

## **Meeting Notes: Community Advisory Group - Aerojet Superfund Issues, July 30, 2008**

### **1. Attendees**

Gary Riley (EPA), Janis Heple, Mike Girard (Aerojet), Alex MacDonald (RWQCB), Kevin Mayer (EPA), Travis Anderson (GSWC) George Waegell (Morrison Creek Inc), Rick Bettis (Central Sacramento Groundwater Authority). Claudette Altamirano (Recorder, Weston Solutions, Inc.).

### **2. Approval of Meeting Minutes**

The May meeting minutes were reviewed, Michael Girard will send revisions to section 7 for incorporation into the final minutes.

### **3. Aerojet Community Updates: Mike Girard, Aerojet**

Mike Girard summarized the following:

- 1.) Fair Oaks – The new community relations person supporting the Fair Oaks Water District (FOWD) has not yet started. A significant amount of work has been done commencing in the mid 1990's to contain the plume. Based on data collected, Aerojet will propose a change to the number of extraction wells estimated to contain the plume. At least one additional well will need to be installed. The agencies will evaluate the proposed changes. A public meeting, or meetings, will be held in Fair Oaks when the proposed plan is out for public comment. All affected property owners will be contacted prior to the public meeting. Prior notification of the public meetings will be provided to CAG members.
- 2.) Construction work at GET K is visible and pipeline work is on-going.
- 3.) Carmichael -The treatment plant construction at Ancil Hoffman Park will not proceed under CWD oversight as originally planned. CWD's planned underground reservoir beneath the treatment plant will not be constructed. Thus, the treatment plant design needed to be revised. Construction of the treatment plant will not take place this fall and will commence in March 2009. Once the plans were resolved regarding the changes to the treatment plant and reservoir there was not enough time to redesign and install the foundation pad before the winter season. It was unlikely that construction would have begun in the fall due to restrictions on building in a flood plane during the wet season.. Water from the treatment plan will be used to irrigate the golf course.

### **4. General Aerojet Cleanup Overview: Alex MacDonald (handout)**

- A GET L1 Construction: NO CHANGES. Facility completed and operation commenced the first week of September. Extracting and treating at approximately 600 gpm. Influent concentration is around 0.009 ppb NDMA.
- B GET L Construction: NO CHANGES. Carmichael will no longer be constructing a reservoir beneath the facility. Aerojet is in the process of designing the facility and hope to be able to complete the foundation to above the floodplain level by November. If not, construction would likely stop and commence again in April.

- C GET KA: Pipeline north of Coloma Road is completed and working on the pipeline south of Coloma to St. Clements Church is underway. Plant should be functional by January, with landscaping and other such items completed by March. AC-7 will be rebuilt with a new 8” casing being installed in the old well. Property in process of being transferred from Golden State Water Company to Aerojet. Golden State will be requesting permission of CDPH to add a treatment system to AC-6 to remove perchlorate.
- D GET H: Boeing has expanded the treatment capacity at GET HB to accommodate flow from newly completed, and planned, extraction wells.
- E GET J – New UV equipment and backwash tank have been installed. An upgraded power supply is required to run the UV equipment. A Hydrogen peroxide tank installation is awaiting permit. Process will be completed by end of September.
- F GET B – GET B will be 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. Aerojet will use the treated water for industrial processes.
- G White Rock Road North Dump – 5000 feet of pipeline completed to connect extraction wells to treatment system area and to connect to a discharge point near GET B. A water return line is also being constructed from GET B to Teichert to bring additional flows back to Teichert from GET B for gravel washing. System to be operational by the December 2008/January 2009.
- H New Monitor Wells:
- i) Two of three new monitor wells in Gold River area have been completed. Third well will be built soon. The wells are to help provide data to demonstrate the effectiveness of the extraction field for Area 2.
  - ii) Two new monitor wells have been constructed west of Zinfandel, south of US 50 and north of International to demonstrate effectiveness of the Area 1 treatment system.
  - iii) Proposed new monitor well in Area 3 in Rossmoor Bar Park to look at depth of contamination – Layer E.
  - iv) Monitor wells to be constructed in the American River parkway near Iron Point Road. State Parks is developing the CEQA document and Aerojet has paid the requested fees. Paperwork also being processed by Bureau of Reclamation for a well on their property.
- I Chettenham Well Testing Continues: The concentrations of perchlorate in the well have dropped to approximately 7.5 ppb, down from initial concentrations of over 90 ppb. Aerojet has reached an agreement with Cal-American Water Company concerning the Chettenham Well.
- J New Extraction Wells – NO CHANGES:
- i) Finding locations of three proposed wells are challenging due to lack of utility easements and may entail getting private property access agreements. Aerojet is working with Fair Oaks Water District in locating the wells and has reached an agreement with Fair Oaks regarding water replacement
  - ii) Aerojet is proposing a revision to its Area 1 extraction field and will no longer use AC5 to provide containment. Dedicated extraction wells will be constructed a bit farther to the west. We have not yet received the revised design proposal for the extraction well layout for Area 1 of the Western Groundwater Operable unit.

K Well Destruction: NOTHING TO REPORT THIS TIME

L Soil Gas Sampling: NO ACTIVITIES TO REPORT AT THIS TIME

M Island OU Remedial Investigation Field Work:

- i) Soil and soil gas samples being collected at source areas in the Island OU. This portion of the field work should continue until mid-August.

N Treatability Studies:

- i) Line 04 – NO CHANGES. Treat study completed and report submitted showing that the HiPOx treatment unit successfully treated the high concentrations of TCE in the extracted water. The testing was also utilized to see what extraction rates are needed to control the groundwater around source areas. In this particular case, flowrates on the order of 7-10 gpm were sufficient to provide capture. This information will be useful in planning types and sizes of treatment systems that will be needed.
- ii) Line 03 – NO CHANGES. System has been installed to evaluate the ability to bioremediate very high concentrations of VOCs, with perchlorate, in-situ below the water table. The system extracts and recharges groundwater in a recirculation loop. The groundwater is amended with an emulsified edible oil to provide an electron donor/food source to stimulate biological growth. The initial testing was stopped due to an unacceptable increase in water elevation in the injection well that did not allow the 7-10 gpm of flow that was needed. It appeared that the vegetable oil and/or excessive biological growth caused the aquifer near the well to be plugged, reducing its ability to accept water. Hydrogen peroxide was added and that helped lower the water level in the well. Additional evaluations are being performed to see if the problem can be corrected. Looking at using soluble electron donor instead of edible oil. Second tracer test has been completed to look effective zone of the study.
- iii) Area 40: NO CHANGES. Interim report completed and submitted to the agencies showing success in destruction of perchlorate and TCE in the groundwater. Two permeable reactive barriers were installed across a portion of the shallow groundwater plume at Area 40. The first wall is an iron filings wall for the reduction of TCE. The second wall injects molasses in to stimulate bioremediation of perchlorate. Initial test results show that TCE is being reduced from 63,000 ppb to around 1.1 ppb in the wall and perchlorate is reduced from 40,000 to less than 4 ppb. The item of special interest is the fact that the concentrations of perchlorate are being significantly reduced in the iron filing wall. Aerojet is conducting tests to help evaluate why this is occurring
- iv) HOGOUT – NO CHANGES. Treatability study on-going to look at in-situ treatment of soils and groundwater. Various difficulties have arisen over the last couple of years of the study – lack of native bacteria able to degrade perchlorate, pH of soils is not optimum to allow bacteria to degrade perchlorate, low permeability of soils – among the issues causing problems. Aerojet has constructed an in-situ bioremediation well where the water is amended, released at the bottom of the well, the water moves up through the well filled with packing material that provides media to support bacterial growth, the water reaches the top and overflows back down the well and into the subsurface and groundwater. Flowrate is around 1 gpm.

J Inactive Rancho Cordova Test Site – NO CHANGES in FIELD WORK.

- i) Sigma Complex In-situ Bioremediation of Groundwater. NOTHING CHANGED. Boeing has been issued waste discharge requirements for an in-situ remediation of high concentrations on perchlorate in groundwater at the Sigma Complex. Boeing will be recirculating groundwater and adding an electron donor (citric acid) to stimulate biological growth and reduction of perchlorate. Initially the system will include one extraction and one recharge well, and several monitor wells. The system will be expanded after obtaining operational data from the initial wells to deal with the high concentrations of perchlorate (>4000 µg/L) in the upper groundwater.
- ii) EX-27, EX-20 and EX-21 are all operational and the water is being treated at the EX-25 treatment system. NOTHING CHANGED
- iii) An in-situ perchlorate remediation system is being constructed for pilot testing at the Propellant Burn Area. A gaseous electron donor, hydrogen, along with propane and nitrogen will be used. Gases were injected in December to look at the radius of influence of the injection and extraction wells. System operational with no results to report at this time.
- iv) Granite Construction has received necessary Rancho Cordova permits and is in commenced the processing of rock from specified clean areas on the IRCTS for sale processing and selling of aggregate from various clean portions of the IRCTS not being mined by Teichert. Granite will be using water from the treatment plant for dust control.
- v) EX-6 and EX-7 on Mather Field – east end of the runway – have been completed. Final pumping rates were determined to be 450 and 600 gpm, respectively. Will be treated at GET HB, which has been expanded to have a treatment capacity of 4,000 gpm.

5. Boundary RI/FS Gary Riley

The revised submittal date for the Boundary sites Remedial Investigation/Feasibility Study (RI/FS) is now November 28, 2008. The document is delayed so that additional data required for the south east area can be collected and incorporated into the document. The RI/FS incorporates a great amount of data and a copy of the draft document will be issued on compact disks for interested CAG members. The RI/FS will be reviewed by the agencies with the assistance of technical experts. This process is anticipated to be completed and agency comments developed by January or February of 2009. Aerojet will have thirty days to prepare a response to comments and then prepare a revised document incorporating the comments.

Discussion was also held regarding the Perimeter RI which is due on August 22, 2008. Early actions have been implemented for the perimeter OU. New soil gas testing results and risk assessments will be new to this version. A proposed plan is anticipated to be published in the spring of 2009.

**9. Next Meeting**

Next meeting: September 24, 2008, City Hall, 2729 Prospect Park Drive, Rancho Cordova, 7 p.m. to 9 p.m.