Meeting Notes: Community Advisory Group - Aerojet Superfund Issues, November 3, 2010

1. Attendees

Janis Heple, Tim Murphy, Chris Fennessy (Aerojet), Gary Riley and Kevin Mayer, (EPA), Paul Schubert (Golden State Water Co., Allen Tsao, Alex MacDonald (CVRWQCB), Larry Ladd, Dina Calanchini (CH2MHill/EPA), Alta Tura (Sacramento Area Creeks Council), Rick Bettis (LWV & Sierra Club) Claudette Altamirano (Recorder, Weston Solutions, Inc.).

2. August minutes were approved with minor changes and Janis will check her notes and send any additional changes.

3. Aerojet Community Updates: Tim Murphy, Aerojet

Mr. Murphy thanked everyone for attending the open house and will plan something similar in the future for GET K-A.

Question – Larry noticed drilling near the river which is a concern to environmental groups.
Paul from Golden State Water explained that they are doing a feasibility study which includes poking test holes near the river looking for water which so far, does not look promising. Phase II of a multiphase process will include drilling larger test holes. A settlement still needs to be completed between Golden State and Folsom. Paul said it makes sense to pump directly after discharge instead of pumping all the way around the County. Testing is being done to investigate the feasibility and the drillers follow best management practices when drilling.
Janis would like more community involvement in the process.

Question – Janis asked about the status of OU5; Kevin replied that the ROD has not yet been signed, the response to comments had been incorporated and it has gone back to the attorneys for review.

4. Presentation on OU6 (Boundary OU)**, Gary Riley, EPA**

Gary provided a presentation on OU6. Due to the vast amount of data (8 volumes) included in the RI . Gary focused on a couple of areas to demonstrate the type of information and analyses included in the document. Please see the attached slides of the presentation.

Kevin noted that the EPA's priority was on complete exposure pathways so they can manage or eliminate those right away.

Question: Jimmy asked since the Island OU the largest source of contamination; wouldn't contamination continue to move from the Island OU into the groundwater? A discussion regarding the sequencing of OU cleanup and control ensued. The Boundary OU has a clean aquifer above contaminated groundwater. There are not many current technologies that can treat the existing concentrations at depth. Treatability studies and technology development continue.

It was noted that the feasibility study is expected by the end of the year.

Janis received compact disks containing the RI. There is no formal public comment on the RI (there is for the Proposed Plan) a 60 day comment period is in effect for agencies and the public may also comment. A proposed plan is expected in late 2011.

Allen noted that Wetlands are found in the area. Aerojet noted that a biological assessment is included in an appendix to the RI.

4. General Aerojet Cleanup Overview: Alex MacDonald. RWQCB

(Handout provided by Alex MacDonald)

Aerojet Activities – November 2010 CAG Meeting
(Bold Items shown on Figure)

A **GET L-A.** Construction has been completed at the system is up and operating at approximately 900 gpm.

B **GET KA**: NO CHANGES. Operating with all initially planned wells operating, including former **AC-7** (Georgetown). Flow is approximately 1700 gpm and could be increased up to 1900 gpm. **AC-12** has once again been turned off due to NDMA concentrations near 5 ppt. Aerojet is looking at having an "open house" for the public at **GET K-A** sometime in the future.

C **AC-6** is being provided with a treatment system to remove perchlorate. California Department of Public Health will require some testing of the system prior to use within the Golden State system. Discharge of water not into the distribution system is under Aerojet's NPDES permit. This well should begin operation soon.

D **AC-18** and **AC-23** have been provided with perchlorate IX units with and startup of the treatment systems will commence when perchlorate concentrations become greater. AC-18 has undergone verification testing and the resin transferred to AC-23 for its demonstration to CDPH. Currently the wells contain around 1-3 ppb perchlorate.

E **GET H-A**: NO CHANGES. Working on getting two new extraction wells (White Rock Park and Coloma Road area) on north side of US 50 back to GET H. The pipeline under US50 is completed and Aerojet is working with SMUD to provide power to the two wells. The wells will likely be started up early 2011.

F **GET B –** NO CHANGES. **GET B** is being expanded to accept transfer of **GET A** facility to the **GET B** location and to accept water from new extraction wells located in southern Zone 3 near Teichert. New treatment plant will be operating by the end of September. Pipeline from **GET A** to **GET B** is completed. Solar field adjacent to the facility has been completed and is already being expanded. Working on design for treatment of **GET A** at **GET B –** installation of UV system for **GET A** initially and pilot testing a UV/HiPox system. Two extraction wells north and east of Teichert are now hooked up to GET B. Two other wells will follow – south on **Teichert Facility** next to the Tracy property.

G White Rock Road North Dump – NO CHANGES. Designs being evaluated for bringing the extracted groundwater to the AKT-1 treatment system next to Teichert. Treated water will be discharged to **Teichert** for their use or to Rebel Hill Ditch near **GET B** when Teichert does not need the water.

H GET Effectiveness Meeting. Agencies and Aerojet held a two-day meeting to discuss evaluations of the effectiveness of the existing groundwater extraction systems that are part of the Western Groundwater OU.

I New Monitor Wells: No new monitor wells.

J **Chettenham Well**: NO CHANGES. The Chettenham well remains off and the concentrations of perchlorate have remained around 3-4 ppb. Aerojet has reached an agreement with Cal-American Water Company concerning the Chettenham Well.

K Aerojet and Sacramento County are continuing negotiations on water replacement issues. Meetings are occurring one to two times per week. City of Folsom, The Boeing Company and Golden State Water Company also participate in some or all of the meetings.

L Perimeter Operable Unit – Aerojet is looking at removal of soils at site **C41** within the PGOU. Soils are impacted by perchlorate to the groundwater (approximately 80 feet) and perchlorate is in the groundwater. The area is within the proposed development area. To facilitate development, Aerojet would like to have the issue addressed sooner rather than waiting for ROD and subsequent order/implementation. Soils would be removed in the upper 10 feet to levels that allow unrestricted use.

M EPA is in the final stages of completing the draft Record of Decision for the Perimeter Groundwater Operable Unit (OU-5).

N Treatability Studies:

i) **Line 03**. NO CHANGES. Column studies on-going. Looking at various ways to bioremediate/degrade perchlorate and TCE.

ii) **HOGOUT –** Treatability study on-going to look at in-situ treatment of soils and groundwater has been completed. Aerojet is now looking at constructing and evaluating its "box of rocks" system.

O Island OU -NO CHANGES. Remedial Investigation Field Work: Second round of field work is complete. Assessing data for the RI/FS. IOU groundwater modeling work plan being developed.

P Eastern Operable Unit – NO CHANGES - all initial and follow-up sampling completed last week. Aerojet and their consultants will now commence development of the report.

Q Central Operable Unit – NO CHANGES. Draft sampling plan has arrived, agency review has been completed and comments have been sent to Aerojet.

R IRCTS:

i) **Sigma Complex In-situ Bioremediation of Groundwater**. System has been operational for two years. Boeing is adding an electron donor to remediate high concentrations on perchlorate in groundwater at the Sigma Complex. Boeing is recirculating groundwater and adding an electron donor (acetic acid) to stimulate biological growth and reduction of perchlorate. Initially the system will include one extraction and one recharge well, and several monitor wells. System is working very well. Boeing has requested amending permit to allow discharge of a small portion of the water (after treatment to remove perchlorate and VOCs) to the perchlorate source area to help flush the perchlorate to the biological treatment system. Amended requirements to allow this to occur will be considered by the Board in December

ii) An in-situ perchlorate remediation system has been constructed for pilot testing at the **Propellant Burn Area**. A gaseous electron donor, hydrogen, along with propane and nitrogen is being used. The pilot test has been completed and we are awaiting the submittal of the results.

iii) Additional soil sampling to define extent of perchlorate at the **Former GET F Sprayfield** has been completed.

iv) **White Rock Road Dumps 1 and 2**. NO CHANGES. These two old burn dumps will be combined at the Dump 2 location on the IRCTS. That area is slated to be a park in the Rio Del Oro development. Looking at doing the work next summer.

v) The first modular biotreatment cell at **GET F Sprayfield and PBA** to remove perchlorate from extracted groundwater has been constructed and filled with media. The liner was found to leak. Thus, the cell was emptied and the liner repaired. The cell will be tested and then commence operation where the treated water is sent back to the ground for recharge.

7. The CAG decided to skip the December meeting and start meeting again in January based on the third Wednesday every other month.

Aerojet Boundary OU RI/FS Report Preview

Community Advisory Group Meeting
November 3, 2010

United States Environmental Protection Agency

Water Boards

Overview

- The Superfund RI/FS Process
- History of Investigation in the Boundary Operable Unit
- Maps of Boundary OU
- Relationship to Overall Site Cleanup
- Sampling Results
- Risk Assessment and Next Steps

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Water Boards

The RI/FS Report

- The remedial investigation serves as the mechanism for collecting data to
  - Characterize site conditions
  - Determine the nature of the waste
  - Assess risk to human health and the environment
  - Conduct treatability testing to evaluate the potential performance and cost of the treatment technologies that are being considered.
- The FS is the mechanism for the development, screening, and detailed evaluation of remedial action alternatives.

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Remedial Investigation History

- 1993 Stage 1 RI Report presented results of prior sampling throughout the Aerojet Site
- These data used to develop revised Field Sampling Plans for each Operable Unit
- Boundary OU FSP approved in 2006
- Field sampling conducted between August 2005 and May 2007

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Previous Draft RI/FS

- Submitted by Aerojet on 2 December 2008
- Reviewed by Agencies, comments submitted on 17 April 2009
- Additional comments on risk assessment
- Discussion of comments at several meetings
- Response to comments
- Revised RI received 29 October 2010

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Unique Aspects of BOU

- Why is it the first source OU RI/FS?
- Adjacent areas planned for development
- Completes evaluation in areas around Carve-out lands
- Mitigate any contamination close to future populations
- Process parallels the Island OU of high priority to Agencies

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Map of BOU

- Discussion of BOU location, major features
- Types of operations
- Management Areas – Administration Area, Line 2, Line 5 North, Westlakes Area, Southern portion of Buffalo Creek, Chem Plant 2 Area, Magazine Area, Area 39 and associated open space areas with those areas

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Detail of Line 2

- History and location of Line 2 Area
- Source Areas 28E, 29E, 59E, E(d), E(e), E(m), E(n) and Drum Storage Area (DSA)
- RCRA Units T and Z, and Open Space Area 5
- Features – wastewater collection systems, floor drains, sumps, storage areas, septic tanks, leachfields and a cleaning slab
- VOCs, SVOCs, NDMA, Metals

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Screening Levels

- What do we compare soil, groundwater, and soil vapor data to?
- Human Health Risk
- Ecological Risk
- Threat to Groundwater
- How levels were selected…

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Figure(s): Line 2 Soil

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Figure: BOU GW

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Figure: Line 2 GW

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Preview of the FS

- Options for cleaning up contamination in Boundary OU
- Soil excavation and off-site disposal
- Capping
- Soil vapor extraction
- GW technologies?

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Next Steps

- Revised Boundary OU RI/FS Report released 29 October 2010
- Aerojet requests 60 day review period

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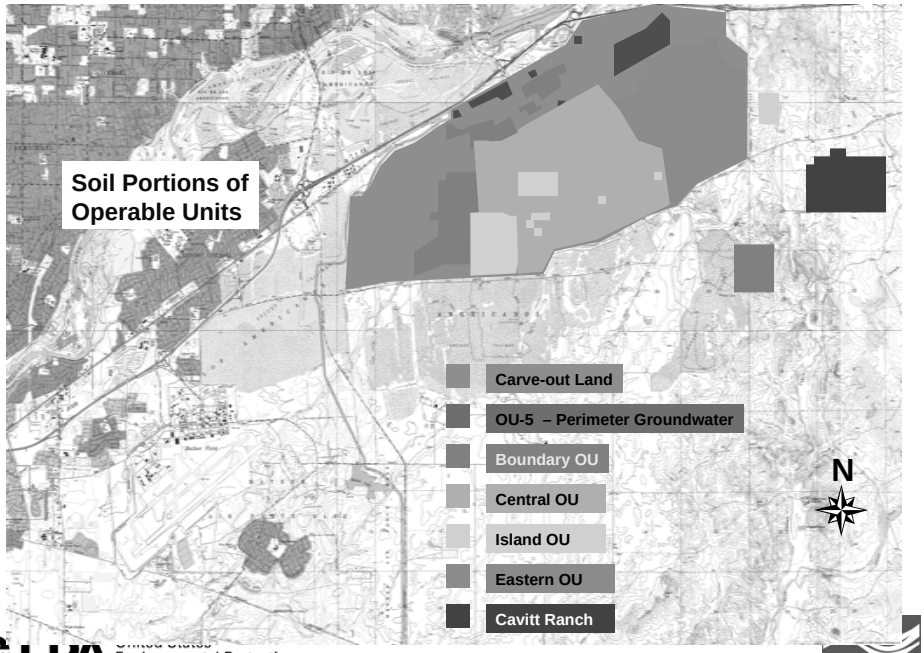

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