

Meeting Notes: Community Advisory Group - Aerojet Superfund Issues, September 21, 2011

1. Attendees

Tim Murphy (Aerojet), Gary Riley, Kevin Mayer, (EPA), Steve Nugent (Carmichael Water District), Alex MacDonald (RWQCB), Jimmy Spearow, Burt Hodges and Stephen Green (SARA), George Waegell (Morrison Creek, Inc.), Rick Bettis (Sierra Club), Alta Tura, Claudette Altamirano (Recorder, Weston Solutions, Inc.).

2. CAG members requested an additional month to review the draft July minutes.

3. Perimeter Groundwater OU5 ROD Signed – Kevin Mayer. EPA

The OU5 Record of Decision was signed in February 2011. EPA signed two unilateral administrative orders (UAO) on September 20th, 2011. One order each for groundwater and soil contamination. Aerojet accepted the UAOs versus consent decrees which would be more time consuming to complete.

The UAOs direct Aerojet to perform the remedies. Aerojet needs to submit a document of its intent to comply.

A fact sheet was sent out and a press release issued in October 2011. The information will be posted on the website and Geotracker.

Question – Have down gradient residents been notified?

Answer – There is lots of open space down gradient and yes they have done public meetings.

4. Feasibility Study (FS) Basics– Gary Riley. EPA

Operable Unit 6 will be the next feasibility study. The remedial investigation is done. The agency has received the revised final RI. The feasibility study is the next step and expected to be out September 30, 2011. Many changes in the final FS relate to the ecological risk assessment.

The Boundary OU was the first in a series of the OUs. The agencies worked with Aerojet on data presentation and the format will provide a base for future reports.

Gary Riley presented a slide on RI history. (see attached slides)

The RI presents lots of data. Defined areas of risk go to the FS stage for evaluation. The areas are combined into manageable units.

Question – regarding maps showing sampling points – What are points in-between without samples with lower risk – shouldn't the points be connected.

Answer: On this particular map the in-between area represent two different media and risk. The FS may combine areas. Prior to and during excavation confirmation samples will help resolve the edges of contamination. This resolves issues of limitations of the density of sampling in the RI.

The figures are trying to make sense of the thousands of samples taken and are grouped by similar contaminants.

The FS is a big step in getting to the cleanup.

Kevin explained that EPA evaluates whether the overall remedy is effective at meeting the protectiveness goals, not only whether the system is meeting the mechanical specifications.

4. Superfund – Public Access to Documents – EPA

There are formal (required) public documents and public comment periods. There is no standard for sharing pre-final documents. For complex sites draft documents can be shared and comments considered when documents are provided to the agencies. There is no formal comment period on draft documents and any comments are very welcome but will need to be submitted on the agency timeline so the process is not delayed.

Aerojet will send document copies to Janis. CDs may be provided upon request.

Question: Are there gaps, i.e. With Boundary unit and Island unit where there is continuous contaminated groundwater flowing underneath?

Answer: Institutional Controls will be applied for the Boundary OU groundwater. There will be a final site-wide review ROD and the complete remedy for the entire site will be addressed in the five year reviews.

5. General Aerojet Cleanup Overview: Alex MacDonald. RWQCB

(Handout provided by Alex MacDonald)
Aerojet Activities – September 2011 CAG Meeting
(Bold Items shown on Figure)

- A **GET L-A.** NO CHANGE - 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 and is being connected to **GET K-A**. Aerojet is looking at having an “open house” for the public at **GET K-A** sometime in the future.
- C **AC-6** - NO CHANGES treatment system to remove perchlorate has been completed and system is operational. Discharge of water not into the distribution system is under Aerojet’s NPDES permit.
- 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. Both systems have undergone verification testing. Currently the wells contain around 1-3 ppb perchlorate. One issue at **AC-23** is fines entering the system from the extraction well – potential for clogging the resin.
- E **GET H-A:** NO CHANGES. Work on getting two new extraction wells (White Rock Park and Coloma Road area) on north side of US 50 back to **GET H-A** has been completed. Wells are operational.
- F **GET B** – NO CHANGES **GET B** has been 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**. Two extraction wells north, east and south of **Teichert** are now hooked up to **GET B**.
- G **GET J** – working on filtration system to remove fine particles coming into the treatment system from one of the extraction wells.
- H White Rock Road North Dump – NO CHANGES The treatment systems is up and operating to treat two extraction wells and the **AKT-1** well. Water is currently sent back to **GET B** for disposal. When needed by **Teichert** for their use the water will be provided to them.
- I **New Monitor Wells:** Aerojet is planning several new monitor and/or extraction wells:
1. New monitor well northwest of the **GET L-B** facility to help define the NDMA plume and evaluate capture.
 2. Monitor well between **AC6** and **AC12** to help define NDMA plume and provide information for placement of an additional extraction well to make sure NDMA does not get to **AC6**. Aerojet has sent out the notice to the neighbors.
 3. Monitor well southeast of **AC22A/B** to help define plume upgradient of those wells. Aerojet has sent out the notice to the neighbors

4. Monitor well in the GET E/F area to assess capture of the on-site extraction system and help locate a potential additional extraction well.
 5. Extraction well in the area of Chem Plant 2 to intercept deeper flow from sources upgradient that are not captured by shallower extraction wells there.
 6. NEW – pair of monitor wells in the vicinity of Teichert to help define the plume and capture by existing extraction wells. Construction is imminent.
- 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. The treatment system has been removed.
- K Sacramento County Water Supply Replacement Issues. NO CHANGES. 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 – NO CHANGES - Aerojet is looking at removal of soils at site **C41** within the PGOU. Soils impacted by perchlorate extend to the groundwater (approximately 80 feet) and perchlorate is in the groundwater. The area is within the proposed development area. Working on remediation plan. Soils would be removed in the upper 10 feet to levels that allow unrestricted use.
- M Boundary OU – Aerojet evaluated comments on the RI submitted by Agency staff on human health and ecological risk aspects. Aerojet provided responses and has produced the final version. The Feasibility Study is being completed and should be available soon.
- N Treatability Studies:
- i) **Line 03.** Redox box delivered along with walnut shells and sulfur to look at perchlorate reduction. Has been operating for one month at 3-7 gpm and results are promising. Doing well.
 - ii) **Phytoremediation at Cavitt Ranch** – cleanup of perchlorate in groundwater using cottonwood trees. The trees have currently failed to establish themselves and the project is currently on hold.
 - iii) **Bioremediation of NDMA** – will be performing in-situ evaluation of biodegradation of NDMA in Zone 4 (GET A area). A SERDP/ESTCP project. Field work not yet scheduled. Comments on work plan were provided by the Agencies.
 - iv) **Encapsulated Bacteria for NDMA Destruction.** Evaluating the feasibility of the process. Operating at **GET B** – some positive results.
 - v) **HIPOx for NDMA destruction at GET B** – using hydrogen peroxide and ozone to break the NDMA bond. Evaluating potential – currently used at ARGET facility for 1,4-dioxane and TCE removal. Started in the beginning of August.

- A Island OU -NO CHANGES. Assessing RI data for the RI/FS. IOU groundwater modeling work plan being developed. Comments supplied by the Agencies
- B Eastern Operable Unit – NO CHANGES - all initial and follow-up sampling completed last week. Aerojet and their consultants are now developing the Remedial Investigation/Feasibility Study report.
- C Central Operable Unit – NO CHANGES. Draft sampling plan has arrived, agency review has been completed and comments have been sent to Aerojet.
- D IRCTS: (NO CHANGES)
 - i) **Sigma Complex In-situ Bioremediation of Groundwater.** NO CHANGES - 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.
 - ii) **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 the end of this summer. Comments supplied on Sampling and Analysis Plan and Remedial Design Plan
 - iii) (NO CHANGES) 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. Startup of the project is soon. Awaiting completion of power to the site by SMUD.

There is a meeting tomorrow night 922-2011 on the proposed management center.

6. Aerojet Community Updates, Tim Murphy, Aerojet

No additional updates this month.

- 7. **Schedule** – The next meeting is scheduled for November 16th but consider moving the date to December 7th. Claudette will send a proposed 2012 meeting schedule based on meeting the third Wednesday of odd months.

Additional comments – the CAG would like more information on risks and to discuss figures.

In addition, there have been many requests to add landmarks, coordinates and/or street names to maps to orient the reader.

