

Albany  
Atlanta  
Brussels  
Denver  
Los Angeles

McKenna Long  
& Aldridge<sup>LLP</sup>  
Attorneys at Law

300 South Grand Avenue • 14th Floor • Los Angeles, CA 90071-3124  
Tel: 213.688.1000 • Fax: 213.243.6330  
www.mckennalong.com

New York  
Philadelphia  
San Diego  
San Francisco  
Washington, D.C.

CHARLES H. POMEROY  
(213) 243-6256

EMAIL ADDRESS  
cpomeroym@mckennalong.com

April 8, 2010

VIA ELECTRONIC EMAIL AND U.S. MAIL

Mr. Stephen Baxter  
Project Manager  
California Department of Toxic Substances Control  
9211 Oakdale Avenue  
Chatsworth, CA 91311

**RE: Appeal of Decision per Title 22, CCR §66271.18  
Ducommun Aerostructures, Inc. Post-Closure Permit  
4001 El Mirage Road, El Mirage, CA**

Dear Mr. Baxter:

This firm represents Ducommun Aerostructures, Inc. (“DAS”) and previously provided comments on DAS’s behalf to the Department of Toxic Substances Control (“DTSC”) concerning the draft Post-Closure Permit (“Permit”) for the DAS El Mirage site (“Facility”) and the hazardous waste management unit (“Unit”) on October 26, 2009. A Response to Comments dated March 4, 2010 (“RTC”) was transmitted (served) by DTSC on March 9, 2010 following the March 8, 2010 issuance of the Facility Permit. As set forth pursuant to Title 22, California Code of Regulations<sup>1</sup> §66271.18, within 30 days after a final permit decision has been issued under section 66271.14, any person who filed comments may petition DTSC to review any condition of the permit decision. The starting of that period begins with the service of the notice of that decision.

Section 66271.18 requires that a statement of reasons be prepared supporting the review, including demonstrating that the issues were raised in the public period and, when appropriate, a showing that the finding of fact or law was clearly erroneous or that an exercise of discretion or an important policy consideration should be reviewed. That information follows.

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<sup>1</sup> Except as otherwise stated, all references shall be to Title 22, California Code of Regulations.

## Statement of Reasons

### I. General comments

1.a Throughout DTSC's March 4, 2010 RTC, reference is made to a document that DAS received by email (to Mr. Christensen) on October 21, 2009.<sup>2</sup> The document, a *draft* memorandum to Administrative File dated May 12, 2009 ("draft Memo"), fails to be a valid basis for DTSC's comments and actions on the Permit for several reasons. First, it is a draft document, neither signed nor initialed, and the reader cannot determine if this draft is meant to be DTSC's position on the topics identified. Second, the draft Memo is not addressed to DAS, but is addressed to the file, signifying that it is not a document intended as a direct response to any submission provided by DAS. Third, and consistent with its title, the draft Memo was not received by DAS to review at any time before the public comment period, but apparently was an internal draft intended either for future revision or placement in the file. Finally, the document was not provided to the public generally before or during the comment period, which makes it impossible for members of the public to have fairly commented on DTSC's apparent actions in altering the Permit consistent with the draft Memo. This lack of disclosure is contrary to the requirements set forth at §66271.8 (b)(6), and since the material was in draft form, the draft Memo cannot be considered readily available to the public as set forth at §66271.8(c).

The failure to finalize, address to DAS, provide to DAS in advance of the public comment period, and disclose to the public, undercuts DTSC's position that this information provided the public or DAS a written finding validly considered by either DAS or the public. Given the lack of transparency in DTSC's action, any portion of the Permit or response that is based upon that draft Memo, should be reconsidered. For that reason, the provisions of the Permit involving both the DTSC decision to extend the Permit from its prior closure in 2022 to 2040 and to alter the financial assurance cost estimate to DTSC-imposed figures, is arbitrary and capricious and without a necessary basis in the record.

1b. As set forth in comment 5 provided by DAS on October 26, 2009, DTSC continues to fail to respond in the record and its general reply under RTC 5a continues to avoid a justified response concerning the proposed extension of the post-closure care period. In addition to the reasoning set forth above and as a separate basis for objection, the draft Memo fails to set forth facts justifying the conclusions reached in altering the Permit, specifically as it applies to extending the Permit to thirty years and imposing its own cost estimate, and fails to follow federal guidelines that are to be considered for determining the post-closure care period. Specific discussion concerning each RTC by DTSC on the draft Memo are provided below.

Federal EPA's OSWER Policy Directive #9476.00-5, January 1987, ("OSWER Directive") instructs that four general evaluation criteria are key to determining how well a unit will protect human health and the environment. They are (1) containment, (2) detection, (3) migration and attenuation, and (4) risk potential. In addition, three site-specific categories

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<sup>2</sup> Neither Mr. Christensen nor any other DAS personnel has a record or receipt of the draft Memo before that date.

should be examined, which are (1) facility characteristics, (2) waste types and characteristics, and (3) environmental and health considerations, and it is these categories that must dictate the decisions. *See* OSWER Directive, section 2.3.2 and Appendix B. DTSC has failed to apply these criteria or any other systematic method in arbitrarily extending the post-closure care period.

In its draft Memo, DTSC made arbitrary decisions without basis in order to conclude that human health and environment required the post-closure period to be extended to thirty years. In making these arbitrary decisions, DTSC failed to consider those criteria that EPA explained in its guidelines as reasons for extending a post-closure period.

2. A second general objection involves DTSC's actions that exceed its authority and fail to comply with rulemaking requirements. This comment involves the regulatory obligation of the owner/operator to prepare its own cost estimation. *See* §66264.144(a). It appears that DTSC is justifying cost estimates it prepared and placed within the Permit that are inconsistent with the statutory and regulatory framework of federal and state law.

Section 66264.144(a) imposes an obligation upon the "owner or operator of a ... landfill unit... to prepare a contingent closure and post-closure plan, [and it] shall prepare and submit to the Department a detailed written estimate in current dollars, of the annual cost of post-closure monitoring and maintenance of the facility in accordance with the applicable post-closure regulations...".

The Permit application was deemed complete by DTSC on November 28, 2005. Changes to the Permit were sought from DAS and received by DTSC on several occasions. Notwithstanding the foregoing, no such request was made to DAS by DTSC requiring it to alter the information submitted for cost estimates of the post-closure care. DAS submitted cost estimates calculated using the same information and techniques used in the post-closure plan and the original post-closure permit, both approved by DTSC. These estimates take into account adjustments for inflation, as well as considering actual costs incurred during the first 17 years of closure activities, which are neither high nor low *estimates*, as DTSC determined through internally used third party software programs, but a reasonable determination based on 17 years of actual performance and consistent with anticipated costs that would be incurred if a third party performed the work. DTSC appears to have rejected this reasonable determination by DAS and impose estimates derived from software programs. DTSC cannot institute changes to those reasonable determinations without a basis in regulation or statute. If DTSC does not agree with the owner/operator reasonable conclusions, it needs to work with the owner/operator and require it to make changes, or reject the Permit. The statutes and regulations do not allow DTSC to self-impose closure or post-closure cost estimates.

Estimates prepared by DAS are consistent with guidance that has been issued for developing post-closure costs. *See* OSWER Directive. DTSC cannot cite to a regulation or statute allowing it to impose its own cost estimates in contravention with §66264.144. Notably, DTSC's RTC 6a appears to verify the agency's improper actions, "Rather than denying the Permit Application, DTSC decided to use the information [from Ducommun] and an industry-

standard cost estimating software...to develop a post-closure cost estimate.” Moreover, the developed cost estimate was imposed within the Permit contrary to regulation.

DAS notes with concern that the alleged “industry-standard cost estimating software” has not been subjected to any form of public comment on its veracity or accuracy as being “industry-standard.” How the software is determined to be “industry-standard” and just how “industry-standard” is defined is up to the imagination of DAS and the public, neither of whom are privileged to have seen or commented upon the software itself. The software, its methodology, and its framework have not been incorporated into any regulation. At best, the software appears to be used as some form of internal measure that provides DTSC guidance for itself on cost estimation. Without adoption by rulemaking, the imposition of internal guidance by DTSC on cost estimates is improper and exceeds its legal authority. DTSC cannot validate the software it uses by a reference to it in a draft Memo, nor within its RTC.

The cost estimating mechanism is clear on its face both in statute and regulation. Section 66264.144(a) has already been cited. California Health & Safety Code §25246(a) states that the submission of a post-closure plan by a hazardous waste facility “shall contain the *owner’s or operator’s* estimate of the cost of closure and subsequent maintenance...”. (Emphasis added). Approval of the plan (including cost estimates for post-closure care) is to follow the applicable requirements set forth in Health & Safety Code §25247 (a), (b) and (c), none of which permit DTSC to impose its own cost estimates upon the permit holder.<sup>3</sup>

DTSC failed to comply with state administrative rulemaking statutes by adopting and imposing standards for cost estimates without meeting notice and comment obligations. See California Government Code §11340.5; and generally, California Government Code §§11340 et seq. Because of the failure to meet the statutory requirements, none of DTSC’s cost estimates should be considered. All of the provisions within the Permit applying DTSC’s cost estimate should be stricken and replaced with the reasonable cost estimate of the owner/operator.

## **II. Specific Comments on the DTSC RTC**

RTC 5a. The DTSC comment fails to respond as discussed above.

RTC 5b. DTSC submitted a Demonstration Report in April 2004. Minor comments concerning the report were prepared by DTSC in a letter dated September 22, 2004. No response on the adequacy or inadequacy of the report was provided. No approval or disapproval; no detailed comments reflecting concerns or a lack of concern over the report was made. By providing minimal comment without any affirmative consideration, DTSC failed and continues to fail to adequately respond to the Demonstration Report seeking the agency’s concurrence. The response set forth in the RTC is not a sufficient and determinative response of acceptance or

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<sup>3</sup> California Health & Safety Code §25247(d) does not apply to a final permit issued before December 31, 2003 and DTSC can only impose post-closure plan requirements through enforcement orders and enforceable agreements until January 1, 2009. See California Health & Safety Code §25247(f).

denial. DTSC cannot use the RTC as the basis for reaching any conclusion, contrary to its statement that, “[n]o conclusions were drawn from the Report of DTSC’s letter to warrant removal of the Unit from the evaluation monitoring program.” DTSC has failed in its statutory obligation to review the Demonstration Report and to issue a written document accepting or denying concurrence. As a result of this failure to act, the remainder of the RTC statement cannot stand.

DTSC’s conclusion that “[t]he extended period is necessary because the nature and extent of the release has not been fully characterized, given that the post-closure period started almost 18 years ago and the required corrective action activities have not been conducted in a timely manner,” is not only incorrect, but is disingenuous. The nature and extent of the release was characterized in the Demonstration Report, for which DAS is still waiting a substantive response. The release in question, which originates from the Unit, has been characterized. DAS has conducted the required corrective action activities in a timely manner, based upon DTSC-imposed specific submission dates. In contrast, DTSC has no imposed deadlines for response. It failed to respond to multiple reports submitted by DAS, which were itemized in the DAS-submitted Groundwater Monitoring Reports for several years (an excerpt of the 2008 Q1 report, pages 12 through 22 is included for purposes of the record showing 12 outstanding issues at the time of that report’s submittal).

RTC 5c. DTSC is incorrect in its statement. Concentration levels remaining constant over time do not indicate an ongoing release. If no hazardous constituents are present, then there is no release let alone an ongoing release in the analyzed media. The Demonstration Report discusses the only constituent of concern remaining in the groundwater below the regulated Unit, fluoride. As is demonstrated by prior and current groundwater monitoring, the levels of fluoride detected across all of the surveyed wells are decreasing over time. No increases in fluoride are being detected. Despite not accepting nor denying the conclusions of the Demonstration Report, DTSC is now claiming in the RTC that the release from the Unit has not been characterized. This statement is without merit or basis and is a conclusion unsupported in the RTC.

RTC 5d. *Please see* DAS Response to RTC 5b. DAS submitted its March 2009 WQSAP to DTSC and stated that it is in evaluation monitoring only because DTSC continues to fail to respond to the Demonstration Report. DAS cannot unilaterally change the status of its monitoring program without DTSC concurrence. *See* §66264.99(f).

RTC 5e. Coverage is being achieved by the “Panoche” red brome grass. Coverage includes the presence of the grass roots throughout the cover, not merely a visible presence of grass. The visual presence of grass is not the standard submitted by DAS; rather, it is a design specifying 65% coverage. The vibrancy of visible grass is not relevant to the inquiry.

RTC 5f. *Please see* DAS Response to RTC 5e.

RTC 5g. DTSC is correct that the present mechanism by which it currently mitigates hazardous contaminant releases is under the corrective action program as incorporated into the Permit. The majority of DTSC’s corrective action activity today has nothing to do with the

regulated Unit, but applies to the production areas at the Facility. Nothing within the draft Memo or the RTC states a basis for extending the period to thirty years as a result of it being within the Permit or as a corrective action within the Permit.

RTC 5h. DTSC's lack of responsive deadlines hampers DAS's ability to proceed and its lack of responsiveness appears to be used by DTSC in the RTC to substantiate claims of delay by DAS. To the contrary, much of the several year effort at characterization and investigation was unilaterally instituted by DAS due to DTSC's inability to respond. By not formally committing to any activity, DTSC avoids potential mistakes and prolongs the status quo to its benefit. *See* attachment to 5b. (i.e., outstanding issues).

RTC 5i. *Please see* DAS Responses to RTC 5g and 5h.

RTC 5j. DTSC's response fails to provide a reasonable or justified basis to extend the post-closure period to protect human health and the environment. DTSC is correct that it may find "*at any time during the post-closure care period*" that the period should be extended or shortened. For all of the reasons set forth in this appeal, the draft Memo is neither a valid document, nor does it provide substantive findings to support DTSC's conclusion.

RTC 5k. Consistent with the initial DAS comment and as set forth herein, DAS again requests that the provision within the Permit related to the post-closure period be changed from thirty years as of the effective date of the Permit and returned to the same time period begun on the effective date of the prior permit.

RTC 6a. The lack of a comment by DAS before the comment period is not relevant since DAS provided its comment in a manner consistent with the regulations.

RTC 6b. DTSC approved the prior DAS permit for post-closure with the same fundamental details as set forth by DAS for the present Permit. The regulatory requirements for post-closure cost estimation have not changed since they were adopted in May 1991. The closed Unit has not fundamentally changed since the prior permit was issued. Therefore, the "adequacy" of the submission is entirely consistent with prior submissions, the regulation and the Unit. It is DTSC who has changed the meaning of adequacy without the benefit of rulemaking. DTSC appears to have created a new regime that has not been subject to public review nor gone through administrative rulemaking. DTSC now improperly claims that the DAS cost estimate lacked sufficient details as they were applied to DTSC's internal cost estimating software.

DTSC cannot claim the software is "an industry-standard" since industry and the public have had no opportunity to comment on the veracity of the software. DTSC confirms that it has "two industry-standard cost-estimating software packages," but neither has been reviewed by the public. There has been no amendment of section 66264.144, nor one proposed, so it is impossible to determine how the adequacy of cost estimates has shifted between the regulations adopted in 1991 and today. DTSC is absolutely correct that it may use this software to perform its own independent cost estimation. That use is internal and is not subject to rulemaking, nor would such use require an amendment to section 66264.144. Although DTSC can develop the

cost estimate for its internal use, no provision exists in any regulation adopted according to statutory requirements and reviewed by the public that permits DTSC to impose its internal cost estimate information upon an owner or operator under a Permit.

This DTSC comment further validates DAS's position that DTSC improperly prepared the cost estimate, contrary to §66264.144(a). DTSC confirms that it recalculated the cost estimate. It states that this "recalculation of the cost estimate is *primarily* based on the post-closure activities presented [by DAS]." Whether it is primarily based on information presented by DAS is irrelevant; only the owner or operator prepares the cost estimate and any alteration by DTSC is inconsistent with the regulatory framework. Even if DTSC's alterations were solely based on the DAS information, DAS as the owner/operator under the Permit would be the only party allowed to prepare the estimate. Otherwise, DTSC could arbitrarily impose any cost, notwithstanding its claims of reasonableness.

For example, DTSC claimed that the Unit cover needs to be seeded "to re-establish the cover." As set forth in Comment 5e, the grass, including its roots, continue to maintain the 65% minimum cover, not requiring further seeding. This change alone is inconsistent with what DAS perceives to be the current condition of the Unit and shows that DTSC created and imposed new requirements and costs DAS does not believe are otherwise required.

RTC 6c. *Please see* DAS General comments 1a, 1b and 2 and Specific comments to RTC 5a through 5k.

RTC 6d. Consistent with the discussion above, DTSC exceeded its statutory authority and improperly applied an internal program to assert a different value upon the cost estimate produced by DAS. *See* DAS General Response #2.

Comment 6e. DAS notes that DTSC appears to be using the two software programs collectively in a manner inconsistent with the use of either one, or the other, of the programs separately. Specifically, DAS raised a concern over the contingency value applied by DTSC and by the engineering allowance contingency.

DTSC claimed that the 20% contingency is acceptable because one program had a 20% contingency and the other a 10% contingency and that 20% is an acceptable contingency. DTSC then states the two programs reverse that percentage when applied to the engineering allowance contingency. DTSC then states that "[b]oth of these values are adjustable in CostPro and RACER." This action by DTSC to use both programs interchangeably and then interpret the results of the two programs collectively is not consistent with the use of any one program. Further, the existence of an adjustment value that is neither discussed or considered is troubling since the regulated party has no ability to determine what criteria are considered in making that adjustment. For the reasons already discussed, DTSC's use of the programs internally is not subject to public review; however, its imposition of these programs and its interpretations require a rulemaking that would necessarily amend the requirements under §66264.144.

RTC 6f. *Please see* DAS Response to RTC 6e.

RTC 6g. *Please see* DAS Responses to RTC 6b and 6e. Imposition of new requirements inconsistent with the submission prepared by DAS means that DTSC has created new categories and data for its cost estimate. The owner/operator did not prepare this information, contrary to regulation.

RTC 6h. As described above, DTSC does not have the regulatory authority to impose a cost estimate nor regulatory authority to use cost estimating software upon an owner or operator. As admitted in its RTC, “DTSC decided to develop a post-closure estimate....” DTSC can develop that estimate, but it cannot impose it upon the owner/operator.

DAS appreciates DTSC’s offer to request a permit modification in the future; however, given DTSC’s failure to respond to multiple submissions from DAS over the last several years, it believes this appeal is timely and appropriate and it is DTSC that must make a regulatory showing in the future to amend §66264.144.

RTC 8c. DTSC’s reference to the 1986 RCRA Facility Assessment and the 1987 Cleanup and Abatement Order (“CAO”) from the RWQCB as support for information that lead and cadmium exceeded maximum contamination limits (MCLs) in groundwater is inappropriate. An actual review of data is necessary to isolate how these apparent statements may have been made. As has been the case at sites with long regulatory histories, misstated and inaccurate facts are sometime inserted in documents and thereafter become the basis for otherwise unfounded support. To date, there are no actual samples taken at any time at the Facility that show levels of lead or cadmium exceeding MCLs in groundwater. Data developed before 1987 was reviewed and does not indicate the presence of lead or cadmium in groundwater in excess of MCLs. In fact, no data was found identifying the presence of lead or cadmium above detection limits in soil beneath the Unit.

Notably, DTSC fails to identify the current CAO issued by the RWQCB in 1996, nor the 1989 CAO. In the 1996 document, which was fully reviewed and made a part of the prior post-closure permit for the Facility, no reference to lead or cadmium is made either in the wastes discharged to the Unit or in the groundwater underlying the Unit. No mention of cadmium or lead exceeding MCLs is made.

EPA prepared a RCRA Facility Assessment dated September 1986 (“RFA”). In that document, cadmium and lead are not mentioned as detected in groundwater. *See* RFA, page 9. Section 4.2 of the RFA cites “excess concentrations of ... cadmium” that entered the percolation pond and soil samples showing “slightly elevated levels of lead, cadmium and barium.” Contrary to DTSC’s claim, there is no information stating that cadmium or lead was ever detected in excess of MCLs.

RTC 9. DAS still believes the pre-existing and still active CAO from Lahontan RWQCB should be made a continuing reference within the Permit, notwithstanding DTSC’s objection over the area in which it is placed in the Permit. De-linking of the two documents creates a situation where duplicative and overlapping obligations between the two documents will occur.

RTC 10. *Please see* Comment 5e. Since DTSC states that it is uncertain as to the meaning of the recommended change, it is meant to clarify that the vegetative cover includes the root systems of the vegetation. DAS sought the language change to make sure that the meaning of vegetative cover incorporated the entire vegetative mass including its roots.

RTC 11. DTSC's RTC appears to be non-responsive to DAS's original comment. The Demonstration Report from April 2004 remains without review, or an approval or denial of any kind, let alone one with substantiated reasoning. *See* Comment 5b. DTSC's reply concerning the March 2009 WQSAP does not address the comment, nor does its statement that it "further reviewed the records and did not find any reason or determination to change the monitoring program from evaluation monitoring to detection monitoring." There has been no determination made on the Demonstration Report despite its submission six years ago. If this RTC is meant to deny it, it is inappropriate and without basis.

RTC 17. DTSC altered the list of SWMUs and AOCs without any basis or findings. Instead, it arbitrarily concluded that certain AOCs were now SWMUs without any finding or input from DAS. There are now 12 SWMUs identified. DTSC states that it looked at the list of SWMUs and AOCs and combined them into one SWMU list. There is no detail in the record concerning DTSC's basis or its decision making process for converting an AOC to a SWMU. The action is arbitrary and without foundation.

SWMUs 1, 2, 3, 4, 5, 7, 8, 9, 10 and 11 were all previously identified as AOCs, a term defined in the prior permit consistent with federal guidance to mean "an area which is not at this time known to be a solid waste management unit (SWMU), where hazardous waste and/or hazardous constituents are present or suspected to be present as a result of a release from the facility."<sup>4</sup> *See* prior permit, Definitions, page VIII-2. There are no facts presented to suggest a release of hazardous constituents has occurred at any of the 12 newly named SWMUs.

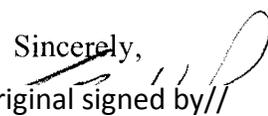
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<sup>4</sup> The two remaining SWMUs identified in the Permit., SWMU 6, Waste solvent Storage Area next to the Maskant Spray Booth and SWMU 12, Hazardous Waste Roll-off Bin Storage Area, were not identified as AOCs in the prior permit as described. Since no findings have been presented or are within the record, the basis for identifying these units as a SWMU is also unclear.

Mr. Stephen Baxter  
April 8, 2010  
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For the foregoing reasons, DAS respectfully requests that DTSC issue an order granting the petition for review of the provisions being appealed within the Permit. Please contact me should you have any questions concerning the foregoing.

Sincerely,  
  
//original signed by//  
Charles H. Pomeroy

CHP/cp

Attachments

cc: James Heiser, Esq.  
Rob Cowan  
Kent Christensen

... of the measurements from August 22 and August 31, 2005 (in the October 12, 2005 report "Groundwater Monitoring, Third Quarter 2005") further showed effect of the pumping on the nearby water levels.

Effects from the hydraulic control pumping can be seen on the hydrograph in Graph 6; water levels at the nearby wells dropped markedly when pumping started in June 2002. Effects from the hydraulic control pumping also are shown on the enlarged hydrograph in Graph 11, although this graph can be difficult to use because of the large number of data points. Graph 11 includes the five wells affected by the pumping (EM-13 and P-14 through P-17). Three wells at greater distances (EM-15, EM-19, and EM-24) are included to show trends in water levels without effects from the pumping. Water levels in EM-15 are shown to be significantly affected by irrigation north of El Mirage Road.

Graph 11 shows that the pumping is affecting the water levels at the nearby wells while the more distant wells are affected by seasonal changes. Extent of the pumping effects on wells EM-13, EM-24, and EM-25 also is shown by the water-level contours on Figure 7.

### 5.3 VOCs AND CHROMIUM IN GROUNDWATER

TCE, PCE, and chromium detected in the groundwater samples are discussed in Section 4.2. Isoconcentration contours for TCE, PCE, and chromium are combined with the March 2008 water-level contours in Figures 9, 10, and 11, respectively. These maps show the relationship between the lateral distribution of TCE, PCE, and chromium in the uppermost (Qa1) groundwater, the Qa1 hydraulic gradient, and the hydraulic control pumping. The data plotted on these maps are listed in Table 7.

The isoconcentration contours on Figures 9, 10, and 11 have changed only slightly from those prepared for the 2007 Fourth Quarter, reflecting the sampling results from EM-13, EM-21, and EM-22 discussed previously in Section 4.2.

Figures 9, 10, and 11 show that the highest concentrations of TCE and PCE extend down the hydraulic gradient from the plant building to the area of wells EM-13 and EM-21. The highest concentrations of chromium are found in the area of EM-13 but the concentrations in those wells are gradually approaching background values. Comparison of the isoconcentration contours and the water level contours also indicates that the pumping from EM-21 and EM-22 is capturing the zone of highest concentrations in each plume. Hence, the hydraulic control appears to be working as planned.

## 6.0 OUTSTANDING ISSUES

This section of the report discusses outstanding issues and/or follow-up work to be performed with regard to the groundwater monitoring at the facility. Items listed in this section will be included in the quarterly reports until the issues are resolved.

### 6.1 WATER QUALITY SAMPLING AND ANALYSIS PLAN REVISION, WASTE DISCHARGE REQUIREMENTS REVISION, MONITORING AND REPORTING PROGRAM REVISION

The WQSAP is currently under revision after authorization from DTSC. At a meeting in November 2006 and two meetings in 2007, changes to the WQSAP were discussed. A revised WQSAP for the regulated unit was submitted on 18 October 2007, and is currently under review by DTSC and RWQCB. The changes to this plan are in response to a number of causes, one of which was the DTSC's decision to reconsider the status of monitoring the closed unit, and to segregate the regulated unit monitoring from monitoring of VOC and hexavalent chromium determined to not originate from the regulated unit. Addition of new wells since the current WQSAP was implemented also provide a rationale for revision of the WQSAP. Other changes are the results of the September 5, 1996 RWQCB approval of a revised WDR and MRP at a meeting held in Bishop, CA, including the change from quarterly to semi-annual groundwater monitoring. The monitoring events are reported as part of the Second and Fourth Quarter Post-Closure Progress Reports each year.

Monitoring results reported as part of the First and Third Quarter Post-Closure Progress reports include those for samples from wells EM-13, EM-21, and EM-22, which are sampled quarterly in accordance with the February 2002 "Design and Plan, Hydraulic Control Pumping in Well EM-21". Off-site water-supply wells 14K and 14K1 also are sampled quarterly (when operating) per the February 2004 report "VOCs in Qa1 and Qa2 Groundwater North of El Mirage Road".

Ducommun AeroStructures (then Aerochem) received a letter from RWQCB dated April 3, 1997, providing comments to Aerochem's Conceptual Proposal for revision of the Water Quality Protection Standard (WQPS). The revised WQPS was submitted by Aerochem on June 13, 1997. RWQCB provided comments regarding the June 13, 1997 submittal in their letter dated April 16, 1998. Aerochem's response to these comments was submitted in a May 15, 1998 letter from Balderman Consulting. No response has yet been received regarding this submittal.

At the meeting at the DTSC Cypress offices on November 13, 2006 DTSC acknowledged that the Regulated Unit is not believed to be the source of VOCs and elevated concentrations of chromium. Accordingly it was proposed that the WQSAP for the regulated unit should be revised and segregated from the Sampling and Analysis (SAP) for VOCs and chromium at wells constructed to monitor those separate releases and not the regulated unit. A revised WQSAP applying only to the regulated unit was submitted on October 18, 2007. To date DAS has responded to all comments received from DTSC on the revised WQSAP. The SAP has not been prepared at this time, in accordance with direction from DTSC to wait until the WQSAP is approved.

## 6.2 POST-CLOSURE PERMIT, CLEANUP AND ABATEMENT ORDER

Ducommun AeroStructures (then Aerochem) submitted the report "Phase IIC

Additional Investigation of Constituents in Soil" on June 28, 1996, documenting the field work completed on May 21, 1996. An interoffice DTSC memorandum dated April 22, 1996 referring to the Phase IIc Workplan was received by Aerochem as an attachment to a DTSC letter dated September 18, 1997. Aerochem inquired about the status of DTSC's evaluation of the Phase IIc report at a meeting held at DTSC's Glendale office on September 15, 1997. Subsequently, Aerochem received a letter dated January 7, 1998 from DTSC containing responses to questions regarding several issues discussed at that meeting; however, no official approval of the Phase IIc report has been received.

A conceptual outline of a Corrective Action Study and Pilot-Scale Project was submitted to DTSC and RWQCB on May 8, 1996, as required by the Post-Closure Permit and Cleanup and Abatement Order 6-94-70. The Pilot-Scale Test was begun on July 10, 1998. The Final Report of the Corrective Action Study and Pilot-Scale Project was submitted on September 7, 1999.

Ducommun AeroStructures (then Aerochem) received a request from DTSC, dated March 28, 2000, to prepare a Corrective Measures Study (CMS) workplan, as well as a RCRA Facility Investigation (RFI) workplan for investigation of the lower (regional) aquifer. As a result of the July 18, 2000 meeting DTSC and RWQCB agreed to defer the CMS and RFI Workplans due to the urgency of responding to the of high concentrations of PCE and TCE detected at well EM-13 beginning in spring 2000.

### 6.3      HEXAVALENT CHROMIUM IN GROUNDWATER; HEXAVALENT CHROMIUM AND VOCs             DOWNGRADIENT (EAST AND NORTHEAST) FROM MAIN PLANT BUILDING

On August 3, 2000 Ducommun AeroStructures (then Aerochem) received a phone call from Mr. Mike Eshaghian of DTSC to inform that a Proposition 65 notice would be sent to the San Bernardino County Department of Health Services. This notice was being issued due to the recognition that hexavalent chromium had been detected in several wells at the El Mirage facility, notably well EM-11. Because water from EM-11 was being used in the facility fume scrubbers as part of the Corrective Action Study and Pilot-Scale Project, DTSC expressed concern over potential airborne emissions of hexavalent chromium.

In their letter dated August 10, 2000 DTSC directed Aerochem to cease use of EM-11 water in the fume scrubbers pending the outcome of the investigation. Accordingly, the pump extracting water from well EM-11 was shut down on August 10, 2000, and since that time has been used only to obtain samples during monitoring events.

As a result of an August 23, 2000 meeting with DTSC and RWQCB, Ducommun AeroStructures (then Aerochem) agreed to conduct additional investigations of hexavalent chromium in the groundwater, including off-site sampling. The work plan for offsite sampling was submitted on October 2, 2000. Ducommun AeroStructures submitted the report "Sampling of Off-Site Water-Supply Wells" on February 2, 2001. DTSC responded to this report in a memorandum from Mr. Thomas Seckington to Mr. Allan Plaza dated August 6, 2001. Ducommun AeroStructures reviewed this memorandum and found several inaccuracies and

misrepresentations. The Ducommun AeroStructures response was submitted in a letter from Balderman Consulting dated August 29, 2001. The response was resubmitted November 1, 2001 under Ducommun AeroStructures letterhead as requested by DTSC. No response to this letter has been received.

Plans for additional assessment of hexavalent chromium on site were submitted to DTSC in a letter dated December 15, 2000. This plan was in response to the discovery of greater than expected concentrations of hexavalent chromium in well EM-13, and included a program of CPT groundwater sampling. The work commenced on January 8, 2001, but was halted on January 16, 2001 when the initial laboratory results did not detect hexavalent chromium in most of the samples. The matter was discussed in a February 20, 2001 conference call, and a revised sampling plan was submitted on March 2, 2001. Work according to the revised sampling plan was conducted on March 7-9 and 12-21, 2001. A report of the findings was submitted on May 25, 2001. DTSC responses to this report were included in the August 6, 2001 memorandum discussed above. Ducommun AeroStructures' responses to this memorandum was included in the August 29, 2001 Balderman Consulting letter and its subsequent resubmittal, discussed above.

A work plan dated July 6, 2001 was submitted to DTSC and RWQCB to address several of the recommendations contained in the May 25, 2001 report. Installation of eight monitoring wells and two piezometers was completed as detailed in the work plan. A report on the work outlined in the work plan was submitted on December 5, 2001, following completion of the second round of sampling of the new wells. DTSC responded to this report in its November 5, 2002 letter from Mr. Allan Plaza, which included a DTSC memorandum from Mr. Thomas Seckington dated October 28, 2002. Ducommun AeroStructures submitted an initial response to the November 5, 2002 letter and October 28, 2002 memorandum in a letter dated November 14, 2002, and followed that with a detailed response dated December 20, 2002. The DTSC memorandum and Ducommun AeroStructures responses were discussed in a meeting held February 6, 2003 at the DTSC Glendale office and a follow-up meeting held March 20, 2003 in the DTSC Cypress office. These discussions continued at meetings held at the Ducommun AeroStructures facility on May 21, 2003, and at the DTSC Cypress office on June 18, 2003, and on July 22, October 18, November 4, and December 20, 2004.

Ducommun AeroStructures has maintained the assertion that there is abundant evidence supporting the interpretation that any release of VOCs and hexavalent chromium must have occurred from the main plant building, although it is impossible to prove the absence of any minimal contribution from the Regulated Unit, and that no amount of additional investigation will satisfy the burden of proof demanded by DTSC. In the November 13, 2006 meeting at the DTSC Cypress office, DTSC representatives indicated that they acknowledge that the regulated unit is not the source of VOCs and hexavalent chromium, and that they are prepared to begin the process of moving the facility from evaluation monitoring into corrective action. Ducommun AeroStructures sees this as a major step moving the facility forward, and is ready to work together with DTSC to facilitate this process.

Approval and implementation of the Interim Measures Workplan, issuance of a

renewed Post-Closure Permit which specifies segregation of VOC and hexavalent chromium SWMUs from the regulated unit, and a letter from Ducommun AeroStructures requesting monitored natural attenuation for the closed unit are required before DTSC can move the facility into corrective action for the regulated unit.

#### 6.4 GROUNDWATER SAMPLING NORTH OF EL MIRAGE ROAD

In a letter dated August 30, 2001, Mr. Jehiel Cass of RWQCB requested Ducommun AeroStructures to conduct CPT sampling north of El Mirage Road on property owned by Meadowbrook Dairy. The purpose for this request was to determine extent of VOCs in groundwater. A work plan prepared in response to this request was submitted on October 15, 2001. Conditional approval of the workplan was received in the DTSC letter dated January 23, 2003 and the RWQCB letter dated February 10, 2003. Work in accordance with the approved workplan commenced on February 24, 2003 and was completed on February 27, 2003. Preliminary results from this work was presented to DTSC and RWQCB at the March 20, 2003 meeting in the DTSC Cypress office, and a complete report of the results, including a proposal for further investigations, was submitted on May 2, 2003.

During the site visit by DTSC and RWQCB on May 21, 2003, Ducommun AeroStructures was requested to provide a work plan for further CPT sampling north of El Mirage Road, separate from the report submitted on May 2, 2003. This work plan was submitted on June 4, 2003. At the June 18, 2003 meeting at the DTSC Cypress office verbal approval was received to make tentative arrangements for the CPT sampling. Letters dated July 23 and August 7, 2003 contained RWQCB conditional approval and DTSC approval of the work plan, respectively. The first phase of work was done on September 8 through 12, 2003. After receiving permission from Meadowbrook Dairy for access to portions of their property previously inaccessible due to agricultural operations, the remaining work was completed on December 8 to 11, 2003. The report of this investigation was submitted on February 13, 2004.

Comments on the February 2004 report were contained in a DTSC memorandum dated September 14, 2004, received as an attachment to a DTSC letter dated September 22, 2004. This matter was discussed in meetings between DTSC and Ducommun AeroStructures on October 18, November 4, and December 20, 2004. It was agreed that the revised Interim Measures (IM) Workplan (Section 6.9) is a more urgent priority, and that the area north of El Mirage Road would be addressed after the IM Workplan is completed. Additional CPT groundwater sampling that was recommended in the February 2004 report was done in February 2005 and supplemented in November 2005, as described in Section 6.11.

#### 6.5 ADDITIONAL CPT AND DIRECT-PUSH SAMPLING

Ducommun AeroStructures undertook an additional investigation of the unsaturated zone and uppermost groundwater in the vicinity and downgradient of the main plant building during 2003. This investigation was conducted in an effort to more thoroughly characterize the three-dimensional extent and concentrations of VOCs in the unsaturated zone beneath the main plant

building. It also was intended to better characterize the lateral extent and concentrations of VOCs in the uppermost groundwater (unit Qa1) beneath and downgradient of the main plant building. This investigation included direct-push sampling of soil gas and groundwater conducted on August 4-8, 2003, and CPT work conducted on September 8-12, 2003 (concurrent with the sampling of groundwater outlined in the June 4, 2003 work plan, described in Section 6.4). The report of this work was included with the Fourth Quarter 2003 Post-Closure Progress Report submitted October 15, 2003. No response to this report has been received.

## 6.6 HYDRAULIC CONTROL PROGRAM

A design and plan for extraction of water from well EM-21, with potential addition of well EM-22, was submitted on February 15, 2002. This project involves the extraction of groundwater in an effort to establish hydraulic control in the east area of the property where high concentrations of PCE, TCE, and hexavalent chromium are moving with the groundwater flow toward the eastern facility boundary. Hydraulic control pumping in both wells EM-21 and EM-22 began on July 16, 2002, and is described in Section 5.0.

The plan initially called for the untreated extracted groundwater to be disposed offsite as a non-hazardous waste, at the Santa Clara Waste Water facility located in Santa Paula, California. Ducommun AeroStructures discharges to this facility under a City of Oxnard Industrial Discharge Permit, and the groundwater meets the permitted pre-treatment standards for discharge without further treatment. City of Oxnard was informed of the intent to discharge this material, and was informed again prior to startup of the extraction system and hauling.

Pumping from wells EM-21 and EM-22 was suspended briefly during the facility year-end holiday shutdown in December 2002-January 2003. This provided an opportunity to conduct additional evaluations of aquifer properties by monitoring the recovery of water levels after the pumps were stopped on December 20, 2002, and the drawdown after pumping was resumed on January 2, 2003. The data obtained from this test were evaluated extensively, and a report was submitted as part of the First Quarter 2003 Post-Closure Progress Report. This report was discussed during the June 18, 2003 meeting, but no official response has been received at this time.

The First Quarter 2008 groundwater monitoring included water-level measurements in the wells affected by the hydraulic control pumping, as well as the site-wide wells. Sampling included pumping wells EM-21 and EM-22 and adjacent well EM-13, as described above in Section 3.0.

## 6.7 USGS EVALUATION OF HEXAVALENT CHROMIUM

The United States Geological Survey (USGS) has been conducting an investigation of hexavalent chromium in the El Mirage area. Plans for this investigation were discussed in a meeting at the Cypress DTSC office on February 22, 2002, including representatives from Ducommun AeroStructures, RWQCB, DTSC, and USGS. The study area includes the El Mirage facility, and a

suggestion to use selected wells at the facility as part of the study was accepted by USGS. The USGS program has been providing additional insight on the possible source of hexavalent chromium in groundwater of the El Mirage area.

Field work on the first phase of this project was completed in June 2002. Ducommun AeroStructures provided access to the facility monitoring wells and base support for the USGS field operation. Selected wells at the facility were sampled, as well as residential wells and agricultural wells in the surrounding area. Preliminary analytical data from the project were received, and preliminary conclusions from the isotope analyses were mentioned by DTSC during a conference call on July 7, 2004 and were presented by Mr. John Izbicki of USGS at a meeting held on July 22, 2004 at the DTSC Cypress office. A draft report on this work was received in March 2005 and extensive technical comments were returned to Mr. Izbicki in the May 4, 2005 letter from Morris Balderman.

Mr. Izbicki reportedly is undertaking an additional study for RWQCB of the increased hexavalent chromium concentrations detected in the uppermost groundwater at A&H Dairy. The increased chromium at A&H Dairy appears to show that chromium can be released from the unsaturated zone in this area by infiltration of water from the ground surface, whether or not that water contains additional chromium. Ducommun AeroStructures has received no further information from USGS.

Status of the study at A&H Dairy is not known and it is not known whether results from that work are to be incorporated into the previous draft report.

#### 6.8 WELL EM-13 FOULING

Following the discovery of fouling in well EM-13 during sampling conducted on September 19, 2002, an investigation commenced into the cause and any corrective action determined necessary. Testing was conducted on a sample of material removed from the well, followed by video logging of the well in an effort to determine the source of the fouling material. The initial testing of the material failed to determine the origin of the material, but did support a conclusion that the fouling was not due to bacterial contamination. Video logging was used to determine that the source of the material appeared to be root growth entering the well through the well screen, and the well was cleaned using surging and bailing procedures. This work was described in the February 20, 2003 report "Evaluation of Fouling in Well EM-13". No response has been received.

#### 6.9 INTERIM MEASURES

The Interim Measures (IM) Workplan has been discussed and work is proceeding on final revisions. These revisions were discussed in meetings with the DTSC during late 2006 and two meetings in 2007. The most recent meeting was held at the DTSC Cypress office on March 10, 2008.

The following discussion of these revisions and the revision process is included here as a stand-alone history.

The February 5, 2004 DTSC request for preparation of an IM Workplan was received, and a meeting with DTSC and RWQCB was held on April 22, 2004 to discuss the scope of the requested workplan. The IM Workplan was submitted on June 15, 2004.

A DTSC review of the IM Workplan dated September 8, 2004 was received, followed by a letter dated September 22, 2004 containing additional comments regarding the IM Workplan. The IM Workplan was discussed further in meetings between DTSC and Ducommun AeroStructures on October 18, November 4, and December 20, 2004.

A revised IM Workplan was submitted on January 20, 2005. DTSC provided preliminary comments for discussion purposes in a March 22 FAX and at a meeting at their Cypress office on March 23, followed by a letter from Mr. Aaron Yue dated April 13, 2005.

The Second Revised Interim Measures Workplan then was submitted on May 23, 2005. Signed and stamped engineering drawings for the SVE system were sent separately on July 11, 2005. DTSC requested additional revisions to the May submittal in their letter dated September 13, 2005, and the Third Revised Interim Measures Workplan then was submitted on October 14, 2005.

DTSC returned comments on the Third Revised Interim Measures Workplan in their letter dated December 9, 2005. This letter transmitted memoranda from DTSC staff commenting on the health and safety plan (HASP) and on the soil vapor extraction (SVE) workplan, and further requested that Ducommun AeroStructures address all previous comments. The December 9 DTSC letter was discussed further in e-mail exchanges between Mr. Kent Christensen of Ducommun AeroStructures and Mr. Aaron Yue of DTSC, mainly addressing the SVE workplan.

Balderman Consulting was concerned about the request (in the December 9 letter) that Ducommun AeroStructures again revise the IM Workplan to address all previous comments. On December 21, 2005 Morris Balderman sent an e-mail to Mr. Yue, with copies to Ms. Sara Michael and Mr. Greg Neal of DTSC and others, asking whether DTSC was requesting changes to the parts of the Third Revised IM Workplan that were prepared by Balderman Consulting (the workplan body and Appendices A and E) and noting that he did not know of any unresolved issues. DTSC did not respond to the December 21 e-mail.

Ducommun AeroStructures responded to the December 9 DTSC letter with the December 28, 2005 letter from Mr. Christensen. The December 28 letter provided the additional information requested for the SVE workplan, summarizing an earlier telephone conversation between Mr. Christensen and the DTSC reviewer. The letter also pointed out that the DTSC memorandum reviewing the HASP concluded that it is adequate for the proposed work activities, indicating that further revision was not needed for the IM Workplan.

During a meeting held at the DTSC Cypress office on November 13, 2006 to discuss the IM Workplan, a plan was presented to approve the IM Workplan

after Ducommun AeroStructures provides an addendum to specify that a groundwater treatment system proposed for the water extracted in the hydraulic control system operation be included as part of the IM Workplan. Acting on behalf of Ducommun AeroStructures, the requested addendum was submitted on December 14, 2006 by Targhee, Inc. The addendum included specific designs for the proposed groundwater treatment system, and details of how the treated groundwater would be used to irrigate trees that have been planted in the vicinity of the extraction system. The next action indicated will be approval of the IM Workplan, which will include implementation of the CEQA process by DTSC and implementation of the approved IM Workplan by DTSC.

As part of the IM Workplan, Ducommun AeroStructures has agreed to install and operate soil vapor extraction (SVE) to remove and capture VOCs in the vadose zone beneath the main facility building. Installation of the SVE system has been in progress, and Ducommun AeroStructures informed DTSC at the November 13, 2006 meeting that testing has begun on the system as installation nears completion. As part of that testing, it was discovered that acid vapors are apparently commingled with the VOCs in the SVE extraction zone, and a preliminary report of suspected release of hazardous materials was submitted to DTSC, RWQCB, and San Bernardino County Fire Department on December 20, 2006, as soon as the acidic vapors were discovered during these tests. A packed bed scrubber has been specified for the purpose of neutralizing acidic vapors extracted from the soil, prior to the removal of the VOCs from the soil gas. A report on the design of this system was submitted to DTSC on October 15, 2007 in response to a request from DTSC dated September 28, 2007.

The packed bed scrubber specified has been purchased but has not yet been installed.

#### 6.10 DEMONSTRATION REPORT

On April 14, 2004 Ducommun AeroStructures submitted a Demonstration Report documenting the investigation of sources of TCE, PCE, and chromium at the El Mirage facility. This report cited the large volume of data which have been assembled from extensive site assessments, and makes the demonstrations described under 22 CCR Section 66264.99(f). The conclusion of this report is that these contaminants did not originate at the regulated unit, in contrast to allegations made by DTSC. Although some comments in the September 22, 2004 DTSC letter refer to this document, no official response to this report has been received.

At a meeting held at the Cypress DTSC offices on November 13, 2006 DTSC representatives acknowledged that the origin of VOCs and elevated concentrations of hexavalent chromium detected in the groundwater at the facility is determined to have been the manufacturing operations at the main building, and not the regulated unit. Although DTSC does not consider this acknowledgement an approval of the Demonstration Report, it does indicate an agreement in principle by DTSC that, with the exception of fluoride, all available data support the scenario of releases from the manufacturing operation and not from the regulated unit.

## 6.11 FEBRUARY 2005 CPT SAMPLING

CPT groundwater sampling recommended in the February 2004 report "VOCs in Qa1 and Qa2 Groundwater North of El Mirage Road" was done on February 9-11, 2005. Objectives of this work were to determine extent and concentrations of VOCs detected: (1) in the Qa1 uppermost groundwater at CPT417, CPT418, and CPT419 in January 2001 and (2) in the Qa2 groundwater at CPT614 in December 2003. It was necessary to schedule this work on short notice in order to get access to the Meadowbrook Dairy alfalfa field; Meadowbrook would not allow access after early February because alfalfa was starting to grow due to warm weather. Heavy rainfall began on February 11, further limiting access.

Notification of this work was sent to DTSC and RWQCB by e-mail on February 1. DTSC responded in a letter on February 15, noting that they had not approved this investigation and reserving the right to accept or reject the results. Although DTSC did not approve a work plan specifically for this sampling, the procedures used were as approved for previous work at the facility, described in work plans dated December 15, 2000, March 2, 2001, October 15, 2001, February 14, 2003, and June 4, 2003, and in reports dated May 25, 2001, May 2, 2003, and February 13, 2004.

Preliminary results from the February work were provided to DTSC in the meeting on March 23 and the final report was submitted on July 22, 2005. The July 22 report recommended further sampling because the February samples did not fully determine lateral extent of VOCs in the Qa2 groundwater. Scope of the further sampling was expanded following requests from Mr. Greg Neal of DTSC in telephone and e-mail exchanges during late October and early November.

The further sampling was completed on November 7-10, 2005. DTSC observed the work on November 7 and was sent daily progress reports thereafter, per their request. This program included collecting 28 samples from the Qa1 and Qa2 groundwater at nine locations. The report on the November 2005 sampling was issued on February 6, 2006, completing scope of this project. No responses have been received to the February 6, 2006 report.

## 6.12 PROPOSED IN-SITU PILOT DEMONSTRATION PROJECT

Ducommun AeroStructures submitted a proposal to implement an on-site groundwater treatment system and a phytorespiration demonstration project to replace off-site transport of the water extracted in the hydraulic control program. This proposal was presented to RWQCB and a Report of Waste Discharge (RWD) was submitted in a meeting on June 10, 2005. RWQCB responded on July 19, 2005, finding that the RWD was incomplete and requesting specific additional information. Ducommun AeroStructures then submitted an addendum report dated September 21, 2005. The proposal was discussed further in a meeting with RWQCB and DTSC on December 2, 2005, and RWQCB sent additional comments in a December 21, 2005 e-mail from Mr. Greg Cash. A revised RWD was submitted on February 9, 2006; no responses to that RWD have been received.

In March 2006, trees were planted at the facility as per the RWD and are being irrigated with water from the facility water supply well (well 23A10). No action has been taken to install and operate any groundwater treatment system, or to use water from the hydraulic control pumping for irrigation.

In the November 13, 2006 meeting held at the DTSC Cypress office it was agreed that Ducommun AeroStructures would submit an addendum which adds the proposed groundwater treatment system and use of treated groundwater for irrigation to the IM Workplan. This addendum was submitted on December 14, 2006, and includes responses to the most recent DTSC request for additional information on the project. Since that time Ducommun AeroStructures has responded to requests by submitting a proposed Environmental Indicators (EI) project schedule, a draft community profile, and a California Historical Resources Information Systems report. In addition, DAS has also obtained consultant proposals for a biological survey requested by DTSC, and is in the process of obtaining purchase orders for this survey. It is the understanding of Ducommun AeroStructures that DTSC is currently involved in a review of the project for compliance with CEQA requirements, and has issued a final draft of the community profile after obtaining responses from community residents to a questionnaire regarding the IM Workplan.

#### CONCLUSIONS AND RECOMMENDATIONS

Conclusions and recommendations in this report are summarized as follows:

- 1 The March 2008 measurements showed that water levels in Unit Qa1 declined across the site. Piezometric levels in Unit Qa3 also declined.
- 2 Water-level contours in Unit Qa1 prepared from the March 2008 measurements were similar to those determined previously. Unit Qa3 contours show a shift in the gradient back to a northeasterly direction.
- 3 Results of the March 2008 groundwater analyses were generally consistent with the previous records; concentrations of VOCs and chromium showed general increases in well EM-13, and slight decreases in EM-21 and EM-22. VOC and chromium concentrations in off-site supply well 14K were consistent with previous results.
- 4 The most recent measurements of chromium concentrations in all wells were below the concentration limit of 0.07 mg/L calculated in the April 2004 "Demonstration Report", following the procedures in the 1997 "Revised Water Quality Protection Standard".
- 5 The hydraulic control pumping of wells EM-21 and EM-22 appeared to be functioning as planned; pumping rates in EM-21 increased in the 2008 First Quarter, but decreased in EM-22. A malfunction in EM-22 was discovered following the end of the First Quarter reporting period, possibly contributing to the lower pumping rate in that well. This malfunction was repaired on May 28, 2008.
- 6 Comparison of the Qa1 water-level contours with the isoconcentration contours for TCE, PCE, and chromium indicates that the hydraulic control pumping is capturing the zone of highest concentrations in each plume. It is recommended that the pumping continue.