



**RESTORATION ADVISORY BOARD
DUGWAY PROVING GROUNDS
ENGLISH VILLAGE COMMAND CENTER CONFERENCE ROOM-A**

**May 14, 2001
Meeting Minutes**

Action Item = ☆

The meeting of the Dugway Proving Ground Restoration Advisory Board (RAB) was held on Monday, May 14, 2001 at 5:30 p.m. in the English Village Command Center Conference Room A at U.S. Army Dugway Proving Ground, Dugway, Utah. A new feature of these minutes is an action item list provided as an enclosure along with the agenda, attendee list.

1. Welcome, Introductions – Members and Guests

Joe Gearo and Royce Larsen, Dugway Co-Chairs

- A. Installation Co-Chair Mr. Gearo brought the meeting to order and welcomed attendees. He noted that one member had informed the Co-chairs of a schedule conflict. Another member, **Rex Sohn** of U.S. Fish and Wildlife Service in Salt Lake City, left the service May 5th and resigned from the RAB. He will be replaced with Mr. Bruce Waddell, who will not be able attend the May meeting.
- B. Co-Chairs Mr. Gearo and Mr. Larsen began the introductions of RAB members, RAB support staff and members of the public (see Attendee List, Attachment 3).

2. Old Business

Acceptance of Meeting Minutes

Joe Gearo and Royce Larsen, Dugway Co-Chairs

- A. Mr. Larsen reviewed the February 12, 2001 RAB meeting minutes and action items from the meeting (see Attachment 2). Vicky Henderson emailed minutes to members who have email capability, and noted that there were a few problems. Meeting minutes from the May meeting will be sent simultaneously by email and US postal service, and see if problems are resolved. ☆
- B. Ms. Henderson reported that all documents are at the Outreach Center in Tooele, and documents at the Marriott Library are going through the classification/circulation procedure.
- C. **Motion:** Mr. Larsen moved to accept the reviewed RAB minutes of February 12, 2001. Vernon Denman seconded motion. The minutes were unanimously approved.

3. New Business

- A. Mr. Gearo announced that the **2001 Installation Action Plan** document replaces the version dated March 2000. Joe Gearo emphasized that this is a “living document.” It is available on CD for members who want a copy.

B. Site/Date Selection for RAB Tour of DPG

Joe Gearo and Royce Larsen, Dugway Co-chairs

Discussion of a RAB Tour / Meeting included site selection, date and time. Mr. Gearo outlined two options for Board Members:

1) The Environmental Office can select a tour date based upon information that would be provided by Scott Reed regarding the most advantageous times to tour specific sites under active remediation, and notify RAB members of that date and time.

2) RAB members select a mutually agreeable tour date (to the extent possible), and notify Mr. Reed of specific sites to tour, or rely on his advice regarding most active sites at that time.

It was decided to schedule a tour for the August 13th meeting, and in the meantime, Scott Reed will look at projections of activity for that timeframe and have RAB members notified. Scott informed members that the cleanup is going faster than anticipated and that he is unsure what work will be remaining in August. Joe Gearo suggested that members relay their suggestions on potential tour sites to Scott Reed (435-831-3592). ☆

C. Subcommittee Roles and Responsibilities

Mary Ann Parker, Parker Design

Ms. Parker asked members to consider two questions:

- Why did you join the RAB?
- What do you want the RAB to achieve?

She discussed with members the purpose and benefits of each of the RAB subcommittees and suggested that each member select one area to specialize in. This will help the RAB become more productive. The four main subcommittees are:

- Procedures
- Technical
- Community Outreach
- Membership

Joe Gearo noted that, in order to generate more productivity and maintain a high level of interest in the RAB, each member needs to participate on a subcommittee. The subcommittees can then take on responsibilities and tasks that are initiated internally, and set targets and goals to shoot for. He observed that the RAB has been in operation for over one year, and this is a good time to progress to the next level, where members take the initiative more as contributors than as spectators.

Emphasis was placed on getting the *Technical Subcommittee* membership set, so that they can begin guiding the group on what documents to review. It was suggested that the Technical Committee get assistance from Scott Reed's office to identify which documents are available in the Draft phase, as they are the best candidates for the RAB to review, ask questions, and comment on prior to being finalized. ☆

The *Procedures Subcommittee* has met more than once, and provided the Mission Statement and Operating Procedures for the RAB. The *Membership Subcommittee* has several tasks awaiting action, particularly recruitment of new members to replace retiring members.

The *Membership Committee* and *Outreach Committee* have an opportunity to work together to recruit new members for the Dugway RAB to replace retiring members. It would be good to check on the membership status of **Mohammed Abraham**, as it has been difficult to reach him since he moved to Tooele. ☆

As several RAB members were not present at this meeting, Mr. Gearo suggested that members meet in subcommittees after the presentations to set up your next meeting, and/or how you want to address some of these issues.

BREAK

4. Types of Groundwater and Groundwater Management at Dugway

Dave Larsen, Utah Department of Environmental Quality

Ed Staes, Parsons Engineering Science

Curtis Payton, US Army Corps of Engineers, Sacramento District

Dave Larsen presented the State of Utah's position on Dugway's groundwater issues, based on State of Utah regulations for managing contamination. Mr. Larsen discussed the subsurface geologic conditions at Dugway -- two aquifers separated by a thick and extensive clay layer that prevents contamination from moving downward from the upper water table aquifer. These conditions support the State and DPG's use of the process of *natural attenuation*, or allowing natural processes to reduce contaminant concentrations in the groundwater.

Q: Jennifer Saran – Are you saying that the level of risk is not as great a consideration if it is in a poor groundwater area? In that case, you recommend using natural attenuation?

A: Dave Larsen – Yes. For example, if the upper area of groundwater is contaminated, and there is no way for it to come into contact with lower, principal groundwater aquifer, then it is not really a risk. Currently, there are no known places where Dugway is pumping groundwater out of the shallow aquifer that would come in contact with anyone.

Q: Vernon Denman – Is there a chance that the wildlife can get deep enough to come in contact with the contaminated water?

A: Dave Larsen – That's a good consideration -- something we take into account, with the antelope population, and others.

Comment: Vernon Denmon – You have to remember the distinction between surface water and shallow aquifer. The wildlife will not dig 20 or 40 feet to get water.

A: Dave Larsen – There are places on Dugway where groundwater is only eight feet below ground surface, and if we do come upon a situation where we believe that the groundwater is seeping out of the ground and the animals are going to have contact with it, then that will be a consideration. In that instance, Dugway may have to fence off an area or take an active approach on that.

In some test areas, we have put in what we call guzzlers. Guzzlers are in areas set aside on the grounds, and fenced off so that natural run-off water from rains can collect and the animals can drink the rainwater. This is a subject and approach on which the State would be interested in hearing public opinion.

Comment: Jennifer Saran - I think that another positive effect of natural attenuation, for some of these contaminants, is that we do not create more risk by bringing contaminated water to the surface, and expose people in an attempt to clean it up, rather than leaving it where it is not going to be used in any way.

Curtis Payton, geologist with the US Army Corps of Engineers, has 15 years experience in the environmental cleanup industry. He explained the concept of total dissolved solids (TDS), which is one of the criteria that the State uses to determine quality and usability of water in an aquifer.

Mr. Payton described the water quality standards used by Utah and the Federal EPA, and where Dugway's groundwater fit within those standards. He also showed a map with the distribution of TDS at Dugway (see presentation).

Q: Jennifer Saran – Were all of samples, shown on the map along the lines, taken from the shallow aquifer?

A: Curtis Payton – Yes. None of the samples were collected from the deeper aquifer. In fact, few samples have been taken from the deep aquifer since then. There probably isn't any contamination down at that level which is one of the things we set out to prove. We are in the process of getting that data.

Ed Staes, a program manager with Parsons Engineering Science, presented more site-specific information, methods used for data collection, and the make-up of the soil layers at Dugway. He showed a generalized Stratigraphic Column, which represents various zones in a cut of the earth in depth of feet. He explained that when contaminants get into an aquifer system, they usually move through the sand lenses. The discussion focused on the Carr and Ditto area, where groundwater contamination has been identified.

Mr. Staes presented a "conceptual site model" demonstrating that most of the contamination identified at Dugway is within 90 feet of the ground surface, and located within sand layers with interbedded clay zones. A clay *aquitard* lies under the sand lenses, which prevents contamination from migrating to the deeper aquifer that contains good quality drinking water. He presented a helpful explanation of how the Dugway program meets the Utah regulations for determining the vertical and horizontal extent of groundwater contamination.

In Ditto and Carr, the groundwater used for drinking water is pumped from 250 to 300 feet below ground surface. The key point of this briefing is that the contaminated water is suspended in the shallow aquifer, and presents neither a human health risk because it is not used for drinking water, nor a risk to groundwater because it is trapped in the upper layer and cannot migrate.

Q: David Larsen – It might help if you talk about DNAPL (Dense Non-Aqueous Liquid).

A: Ed Staes – What Dave is asking about is raw product where it is mixed with groundwater. For example, if you took a glass and mixed pure cleaning solvent with water, you will see two different phases in the glass. You will see the solvent sink to the bottom and you will see the water rise to the top. So, people have been concerned that if solvent is spilled, it is just going to sink through the water column. EPA recommends that if you are not seeing concentrations of about 1 to 10% solvent, DNAPL is probably not present. Concentrations identified at Dugway are closer to 0.01 to 0.1%, which are a couple orders of magnitude less than you would expect if you expect DNAPL.

5. **Installation Restoration Program: Current Work Status & Updates**

Scott Reed, Dugway Proving Ground

RCRA Facility Investigation (RFI) Sites
Solid Waste Management Units (SWMUs)
Ed Staes, Parsons Engineering

Mr. Staes' briefing gave an update on progress made recently on the RCRA Facility Investigation. He noted that this program is primarily in the investigation phase with samples being collected and nature and extent of contamination is being identified for the next phase. Mr. Staes reviewed the activities completed since the last meeting and status of ongoing work. He reported on the water and soil sampling progress and the Test Pit operations at 2A/3A SWMU sites.

Consent Order Sites
Hazardous Waste Management Unites (SWMUs)
Jeff Ogawa, IT Corporation

Mr. Ogawa likewise reported on the fieldwork completed since the May meeting. He discussed status of current fieldwork for HWMUs 33, 36, 42, 48, 51, 58, 63-1, 63-2, 128, and 130 including sump contents characterization and removal, groundwater investigations and the ongoing monitoring program. His presentation shows maps and photos of working being accomplished, including building demolition before and after pictures.

For the next reporting period, Mr. Ogawa projected activities for August:

- ◆ a soil and land fill gas investigation at HWMU 37
- ◆ a soil and groundwater investigation at HWMU 55
- ◆ a soil investigation at six sites
- ◆ a septic tank excavation at HWMU 62, which will take 2 to 3 days (possibly in July)

Q: What was done at HWMU 48 to make the project less costly than was originally planned?

A: **Scott Reed** – DPG concurred with the decision to clean up this site to either 1 ppm, the level designated for "residential areas," or 25 ppm for industrial use areas. Cost estimates prepared to meet these requirements exceeded \$7.5M, which was beyond Dugway's budget at the time. EPA rules allowed for Risk Assessments to be done, so a risk assessment was performed with our own site-specific requirements and needs. From the conclusions of the assessment, it appeared that we could clean up the site to 63 ppm and meet risk assessment guidelines. However, EPA acceptance of a risk-based approach for a PCB cleanup would have set a precedent throughout the country, and Region 8 was not prepared to make this precedent-setting decision at the time. EPA proposed DPG wait a few months until the PCB Mega-Rule was finally promulgated. Under this new rule, we were able to conduct a voluntary cleanup to 50ppm. DPG concurred with this approach, resulting in a cleanup cost of approximately \$2M, a savings of about \$5.5M, and keeping within Dugway's budget.

6. **Questions and Answers**

Q: **Vernon** – I watch the trucks move from HWMU 48 and it looks like they were going to the dump. Where do they take the dirt and what happens to it?

A: **Curtis Payton** – The trucks go to the dump to get weighed on the scale, then the waste is disposed of in the TSCA cell at the Grassy Mountain Facility, where all other PCB wastes are treated and disposed of.

Comment: Joe Gearo- I want to add that the backfill material came from leftover soils at the landfill, so that we have reused some soil that wasn't being used.

Q: **Vernon Denman** – What is the web address for the RAB page?

A: **Chris Prescott** – Scott and Joe will give that out as soon as it is cleared it through Dugway's information management and public affairs. ☆

7. Setting Next Meeting: Agenda Topics

Joe Gearo stated that we hope that the Subcommittees will identify and drive some of the RAB agenda items for the next several meetings. It will be helpful to continue having the technical reviews and the contractors' progress reports – on work completed since the last meeting and work projected for the next three months.

The next meeting is set for Monday, August 13th at 5:30 p.m. at the Dugway Proving Ground, English Village Command Conference Room A, Building 5450.

Please meet in your chosen subcommittees, discuss who will be the responsible Chairperson for each committee, and what your plan of action is before the next meeting. There may be no specific plan of action right now, but plans to come up with your subcommittee's purposes is, and what issues you would like to program for the next meeting. ☆

8. Meeting adjourned.

Enclosures:

1. Action Item List – May 14, 2001
2. Status of Action Items – February 13, 2001
3. Meeting Agenda – May 14, 2001
4. Attendance Roster (not included in email copy)

DUGWAY PROVING GROUND - RESTORATION ADVISORY BOARD
☆ ACTION ITEM LIST ☆
14 May 2001

Action Item	Proponent
1. May Meeting minutes will be sent simultaneously by email and US postal service to identify any remaining email problems.	Vicky Henderson
2. RAB Tour: Scott Reed will look at projections of remediation activity for August 13 timeframe and have RAB members notified.	Scott Reed, Parker Vicky Henderson
3. RAB members select <i>Subcommittee</i> and discuss purpose, goal, activities (Meet if possible before the next RAB meeting.)	RAB Members
4. <i>Technical Subcommittee</i> member will contact Scott Reed for recommendations of most appropriate documents for review.	RAB Members
5. <i>Membership Subcommittee</i> to check with Royce Larsen regarding membership status of Abraham Mohammed and Chae Kim.	RAB Members
6. DPG RAB Website address to RAB members	Vicky Henderson

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☆ **Status of ACTION ITEMS from February 12, 2001 Meeting** ☆ **Enclosure 2**

Action Item	Proponent	Status
1. Resolve email problems with members who want to receive info by email.	V. Hendersen	100%
Telephone each RAB Member:		
2. ▪ Discuss issues of concern and future agenda items.	Parker	70%
▪ Discuss availability and preferences for upcoming RAB tour		
Coordinate meeting agenda:	Co-chairs	
3. ▪ May: Presentation on groundwater quality and groundwater strata on Dugway Proving Grounds	Parker Dave Larsen Chris Prescott	100%
4. Members select subcommittee, and consider items to be addressed in subcommittees.	RAB Members Parker	90%
5. RAB Binder – advise Royce Larsen if you need one. No requests were received.	RAB Members	100%
Resolve meeting location for future RAB meetings.		
6. Note: Decision made to continue in same location unless there were any other requests or comments. Col. Fisher, Public Affairs Office and Judge Advocate recently moved to this building.	Co-chairs	100%
7. Resolve problem of timely access to clear community members through the front gate for meetings.	Joe Gearo	In progress
Note: No problems noted for May meeting.		
8. Recruit replacement for resigning RAB Members: Robert McNeil, Rex Sohn.	Membership Subcommittee	100%
Note: Subcommittee will address recruitment action.		
9a. <u>Design</u> Web pages with RAB information and minutes for DPG website.	C Prescott	100%
Note: Chris Prescott designed links with comprehensive RAB information.	V Henderson	
<u>Post</u> Web links on DPG or Corps of Engineers website.		
9b. Note: Mr. Gearo and PAO are reviewing the website for approval. By the July meeting, it should be posted on the Dugway intranet site.	Joe Gearo PAO	100%
10. Post availability of RAB information in DPG library and website on Channel 12 access channel.	Joe Gearo	On-going
Place RAB meeting binder in the DPG Post Library.		
11. Note: A binder in the Dugway library contains approved minutes and general RAB information. It can be found in the second section at the back of the Library (or ask for assistance).	Royce Larsen	100%

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