

Meeting Notes: Community Advisory Group - Aerojet Superfund Issues, April 28, 2010

1. Attendees

Janis Heple, Tim Murphy (Aerojet), Jackie Lane, Gary Riley, and Kevin Mayer (EPA) , George Waegell, , Rick Bettis (League of Women Voters/Sierra Club), Larry Ladd, Jimmy Spearow, Travis Anderso (Golden State Water Co.), Greg Voetsch, Alta Tura (Sacramento Area Creeks Council,), Stephen Green, (SARA), Allen Tsao, Edward Thompson (resident), Alex MacDonald (CVRWQCB), Nathan Schumacher and Ed Cargile (DTSC), Shaw Environmental representatives representing Sacramento County, Mike Yacysyn and Steve Nugen, J.C. Isham, and Tara Fitzgerald (Recorder, Weston Solutions, Inc.).

2. February minutes were approved.

3. Aerojet Community Updates: Tim Murphy, Aerojet

Mr. Murphy summarized the following:

- There will be open house for GET-LA this summer.
- Aerojet CDM pilot project – hydrogen gas injection received an award from the American Academy of Environmental Engineers.

Question (Larry): What is the concentration in the Fair Oaks Monitoring well?

Answer (Alex): TCE is ND(0.5) and perchlorate is ND(1).

4. Remedial Investigation General Update, Kevin Mayer and Gary Riley, EPA

- There will be a two full day meeting in June.

Question (Edward Thompson, resident): Why isn't the Fair Oaks extraction well located in the parking lot running?

Answer: There are several extraction wells in that area that are running. The extraction well located in the parking lot is not in the aquifer that is being targeted. Currently, the monitoring well next to that extraction well is clean. Other extraction wells that are running in the area have TCE concentrations of 5-6ppb. Those extraction wells are located further east of the parking lot extraction well and were installed in 1998 or 1999.

Question (Edward Thompson, resident): Can you get results from that test?

Answer (Alex MacDonald): Yes, public records contain the results for monitoring wells. Also in Aerojet database. Alex MacDonald will provide the results for the monitoring well near his house to Edward Thompson.

- Excavation of 10D and 11D ditches was completed last year. Final report not yet submitted, but results are in for part of those ditches in OU5. PCBs from the ditches are now removed. EPA will approve completion of the removal action after the final report is submitted and reviewed.

Question: Where does PCB soil go?

Answer: Altamont or Stockton-Forward Landfill. Contamination levels were associated with levels that posed a potentially unacceptable risk to a current or future resident at the contamination site.

Gary Riley discusses:

- Mr. Riley is working on the investigation process in OU6. Agencies are commenting on the assessment of OU6.
- Island Operable Unit (OU7) is an area of heavy industry and probably the most contaminated source on the Aerojet property. Up to 1,000,000 ppb of TCE is found in the groundwater. TCE in a product-phase is found below the water table in some locations.

Question: Why is Area 39 located in OU6?

Answer: OUs are created to manage remediation. OU6 contains boundary properties that were generally the least contaminated. Originally OU5 was to include Area 39, but the investigation was not going to be completed in a timely manner.

Question: Is Area 39 owned by Aerojet?

Answer: No.

Question: What is the maximum concentration of TCE in the Gold River Area (OU3)?

Answer (Alex MacDonald): Less than 100 ppb. The fish hatchery near Gold River has concentrations in the range of 700 to 800 ppb.

Question: What is the source in the hatchery?

Answer (Alex MacDonald): There was a pipe to an old pond from Air Force Plant 70 on Aerojet running to the area. It is suspected that the TCE came from that facility. TCE and its breakdown products are highest in the location of the old pond. TCE in soil gas has not been found to be an issue and TCE has not been found in the American River.

Question: What aquifer has a TCE concentration of 100 ppb?

Answer: Clean water is located above the aquifer where TCE is at 100 ppb. There are several layers of perched groundwater above the layer where TCE is found

5. General Aerojet Cleanup Overview: Alex MacDonald. RWQCB

(Handout provided by Alex MacDonald)

Questions and answers provided at the end of the handout information.

- A **GET L-A** Construction: Construction underway – anticipation completion by end of April with operations starting by the middle of May 2010.
- B **GET KA**: 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. Golden State has been asked to run **AC-12** on a lead basis from now on and sampling by Aerojet will be on a monthly basis. It will be hooked up to treatment plant when concentrations of pollutants reach trigger levels. Aerojet is looking at having an “open house” for the public at **GET K-A** this spring/summer.
- C **AC-6** will be provided with treatment this summer. One to two months of testing will take place prior to use within the Golden State system. Discharge is under Aerojet’s NPDES permit.
- D **AC-18** and **AC-23** will be provided with perchlorate IX units with completion being in May/June 2010. Similar process to **AC-6** prior to use within the system.
- E **GET H-A**: Working on getting two new extraction wells (White Rock Park and Coloma Road area) on north side of US 50 back to **GET H**. CALTRANS encroachment permit has been received to allow the work on the undercrossing of US 50 to begin.
- 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. 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. Work at two new extraction wells to allow them to be turned has been completed at the Teichert facility on Grant Line. Two other wells will follow – south on **Teichert Facility** next to the Tracy property.
- G White Rock Road North Dump – 90% Design going out to bid to hook up two extraction wells and treat the water at the system at **AKT-1**. 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 New Monitor Wells:

- i) Monitor Well i Fair Oaks prior to extraction well on **Park Avenue** has been completed. Initial sampling shown non-detect for TCE.
 - ii) New Monitor well completed west of **Haggin Park**. Put in at the request of Sacramento Suburban Water as an early warning well upgradient of their well field north of the American River. Results of initial sampling is pending.

- I **Chettenham Well Testing Continues:** The concentrations of perchlorate in the well have dropped to approximately 3-4 ppb, down from initial concentrations of over 90 ppb. Aerojet has reached an agreement with Cal-American Water Company concerning the Chettenham Well.

- J Aerojet has provided the agencies with the annual groundwater plume maps. Those are now under review.

- K Aerojet and Sacramento County are continuing negotiations on water replacement issues. Meetings are occurring 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 Aerojet's NPDES permit for the GETs was renewed for another 5 years at the March meeting of the Regional Board.

- M Perimeter Operable Unit - Excavation of PCB and metals contamination in **10D and 11D ditches** in the Administration Area has been completed. Aerojet is working on finalizing the completion report.

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

- O Treatability Studies:
 - i) **Line 03.** 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. 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 down to around 0.5 gpm to 1 gpm due to fine-grained materials. Successfully reducing perchlorate and nitrate

to non-detect levels. Looking at applying this type of technology to the IRCTS at the Propellant Burn Area and Former GET F Sprayfield.

- P Island OU Remedial Investigation Field Work: Second round of field work is complete. Commencing assessment of data for the RI/FS
- Q Eastern Operable Unit – all initial proposed sampling has been completed. Supplemental sampling is now on-going to fill some data gaps. Agencies reviewed supplemental work plan.
- R Central Operable Unit – Draft sampling plan has arrived, agency review has been completed and comments are being assembled for transmittal to Aerojet.
- S IRCTS:
- i) **Sigma Complex In-situ Bioremediation** of Groundwater. System has been operational for over a year. 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. 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) 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. System operational with no results to report at this time. Switched to a propane-only injection to evaluate its use. Project completed. Waiting for report of 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**. 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. Work may not begin this year depending on the time it takes for the construction bidding process to be completed.
 - v) The permit for Boeing and the IRCTS treatment systems is scheduled to be considered for renewal at the May 2010 meeting of the Regional Board.
 - vi) Waste discharge requirements for modular biotreatment cells at **GET F Sprayfield and PBA** to remove perchlorate from extracted groundwater and discharge the effluent back to the ground for recharge will also be considered at the May 2010 meeting.

Question (Larry): What is the Arden Cordova Well 12 trigger point for NDMA? 5 ppt?

Answer (Alex): The NDMA trigger is 2 ppt.

Question (Larry): So there are no criteria for that well?

Answer: There is criteria for that well 10 ppt (NDMA)t. (It appears this is DPH criteria, not a “trigger point” for Aerojet to need to provide an alternate water source. The following Question/ Answer seems to review this.)

Question (Larry): In 1998 Arden Cordova Well 12 was not running. Now it is running. Looks like the 2000 consent decree is being circumnavigated.

Answer: The 10 ppt for NDMA criterion requires that the public be notified.

Question (Larry): The trigger point requires that the well be replaced. The well is running. How is the well replaced?

Answer (Alex MacDonald): Different water sources have been provided by Aerojet (Well 22A, 22B, surface water) to compensate for the lost water supply wells.

Question (Larry): So even though alternate sources have been provided the well is running?

Answer (Alex MacDonald): Yes, the permit issued by DPH allows the well to be operated if it meets the DPH requirements.

Answer (Travis): Trigger level for NDMA is 10 ppt for public notification.

Question (Larry): Is EPA method 521 used to analyze water samples?

Answer: No, EPA method 521 is not being used.

Question (Larry): EPA only accepts nitrosamine (NDMA) hits that are detected using EPA Method 521. Why isn't it being used?

Answer (Alex MacDonald): I have not heard that EPA only accepts Method 521 for NDMA.

Question (Larry): So why is the water purveyor not using EPA Method 521?

Answer: The EPA will get back to Larry about why they are not using EPA Method 521.

Question: Is the Tracy property well monitored?

Answer: Yes. Quarterly monitoring showed ND for analytes.

Question: What is the radius of influence of the propellant burn area GET study?

Answer: This pilot study had 100 to 200 feet radius.

6. Solid Waste Sites on AJ and IRCTS Property, Ed Cargill - DTSC

See the attached DTSC Handout for DTSC presentation.

Question: Was a chromium speciation test conducted?

Answer (Ed Cargile): Yes. It is Cr³⁺.

Question: So you can't build residences on the landfill, but you can build a park for kids to play on?

Answer (Ed Cargile): A 4-foot layer will be placed and 6-inches of soil will be placed on top of that for grass to grow.

Answer (Shaw Environmental): Engineer will have to inspect and insure that 4-foot layer is in place. Sacramento County would be responsible for inspections.

Question: Will liner be placed under the 4-foot cap?

Answer (Ed Cargile): No. Rainwater won't move the contamination.

Question: Wouldn't it be better to place roads and houses over the contamination?

Answer (Ed Cargile): Kids spend less time in a park than in their backyard.

Question (Jimmy): Will there be demarcation between Chemicals of Concern (COC) impacted materials and 4-foot fill so that people will be aware of the contamination in the future?

Answer (Shaw Environmental): Demarcation has been utilized at other sites. Plastic mesh has been used to mark burn dump w/ COC and 4-foot fill. That is not planned here.

Question (Alta): Is there a watchdog group making sure that surveys, inspections, etc. are being done? It sounds like monitoring/maintenance won't be done. What are the consequences if it isn't?

Answer (Ed Cargile): You would have to eat the impacted soil for a long time every day to develop problems.

Question (Larry): Will the grass be irrigated?

Answer (Ed Cargile): Yes.

Question (Larry): Will the irrigation water be from a local well?

Answer (Ed Cargile): Sacramento County will provide water for irrigation.

Question (Allen): Layer should be 6-feet versus 4-feet because of ground squirrels and other burrowing animals that dig up to 6-feet. Burrowing animals would go past 4-feet.

Answer: The question is not directly answered but beings a discussion:

Janis: Like Alta I have low expectations that in 60 to 70 years Sacramento County will continue to do long-term maintenance. Has the maintenance cost been factored into deciding that the cap is the most cost effective choice versus removing the COC impacted soil?

Answer (Ed Cargile): 20 to 30 year timeframe is examined. 60 to 70 year timeframe is not considered.

Janis responded that 20-30 years is a short timeframe, and that she has now made comments on the Aerojet site for 30 years.

Comment (Allen): We also have to consider eco-risk as well. Another DOD site ended up having to do gopher control monthly.

Question: Burning was done at Sutter's Landing for a longer time than the landfill (being discussed). Will the same approach be taken?

Answer (Ed Cargile): I am not aware of what will be done at Sutter's Landing.

Comment (Shaw Environmental): The 4-foot layer will not be easily burrowed into as it is all dredged materials.

Janis notes that a list of Aerojet discharge points was handed out at the last meeting. There was some limited discussion regarding this handout, which is included at the end of these minutes.

Question (Larry): What process is used to decide if there will be discharges from the GET facilities to Alder Creek.

Answer (Alex MacDonald): Discharges to Alder Creek are not currently permitted. They could be considered in the future.

7. Tentative next meeting date June 23rd, 2010

2010 Proposed Schedule For the Aerojet CAG Meetings

August 25

October 27

December 22 – suggest changing to December 15 to avoid holiday interference.

Aerojet Citizen's Advisory Group Meeting April 2010

Department of Toxic Substances Control (DTSC)

Presentation

PROPOSED REMEDIAL ACTION PLAN FOR WHITE ROCK ROAD DUMPS 1 AND 2

INACTIVE RANCHO CORDOVA TEST SITE AND AEROJET-SACRAMENTO SITE

Site Background: White Rock Road Burn Dump 1 and White Rock Road Burn Dump 2 (WRD1) and (WRD2) are located on land currently owned by Aerojet; however, they were operated as municipal waste burn dumps serving Sacramento County during the 1950s (Sacramento County Board of Supervisors, 1963). Both dumpsites are located along White Rock Road, approximately 15 miles east of the City of Sacramento (Figure 1). Activities were similar at the two sites: municipal debris was accumulated, burned in a small area, and the burn debris pushed aside. WRD1 operations were terminated in 1957, followed by WRD2 operations for approximately six months. WRD1 has a larger volume of waste than WRD2. The burn dumps are characterized by miscellaneous household debris, including rusted cans, small automotive parts, electrical insulators, glass bottles, and fused glass (ENSR Engineering and Consulting, 1993; Aerojet Environmental Operations and Simon Hydro-Search, 1994).

WRD1: WRD1 is located on Aerojet property to the south of White Rock Road on the Inactive Rancho Cordova Test Site (IRCTS), approximately 2.4 miles east of Sunrise Boulevard (Figure 1), and occupies approximately six acres. Access is restricted by a barbed-wire fence along White Rock Road and by a 6-foot chain-link fence around the perimeter of the debris. The surrounding area has been proposed for development with unrestricted access by the public. According to the Aerojet interpretation of 1956 aerial photographs (GenCorp Aerojet, 1993), WRD1 consisted of two disposal areas within a relatively accessible, broad and shallow slickens (i.e., fine-grained silt and clay) valley. The use of the disposal areas alternated between a trash accumulation period and a burning period. The burned residual was compacted into the center of the disposal areas while being pushed to the east and south sides of the two disposal areas to create 5- to 10-foot-thick, crescent-shaped piles. These areas are depicted in Figure 2. A small staging area was located on the cobbly dredge tailings windrows on the north side of the disposal areas. It is believed that WRD1 operated about four years, from 1952 or 1953 to 1957.

WRD2: WRD2 is located on the north side of White Rock Road on the Aerojet Superfund Site approximately 1.6 miles northeast of WRD1 (Figure 1). WRD2 covers a total of approximately five acres, and consists of two areas on opposite sides of a 30-foot-deep dredge tailings pit. One area is approximately 2.4 acres north of the pit floor and the other is approximately 2.0 acres south of the floor. Both the northern and southern areas consist of a flat area adjacent to the pit, and the slope to the pit floor.

WRD2 is located within the access-controlled boundaries of the Aerojet Superfund Site. WRD2 was operated slightly differently than WRD1. Trash appears to have been dumped and burned on the two flat areas that consist of cobbly dredge tailings. The burned residual was then pushed over the rim of the pit and cascaded down the steep slope to accumulate in loose, relatively thin

piles along the northern and southern sides of the pit. This manner of operation resulted in a small volume of burn debris in piles scattered over a large area. WRD2 appears to have been operated from August 1957 to February 1958, approximately six months.

RI Findings: Visible debris and ash are good indicators of the extent of the contamination at WRD1 and WRD2.

Aerospace-related material was not observed at the surface or within the excavations of the debris, which supports the conclusion of a municipal waste origin.

The debris can be considered non-hazardous waste under California or federal regulations since the bulk debris composition does not exceed any hazardous waste limits.

The debris should not produce leachate with significant metal concentrations when exposed to rainwater, based on DI-WET data.

Groundwater has been impacted by VOCs and perchlorate from upgradient sources. These contaminants are being addressed by other regulatory actions.

Chemicals of Concern: The results of the site investigations indicate that the primary contaminants associated with the burn debris are metals and dioxins/furans. Aroclor 1254 (a PCB) was detected at low levels during the 2003 RI, and was evaluated as well. The human health risk assessment evaluated the following chemicals of potential concern (COPC):

At WRD1, the metals antimony, arsenic, barium, beryllium, cadmium, copper, lead, mercury, molybdenum, silver, and zinc; Aroclor 1254; and dioxins and furans were selected as COPC.

At WRD2, the metals cadmium, copper, lead, mercury, molybdenum, silver, and zinc; Aroclor 1254; and dioxins/furans were selected as COPC.

VOCs, in particular trichloroethene (TCE), while not contaminants resulting from the burn dump operations, were detected in the groundwater beneath the site and were evaluated in a supplement to the baseline risk assessment (EMCON, 2005b).

Cleanup Levels: Cleanup levels are established to ensure that the remedial action objectives are met. Cleanup levels for the COC for the site are recommended below.

Lead: 150 milligrams per kilograms (mg/kg). This value is the residential CHHSL and is consistent with the LeadSpread level of 146 mg/kg. LeadSpread 7.0 predicts an acceptable lead concentration in soil based on an acceptable lead level in blood for the 99th percentile of children (less than 10 µg/dL). Use of the area for vegetable gardening has been considered in this level. The level is also protective of groundwater quality, based on the DI-WET results for soil at WRD2.

Arsenic: 8.5 mg/kg. This value is the Aerojet soil background level and will be protective of groundwater quality. The soil background standard was defined in the RI/FS reports as the Aerojet Upper Control Limit (UCL) of the tailings and soil background study values.

Barium: 663 mg/kg. This value is the Aerojet soil background level as described above for arsenic, and will also be protective of groundwater quality.

Cadmium: 1.7 mg/kg. This value is the residential CHHSL, which, using the risk models provided in the DTSC PEA guidance (DTSC, 1999) estimates a risk of 1×10^{-6} , the de minimus risk level. The level is also protective of groundwater quality, based on the DI-WET results for soil at WRD2.

Chromium: 130 mg/kg. This value is the Aerojet soil background level (see barium above), and will be protective of groundwater quality.

Copper: 46.8 mg/kg. This is the Aerojet soil background level (see arsenic above), and will be protective of groundwater quality.

Nickel: 86 mg/kg. This is the Aerojet soil background level (see arsenic above), and will be protective of groundwater quality.

Zinc: 85 mg/kg. This is the Aerojet soil background level (see arsenic above), and will be protective of groundwater quality.

Dioxins/Furans TEQ: 4.6×10^{-3} $\mu\text{g}/\text{kg}$ for WRD1 and 1.9×10^{-2} $\mu\text{g}/\text{kg}$ for WRD2. The WRD1 cleanup goal is based on the CHHSL for unrestricted residential use and the WRD2 cleanup goal is based on the CHHSL for commercial/industrial use, because WRD2 will continue to be within the Aerojet Site boundaries. The level is also protective of groundwater because of the low mobility of dioxins and furans in soil.

Comparative Analysis of the Alternatives: Four Remedial Action Alternatives (RAAs) are being considered for WRD1 and WRD2:

RAA-1: No Action

RAA-2: Monolithic Native Soil Cover with Deed Restrictions

RAA-3: Clean Closure Including Excavation with Confirmation Sampling

RAA-4: Geosynthetic Clay Liner (GCL) with Native Soil Cover and Deed Restrictions.

The anticipated future use of the WRD1 area, after proper closure, is a recreational park and, possibly an open space preserve within a residential community. Land use at WRD2 will remain heavy industrial for the foreseeable future.

Proposed Alternative: The FS and this RAP employed current EPA and DTSC guidelines to identify and analyze remedial alternatives for WRD1 and WRD2. By using the analysis summarized above and described in detail in Section 5.0 of the FS Report, RAA-2, a monolithic cover with deed restrictions, has been identified as the most appropriate and cost effective and is proposed for implementation.

The monolithic cover alternative consists of the following actions:

Clean close WRD2:

Excavate debris material from WRD2.

Transport to, and consolidate with, WRD1 debris in closure area.

Ecological Protection:

Protect, to the extent possible, approximately ten Elderberry shrubs that are adjacent to the project area during construction.

Close WRD1:

Consolidate WRD1 and WRD2 debris into a 3.8-acre closure area at WRD1.

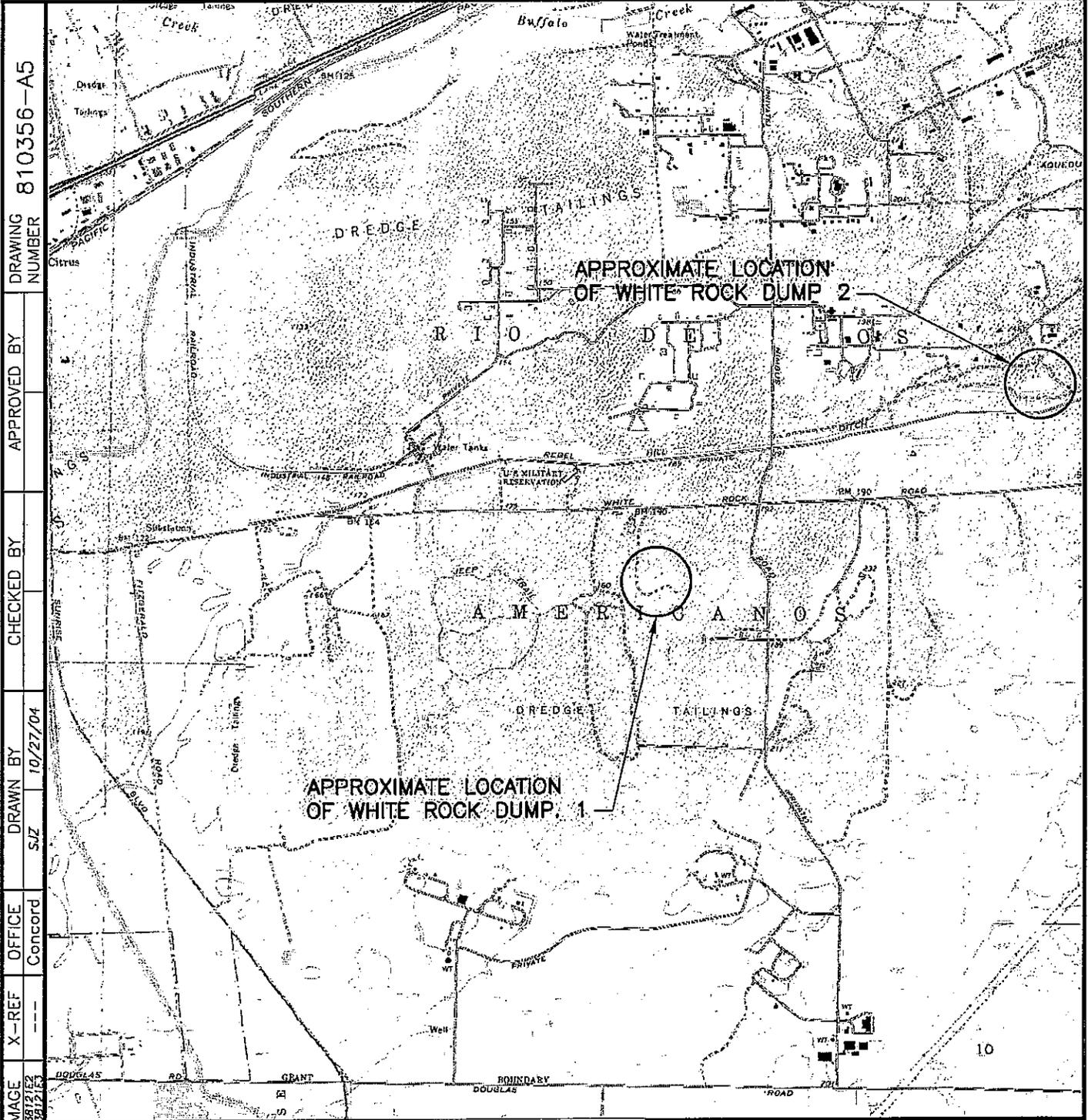
Clean-close the areas of WRD1 outside the 3.8 acres.

Place a 4-foot-thick monolithic native soil final cover over the 3.8-acre closure area at WRD1.

Grade approximately 6 inches of earthfill over the 2.3-acre clean closure area at WRD1 to achieve proper drainage and fill in voids left by the removal of debris material.

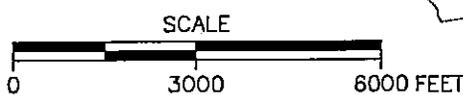
Re-vegetate by hydro-seeding all disturbed areas.

This alternative would also include indefinite post-closure maintenance to support the continuous integrity of the cover, as defined in the O&M Agreement. Deed restrictions would be placed on the site and would restrict reuse of the closure area and the 100-foot offset, to a park or open space, which is compatible with the current development application. The clean-closure areas at WRD1 and WRD2 would not require deed restrictions.



DRAWING NUMBER 810356-A5
 APPROVED BY
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 IMAGE

REFERENCE:
 7.5' U.S.G.S TOPOGRAPHIC MAP
 QUADRANGLE BUFFALO CREEK, CALIFORNIA
 AND CARMICHAEL, CALIFORNIA
 DATED: 1967 PHOTOREVISED: 1980
 SCALE: 1:24000




Shaw Shaw Environmental, Inc.

COUNTY OF SACRAMENTO
 PUBLIC WORKS AGENCY
 SACRAMENTO, CALIFORNIA

FIGURE 1
 SITE LOCATION MAP
 WHITE ROCK DUMPS 1 AND 2

WHITE ROCK LANDFILL
 RANCHO CORDOVA, CALIFORNIA

IMAGE	X-REF	OFFICE	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
WRD1	CONCORD	SCHAEFFER	4/30/07			810356-B17



LEGEND

- LIMIT OF DEBRIS
- ⊗ TEST PIT
- ⊕ DEBRIS AND/OR SOIL SAMPLE LOCATION
- ⊕ MONITORING WELL
- DIRECTION BURN DEBRIS PUSHED

NOTE: TEST PIT NO. 18 NOT DUG

SCALE

0 80 160 FEET

Shaw Shaw Environmental, Inc.

COUNTY OF SACRAMENTO
PUBLIC WORKS AGENCY
SACRAMENTO, CALIFORNIA

FIGURE 2

WHITE ROCK DUMP NO. 1
SHOWING BURN AREAS, DEBRIS LIMITS,
SAMPLING LOCATIONS AND
MONITORING WELLS

Table 1
White Rock Dump 1
Debris and Soil Sampling Results

Sample Designation Sampling Date	Burn Debris (BD) Samples			Background Soil Data				Soil (S) Samples					
	WRD1-BD-A 6/18/2003	WRD1-BD-B 6/18/2003	WRD1-BD-C 6/18/2003	Aerial Tailings BKG ¹	95% UCL	Maximum	WRD1-S-A 6/18/2003	WRD1-S-B 6/18/2003	WRD1-S-C 6/18/2003	WRD1-S-N 6/18/2003	WRD1-S-E 6/18/2003	WRD1-S-S 6/18/2003	WRD1-S-W 6/18/2003
Metals, mg/kg													
Antimony	500	<2.5	4.0	<7.5	0.34	0.38	0.80	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
Arsenic	500	2.6	21	16	7.6	8.5	12.0	4.4	6.3	4.4	4.4	8.3	5.3
Barium	10,000	210	850	610	631	683	650	140	180	180	180	270	210
Beryllium	75	<0.50	<0.50	<1.5	0.5	0.5	0.5	<0.50	0.72	0.57	0.57	0.88	0.70
Cadmium	100	2.2	58	6.4	0.2	0.2	0.4	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chromium	2,500	63	49	69	121	130	183	60	62	53	41	76	65
Cobalt	8,000	19	18	19	25	27	36	13	19	18	9.5	27	16
Copper	2,500	420	840	440	42.6	46.8	57.4	42	36	34	23	49	40
Lead	1,000	780	1,700	1,700	15	19	64	19	<2.5	<2.5	2.8	4.7	7.1
Mercury	20	0.18	0.50	0.18	0.036	0.053	0.220	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Molybdenum	3,500	2.7	7.9	8.4	0.6	0.7	1.0	1.1	1.3	1.3	<1.0	1.1	<1.0
Nickel	2,000	47	75	61	78	88	112	35	51	50	24	70	60
Selenium	100	<2.0	<2.0	<2.0	no data	0.25	1.64	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Silver	500	16	35	44	0.14	0.3	0.5	9.5	12	10	6.6	15	14
Thallium	700	<2.0	<2.0	<2.0	0.3	0.3	0.5	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Vanadium	2,400	56	23	23	155	160	178	61	82	67	61	100	86
Zinc	5,000	300	2,000	1,600	78	85	139	62	51	54	32	67	63
Perchlorate, ug/kg	NA	<40	<40	<40	NA	NA	NA	<40	<40	<40	<40	<40	<40
pH	NA	7.06	8.37	8.12	NA	NA	NA	7.70	7.99	8.17	7.11	8.84	7.03
Organochlorine Pesticides, ug/kg	various	ND	ND	ND	NA	NA	NA	ND	ND	ND	ND	ND	ND
Polychlorinated Biphenyls, ug/kg	various	ND	ND	ND	NA	NA	NA	ND	ND	ND	ND	ND	ND
Aroclor 1254	50,000	<20	<20	78	NA	NA	NA	<20	<20	<20	<20	<20	<20
All other PCBs	50,000	ND	ND	ND	NA	NA	NA	ND	ND	ND	ND	ND	ND
Semivolatile Organic Compounds, ug/kg	various	ND	ND	ND	NA	NA	NA	ND	ND	ND	ND	ND	ND

¹ The background value is the mean of 21 samples (Steward Background Levels of Soil Trace Elements, Aerjet/Populacion Systems Plant and Adjacent Subsidiary Sites, Rancho Cordova, California, December 1994, by Dr. Robert Borch). IRCTS tailings data are not available for antimony, beryllium, cadmium, selenium or thallium; IRCTS soil data are provided for antimony, beryllium and cadmium; data are not available for selenium.

² Values shown are the concentrations detected; the values for the homologs have not been converted to the TEQs.

³ The WRD1 cleanup goal is based on the California Human Health Screening Level for unrestricted residential use.

< Denotes that the analyte was not detected above the given reporting limit.
Bold font denotes concentration greater than regulatory threshold.

— = Not analyzed
 BKG = Background
 ug/kg = microgram per kilogram
 mg/kg = milligram per kilogram
 NA = Not applicable
 ND = No analytes detected above the respective reporting limits
 TTLC = Total Threshold Limit Concentration
 TEQ = 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) Equivalents
 UCL = Upper Confidence Limit

Table 1
White Rock Dump 1
Debris and Soil Sampling Results

Sample Designation Sampling Date	TTL C	Burn Debris (BD) Samples			Background Soil Data			Soil (IS) Samples						
		WRD1-BD-A 6/18/2003	WRD1-BD-B 6/18/2003	WRD1-BD-C 6/18/2003	Aeriel Tailings BKG ¹	95% UCL	Maximum	WRD1-IS-A 6/18/2003	WRD1-IS-B 6/18/2003	WRD1-IS-C 6/18/2003	WRD1-IS-N 6/18/2003	WRD1-IS-E 6/18/2003	WRD1-IS-S 6/18/2003	WRD1-IS-W 6/18/2003
Dioxins/Furans ² , ug/kg	TTL C for TCDD: 10	---	---	---	NA	NA	NA	<0.000451	<0.000397	<0.000200	<0.000303	0.000622	0.00130	<0.000287
Tetra-Dioxins	---	---	---	---	NA	NA	NA	<0.000405	<0.000915	<0.000411	<0.000587	<0.000564	<0.000766	<0.000584
Penta-Dioxins	---	---	---	---	NA	NA	NA	<0.00177	<0.00106	<0.000552	<0.000901	<0.00105	0.00355	<0.000846
Hexa-Dioxins	---	---	---	---	NA	NA	NA	0.0148	<0.00113	<0.000887	0.00327	0.00573	0.0149	0.00795
Hepta-Dioxins	---	---	---	---	NA	NA	NA	0.036	<0.00181	0.00332	0.00828	0.0124	0.0368	0.0213
Octa-Dioxin	---	---	---	---	NA	NA	NA	0.00801	<0.000402	<0.000217	<0.000281	<0.000429	0.00659	<0.000478
Tetra-Furans	---	---	---	---	NA	NA	NA	0.00173	<0.00103	<0.000519	<0.000613	<0.000729	0.00174	<0.000578
Penta-Furans	---	---	---	---	NA	NA	NA	0.00147	<0.00456	<0.000277	<0.000440	<0.000615	0.00132	<0.000889
Hexa-Furans	---	---	---	---	NA	NA	NA	0.00374	<0.000554	<0.000439	<0.000483	<0.000550	0.00371	0.00227
Hepta-Furans	---	---	---	---	NA	NA	NA	<0.00244	<0.00112	<0.000670	<0.000920	<0.00101	0.00696	0.00167
Octa-Furan	---	---	---	---	NA	NA	NA	1.66E-04	0.00E+00	3.32E-07	1.84E-05	3.00E-05	1.46E-04	5.82E-05
TEQ (Sample Total)	Action Level ³ 3.9 x 10 ⁻³	---	---	---	NA	NA	NA	1.66E-04	0.00E+00	3.32E-07	1.84E-05	3.00E-05	1.46E-04	5.82E-05

¹ The background value is the mean of 21 samples (Sitewide Background Levels of Soil Trace Elements, Aerial Population Systems Plant and Adjacent Subsidiary Sites, Rancho Cordova, California, December 1994, by Dr. Robert Borich). IRCTS tailings data are not available for antimony, beryllium, cadmium, selenium or thallium; IRCTS soil data are provided for antimony, beryllium and cadmium; data are not available for selenium.

² Values shown are the concentrations detected; the values for the homologs have not been converted to the TEQs.

³ The WRD1 cleanup goal is based on the California Human Health Screening Level for unrestricted residential use.

< Denotes that the analyte was not detected above the given reporting limit.

Bold font denotes concentration greater than regulatory threshold.

--- = Not analyzed

BKG = Background
ug/kg = microgram per kilogram
mg/kg = milligram per kilogram
NA = Not applicable
ND = No analytes detected above the respective reporting limits
TTL C = Total Threshold Limit Concentration
TEQ = 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) Equivalents
UCL = Upper Confidence Limit

Table 2
White Rock Dump 1
Metals in Groundwater

Well Designation Sampling Date	MCLs/ALS	WRD1-MW1			WRD1-MW2			
		05/20/03	06/16/03	10/17/03	08/13/03	10/17/03	03/26/04	09/09/04
Metals, mg/L								
Aluminum	0.2	---	---	---	---	---	---	<0.20
Antimony	0.006	<0.05	---	<0.05	---	<0.05	---	<0.20
Arsenic	0.005	<0.005	---	<0.005	---	0.0054	0.0051	<0.080
Barium	1	0.13	---	0.086	---	<0.020	0.063	0.016
Beryllium	0.004	<0.005	---	<0.005	---	<0.005	<0.005	<0.0010
Cadmium	0.005	<0.005	---	<0.01	---	<0.01	<0.01	<0.0040
Chromium	0.05	<0.02	---	<0.02	---	<0.02	<0.02	<0.0080
Cobalt	none	<0.01	---	<0.02	---	<0.02	<0.02	<0.0080
Copper	1.3	<0.02	---	<0.02	---	<0.02	<0.02	<0.0060
Iron	0.3	---	---	---	---	---	---	<0.30
Lead	0.015	<0.005	---	<0.005	---	<0.005	<0.005	<0.060
Manganese	0.05	---	---	---	---	---	---	<0.0050
Mercury	0.002	<0.0002	---	<0.0002	---	<0.0002	<0.0002	---
Molybdenum	none	<0.02	---	<0.02	---	<0.02	<0.02	<0.040
Nickel	0.1	<0.02	---	<0.02	---	<0.02	<0.02	<0.020
Selenium	0.05	<0.005	---	<0.005	---	<0.005	<0.005	<0.10
Silver	0.1	<0.01	---	<0.01	---	<0.01	<0.01	<0.020
Thallium	0.002	<0.01	---	<0.01	---	<0.01	<0.01	<0.050
Vanadium	none	<0.02	---	<0.02	---	<0.02	<0.02	<0.0060
Zinc	5.0	0.075	---	<0.02	---	<0.02	<0.02	<0.10
Perchlorate, mg/L		0.0042	0.0055	<0.004	0.100	0.032	0.038	---
Volatile Organic Compounds, mg/L								
1,1-Dichloroethene		<0.005	---	<0.005	---	<0.005	<0.005	---
1,1-Dichloroethane		<0.005	---	<0.005	---	<0.005	<0.005	---
cis-1,2-Dichloroethene		<0.005	---	<0.005	---	<0.005	<0.005	---
trans-1,2-Dichloroethene		<0.005	---	<0.005	---	<0.005	<0.005	---
1,2-Dichloroethane		<0.005	---	<0.005	---	<0.005	<0.005	---
Trichloroethene		<0.005	---	<0.005	---	0.0073	0.010	---

--- = not tested
mg/L = milligrams per liter
MCLs/ALS = Maximum Contaminant Limits/Action Limits

Table 2
White Rock Dump 1
Metals in Groundwater

Well Designation Sampling Date	MCLs/ALs	STSW-17				STSW-18							
		05/18/94	06/25/94	10/12/94	02/10/95	05/20/94	07/01/94	10/12/94	02/10/95	09/08/04			
Metals, mg/L													
Aluminum	0.2	<0.20	<0.20	<0.20	<0.075	<0.20	<0.20	<0.20	<0.075	<0.20	<0.20	<0.075	<0.20
Antimony	0.006	<0.05	<0.05	<0.06	<0.05	<0.20	<0.05	<0.06	<0.05	<0.05	<0.05	<0.05	<0.20
Arsenic	0.005	<0.005	<0.005	<0.005	<0.005	<0.080	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.080
Barium	1	—	0.034	0.04	0.058	0.062	—	0.055	0.05	0.063	0.063	0.055	0.055
Beryllium	0.004	<0.005	<0.005	<0.006	<0.001	<0.0010	<0.005	<0.005	<0.006	<0.001	<0.001	<0.001	<0.0010
Cadmium	0.005	<0.005	<0.005	<0.005	<0.0005	<0.0040	<0.005	<0.005	<0.005	<0.005	0.008	<0.001	<0.0040
Chromium	0.05	<0.02	<0.02	<0.01	<0.007	<0.0080	<0.02	<0.02	<0.005	<0.007	<0.007	<0.007	<0.0080
Cobalt	none	—	<0.10	<0.10	<0.007	<0.0080	<0.10	<0.10	<0.01	<0.10	<0.007	<0.007	<0.0080
Copper	1.3	<0.03	<0.03	0.01	<0.03	<0.0060	<0.03	<0.03	0.01	<0.03	<0.03	<0.03	<0.0060
Iron	0.3	<0.10	—	—	<0.04	<0.30	<0.10	—	—	<0.04	<0.04	<0.30	<0.30
Lead	0.015	<0.10	—	—	<0.04	<0.060	<0.10	—	—	<0.04	<0.04	<0.060	<0.060
Manganese	0.05	0.085	—	—	<0.007	<0.0050	0.018	—	—	0.009	0.009	<0.0050	<0.0050
Mercury	0.002	0.0003	<0.001	0.0003	<0.0002	—	0.0003	<0.001	0.0022	<0.0002	<0.0002	—	—
Molybdenum	none	—	<0.02	<0.02	<0.02	<0.040	—	<0.02	<0.02	<0.02	<0.02	<0.02	<0.040
Nickel	0.1	<0.03	<0.03	<0.02	<0.03	<0.020	<0.03	<0.03	<0.02	<0.03	<0.03	<0.03	<0.020
Selenium	0.05	<0.005	<0.05	<0.005	<0.005	<0.10	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.10
Silver	0.1	<0.01	<0.01	<0.01	<0.007	<0.020	<0.01	<0.01	<0.01	<0.007	<0.007	<0.007	<0.020
Thallium	0.002	<0.005	<0.05	<0.2	<0.1	<0.050	<0.005	<0.05	<0.2	<0.1	<0.1	<0.050	<0.050
Vanadium	none	—	<0.01	<0.01	<0.012	0.0068	—	<0.01	<0.01	<0.012	<0.012	0.0068	0.0068
Zinc	5.0	0.1	0.02	0.03	0.04	<0.10	0.03	0.02	0.06	0.06	0.06	0.19	0.19
Perchlorate, mg/L		—	—	—	—	0.16	—	—	—	—	—	—	0.18
Volatile Organic Compounds, mg/L													
1,1-Dichloroethene		—	—	—	—	<0.005	—	—	—	—	—	—	<0.005
1,1-Dichloroethane		—	—	—	—	<0.005	—	—	—	—	—	—	<0.005
cis-1,2-Dichloroethene		—	—	—	—	<0.005	—	—	—	—	—	—	<0.005
trans-1,2-Dichloroethene		—	—	—	—	<0.005	—	—	—	—	—	—	<0.005
1,2-Dichloroethane		—	—	—	—	<0.005	—	—	—	—	—	—	<0.005
Trichloroethene		—	—	—	—	0.070	—	—	—	—	—	—	0.071

— = not tested
 mg/L = milligrams per liter
 MCLs/ALs = Maximum Contaminant Limits/Action Limits

Table 2
White Rock Dump 1
Metals in Groundwater

Well Designation Sampling Date	MCLs/ALS	STSW-140A 09/07/04	STSW-140B 09/07/04	STSW-10A 09/07/04	1325 09/08/04	1324 09/08/04	1345 01/19/93	09/08/04
Metals, mg/L								
Aluminum	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	0.021	<0.20
Antimony	0.006	<0.20	<0.20	<0.20	<0.20	<0.20	<0.005	<0.20
Arsenic	0.005	<0.080	<0.080	<0.080	<0.080	<0.080	<0.005	<0.080
Barium	1	0.061	0.051	0.074	0.057	0.061	0.049	0.079
Beryllium	0.004	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0008	<0.0010
Cadmium	0.005	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0005	<0.0040
Chromium	0.05	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.006	<0.0080
Cobalt		<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.015	<0.0080
Copper	1.3	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.002	<0.0060
Iron	0.3	1.4	<0.30	<0.30	0.4	1.5	—	<0.30
Lead	0.015	<0.060	<0.060	<0.060	<0.060	<0.060	<0.003	<0.060
Manganese	0.05	0.054	0.0098	<0.0050	0.0053	0.0082	—	<0.0050
Mercury	0.002	—	—	—	<0.00020	<0.00020	<0.0002	<0.00020
Molybdenum		<0.040	<0.040	<0.040	<0.040	<0.040	<0.007	<0.040
Nickel	0.1	<0.020	<0.020	<0.020	<0.020	<0.020	<0.015	<0.020
Selenium	0.05	<0.10	<0.10	<0.10	<0.10	<0.10	<0.005	<0.10
Silver	0.1	<0.020	<0.020	<0.020	<0.020	<0.020	<0.004	<0.020
Thallium	0.002	<0.050	<0.050	<0.050	<0.050	<0.050	<0.005	<0.050
Vanadium		<0.0060	<0.0060	0.0082	0.0067	<0.0060	0.013	0.0075
Zinc	5.0	<0.10	<0.10	<0.10	0.6	0.1	0.99	<0.10
Perchlorate, mg/L		0.034	0.62	0.47	—	<0.004	—	—
Volatile Organic Compounds, mg/L								
1,1-Dichloroethene		0.0008	0.012	0.0015	<0.0025	<0.00050	—	<0.00050
1,1-Dichloroethane		<0.00050	0.0012	<0.00050	<0.0025	<0.00050	—	<0.00050
cis-1,2-Dichloroethene		0.00058	0.0064	0.0081	0.0056	<0.00050	—	<0.00050
trans-1,2-Dichloroethene		0.00058	0.0064	0.0081	<0.0025	<0.00050	—	<0.00050
1,2-Dichloroethane		0.0051	0.069	0.0050	<0.0025	<0.00050	—	<0.00050
Trichloroethene		0.019	0.15	0.120	0.130	<0.00050	—	0.0077

— = not tested
mg/L = milligrams per liter
MCLs/ALS = Maximum Contaminant Limits/Action Limits

Table 3
White Rock Dump 2
Debris and Soil Sampling Results
Rancho Cordova, California

Sample Designation Sampling Date Metals, mg/kg	Burnt Debris Samples					Background Soil Data		Soil Samples				
	WRD2-SB-003 (e-3) 6/18/2003	WRD2-SB-003 (e-*) 6/18/2003	WRD2-SB-004 (e-3) 6/18/2003	WRD2-SB-004 (e-*) 6/18/2003	Aerogel Tailings BKGD	95% UCL	Maximum	WRD2-S-001 6/18/2003	WRD2-S-002 6/18/2003	WRD2-S-005 6/18/2003	WRD2-S-009 6/18/2003	
Antimony	500	<12	<2.5	8.4	5.3	0.34	0.38	0.80	<2.5	<2.5	<2.5	<2.5
Arsenic	500	7.9	11	15	12	7.8	8.5	12.0	2.3	4.1	5.6	4.7
Barium	10,000	380	300	820	470	631	663	850	180	620	150	180
Beryllium	75	<2.5	<0.50	<0.50	<0.50	0.5	0.5	0.5	<0.50	<0.50	0.57	0.63
Cadmium	100	16	7.1	7.6	2.9	0.2	0.2	0.4	2.1	3.5	0.67	0.86
Chromium	2,500	73	58	56	54	121	130	163	54	54	44	59
Cobalt	8,000	42	25	33	19	25	27	36	12	13	17	21
Copper	2,500	340	330	700	540	42.6	46.8	57.4	130	250	54	58
Lead	1,000	2,400	1,100	1,800	1,100	15	19	64	250	540	120	170
Mercury	20	0.12	0.28	<0.10	<0.10	0.036	0.053	0.220	<0.10	0.34	<0.10	<0.10
Molybdenum	3,500	10	6.8	9.7	12	0.6	0.7	1.0	1.5	3	2.1	2.3
Nickel	2,000	100	66	110	110	7.8	86	112	38	35	50	54
Selenium	100	<2.0	<2.0	<2.0	<2.0	no data	0.25	1.64	12	<2.0	<2.0	<2.0
Silver	500	100	49	60	32	0.14	0.3	0.5	<2.0	<2.0	20	22
Thallium	700	<2.0	<2.0	<2.0	<2.0	0.3	0.3	0.5	61	70	<2.0	<2.0
Vanadium	2,400	12	46	14	20	155	160	178	12	13	74	100
Zinc	5,000	1,600	870	1,800	1,300	78	85	139	410	770	130	180
DI-WET for STLC Metals, mg/L												
Antimony	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	NA	NA	NA	< 0.015	< 0.015	< 0.015	< 0.015
Arsenic	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.005	< 0.005	< 0.005	< 0.005
Barium	0.18	0.05	0.05	0.16	0.048	NA	NA	NA	0.088	0.17	0.015	0.032
Beryllium	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.005	< 0.005	< 0.005	< 0.005
Cadmium	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.005	< 0.005	< 0.005	< 0.005
Chromium	0.039	0.014	0.012	0.012	0.022	NA	NA	NA	0.0669	0.0388	0.0391	0.0092
Cobalt	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.005	< 0.005	< 0.005	< 0.005
Copper	0.023	0.012	0.005	0.02	0.013	NA	NA	NA	0.016	0.016	0.012	0.007
Lead	0.015	< 0.005	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.005	< 0.005	< 0.005	< 0.005
Molybdenum	< 0.01	< 0.01	< 0.01	0.021	0.011	NA	NA	NA	< 0.01	0.0047	< 0.01	0.0071
Nickel	0.12	< 0.005	< 0.005	< 0.005	< 0.005	NA	NA	NA	0.0074	0.0047	< 0.005	< 0.005
Selenium	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.005	< 0.005	< 0.005	< 0.005
Silver	0.054	0.014	0.015	0.0056	< 0.005	NA	NA	NA	< 0.005	< 0.005	< 0.005	< 0.005
Thallium	0.015	< 0.005	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.005	< 0.005	< 0.005	< 0.005
Vanadium	< 0.005	< 0.005	< 0.005	0.025	0.018	NA	NA	NA	< 0.005	< 0.005	< 0.005	< 0.005
Zinc	0.089	0.019	0.019	0.025	0.018	NA	NA	NA	0.024	0.023	0.026	0.025

¹ The background value is the mean of 21 samples (Site-wide Background Levels of Soil Trace Elements, Aerogel Propulsion Systems Plant and Adjacent Subsidiary Sites, Rancho Cordova, California, December 1994, by Dr. Robert Boech, ICRIS tailings data are not available for antimony, beryllium, cadmium, selenium or thallium, ICRIS soil data are provided for antimony, beryllium and cadmium; data are not available for selenium.
² Values shown are the concentrations detected; the values for the homologs have not been converted to the TEQ.
³ The WRD2 cleanup goal is based on the EPA preliminary remediation goal for industrial use, because WRD2 will continue to be within the Aerogel rocket plant boundaries.
 < Denotes that the analyte was not detected above the given reporting limit.

BKG = Background
 DI-WET = Waste Extraction Test using Distilled Water
 ug/kg = microgram per kilogram
 mg/kg = milligram per kilogram
 mg/L = milligram per liter
 NA = Not applicable
 ND = No analytes detected above the respective reporting limits
 STLC = Soluble Threshold Limit Concentration
 TCLP = Toxicity Characteristic Leaching Procedure
 TTLC = Total Threshold Limit Concentration
 TEQ = 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) Equivalents
 UCL = Upper Confidence Limit

Table 3
White Rock Dump 2
Debris and Soil Sampling Results
Rancho Cordova, California

Sample Designation Sampling Date	Burn Debris Samples				Soil Samples						
	WR02-BD-003 (d-5) 6/18/2003	WR02-BD-003 (d-6) 6/18/2003	WR02-BD-004 (d-5) 6/18/2003	WR02-BD-004 (d-6) 6/18/2003	Tailings BKG ¹	Aerjet 95% UCL	Maximum	WR02-IS-001 6/18/2003	WR02-IS-002 6/18/2003	WR02-IS-005 6/18/2003	WR02-IS-006 6/18/2003
TCLP Metals, mg/L											
Mercury	0.2	<0.050	<0.050	<0.050	NA	NA	NA	<0.050	<0.050	<0.050	<0.050
Barium	1.2	0.86	0.86	1.4	NA	NA	NA	1.1	1.5	0.79	1.3
Cadmium	1.0	<0.10	<0.10	<0.10	NA	NA	NA	<0.10	<0.10	<0.10	<0.10
Chromium	5.0	<0.50	<0.50	<0.50	NA	NA	NA	<0.50	<0.50	<0.50	<0.50
Lead	5.0	<0.50	<0.50	<0.50	NA	NA	NA	<0.50	<0.50	<0.50	<0.50
Silver	5.0	<0.10	<0.10	<0.10	NA	NA	NA	<0.10	<0.10	<0.10	<0.10
Arsenic	5.0	<0.10	<0.10	<0.10	NA	NA	NA	<0.10	<0.10	<0.10	<0.10
Selenium	1.0	<0.10	<0.10	<0.10	NA	NA	NA	<0.10	<0.10	<0.10	<0.10
Pesticides, ug/kg											
Perchlorate	ug/kg	<4.0	<4.0	<4.0	NA	NA	NA	<4.0	<4.0	<4.0	<4.0
pH		7.48	7.83	7.54	NA	NA	NA	8.89	7.12	8.01	7.81
Organochlorine Pesticides, ug/kg											
4,4'-DDT	TTL/C	<33	130	44	NA	NA	NA	<33	<33	4.7	<33
All other OCPs	TTL/C	ND	ND	ND	NA	NA	NA	ND	ND	ND	ND
Polychlorinated Biphenyls, ug/kg											
Aroclor 1254	TTL/C	81	310	160	NA	NA	NA	<20	96	<20	<20
All other PCBs	TTL/C	ND	ND	ND	NA	NA	NA	ND	ND	ND	ND
Semivolatile Organic Compounds, ug/kg											
Dioxin/Furans¹, ug/kg											
Tetra-Dioxins	TTL/C for TCDD: 10	0.0892	0.106	0.0391	0.0254	NA	NA	0.166	0.264	0.0118	0.0072
Penta-Dioxins		0.0855	0.118	0.0455	0.0385	NA	NA	0.180	0.299	0.0115	0.0055
Hexa-Dioxins		0.169	0.233	0.0627	0.0549	NA	NA	0.238	0.436	0.0293	0.0184
Hepta-Dioxins		0.773	1.130	0.180	0.169	NA	NA	0.436	0.597	0.141	0.0827
Octa-Dioxin		2.280	3.210	0.540	0.456	NA	NA	0.833	2.050	0.426	0.1830
Tetra-Furans		0.386	0.480	0.226	0.250	NA	NA	0.529	0.777	0.0462	0.0342
Penta-Furans		0.268	0.316	0.195	0.233	NA	NA	0.362	0.570	0.0297	0.0317
Hexa-Furans		0.174	0.196	0.123	0.163	NA	NA	0.286	0.355	0.0222	0.0153
Hepta-Furans		0.152	0.189	0.0914	0.107	NA	NA	0.192	0.219	0.0301	0.0129
Octa-Furan		0.070	0.084	0.0426	0.053	NA	NA	0.072	0.078	0.0179	0.0051
TEQ (Sample Total)	Action Level²	0.0374	0.0300	0.0294	0.0237	NA	NA	0.0473	0.0661	0.00347	0.00285

¹ The background value is the mean of 21 samples (Site-wide Background Levels of Soil Trace Elements, Aerjet/Propulsion Systems Plant and Adjacent Subsidiary Sites, Rancho Cordova, California, December 1994, by Dr. Robert Borcht). ICRIS tailings data are not available for antimony, beryllium, cadmium, selenium or thallium. ICRIS soil data are provided for antimony, beryllium and cadmium; data are not available for selenium.

² Values shown are the concentrations detected; the values for the homologs have not been converted to the TEQs.

³ The WR02 cleanup goal is based on the EPA Preliminary remediation goal for industrial use, because WR02 will continue to be within the Aerjet rocket plant boundaries.

< Denotes that the analyte was not detected above the given reporting limit.

BKG = Background
DI-WET = Waste Extraction Test using Distilled Water
ug/kg = microgram per kilogram
mg/kg = milligram per kilogram
mg/L = milligram per liter
NA = Not applicable
ND = No analytes detected above the respective reporting limits
STLC = Soluble Threshold Limit Concentration
TCLP = Toxicity Characteristic Leaching Procedure
TTL/C = Total Threshold Limit Concentration
TEQ = 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) Equivalents
UCL = Upper Confidence Limit

Table 4
White Rock Dump 2
Metals in Groundwater

Well Designation	MCLs/ALS	Well No. 3067										Well No. 161		No. 157
Sampling Date		09/23/91	12/17/91	03/02/92	05/28/92	09/22/92	09/22/92	04/19/93	03/31/94	01/29/98	09/10/04	01/23/98	09/10/04	09/21/04
Metals, mg/L														
Aluminum	0.2	13	5	12	4	2	<0.05	<0.05	<0.05	<0.2	<0.20	<0.2	<0.20	0.24
Antimony	0.006	<0.12	<0.05	<0.1	<0.1	<0.3	<0.5	<0.3	---	<0.2	<0.20	<0.2	<0.20	<0.20
Arsenic	0.005	<0.2	<0.08	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.08	<0.080	<0.08	<0.080	<0.080
Barium	1	0.42	0.3	0.38	0.17	0.14	0.09	0.11	0.1	0.06	0.064	0.04	0.036	0.042
Beryllium	0.004	<0.004	<0.01	<0.002	<0.002	<0.002	---	<0.002	<0.002	<0.001	<0.0010	---	<0.0010	<0.0010
Boron	-	<0.2	0.293	<0.05	<0.05	<0.1	<0.001	<0.1	---	<0.04	<0.040	<0.04	<0.040	<0.040
Cadmium	0.005	0.08	0.01	0.03	<0.0005	<0.02	<0.01	<0.02	<0.01	<0.004	<0.0040	<0.004	<0.0040	<0.0040
Chromium	0.05	0.05	<0.03	<0.03	<0.03	<0.04	<0.004	<0.04	<0.04	<0.008	<0.0080	<0.008	<0.0080	<0.0080
Cobalt	-	0.03	0.02	<0.02	<0.02	<0.02	<0.008	<0.02	---	<0.008	<0.0080	<0.008	<0.0080	<0.0080
Copper	1.3	0.11	<0.03	0.05	0.08	0.06	<0.008	<0.05	<0.05	0.008	<0.0060	0.05	<0.0060	0.016
Iron	0.3	121	108	140	51	42	3.8	3.9	2.1	1.1	<0.30	0.4	1.7	3.9
Lead	0.015	4.0	0.4	0.3	0.3	0.6	<0.1	<0.1	<0.1	<0.06	<0.060	<0.06	<0.060	0.3
Manganese	0.05	2.1	1.4	1.8	0.9	0.8	0.7	0.6	---	0.2	0.30	0.1	0.09	0.22
Mercury	0.002	0.001	<0.001	0.001	<0.001	0.002	<0.002	<0.002	---	<0.002	<0.0020	<0.002	<0.0020	<0.0020
Molybdenum	-	---	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	---	<0.04	<0.040	<0.04	<0.040	<0.040
Nickel	0.1	<0.08	0.05	0.08	<0.05	<0.04	<0.04	<0.04	<0.03	<0.02	<0.020	<0.02	<0.020	<0.020
Selenium	0.05	<0.4	<0.1	<0.4	<0.4	<0.4	<0.2	<0.4	<0.4	<0.1	<0.10	<0.1	<0.10	<0.10
Silver	0.1	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.020	<0.02	<0.020	<0.020
Thallium	0.002	<4	<0.1	<0.3	<0.3	<0.4	<0.1	<0.4	<0.4	<0.1	<0.050	<0.1	<0.050	<0.050
Vanadium	-	0.13	0.07	0.09	0.03	0.02	---	<0.02	---	<0.006	<0.0060	<0.006	<0.0060	<0.0060
Zinc	5.0	203	37	50	42	38	2	7.6	1.4	0.5	1.1	3.8	<0.10	<0.10
Perchlorate, mg/L		---	---	---	---	---	---	---	---	---	0.220	---	0.018	0.130
Volatile Organic Compounds, mg/L		---	---	---	---	---	---	---	---	---	---	---	---	all <0.00050

--- = not tested
 mg/L = milligrams per liter
 MCLs/ALS = Maximum Contaminant Limits/Action Limits

Table 5
Risk Screening Summary

Chemicals of Potential Concern	Maximum Detection (mg/kg)	Aerojet Background Levels (mg/kg)	CHHSLS for Soil ¹ (mg/kg of dry soil)	Toxicity Basis	Estimated Blood Levels (ug/dL)	Estimated Risk ² soil	Estimated Risk ² air	Hazard Quotient/Hazard Index ² soil	Hazard Quotient/Hazard Index ² air	
White Rock Dump No. 1 Debris Zone										
Antimony	4	0.38	3.0E+01	nc		*	*	0.1	*	
Arsenic	17.5	8.5	7.0E-02	nc, ca		3.5E-04	1.6E-06	1	0.07	
Barium	850	663	5.2E+03	nc		*	*	0.2	0.2	
Beryllium	0.72	0.5	1.5E+02	nc		*	4.5E-08	0.01	0.000001	
Cadmium	56	0.23	1.7E+00	nc, ca		3.4E-05	6.3E-06	1	*	
Copper	840	47	3.0E+03	nc		*	*	0.3	*	
Lead	4,390	19	1.5E+02	nc, ca	97.8	6.6E-05	1.4E-06	*	*	
Mercury	1.34	0.053	1.8E+01	nc		*	*	0.1	0.002	
Molybdenum	8.4	0.68	3.8E+02	nc		*	*	0.02	*	
Silver	44	0.25	4.8E+03	nc		*	*	0.1	*	
Zinc	2,510	85	2.3E+04	nc		*	*	0.1	*	
Aroclor 1254 or 1260	0.078	NA	8.9E-02	nc, ca		5.40E-07	1.20E-09	0.1	0.0001	
Dioxins & Furans TEQ	6.61E-05	NA	4.6E-06	ca		1.80E-05	6.40E-08	*	*	
CUMULATIVE RISK AND HAZARD INDEX										
Individual Pathways					5.00E-04		9.00E-06		3	0.3
Total for all Pathways					5.0E-04				3	
White Rock Dump No. 1 Peripheral Zone										
Beryllium	0.88	0.5	1.5E+02	nc		*	5.50704E-08	0.01	0.000001	
Copper	49	47	3.0E+03	nc		*	*	0.02	*	
Molybdenum	1.3	0.68	3.8E+02	nc		*	*	0.004	*	
Silver	15	0.25	3.8E+02	nc		*	*	0.04	*	
Dioxins & Furans TEQ	1.84E-08	NA	4.6E-06	ca		4.00E-08	1.40E-10	*	*	
Individual Pathways					4.00E-08		6.00E-08		0.1	*
Total for all Pathways					1.0E-07				0.1	*

¹ California Human Health Screening Levels from Use of California Human Health Screening Levels (CHHSLS) in Evaluation of Contaminated Properties, California Environmental Protection Agency, January, 2005.

² Asterisk (*) denotes value that cannot be calculated

ca = carcinogenic

CHHSLS = California Human Health Screening Levels

mg/kg = milligram per kilogram

TEQ = Total 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) Equivalents

ug/dL = microgram per deciliter

**Table 5
Risk Screening Summary**

Chemicals of Potential Concern	Maximum Detection (mg/kg)	Aerojet Background Levels (mg/kg)	CHHSLS for Soil ¹ (mg/kg of dry soil)		Toxicity Basis	Estimated Blood Levels (ug/dL)	Estimated Risk ²		Hazard Quotient/Hazard Index ²		
			Residential	Industrial			soil	air	soil	air	
White Rock Dump No. 2 Flats Zone											
Cadmium	16	0.23	1.7E+00	7.5E+00	nc, ca		9.7E-06	1.8E-06	0.4	*	
Chromium	360	27	1.0E+05	1.0E+05	nc		*	*	*	*	
Copper	2,700	47	3.0E+03	3.8E+04	nc		*	*	1	*	
Lead	12,000	19	1.5E+02	3.5E+03	nc, ca	55.6	1.8E-04	3.8E-06	*	*	
Mercury	0.34	0.053	1.8E+01	1.8E+02	nc		*	*	0.02	0.0004	
Molybdenum	3	0.68	3.8E+02	4.8E+03	nc		*	*	0.01	*	
Silver	13	0.25	3.8E+02	4.8E+03	nc		*	*	0.04	*	
Zinc	5,100	85	2.3E+04	1.0E+05	nc		*	*	0.24	*	
Aroclor 1254 or 1260	0.095	NA	8.9E-02	3.0E-01	nc, ca		6.50E-07	1.40E-09	0.1	0.0002	
Dioxins & Furans TEQ	6.61E-05	NA	4.8E-06	1.9E-05	ca		1.80E-05	6.40E-08	0.1	*	
CUMULATIVE RISK AND HAZARD INDEX							Individual Pathways	2.00E-04	6.00E-06	2	0.001
							Total for all Pathways	2.0E-04	2.0E-06	2	0.001
White Rock Dump No. 2 Slope Zone											
Antimony	8.4	0.38	3.0E+01	3.8E+02	nc		*	*	0.3	*	
Arsenic	15	8.5	7.0E-02	2.4E-01	nc, ca		3.0E-04	0.000001341	1	0.1	
Barium	820	663	5.2E+03	6.3E+04	nc		*	*	0.2	0.2	
Beryllium	0.63	0.5	1.5E+02	1.7E+03	nc		*	3.94254E-08	0.004	0.000001	
Cadmium	120	0.23	1.7E+00	7.5E+00	nc, ca		7.2E-05	0.00001341	3	*	
Chromium	42	27	1.0E+05	1.0E+05	nc		*	*	0.0004	*	
Copper	700	47	3.0E+03	3.8E+04	nc		*	*	0	*	
Lead	2,400	19	1.5E+02	3.5E+03	nc, ca	259.4	3.6E-05	7.5096E-07	*	*	
Mercury	0.28	0.053	1.8E+01	1.8E+02	nc		*	*	0.01	0.0003	
Molybdenum	12	0.68	3.8E+02	4.8E+03	nc		*	*	0.03	*	
Nickel	110	86	1.6E+03	1.6E+04	nc		*	7.45745E-07	0.1	*	
Silver	100	0.25	3.8E+02	4.8E+03	nc		*	*	0.3	*	
Zinc	1,800	85	2.3E+04	1.0E+05	nc		*	*	0.1	*	
4,4'-DDT	0.31	NA	1.6E+00	6.3E+05	nc, ca		8.90E-07	1.90E-09	0.2	0.0002	
Aroclor 1254 or 1260	0.13	NA	8.9E-02	3.0E-01	nc, ca		2.60E-07	7.90E-10	0.01	0.00002	
Dioxins & Furans TEQ	5.00E-05	NA	4.8E-06	1.9E-05	ca		1.40E-04	4.80E-08	*	*	
CUMULATIVE RISK AND HAZARD INDEX							Individual Pathways	4.0E-04	2.0E-05	5	0.2
							Total for all Pathways	4.0E-04	2.0E-05	5	0.2

¹ California Human Health Screening Levels from Use of California Human Health Screening Levels (CHHSLS) in Evaluation of Contaminated Properties, California Environmental Protection Agency, January, 2005.

² Asterisk (*) denotes value that cannot be calculated

ca = carcinogenic

CHHSLS = California Human Health Screening Levels

mg/kg = milligram per kilogram

nc = toxic, noncarcinogenic

TEQ = Total 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) Equivalents

ug/dL = microgram per deciliter

Aerojet and Boeing Discharges from GET Systems – Feb 2010

GET A

- Current Flow: Approximately 250 gpm
- Discharge Point: To Rebel Hill Ditch in northeastern Aerojet. Discharge seeps into ground after a short distance.
- Chemicals of Concern: NDMA and VOCs
- Effluent Limitations: Governed by Partial Consent Decree. NDMA 2-20 ppt, 10 ppt, and TCE 2 ppb.
- Notes: GET A treatment system will be moving to the GET B location with discharge with the GET B water. This will occur in August 2010. Waste Discharge Requirements will be written to cover discharge from facility after PGOU ROD.

GET B

- Current Flow: 1200 gpm
- Discharge Point: To Rebel Hill Ditch in southeastern Aerojet. Discharge seeps into ground on Aerojet property.
- Chemicals of Concern: NDMA, perchlorate and VOCs.
- Effluent Limitations: Governed by the PCD. Same limits as GET A
- Notes: Treatment plant will be modified under the Perimeter Groundwater OU and expanded as necessary. Also takes water from White Rock Road North Dump extraction wells. Waste Discharge Requirements will be written to cover discharge from facility after PGOU ROD.

GET D

- Current Flow: Approximately 600 gpm
- Discharge Point: Injected back into the ground near the property boundary at Folsom Blvd.
- Chemicals of Concern: Perchlorate and VOCs
- Effluent Limitations: Governed by PCD and Cleanup and Abatement Order. Perchlorate 4 ppb, TCE 2 ppb.
- Notes: Under the Perimeter OU, GET D will likely be combined at the ARGET facility and discharge under the NPDES permit with its associated limits.

GET E/F

- Current Flow: Approximately 4200 gpm
- Discharge Point: To Buffalo Creek on Aerojet Property, downstream of ARGET discharge
- Chemicals of Concern: NDMA, VOCs, perchlorate, SVOCs

- Effluent Limitations: Governed by NPDES permit. NDMA – 2 ppt, VOCs – ND, except for TCE which is 1.5 ppb, perchlorate 4 ppb.
- Notes: TCE limit of 1.5 was modified from 0.5 ppb due to interferences from the perchlorate treatment system (low suspended solids carryover). Still meets water quality objectives in Buffalo Creek. Could be expanded in future to handle flows from PGOU.

ARGET

- Current Flow: Approximately 2000 gpm
- Discharge Point: To Buffalo Creek on Aerojet Property, upstream of GET E/F discharge
- Chemicals of Concern: 1,4-dioxane, VOCs, perchlorate
- Effluent limitations governed by NPDES permit. 1,4-dioxane - 3 ppb, VOCs – ND (0.5 ppb), perchlorate 4 ppb – with an interim limit of 8 ppb until December 2012
- Notes: Interim limit due to low influent concentrations around 6 ppb and dilution with GET E/F water and American River. Treatment system will be combined with GET D and treatment for perchlorate applied at that time (before December 2012). Still meets WQOs in Buffalo Creek with dilution from GET E/F.

GET H-A

- Current Flow: Approximately 1300 gpm
- Discharge Point: To ditch on Mather Field that flows to Morrison Creek south of Mather Field
- Chemicals of Concern: TCE and Perchlorate
- Effluent Limitations governed by NPDES permit. VOCs – ND (0.5 ppb), perchlorate 4 ppb
- Notes: Combines with GET H-B flow from the Boeing plant

GET H-A

- Current Flow: Approximately 3000 gpm
- Discharge Point: To ditch on Mather Field that flows to Morrison Creek south of Mather Field
- Chemicals of Concern: TCE and Perchlorate
- Effluent Limitations governed by NPDES permit. VOCs – ND (0.5 ppb), perchlorate 4 ppb
- Notes: Combines with GET H-A flow from the Boeing plant. Flow could increase up to 4000 gpm as new extraction wells added.

GET J

- Current Flow: Approximately 3800 gpm
- Discharge Point: To drainage ditch that flows to Buffalo Creek in Gold River
- Chemicals of Concern: TCE, NDMA and Perchlorate
- Effluent Limitations governed by NPDES permit. VOCs – ND (0.5 ppb), perchlorate 4 ppb, NDMA – 7 ppt
- Notes: Effluent limitations for NDMA based on achievability of treatment system. WQOs met in Buffalo Creek with dilution from GET E/F and ARGET

GET K-A

- Current Flow: Approximately 1600 gpm
- Discharge Point: To drainage ditch that flows to American River near Hagan Park
- Chemicals of Concern: TCE, NDMA and Perchlorate
- Effluent Limitations governed by NPDES permit. VOCs – ND (0.5 ppb), perchlorate 4 ppb, NDMA – 7 ppt
- Notes: Effluent limitations for NDMA based on achievability of treatment system. WQOs met in American River

GET L-A

- Current Flow: Still under construction – operation in April. Flow will be approximately 800-1200 gpm
- Discharge Point: To American River at Ancil Hoffman Park. Flow will be used as much as possible to irrigate the Ancil Hoffman golf course
- Chemicals of Concern: TCE, NDMA and Perchlorate
- Effluent Limitations governed by NPDES permit. VOCs – ND (0.5 ppb), perchlorate 4 ppb, NDMA – 7 ppt
- Notes: Effluent limitations for NDMA based on achievability of treatment system. WQOs met in American River.

GET L-B (operated by The Boeing Company)

- Current Flow: Approximately 600 gpm
- Discharge Point: To American River upstream of Ancil Hoffman Park.
- Chemicals of Concern: TCE, NDMA and Perchlorate
- Effluent Limitations governed by NPDES permit. VOCs – ND (0.5 ppb), perchlorate 4 ppb, NDMA – 7 ppt
- Notes: Effluent limitations for NDMA based on achievability of treatment system. WQOs met in American River.

SGSA (The Boeing Company)

- Current Flow: Approximately 800 gpm
- Discharge Point: To Morrison Creek on the IRCTS property.
- Chemicals of Concern: TCE and Perchlorate
- Effluent Limitations governed by NPDES permit. VOCs – ND (0.5 ppb), perchlorate 4 ppb
- Notes: Flow is also provided for Granite Construction mining project and future grading on the property for dust control

Sailor Bar Park Well

- Current Flow: Approximately 250 gpm
- Discharge Point: To pond in Sailor Bar Park. Used to maintain water elevation and water quality in the pond.
- Chemicals of Concern: VOCs
- Effluent Limitations governed by NPDES permit. VOCs – ND (0.5 ppb),
- Notes: None

Chettenham Well

- Current Flow: Approximately 400 gpm
- Discharge Point: To drainage channel that discharges to American River near Arden Bar
- Chemicals of Concern: Perchlorate
- Effluent Limitations governed by NPDES permit. Perchlorate 4 ppb
- Notes: Concentration of perchlorate has decrease to just under 4 ppb in the influent.

AC-6

- Current Flow: Not yet completed. Flow projected at 700 gpm
- Discharge Point: To drainage channel containing GET K-A flow, with discharge to the American River
- Chemicals of Concern: Perchlorate, VOCs
- Effluent Limitations governed by NPDES permit. Perchlorate 4 ppb, VOCS – ND
- Notes: Flow will be for approximately 2 months at start up and then intermittent during regular operations of the well

AC-18

- Current Flow: Not yet completed. Flow projected at 700 gpm
- Discharge Point: To drainage channel containing GET H-A and H-B flows, with discharge to Morrison Creek

- Chemicals of Concern: Perchlorate
- Effluent Limitations governed by NPDES permit. Perchlorate 4 ppb,
- Notes: Flow will be for approximately 2 months at start up and then intermittent during regular operations of the well

AC-23

- Current Flow: Not yet completed. Flow projected at 700 gpm
- Discharge Point: To drainage channel containing Chettenham flow, with discharge to American River
- Chemicals of Concern: Perchlorate
- Effluent Limitations governed by NPDES permit. Perchlorate 4 ppb,
- Notes: Flow will be for approximately 2 months at start up and then intermittent during regular operations of the well

Teichert Well

- Current Flow: Intermittent – up to 1200 gpm
- Discharge Point: To Teichert facility for use as process water. Excess flows will go back up to GET B area for discharge under WDRs to be completed.
- Chemicals of Concern: Perchlorate and VOCs
- Effluent Limitations: Perchlorate 4 ppb and VOCs - ND
- Notes: System will also receive flow from two southern extraction wells for the White Rock Road North Dump by the end of this year WDRs will be developed to govern discharge. Most of the time the flow will be utilized by Teichert for processing at one or more of their facilities along Grant Line and Scott Roads.

Discharge and GET Locations

