 4,517 pounds of munitions debris and 3,391 pounds of non munitions debris were removed from the property.

Mr Yared stated that the Army considers the property available for unrestricted use; therefore no institutional controls or engineering or land use controls are required. However, DTSC doesn't agree with the unrestricted use. Therefore, there will be an agreement with Lassen County and the Army to restrict the use of the property. The agreement will be put in place will be a Covenant to Restrict Use of Property (CRUP)

The CRUP will state the property use cannot change unless DTSC agrees with the change.

Mr. Yared stated that the Finding of Suitability of Transfer (FOST) was approved on September 15. The Lassen County Board of Supervisors is planning to meet September 28 and hopefully approve the transfer. Mr. Yared stated that DTSC completed there review of the Completion Report and there comments were addressed. DTSC was supposed to sign the Completion Report this week..

Mr. Harris: I don't know if they have signed it yet.

Mr. Yared: Between today and tomorrow, it's supposed to be signed, and then the Army will sign it.

Ms Keyzers: So is the transfer for the 855 acres?

Mr. Yared: Yes, the 855 acres.

Mr. Herman: Areas 5 and 6 are to be transferred after it's been cleaned up?

Mr. Yared: Yes, next year.

Mr. Harris: The 136 acres would require land use restrictions also.

Mr. Yared: In fiscal year 2005, we should perform the removal of the items from the other areas that were not cleared already, and part of this area is the 50-caliber berm. Clearing the 50-caliber berm involves removing some soil, about 50 cubic yards which contains some bullets, and disposing of it as hazardous waste.

Ms. Keyzers: So will the soil go to that place in Louisiana?

Mr. Yared: No, it doesn't have to go to that place.

Ms. Keyzers.: You don't have the disposal facility designated yet?

Mr. Yared: No, not yet.

Mr. Harris: The soil in the berm is not considered to be impacted by ordinance, but it will most likely have lead contamination. There are several disposal facilities that will take lead contaminated soil. The soil is not an explosive hazard, if the soil only contains 50 caliber bullets, they do not fall into the definition of ordinance. That's still small arms.

Mr. Azevedo: Are you going to use the same process that they used for the old rifle range where they screened and removed the lead?

Mr. Yared.: We figured since this amount of soil is small, that we're got going to go ahead and screen it. We're just going to dispose of it as it is. It's cheaper that way, more cost effective. If it was a bigger area, we probably would have removed it. But we're only talking about 50 cubic yards.

Mr. Harris: As long as there is nothing there other than 50 calibers or smaller.

Mr. Yared: We're going to remove six inches off the top surface, plus a small area, 6 x 6 x 3, and after that, they're going to go ahead and do the OE clearanc. So the fieldwork will be done by early next fiscal year and the FOST will be ready first half of next year and then the transfer will be done by September.

Mr, Schlusler: What are you doing with the debris that you said has been removed from the property? Like the 4,517 pounds, where is it now?

Mr. Yared: Depending if it's OE-related or not OE. If it's not OE, it's just regular garbage. It's just going to the dump. If it's OE-related, then it's going to Louisiana.

Mr, Schlusler: So, in other words, it's not staying here? When you're removing it, you're not taking it from here and taking it to some dumping area in here?

Mr. Harris: No. It's going off site.

Mr. Yared: They're segregated into two different areas.

**3.0 Mr. Yared–USACE, Status of Honey Lake Engineering Evaluation and Cost Analysis (EE/CA)**

Mr. Yared transitioned from his discussion on the Status of the cleanup on the East Shore Parcel and the finding for suitability for transfer (FOST) to a discussion of the Honey Lake OE Parcel EE/CA. Mr. Yared announced the Army will be receiving the draft EE/CA by October, and then their recommendations will be discussed with the DTSC, State Land Commission, and the Honey Lake Conservation Team. He also announced the public review period would later next year.

Mr. Herman: Are you about done working on the lake bed as far as cleaning things up?

Mr. Yared: No. We just did an investigation. We did surface removal, and that's why this report can be completed by October.

Mr. Herman: Okay.

Mr. Harris: And so it looks like for this 136 acres where the berm is, you'll be continuing to work. Are they working now?

Mr. Yared: The same contractor is doing the rest of the OE area and the 136 acres, and then we're working on the scope of work for the berm.

Mr. Harris: Then once that's done, we'll see that report and then you'll come out with a draft FOST first half of 2005.

Mr. Yared: Probably around February, March.

Mr. Harris: Okay, spring. I hope that when we get to that FOST, it will be a little bit better than the one we have for this East Shore. One with sufficient information so that the public can provide meaningful public comment. Because with this action on the East Shore, that certainly didn't happen.

Mr. Yared: Yeah. We were in a rush to finish it by September, and that's why the timing wasn't right for us.

Mr. Harris: Yeah, the timing wasn't there. And I understand you're in a position where you can't really argue, but, you know, to have a deadline set by somebody in the Pentagon that governs how and what is done, so he can get credit by the end of the fiscal year, is not what the process is about. As I made my views known in our last RAB meeting and in my comments I felt that the public participation aspect of this FOST that was signed within the last week or two, was a farce. I know you've gotten my comments. I didn't see any comments from any of the members of the public. Maybe they felt the same as I did that it wasn't worth commenting on.

Mr. Yared: Unfortunately, the contractor took longer than expected to clean the area. So, we were doing paperwork ahead of the actual action. But, hopefully this next one is going to be more timely.

Mr. Harris: Thank you.

Mr. Yared: Any other questions? Thank you.

**4.0 Mr. Dukes – ARCADIS, Overview of Installation Restoration Program Reports and Activities**

Ms. Huston introduced Mr. Dukes, Project Manager for ARCADIS on the restoration sites at SIAD. Mr. Dukes initiated the presentation by announcing that he was not going to go through the presentation handout page by page but was going to summarize the progress on the restoration sites. Mr. Dukes announced ARCADIS was behind on their schedule because of internal organizational changes.

Mr. Dukes stated that they did not have any results back yet from the in-situ remediation zone (IRZ) demonstration and pilot studies they were performing on the groundwater at TNT, DRMO, Building 210 Area and the Abandoned Landfill and Southern Sites Area (ALF/SSA). However, data would be provided to the regulatory agencies as the studies progressed over the next 18 months. Mr. Dukes stated that within six months' time, they should start seeing some results of breakdown of the trichloroethene (TCE) in the groundwater.

Mr. Dukes summarized the progress they were making on the Three Sites ROD and the remedial action described in the Three Sites ROD as follows:

- Regulatory agencies have reviewed the draft Three Sites ROD and provided comments
- Response to the regulatory agency comments are progressing and should be back to the regulatory agencies by the end of the month
- Planning to submit the draft final Three Sites ROD by the end of the year and receive final approval some time next year

- Planning to initiate the remedial action by spring of 2005

Mr. Dukes stated that another important document that was in progress was the Remedial Design – Remedial Action (RD/RA) Plan He explained they were half way through preparing the plan and anticipate submitting to the Army and then to the DTSC and the Regional Water Quality Board by the end of next month.

Mr. Dukes asked the audience to look at a sectional view drawing (located in the handout) of the cover system ARCADIS is planning to put on the Corrective Action Management Units (CAMUs) for the Army as the final remedies for the Old Popping Furnace (OPF) and the Upper Burning Ground ( UBG). Mr. Dukes stated that the drawing was prepared to show a little more detail of the cover system to the RAB members. Mr. Dukes explained that the CAMUs were basically designed similar to landfills. However, only contaminated soil would be placed in the CAMUs and not other waste.

Mr. Dukes explained that the design of the CAMUs consist of the contaminated soil on the bottom with a cover system on the top. The cover system consists of a fine grained soil placed on top of the contaminated soil which serves as a cushioning layer between the consolidated contaminated soil and the next layer which is a gesosythetic clay liner. The geosynthetic clay layer is constructed of a layer of bentonite clay which has a very low permeability sandwiched between two layers of geotextile. Mr Dukes stated that the geotextile is a plastic cloth which acts as a constraint or as a container for the clay. The clay is what reduces the infiltration of liquid through the cover into the consolidated and contaminated soil.

Mr. Herman: How thick is the layer of clay?

Mr. Dukes: It's about half an inch. The permeability of the clay is around $1x10^{-10}$ centimeters per second which is very low. This is used throughout the waste industry for placing a layer on top of a waste area.

Mr. Dukes continued with his presentation describing that the final top surface of the CAMUs will be rock or gravel; because of the high winds that occur in the area. The rock or gravel would also prevent the cover system and contaminated soil from eroding away. Mr. Dukes also explained that the CAMU at the OPF would be approximately 8 feet high and most likely from a distance of 300 to 400 feet you would barely notice it.

Ms. Keyzers: This design is such that when plants grow on it, it's not going to disturb that clay liner?

Mr. Dukes: The possibility of plants growing on the cover is low,

Ms. Keyzers: Vegetation is going to be kept off this cover for how long? I mean, who's going to monitor that after five or ten years?

Mr. Harris: That's part of their operations and maintenance plan, which, is another component of the RD/RA. The monitoring is basically going to be pretty much yearly inspection and maintenance.

Ms. Keyzers: For what? Fifty years? Does it need to be cut?

Mr. Harris: The monitoring and maintenance will be performed as long as the CAMU exists.

Mr. Herman: It's forever.

Ms. Keyzers: That's right.

Mr. Dukes: The first nine years are ARCADIS' responsibility, or the remaining time of our contract after we complete the CAMU as those are the terms of our contract with the Army. But after that, it is the Army's responsibility. And, as John says, there will be annual inspections, and as the DTSC is the Regulatory Agency, John, or his successor, will be there either making the inspections or reviewing the inspection reports, and determining whether the maintenance is being done adequately, and if it is not, then taking action.

Ms. Armstead: Michael, I think another point we should make is that the annual inspections will be summarized in the five year site reviews to demonstrate to the regulatory agencies and the community that the CAMU is operating as designed and it is remaining protective to human health and the environment.

Mr. Harris: They'll perform their yearly operations and maintenance, and then at the end of five years, we'll review the results of the monitoring and maintenance. If what is being done is adequate, or if there need to be changes one way or the other we will make them.

Ms. Keyzers: Right. And all the time the wind will be blowing sand over it, and it's just going to be the perfect environment for vegetation.

Mr. Harris: It could be, and that's why the annual inspections are necessary. And, again, if we're finding something that requires a change we will make that change. Our intent is to make sure that this unit stays in the right condition to segregate that waste from the rest of the outside world.

Mr. Keesey: What is the total area of the CAMU's up there?

Mr. Dukes: About eight acres at the Old Popping Furnace, and at the Upper Burning Ground (within Hansen's Hole) about 2 acres.

Mr. Wolfram: I was just going to say, even though there is not supposed to be any vegetation, oftentimes, they do have vegetation on top of caps or covers. What's really a concern is that you don't want to have deep-rooted species that will grow on the cap. If you have some weeds or other plants that have a root system that is shallow and won't penetrate that 6 to 9 inch aggregate layer the integrity of the clay liner will stay intact. So when they perform the annual inspections they would identify if any type of the plant species could have those deep roots and they would implement a plan to control them.

Mr. Harris: The key is that 1 inch of the geosynthetic, because that's really what provides the protection from the precipitation moving into the contaminated soil. We have two

concerns here. We don't want the stuff blowing off in the wind and to prevent precipitation from percolating down to the contaminated soil, that's where the clay comes in.

Mr. Azevedo: The question I have is how do you control the runoff percolation from the sealed part of it? What do you do with it?

Mr. Dukes: The material on top of the clay layer is permeable so we make no attempt to stop the water from percolating into the top layers of the cover system. The idea of the top layers of the cover are to protect the clay layer and then water will run off on top of that clay layer. The CAMU cover will be sloped so its surface will have a minimum slope of 3 to 7 and slope down to the sides. All that water which falls onto the actual consolidation unit then flows off onto the ground around it.

And part of the design is going to create, in effect, a potential lake around that unit. So when the water runs off the water runs onto the area surrounding the CAMU.. In the case of the Old Popping Furnace CAMU the area is flat around the CAMU. We have designed an area that will capture the water if it doesn't percolate into the ground fast enough. The standing water will not be deep enough to get up to the depth of the contaminated soil which is in the unit - the idea of the design is so that water will not come in contact with the contaminated soil which is inside the unit.

Mr. Harris: They'll be doing some grading out there.

Mr. Azevedo: Well, you're going to have some form of wicking coming up and I was wondering why you would not have drains or something like that.

Mr. Dukes: Well, the groundwater is deep enough, so we're not worried about water coming up.

Mr. Azevedo: I'm talking about the runoff water. I know we don't get much rain, but once in a while somebody pours a bucket on us - so that's the part I'm worried about.

Mr. Dukes: We'll do the grading so that any water that does flow off the consolidation unit and any water which flows onto the area around the CAMU is kept away from the consolidation unit by effectively creating a potential lake which is deep enough and large enough that during a hundred year rainfall event, which is a design criteria, so that water will not be able to impact or stand up against or percolate into the contaminated soil. The accumulated water will then infiltrate.

Mr. Keesey: My wife works on a project where they are performing a revegetation assessment of a mine, and they have a big acid rock problem. It's kind of similar, where they don't want water to leach through the acid rock. They actually seed the mound with many different grasses, so then you don't have the problem of infiltration. So I don't know if that's an option.

Mr. Dukes: It's an option; there are different ways of designing a cover. What you're talking about is a vegetative cover - you encourage grass to grow for two reasons. One is

for erosion control; you don't want the runoff to make gullies. The other is for slowing down or preventing infiltration, because those plants suck up the water.

Now, one of the troubles with grass is you have to establish it, and then you have to maintain it. That is a bit of a problem out here because you would have to find a way to water it and that could be a lot of work.

Mr. Keesey: Well the cover on the acid mine rock, is just made of native grasses and so they just seeded it and it came up and they got 45% cover, so it was great. Now they don't have to do anything to it because it is native. That might be one of the advantages over having to go out every year and spray herbicides and water it.

Mr. Dukes: There's another side of this, the intent is to prevent or to minimize, the amount of infiltration which is getting through. The sort of cover you're talking about is usually much thicker and we have a constraint out here. We cannot, in fact, excavate borrow material that would be suitable for native grass, it is not part of our contract right now.

Now, you can try to import the soil, and, again, that gets to be very expensive and comes with difficulties all its own, given the type of facility we're on, because security becomes an issue. So from an economic point of view, going with gravel cover will provide the objectives we are trying to obtain, protection against the wind, protection against infiltration into the contaminated soil and protection against erosion. So that's a better and more cost effective way for us to go. You know, you have to choose your cover to suit the site you're working on. Also, we hope we don't have to do a lot of maintenance to maintain a cover.

Ms. Keyzers: What about animals? I mean, it looks like you're going to have about 2 feet worth of stuff for somebody to burrow through. Will that layer, I mean, over time have to be replaced?

Mr. Dukes: Not replaced, but maintained.

Ms. Keyzers: Eight acres is a big area to have zero mice or zero rabbits.

Mr. Dukes: It's much easier to dig the sand which surrounds our units. However, I am not saying it will not happen. But part of the ongoing operations and maintenance will be to control that problem. The CAMU is not a permanent solution in the way that we finish it and we walk away and never look at it again - it has to be maintained. And 20 years from now, the Army will have in their budget, because they have the liability, the money to continue the maintenance, whether they do it themselves or subcontract it out. I'll be long retired. At least, I hope so.

Mr. Herman: You know, the idea of having to maintain it against plants and animals seems shaky to me. I just want to put that out there and make sure that's on the record.

Mr. Alzevedo: Especially if it's a badger.

Mr. Herman: Yeah, a badger could dig a hole very big, very fast. I've seen badgers out there on the side of the Base.

Mr. Harris: Fencing.

Ms. Armstead: There is fencing planned around the CAMU in the remedial design, right Michael. And I guess the other part we should reemphasize is even if a large hole was dug in the cover and a repair was not made quickly the chance for the contaminated soil to be transported via infiltration or wind should be minimal as evidenced through the past 40 to 50 years that the contaminated soil has been present at the OPF. We haven't seen any leaching of chemicals from the soil contamination into the groundwater, especially elevated lead concentrations that are in the soil. In addition elevated concentrations of lead have not been detected on the surrounding sites, therefore supporting that the windblown spread of contamination has been minimal. The concentration in the groundwater primarily consists of arsenic, and it's naturally occurring arsenic. So I'm fairly certain we could all believe that the contamination is not going to start leaching to groundwater just because we put it in a consolidation unit. However, the plan is to maintain the cover annually, or as needed, to ensure that the remedy remains effective as designed.

Mr. Harris: Yes, and that just comes down and back to that effective operations and maintenance.

Mr. Dukes: Sure.

Mr. Harris: The CAMU's will get periodically inspected. It may require inspections every six months as opposed to every year. Those are things we still need to work out, and, obviously, if we find lots of weeds growing or animals burrowing, we'll take some steps to try to alleviate that problem.

Mr. Dukes: Typically, the maintenance plans for this type of facility, start off by saying that for the first year or two, we will inspect at a more frequent intervals than you would expect after ten years. So the idea is you get a good baseline, if you like, for what the maintenance requirement is going to be

Ms. Armstead: Another point we should make is that the effectiveness of the cap is monitored through groundwater monitoring. Groundwater monitoring will provide information to assess whether the groundwater quality is changing and whether the change is a result of the CAMU. So there is a lot of monitoring that will occur to ensure the public that the remedy will remain effective and protective as designed.

Mr. Wolfram: Okay.

**5.0 Ms. Huston - Defense Environmental Restoration Program Manager for Sierra Army Dept, Status of Independent Assessment of the RAB**

Ms. Huston announced the next item on the agenda is the status of the Assessment of the RAB. She explained that there was a delay in the preparation of the evaluation report and

that she thought she would have the draft report in the next few months. She also stated she would send it to the RAB members for review.

## 6.0 Discussion future RAB direction and membership solicitation (group)

Ms. Huston announced that she had included the RAB Charter in the meeting's packet for the RAB members review. She asked the RAB members if they would like to discuss the Charter now or schedule a future meeting of RAB members only to discuss it.

Mr. Keesey: I did finally get approval from the chairman to have a meeting at the casino if we want we could review the Charter over lunch. It's a members-only RAB meeting.

Ms. Huston: Okay. With Tim offering us a meeting place with lunch when would you all like to meet? If we look at the first of November, it's up to you guys who need to travel and consider weather conditions.

Mr. Harris: It's touch and go with the weather.

I also want to suggest for the next public RAB meeting most likely in the spring that we may have started some construction activities at the OPF and we could possibly have a site tour. - You know, when we first started, we took a couple of tours of the facility, maybe that's something we could do for our first spring meeting. Whether the documents are finalized and ready to go, we could still go out there and refresh your minds about the barrenness of the sites. I'll just throw that out there for a possibility.

The RAB members then discussed dates for the November meeting and concluded that November 10, 2004 would work for all of them.

Meeting Adjourned at 7:43 pm

Meeting Minutes by Ms. Armstead of Armstead Associates and Ms. Huston of Sierra Army Depot with assistance from student stenographers from Truckee Meadows community college.


# RESTORATION ADVISORY BOARD MEETING
## SIERRA ARMY DEPOT
## 12:00 p.m., November 10, 2004
## RAB MEMBERS ONLY

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| 1.0 | 1200 - 1230 | ROLL CALL, READING OF MINUTES TO THE LAST MEETING, APPROVAL OF MINUTES (Co-Chair) |
| 2.0 | 1230 - 1345 | RAB CHARTER REVIEW (RAB Members Discussion) |
| 3.0 | 1345 - 1355 | RAB MEMBERS QUESTIONS AND DISCUSSION |
| 4.0 | 1355 - 1400 | TENTATIVELY SCHEDULE NEXT RAB MEETING AND AGENDA |