SIGNATURE PROPERTIES

February 13, 2009

BY CERTIFIED MAIL

Mr. Paul Ruffin
Department of Toxic Substances Control
8800 Cal Center Drive
Sacramento, California 95826

Re: **Comments Of PCCP-Signature San Jose, LLC Regarding Corrective Action Complete Determination For The Chloroform Release Area On The Hitachi Global Storage Technologies, Inc. Redevelopment Property In San Jose**

Dear Mr. Ruffin:

Enclosed please find the comments of PCCP-Signature San Jose, LLC regarding the Department of Toxic Substance Control's ("DTSC") proposed Corrective Action Complete Determination ("Determination") for the Chloroform Release Area on the Hitachi Global Storage Technologies, Inc. Redevelopment Property In San Jose. As you know, PCCP-Signature and Hitachi Global Storage Technologies, Inc. have entered into an agreement pursuant to which PCCP-Signature would acquire the Redevelopment Property, including the Chloroform Release Area. Accordingly, PCCP-Signature has a significant interest in the full and proper evaluation of site conditions.

The enclosed comments are in addition to the comments previously submitted by PCCP-Signature and incorporate new information received by PCCP-Signature following submittal of their prior comments. We understand that DTSC will provide a written response to all comments provided during the comment period either prior to or contemporaneous with issuing its final decision on this matter.

In addition to the enclosed comments, PCCP-Signature notes that the 30-day public comment period provided by DTSC for the proposed Determination is significantly less than the 45-day public comment period required for such determinations. *See Department of Toxic Substances Control Pubic Participation Manual* (October 2001) Chapter 4, Page 32. PCCP-Signature objects to DTSC's decision to abbreviate the public comment period, especially in light of the complexity of the issues involved and the significance of the Determination.

In the event that DTSC would like to discuss any aspect of PCCP-Signature's comments, we would be pleased to promptly make available any personnel or consultants required to do so.

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Thank you in advance for your consideration of these comments.

Sincerely,

PCCP-Signature San Jose, LLC

Michael Ghielmetti
President of Administrative Member

cc: Elizabeth Yelland, Chief Counsel, DTSC

//original signed by//

COMMENTS OF PCCP-SIGNATURE SAN JOSE, LLC REGARDING PROPOSED CORRECTIVE ACTION COMPLETE DETERMINATION FOR THE CHLOROFORM RELEASE AREA ON HITACHI GLOBAL STORAGE TECHNOLOGIES, INC. REDEVELOPMENT PROPERTY IN SAN JOSE

A. INTRODUCTION

In its Statement of Basis, DTSC claims that its "long-standing practice" is to measure the attainment of cleanup goals by "taking actual measurements" of the affected media. Despite this claim, DTSC repeatedly violates its stated practice by ignoring the actual data showing Hitachi has not achieved cleanup standards and instead relying on technical theories that either are not supported by or are directly contrary to the "actual measurements." In every instance where actual sampling could prove or disprove Hitachi's tenuous theories, DTSC has chosen not to request such sampling.

While expressly finding that Hitachi has not complied with the drinking water standards required by its own Negative Declaration and California law, DTSC claims that such compliance is "not necessary." In so doing, DTSC directly and unambiguously violates the Porter-Cologne Act, the Basin Plan, California regulations, and the Regional Water Quality Control Board's Site Cleanup Requirements for the property, all of which are binding on DTSC. DTSC's unsupported assertion that drinking water standards have been achieved "to the extent practicable" does not excuse its obligation to enforce the standards, and in any event is directly contrary to all the site data.

In addition, DTSC's proposed approval of the remediation also violates CEQA. As a responsible agency specifically identified as part of the Project EIR, DTSC is legally obligated to assess its determination in the context of that EIR. Because the chloroform contamination at Building 28J was not identified or evaluated in the Project EIR, a subsequent EIR must be prepared to evaluate the chloroform impacts. DTSC's attempt to address these issues through an Addendum to the Negative Declaration violates California law.

In its haste to certify the corrective action as complete before there is actual data to support this finding, DTSC has violated its own policies, violated state law, and abandoned any pretence of objective, scientific evaluation or protection of human health and the environment. Lacking sufficient legal or technical basis for its actions, DTSC appears intent on managing the chloroform remediation in a manner to maximize Hitachi's private, commercial interests. Such actions are contrary to DTSC's statutory mandate to apply sound scientific principles to protect public health and the environment.

B. DTSC HAS FAILED TO PROVIDE SUBSTANTIVE RESPONSES TO SIGNIFICANT PRIOR TECHNICAL COMMENTS

Signature has submitted numerous technical comments on the issues raised by DTSC's proposed determination. To date, DTSC has provided no substantive or independent response to the overwhelming majority of these comments. In a January 9, 2009 memorandum from DTSC's Geological Services Unit, for example, DTSC refuses to provide any response to numerous comments, on the specious ground that they were not signed by a licensed consultant. With respect to most other comments, DTSC provides no substantive response, and merely adopts by reference Hitachi's responses. For the few comments for which DTSC does attempt to provide a response, DTSC largely rejects Signature's comments in conclusory fashion, without providing any technical analysis.

Consistent with its Public Participation Manual, DTSC has provided public notice of its proposal to certify the corrective action as complete. Also consistent with the Public Participation Manual (Chapter 6, Section H), DTSC must prepare written responses to each and every comment offered by Signature. Given DTSC's failure to provide any such responses in the past, Signature hereby submits all its prior evaluations as formal public comments on DTSC's proposed determination, including:

- Erler & Kalinowski, Inc. (EKI), ***Concerns Associated With the Potential Shutdown of the 2-Phase Extraction System at Former Building 028J***, August 28, 2008, Attachment 1.

- S.S. Papadopulos & Associates (SSPA), ***Comments on Modeling Report (Executive Summary with Slides)***, October 13, 2008, Attachment 2.

- EKI, ***Observations During Hitachi's Soil Gas Sampling at the Former Building 028J Chloroform Remediation Area,*** October 28, 2008, Attachment 3.

- SSPA, ***Groundwater Sampling Protocol***, October 29, 2008, Attachment 4.

- SSPA, ***Comments on Environ Response to SSP&A Presentation of November 3, 2008***, November 11, 2008, Attachment 5.

- SSPA, ***Critical Review of Risk-Based Target Concentration (RBTC) Determinations for Hitachi, Building 028J Site***, November 18, 2008, Attachment 6.

- Signature Properties, ***Comments on Hitachi Completion Report***, December 4, 2008, Attachment 7.

- SSPA, ***Comments Regarding Environ Sampling***, January 9, 2009, Attachment 8.

- Erler & Kalinowski, Inc. (EKI), ***Rebuttal to Environ's Response-to-Comment Letter, dated 26 November 2008, Regarding EKI's Observations during Hitachi's Soil Gas Sampling at the Former Building 028J Chloroform Remediation Area, 5600 Cottle Road, San Jose, California***, Attachment 9.

In addition, Signature provides the following additional comments on DTSC's proposed action. These comments are either entirely new, or incorporate newly-available information in support of prior comments. Accordingly, Signature looks forward to receiving DTSC's substantive to response to each of its previous and new comments.

C. NEW TECHNICAL COMMENTS

1. DTSC's Proposed Addendum to the Negative Declaration Violates California Law

In its statement of decision, DTSC finds that Hitachi has failed to restore groundwater to drinking water standards and makes no finding that drinking water standards will ever be achieved. DTSC nonetheless proposes to find the cleanup is complete, on the grounds that remediation of chloroform in groundwater to drinking water standards is neither necessary nor "practicable." As explained in further detail below, DTSC's purported finding is not supported by ***any*** evidence, much less substantial evidence. More fundamentally, however, DTSC's refusal to enforce drinking water standards is contrary to California law.

Restoration of groundwater is governed by numerous state laws, regulations and orders, all of which prohibit the action DTSC proposes. The Porter Cologne Act requires the State Water Resources Control Board ("Water Board") and the Regional Water Quality Control Boards ("Regional Board") to adopt water quality control plans. *See* California Water Code Section 13141. The Water Quality Control Plan for the San Francisco Bay Basin ("Basin Plan") applies to water resources throughout the Bay Area, including the Hitachi site.

Under the Basin Plan Section 2.2.2, all groundwater is considered suitable for municipal or domestic water supply, unless the Regional Board finds that a specific exception applies. Section 3.4 of the Basin Plan provides a goal of "background" levels of contaminants for all groundwater (i.e. no man-made contaminants). Section 3.4.2 further provides that, "[a]t a minimum, groundwater designated for use as domestic or municipal supply shall not contain concentrations of constituents in excess of the [MCLs]."

With respect to remediation of contaminated groundwater, the Basin Plan requires cleanup to either MCLs or a *more* restrictive level based on risk assessment (Section 6.25.2.3). In this respect, the Basin Plan implements the Water Board's long-standing policy, as adopted in Resolution No. 68-16 ("Statement of Policy With Respect to Maintaining High Quality Water in California") and No. 92-49 ("Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304"). Similarly, under 23 CCR 2550.4, the cleanup levels for contaminated groundwater may be greater than background only upon a showing that achieving background levels is not technical and economically achievable. But in no event may a cleanup level be less stringent than the MCLs. 23 CCR 2550.4(e). Thus, as a matter of law, MCLs constitute the absolute minimum requirement for cleanup of groundwater.

The Regional Board confirmed this legal requirement in its 2002 Site Cleanup Requirements Order ("SCR") for the Hitachi site. In the SCR, the Regional Board expressly finds that groundwater at the site is designated for municipal and domestic water supply and is a potential source of drinking water. The Regional Board further found that cleanup of the shallow

aquifer to background levels "probably cannot be technologically or economically achieved." As a result, the Regional Board required remediation of the shallow aquifer to MCLs, finding such levels consistent with the Basin Plan and 23 CCR 2550.4.[1]

DTSC's refusal to enforce MCLs therefore directly conflicts with the Porter Cologne Act, the Basin Plan, California regulations, Regional Board policy, and the SCRs. DTSC is bound by all of these laws, regulations and policies, and DTSC has no authority to alter or amend them. Simply put, no cleanup can be certified as complete, unless and until it has achieved the MCLs, as an absolute minimum. Recognizing this requirement, DTSC originally had required cleanup of groundwater to the MCLs in its Negative Declaration for the chloroform remediation. DTSC's current proposal to authorize residual contamination in excess of MCLs directly violates state law.

2. DTSC Cannot Show That Cleanup To MCLs Is Impracticable

a. DTSC Has Failed To Properly Evaluate Feasibility Of Achieving MCLs

Even if DTSC legally could decline to enforce the MCLs, DTSC has offered no technical basis for doing so here. According to DTSC, remediation of groundwater to MCLs is not practicable. Evaluation of practicability is governed by Water Board Resolution No. 92-49 (Policies and Procedures for Investigation and Cleanup and Abatement of Discharges under Water Code Section 13304). This policy is binding on DTSC. Cal. Water Code Section 13146.

Under Section III.H.1 of Resolution No. 92-49, assessing practicability requires a determination of "whether water quality objectives can reasonably be achieved within a reasonable period by considering what is technologically and economically feasible . . . " The policy goes on to describe in detail this evaluation process:

- "Technological feasibility is determined by assessing available technologies, which have been shown to be effective under similar hydrogeologic conditions in reducing the concentration of the constituents of concern. Bench-scale or pilot-scale studies may be necessary to make this feasibility assessment;"

- "Economic feasibility is an objective balancing of the incremental benefit of attaining further reductions in the concentrations of constituents of concern as compared with the incremental cost of achieving those reductions. The evaluation of economic feasibility will include consideration of current, planned, or future land use, social, and economic

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[1] Under Water Board Resolution No. 92-49, where cleanup to MCLs is not technically and economically feasible, the responsible party may apply to the Regional Board to establish a "containment zone." Among other things, establishment of a containment zone requires evaluation of a host of factors DTSC has not considered, and also requires a plan for ensuring that contaminated water does not migrate and for long-term monitoring.

impacts to the surrounding community including property owners other than the discharger. Economic feasibility, in this Policy, does not refer to the discharger's ability to finance cleanup. . . ."

EPA's guidance likewise requires consideration of a host of engineering, economic and safety factors in determining whether it is technically impracticable to achieve cleanup standards. Handbook of Groundwater Protection and Cleanup Policies for RCRA Corrective Action, U.S. EPA (2004), Chapter 12.

DTSC has not even attempted to perform any evaluation of technical or economic feasibility of achieving MCLs. Instead, DTSC bases its determination on the following claims:

1) Chloroform mass concentration in extracted soil gas reached an asymptotic level during continuous and pulsed modes so that continued operation of the extraction system is no longer justified;

2) The small amount of chloroform remaining in the subsurface is primarily bound in the A/B Aquitard below the A-Aquifer. It is not necessary to remove this residual mass of chloroform in this aquitard, because it does not significantly affect the chloroform concentrations in either the A-Aquifer or B-Aquifer;

3) There is no public health-based reason to achieve the drinking water MCL at this site because of a recorded covenant prohibiting use of shallow water as drinking water.

See DTSC Negative Declaration Addendum, Hitachi Global Storage Technologies, Inc., Chloroform Release Area ("Negative Declaration Addendum"), at p. 6. None of these claims provides any basis for DTSC's findings.

First, the fact that chloroform mass extracted by the remediation system had reached "asymptotic levels" actually proves the effectiveness of the ongoing remediation. As Hitachi itself reported and DTSC agreed, the remediation system consistently and persistently removed significant chloroform mass from the subsurface during all periods of its operation. For several months prior to shutdown, the remediation system removed .05 pound of chloroform per week, with mass removal rates declining only slightly over this time. Attachment 7, Ex. K. As noted below, Hitachi estimates that only .07-.24 pound of chloroform remains in the aquifer. A weekly mass removal rate of .05 pound therefore represents an extremely effective remediation system, that would have removed all remaining contamination in another few weeks of system operation. Thus, the very data cited by DTSC precludes any finding that "continued operation of the extraction system is no longer justified."

DTSC's second argument is similarly self-defeating. According to DTSC, it is not necessary to remediate the remaining chloroform, because the contamination is in the aquitard, where it should not affect groundwater. If there is no source of chloroform that will impact the aquifer, then MCLs should easily be achieved. Of course, the data – and DTSC's own prior statements – show otherwise. Even assuming DTSC is correct that all remaining chloroform is in the aquitard, the data show that this source will cause groundwater to exceed MCLs. In fact, this was precisely DTSC's conclusion, as communicated in a July 2008 email: "Modeling based on the concentrations of chloroform in the A/B aquitard indicates that the concentration of

chloroform in groundwater in the A aquifer will exceed the 80 ug/L MCL." July 1, 2008 email from P. Ruffin, Attachment 10. Accordingly, by DTSC's own analysis, it ***is*** necessary to remove the remaining chloroform in order to achieve the MCLs.

Finally, DTSC's third argument is entirely irrelevant. The fact that use of groundwater for drinking water purposes is prohibited has no bearing on the technical feasibility of achieving the MCLs. As a result, the ***only*** technical basis for DTSC's finding that cleanup to MCL's is not practicable is data showing 1) that Hitachi's remediation system was consistently effective at removing chloroform mass; and 2) that remaining chloroform in the aquitard will cause groundwater to exceed MCLs. In short, DTSC provides no evidence – much less substantial evidence – to support its position.

b. According to DTSC's Findings, Continued Operation Of Hitachi's Remediation System Would Already Have Achieved MCLs

While DTSC is unable to muster any technical support for its finding, the record contains significant evidence demonstrating that DTSC is wrong. In fact, DTSC's prior findings in this matter require a determination that cleanup to MCLs is not only feasible, ***but would already have been achieved*** had DTSC not authorized Hitachi to discontinue remediation in August 2008.

First, Hitachi purports to calculate that at the time its remediation system was shut down in August 2008, only .07-.24 pound of chloroform mass remained in the groundwater. Environ, Final Remedy Completion Report, Appendix D, p. D-5. DTSC has accepted these calculations. At the same time, it is undisputed that at all times prior to system shutdown in August 2008, the remediation system consistently was removing .05 pound of chloroform per week, including during the final week of operation. Attachment 7, Ex. K. Thus, the actual remediation data compels the conclusion that all remaining chloroform mass (as calculated by Hitachi and approved by DTSC) would have been removed from the subsurface in at most one more month of remediation.

Second, Hitachi has presented a natural flushing model purporting to show that the groundwater will be restored to MCLs with the flushing of .87 pore volumes of water. Environ, Final Remedy Completion Report, Nov. 17, 2008, Appendix F, p. F-4. It is undisputed that the Hitachi remediation system was flushing between 5 and 10 pore volumes per year. Once again, Hitachi's own analysis – as approved by DTSC – dictates a conclusion that MCLs would have been achieved through operation of the remediation system for an additional 1-2 months.

Thus, consistent with its other findings, DTSC ***must*** conclude that cleanup to MCLs would be not only feasible, but would already have occurred had Hitachi continued to operate its remediation system after August 2008. By DTSC's own analysis, DTSC's authorization of the system shutdown therefore is the only factor that has prevented cleanup to MCLs. That DTSC chose to violate its own Negative Declaration by not requiring the very minor amount of additional remediation necessary to achieve MCLs does not establish that achieving MCLs is infeasible; instead, it establishes that DTSC has acted arbitrarily and capriciously, without ***any*** supporting evidence, and in violation of law.

c. DTSC Cannot Rely On Natural Attenuation As A Means Of Achieving MCLs

Nor can DTSC attempt to rely on natural attenuation as a means to achieve MCLs. DTSC has failed to undertake the required evaluation, to make the required findings, or to impose the required conditions for such a remedy. These requirements are specified in EPA's Handbook of Groundwater Protection and Cleanup Policies for RCRA Corrective Action, U.S. EPA (2004), Chapter 11 (*see also* OSWER Directive 9200.4-17P *Use of Monitored Natural Attenuation at Superfund, RCRA Corrective Action, and Underground Storage Tank Sites* U.S. EPA (1999). Among other things, reliance on natural attenuation as a remedy requires 1) the existence of source controls; 2) demonstration that the dominant natural attenuation processes cause degradation or destruction of contaminants as opposed to those processes that merely dilute contamination; and 3) a monitoring plan for confirmation that natural attenuation is occurring. *Id.*

None of these requirements are met in the current matter: (1) There are no source controls; (2) Hitachi's only evaluation of natural attenuation is a natural flushing model that relies exclusively on dilution of chloroform, with no showing that any chloroform will be degraded or destroyed; and (3) neither Hitachi nor DTSC is proposing to implement any monitoring to evaluate the efficacy of natural attenuation. Accordingly, there is no basis in the record to support an alternative remedy of natural attenuation.

3. Hitachi Has Not Demonstrated Compliance With Groundwater RBTCs

a. The Record Contains Insufficient Data To Determine Steady-State Groundwater Concentrations

As a general matter, the Water Board requires a minimum of two years of post-remediation groundwater monitoring in order to establish that cleanup goals have been achieved. 23 CCR 2550.7(e)(12)(B). By contrast, the Negative Declaration only provides for three months of post-remediation monitoring, and DTSC has not even enforced this modest requirement. According to DTSC, the first "post remediation" monitoring occurred contemporaneous with the remediation system shutdown. However, such monitoring represents conditions at the end of the active remediation, and are not reflective of steady-state, post-remediation conditions.

For this reason, EPA's guidance specifically requires that post-remediation monitoring take place after passage of sufficient time to allow groundwater to reach steady-state conditions: "Finding that groundwater has returned to a steady-state after terminating remediation efforts is an essential step in the establishment of a meaningful test of whether or not the cleanup standards have been attained." Methods for Evaluating the Attainment of Cleanup Standards, U.S. EPA

(1992), p. 7-14.[2] EPA's guidance contains detailed instructions on technical evaluations necessary to determine whether groundwater has reached steady-state. *Id.* at Chapter 7. Although purporting to make findings concerning the steady-state groundwater concentrations, DTSC has made no attempt to employ EPA's guidance or any other methodology to evaluate whether groundwater conditions have reached steady-state. *See* DTSC Final Statement of Basis, Hitachi Global Storage Technologies, Inc., January 14, 2009 ("DTSC Statement of Basis"), at p. 12. As a result, DTSC cannot – consistent with applicable guidance – make any determination of compliance with groundwater cleanup goals.

DTSC further claims that the second post-remediation monitoring event occurred in October, although not all monitoring wells were sampled. By DTSC's count, the third and final monitoring event occurred in December, at a time when the water table had dramatically risen, thereby diluting concentrations in most of the monitoring wells, because their screens extend well above the water table. Based on these limited data, DTSC concludes that groundwater concentrations are not "expected" to rise above the RBTC. DTSC Statement of Basis, at p. 12. DTSC provides no data or analyses to support this expectation. While DTSC claims it makes determinations based on actual data, and while it would be relatively easy to perform the additional sampling to determine whether long-term groundwater concentrations will exceed RBTCs, DTSC has refused Signature's requests for such sampling, apparently preferring instead to base its finding on expectations.

b. Existing Data Shows That Groundwater Exceeds RBTCs

In fact, the actual data indicates that groundwater currently exceeds RBTCs and likely will in the future. Throughout its history, Hitachi's remediation system consistently extracted groundwater with chloroform concentrations exceeding the RBTC. At the time of the system shutdown in August 2008, chloroform concentrations in extracted groundwater averaged between 400 and 600 ug/L. Attachment 7 at Figure 5 and Exhibits E, G and H. DTSC chooses to ignore this actual data, arguing that there is no way to determine whether the source of chloroform in the remediation system was the groundwater. DTSC offers no technical rationale for this conclusion, which is directly contrary to the data presented by Signature and by Hitachi. Signature already has presented a detailed and exhaustive analysis of this technical data, to which DTSC has offered no response, beyond citing Hitachi's unsupported conclusions. Accordingly, the only technical data in the record shows that extracted groundwater significantly exceeded the RBTCs as of August 2008.

Choosing to ignore actual data that undermines its conclusions, DTSC relies exclusively on recent shallow monitoring well data. As previously demonstrated, Hitachi's use of these wells for 2-Phase remediation created a "halo effect" - an area around the wells where chloroform was purged from residual water retained in the dewatered zone. After shut-down of

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[2] EPA has explicitly adopted this guidance for RCRA Corrective Actions. Handbook of Groundwater Protection and Cleanup Policies for RCRA Corrective Action, U.S. EPA (2004), p. 15.2.

the remediation system, chloroform in groundwater around the wells was diluted by the cleansed residual water in the dewatered zone, a process that causes the monitoring well sample (and the groundwater surrounding the well) to have a lower concentration than the aquifer generally. Attachment 5. While DTSC claims to reject the presence of a halo effect, it offers no technical rationale for this position, and fails to provide any substantive response to Signature's technical presentation. Once again, DTSC simply has chosen to ignore technical data that presents an obstacle to its proposed action.

More recently, the shallow monitoring well samples have been diluted by substantial seasonal recharge. Between the October and December 2008 sampling events, the water table rose several feet. Because the shallow monitoring wells are screened well above the water table, this clean recharge has entered the wells and diluted chloroform concentrations in groundwater. Hitachi has acknowledged this effect, and therefore conceded that the December 2008 shallow monitoring well data is not representative of steady-state aquifer conditions. Environ, Groundwater and Soil Gas Sampling Results, Jan. 5, 2009, pp. 8-9.

Moreover, it is undisputed that groundwater concentrations will increase as the water table falls in the late Spring. This phenomenon has already been documented at the site. In Winter 2007/2008, chloroform concentrations in groundwater dropped significantly, only to rebound in late Spring 2008, despite the ongoing remediation. Environ, Final Remedy Completion Report, Nov. 17, 2008, Table 1. Neither Hitachi nor DTSC has made any attempt to predict the extent of chloroform rebound in late Spring 2009.

Finally, and most significantly, the recent sampling data shows that chloroform concentrations already exceed the groundwater RBTC. The chloroform concentration in well EW-17 rebounded to 560 ug/L, well above the RBTC of 380 ug/L and squarely within the range of concentrations detected in groundwater extracted by the remediation system. Environ, Groundwater and Soil Gas Sampling Results, Jan. 5, 2009. Because EW-17 is screened below the water table, it was not subject to the dilution from seasonal recharge that affected nearly every other monitoring well. Moreover, because the well was only briefly used for the remediation, the halo effect was limited.

c. DTSC Has Refused To Consider Actual Data Showing Current RBTC Exceedences

DTSC has refused even to consider the recent data from EW-17 on the grounds that the sample from that well could not have come from the aquifer. While DTSC could easily test its hypothesis through further sampling, it has no intention of doing so. Instead, DTSC points to the fact that the well filled slowly following purging as evidence that the water could not have come from the aquifer, and also claims that the well screen does not extend into the aquifer. DTSC goes so far as to suggest that any claim by Signature that water in EW-17 comes from the aquifer would be a "misrepresentation." In fact, the actual site data conclusively establish that DTSC is seriously mistaken.

The facts on this point are straightforward:

- EW-17 was installed in May 2008. In its July 2008 monitoring report, Hitachi describes the installation of EW-17 and states that its purpose was to "capture chloroform fixed within deeper portions of the A-aquifer and from within the A/B aquitard." *See* Environ, 2-Phase Extraction System Monitoring Report – January 2008 through June 2008, July 1, 2008, Attachment 11, at p. 3.

- The boring log for EW-17 clearly shows the well screen extending about 1.5 feet into the aquifer, with a sand filter extending another two feet upwards to the seal. Attachment 12.

- In the November 2008 Completion Report, Hitachi describes EW-17 as "partially" screened in the aquitard, and in a footnote indicates that three feet of the five foot well screen extended into the aquitard - thus leaving two feet extending into the aquifer. Environ, Final Remedy Completion Report, Nov. 17, 2008, Table 1, note 8.

- A month later, after sampling showed high levels of chloroform in EW-17, Hitachi abruptly changed its description of the well, claiming for the first time that EW-17 "is screened approximately five feet into the A/B Aquitard, with the screen extending only a few inches into the overlying A-Aquifer." Based on this representation, Hitachi argues that EW-17 does not extract from the aquifer and the test results should be ignored. Environ, Groundwater and Soil Gas Sampling Results – December 2008, Jan. 5, 2009, p. 10. Ironically, in the very same report, Hitachi acknowledges that EW-17 "was constructed with screen extending three feet deep into aquitard." Id. at Table 2, note 4. Thus, even Hitachi has acknowledged that its argument for ignoring the EW-17 data is based on false assumptions.

- While theorizing that EW-17 does not extract water from the aquifer, Hitachi admits that well EW-18 is capturing aquifer groundwater. *Id.* at p. 3. However, wells EW-17 and 18 have identical construction, with five foot screens extending 1-2 feet into the aquifer. Attachment 12. Hitachi and DTSC offer no theory, much less data, to explain how these identical wells could function in such a different manner.

These data establish beyond credible dispute that the well screen in EW-17 is completed in both the A aquifer and the aquitard. Given that the aquifer is more conductive than the aquitard, most if not all of the water sampled from EW-17 must be from the aquifer. The fact that EW-17 filled slowly after purging is consistent with the relatively low permeability materials in the aquifer at that location, as confirmed by the boring log.

DTSC's theory that chloroform in the aquitard diffused into the well water is, at best, implausible and in any event is not supported by any data or technical rationale. First, Hitachi has already reported that diffusion was not a viable means of chloroform transport in the aquitard. Environ, Modeling Report, August 11, 2008, at p. 26. Moreover, even if diffusion were viable, this chloroform would significantly impact the A aquifer. During installation of EW-17, a soil sample taken at the very top of the aquitard had extremely high concentrations of chloroform. Environ, Final Remedy Completion Report, Nov. 17, 2008, Table 6. If this chloroform is diffusing anywhere, it would also diffuse into the aquifer. Thus, the very rationale

offered by DTSC to ignore the EW-17 sample results would tend to prove that chloroform in the aquitard has a significant impact on the aquifer.

Even if the chloroform detected in well EW-17 had migrated by diffusion, Hitachi offers no explanation for why the concentrations increased to such a great degree since shut-down of the remediation system. If Hitachi's theory were correct, concentrations in well EW-17 should be declining, not increasing.

As a result, there is demonstrated rebound above RBTCs in the groundwater, and DTSC cannot find that Hitachi has completed the remediation. DTSC cannot simply ignore this key data. To the extent DTSC questions whether the EW-17 data is representative of the aquifer, it would be a simple matter for DTSC to require additional data to prove or disprove its hypothesis. DTSC's election to embrace Hitachi's implausible theories over actual data represents a serious abuse of discretion.

Moreover, should DTSC persist in its belated rejection of data from well EW-17, Hitachi must revise its risk assessment. The CMS and Negative Declaration require Hitachi to perform a post-remediation risk assessment. In its Final Remedy Completion Report, Hitachi included well EW-17 in its risk assessment, thereby acknowledging that sample results from EW-17 represented aquifer conditions. Environ, Final Remedy Completion Report, Nov. 17, 2008, Table 11. By now excluding EW-17, Hitachi has invalidated its own risk assessment.

4. Hitachi Has Not Demonstrated Compliance With Soil Gas RBTCs

DTSC's own guidance makes clear that in order to demonstrate compliance with soil gas cleanup levels, Hitachi must show that "steady-state" soil gas levels comply with the RBTCs:

> "Confirmation soil gas sampling after the completion of soil vapor extraction should take place after steady state conditions are reached in the subsurface, which usually occurs within 12 to 16 months after system shutdown." (*Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air*, Interim Final, DTSC 2005, p. 42).

DTSC's guidance is consistent with the Johnson-Ettinger model used by Hitachi to calculate RBTCs. The model includes a methodology to calculate the time to reach equilibrium in soil gas as a function of the distance from the source. Using Environ's assumed soil properties to calculate the site-specific RBTCs for soil gas, the time to reach equilibrium 1 meter from the source ranges from 2.5 to 46 years. These calculations show that it is not reasonable to assume that soil gas concentrations measured 4 months after termination of the 2-phase extraction system represent steady state conditions.

Neither Hitachi nor DTSC offers any technical basis for concluding that soil gas levels have reached steady-state. Instead, DTSC argues that soil gas had reached steady-state levels in relatively short periods of time ***at other sites*** with entirely different geologic features. This fact is irrelevant to the question of when soil gas will reach steady-state levels at the Hitachi site.

In fact, by DTSC's own admission, the data from other sites that it seeks to rely upon has no relevance to this matter. In the CMS, Hitachi noted that

> Based on experience, concentrations in groundwater and soil gas tend to increase or "rebound" to some extent several months after implementation of 2-PHASE™ Extraction. ***The amount of rebound is site-specific and cannot be estimated with any certainty***. (page 45 of the CMS Report) (emphasis added).

DTSC approved the CMS without changes to this language. Thus, according to DTSC, rebound is a site-specific issue that cannot be determined by relying on data from other sites – particularly sites with dramatically different geology, such as those referenced by DTSC.

Moreover, according to Hitachi, the actual data from the San Jose site demonstrates that it potentially will take years to reach steady-state conditions. In its report on the December 2008 sampling, Hitachi dismissed the significance of deeper soil gas detections because of "the very long time-frames (potentially years) for chloroform to migrate by diffusion from the water table at 25-30 feet to shallow soils at five to 10 feet bgs" Environ, Groundwater and Soil Gas Sampling Report, Jan. 5, 2009, p. 15. Thus, according to Hitachi it could take years for soil gas to reach steady-state levels.

In fact, the actual site data proves that soil gas levels have not reached steady-state levels. As previously demonstrated by Signature, between August and October, soil gas levels more than doubled relative to groundwater, and between October and December 2008, soil gas levels once again doubled relative to groundwater. Attachment 8. This data clearly shows that soil gas and groundwater are not yet in equilibrium, and soil gas levels will continue to rise relative to groundwater.

Apparently recognizing this disconnect between groundwater and soil gas, Hitachi in a very recent letter hypothesizes that the soil gas measured in December did not originate in the groundwater, but instead is from a soil source. Environ, Response to Comments, Jan. 16, 2009. Hitachi's theory directly contradicts its conceptual site model on which it has based both the remediation and the cleanup levels. Moreover, Hitachi offers no data to identify the nature and extent of this soil source, but nonetheless summarily concludes it is insignificant. Nor has Hitachi even attempted to determine how much these soil gas levels will rise once they are in equilibrium with groundwater.

Thus, DTSC's proposed decision once again relies on unsupported theories instead of actual site data. And yet again, DTSC refuses to require the simple testing that would prove or disprove its theory. Such adherence to hypothesis contradicted by ***all*** site data is contrary to DTSC's obligation to protect the health of future residents.

5. DTSC's Determination Is Based On Undisputedly False Assumptions

Throughout the remediation process, Hitachi repeatedly has offered technical arguments based on demonstrably false assumptions. Although Signature has identified these fundamental flaws on several occasions, Hitachi has never offered any substantive justification for its actions,

and DTSC has chosen simply to ignore these glaring inaccuracies. DTSC's willingness to simply accept Hitachi's assumptions rather than requiring easily accessible site data is especially troubling, because the undisputed technical flaws in Hitachi's evaluations directly undermine DTSC's findings.

a. The Groundwater RBTCs Are Based On Assumptions Directly Contrary To the Site Data.

As Signature previously has shown, Hitachi raised the groundwater RBTC from 52 ug/L (in the Project EIR) to 380 ug/L (in the proposed Closure Report) based on assumptions that are contrary to the site data. Attachment 7, p. 5. Not only does Hitachi refuse to acknowledge these flaws, but it has also seriously misrepresented its actions in revising the model. According to Hitachi – and repeated by DTSC in its statement of basis – the increase in RBTCs was attributable to the substitution of actual site data for default parameters. Attachment 6.

While it is true that Hitachi did slightly change certain input parameters based on site data, these changes had almost no impact on the increase in RBTC. Instead, virtually all of the increase was attributable to a change in the soil classification type. However, while the soil classification in the initial model was based on site data, the revised classification is contrary to the actual data. Here are the facts:

- In its initial model, Hitachi used default values for bulk density (1.62 g/cm3), total porosity (.387) and water content (.213). In its revised model, Hitachi used slightly different values for these parameters based on site-specific data for bulk density (1.59 g/cm3), total porosity (.41) and water content (.33). These changes account for less than 5% of the increase in the RBTC from 52 ug/L to 380 ug/L. Attachment 6.

- In its initial model, Hitachi classified deeper soils as sandy loam based on site specific data. In its revised model, Hitachi re-classified soils at the water table as silty clay, allegedly based on other site specific data. Hitachi's change is directly contrary to the data in its boring logs, which show layers of sandy silt directly above the water table. See Attachment 12. This improper change in soil classification accounts for over 95% of the increase in the RBTC. It also causes an error in the model that cannot be cured without changing the soil classification. Attachment 6.

- In the Completion Report, Hitachi acknowledges that soil types "vary across the site," and that "observed natural soils below the fill consist of silty clays, clayey silts, and sandy silts to the top of the A-Aquifer." Environ, Final Remedy Completion Report, Nov. 17, 2008, p. 10. Accordingly, by changing the soil classification in the RBTC model from sandy loam to silty clay, Hitachi selected the least conservative value based on actual site conditions. This is a direct violation of EPA guidance on the use of the Johnson-Ettinger model: "we recommend that care be taken to ensure reasonably conservative and self-consistent model parameters are used as input to the model." (OSWER Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils, Appendix G, Considerations for the use of the Johnson and Ettinger Vapor Intrusion Model (2002), at p. G-3.

Thus, the change in the groundwater RBTC from 52 ug/L to 380 ug/L was almost entirely based on modeling assumption that were inconsistent with actual site data. Hitachi's and DTSC's statements to the contrary are simply untrue. Moreover, as previously demonstrated, the revised RBTC model does a very poor job at predicting soil gas concentrations and uniformly and significantly underestimates the actual observed soil gas levels at the site. Attachment 6.

In memoranda dated February 10 and February 11, 2009, DTSC purports to respond to Signature's comments identifying these flaws in the revised RBTC model. In this "response," DTSC does not dispute that over 95% of the increase in RBTC was due to the change in soil classification, and DTSC provides no data supporting the assertion that Hitachi used a conservative soil classification type. Instead, DTSC claims that none of these flaws matters, because 1) future groundwater concentrations are irrelevant where there is actual soil gas data; and 2) calibration of the model is unnecessary, because it is a conservative screening tool. DTSC's attempt to ignore the serious flaws in Hitachi's model lacks any scientific basis and is directly contrary to EPA guidance on use of the Johnson-Ettinger model.

First, DTSC's claim that the groundwater model is irrelevant where actual soil gas data exists assumes that Hitachi has in fact developed steady-state soil gas levels. As demonstrated above, Signature, Hitachi and DTSC all agree that soil gas levels cannot have returned to steady-state in the short period of time since shut-down of the remediation system. As a result, the only evidence presented by Hitachi of steady-state soil gas levels are predictions from its groundwater RBTC model.

Second, DTSC's position that it is not necessary to calibrate the model is directly contrary to EPA guidance on the use of this particular model, which was developed by EPA. In this guidance, EPA unequivocally calls for calibration of the model if the model is to be used as a site-specific tool – as Hitachi does in the present matter. *Id.* at p. G-8. DTSC's statement to the contrary therefore is contrary to accepted scientific procedures and to common sense.

Moreover, EPA also states that the model should not be used for any purpose at sites where the water table has significant seasonal fluctuations and the capillary fringe likely is contaminated. *Id.* at p. G-2. This is because the model does not account for addition flux from a contaminated capillary fringe. The water table fluctuates to a significant extent at the Hitachi site, and Hitachi has already concluded that the capillary fringe is contaminated. Final Remedy Completion Report, Nov. 17, 2008, p. 21. As a result, use of the Johnson-Ettinger model is inappropriate for any purpose at this site, and certainly cannot be justified as the basis for finding compliance with cleanup goals.

The revised RBTC model therefore is both deeply flawed and, according to EPA, not applicable to the Hitachi site. As a result, the established groundwater RBTCs for the site are not adequate to protect human health.

b. Hitachi's Mass Calculations Are Demonstrably False

Prior to commencing the remediation, Hitachi calculated the mass of chloroform in soil and groundwater. As reported in the CMS, Hitachi estimated .83 pound of chloroform in groundwater and 2.64 pounds of chloroform in soil prior, for a total of 3.47 pounds of pre-

remediation mass. CMS, Table E.2 By June 2008, however, after less than one year of operation, the remediation system had removed 6.7 pounds of chloroform from the subsurface – twice as much as Hitachi claimed was present. Attachment 5, at p. 2.

As previously demonstrated by Signature, the only technically plausible explanation for this discrepancy, is that there is a continuing source of chloroform that is gradually feeding dissolved chloroform into the groundwater. Attachment 7 and Ex. E thereto. However, the presence of this continuing source presented a major obstacle to Hitachi's efforts to discontinue the remediation. Hitachi attempted to solve this problem by simply re-calculating the amount of pre-remediation chloroform mass to equal slightly less than the amount removed through June 2008.

In its August 2008 modeling report, Hitachi raised the calculated pre-remediation mass to 6.74 pounds. Environ, Modeling Report, August 11, 2008, Table 7. As repeatedly demonstrated by Signature – and never disputed by Hitachi or DTSC – Hitachi accomplished this sleight-of-hand by simply assuming that the average pre-remediation concentration of chloroform in groundwater was four times higher than the actual data. Attachment 5, at pp. 2-3. Without this undisputedly false assumption, Hitachi is unable to offer any explanation for how the remediation system could remove seven pounds of chloroform without the existence of a continuing source.

Even with its false assumption, Hitachi could not explain the extraction rates. After re-calculating the initial chloroform mass, Hitachi claimed there was .3 pound of chloroform remaining in groundwater as of June 2008. *Id.* However, the system then went on to remove more than an additional .5 pound of chloroform from groundwater between June and August 2008. *Id.* Even more troubling, the system was still removing .05 pound of chloroform mass per week at the time it was shut down, once again demonstrating that Hitachi's mass calculations were patently false. *Id.* Hitachi has never even attempted to explain these discrepancies, because there is no explanation consistent with Hitachi's implausible conceptual site model.

Despite this undisputed and clear flaw in Hitachi's calculations and conceptual site model, DTSC has never requested an explanation or further sampling to resolve these issues. Instead, DTSC has simply ignored the glaring inconsistencies, and in so doing abandoned any pretence of objective scientific review.

c. DTSC Has Failed To Require Sampling Necessary To Establish Hitachi's Technical Theories

As discussed above, as recently as November 2008, Hitachi conceded that well EW-17 was screened in, and captured groundwater from, the A-aquifer. Only after the December sampling of well EW-17 revealed chloroform concentrations far in excess of RBTCs did Hitachi claim that well EW-17 was not screened in, and did not capture water from, the A aquifer. Hitachi's revisionist description of well EW-17 is directly contrary to the boring logs prepared by Hitachi's own consultant.

Nonetheless, DTSC has uncritically embraced Hitachi's attempted rationalization for ignoring the data from well EW-17. DTSC has done so without even requesting the simple

testing that would confirm or disprove Hitachi's theory. Ironically, DTSC insists that it will only consider actual data in its determination of whether cleanup goals have met, while at the same time ignoring the actual data showing that cleanup goals have not been met.

Nor is this the only example of DTSC's aversion to actual data. Indeed, virtually every finding on which DTSC bases its approval is based on theories that have never been proven with actual data, and for which DTSC refuses to require the simple testing that could confirm these theories. Examples of such provable – but as yet unproven – theories include:

- Hitachi's denial of the halo effect;
- Hitachi's denial that groundwater concentrations will rebound when the water table falls;
- Hitachi's implausible mass calculations;
- Hitachi's denial of data showing extracted groundwater exceeded RBTCs;
- Hitachi's claim that is it impracticable to remediate to MCLs;
- Hitachi's soil gas predictions based on its poorly calibrated model;
- Hitachi's theory that recent soil gas rebound is attributable to a soil source;
- Hitachi's claim that there is no continuing source;

Signature has twice proposed to conduct this sampling on its own, and twice Hitachi has refused permission, despite Signature's express contractual right to conduct such sampling. *See* Attachment 7 at Exs. A-1, A-2 and B; Attachments 13-14. If Hitachi truly believed what it is claiming, it would welcome the sampling that Signature has proposed, as it would confirm Hitachi's theories. That Hitachi has refused Signature access for this sampling indicates that Hitachi has no confidence in its own technical theories.

While it is understandable that Hitachi does not wish to test its tenuous theories through sampling, there is no credible regulatory or scientific reason that DTSC would willingly forgo this sampling. DTSC's steadfast opposition to further sampling throughout this project represents the abdication by DTSC of its duties to protect human health and the environment and the rejection by DTSC of sound scientific practice.

D. DTSC'S APPROVAL OF THE CORRECTIVE ACTION COMPLETION DETERMINATION BASED ON THE ADDENDUM WOULD VIOLATE CEQA

1. The Determination Requires A Subsequent EIR

DTSC's January 2009 Addendum (the "Addendum") to its November 2007 Initial Study and Negative Declaration (the "Negative Declaration") does not provide adequate CEQA review for the Corrective Action Complete Determination (the "Determination"). The Determination requires a subsequent EIR.

a. As a Responsible Agency, DTSC must assess the Determination Against the City's EIR

In June of 2005, the City of San Jose certified the Final Environmental Impact Report ("EIR") for the Hitachi Campus and Mixed-Use Transit Village Project (the "Project"). The Draft EIR identifies DTSC among the agencies that are expected to rely on the Final EIR in issuing discretionary approvals for the environmental remediation required for the Project. DTSC's discretionary approval authority over the RCRA permit modification, the chloroform corrective action and the Determination makes DTSC a "responsible agency" pursuant to CEQA. *See Cal. Pub. Res. Code §21069; CEQA Guidelines §§15381, 15366.* As a responsible agency, CEQA requires DTSC to determine whether the EIR provides adequate CEQA review for *each* of DTSC's actions, and if not, to prepare a subsequent EIR to the extent permitted by CEQA. *See CEQA Guidelines §15096(e).*

b. DTSC improperly treated the chloroform corrective action as a separate project in the Negative Declaration

Instead of relying upon the EIR as required, DTSC impermissibly defined Hitachi's chloroform corrective action as a separate "project" for purposes of CEQA, and prepared the Negative Declaration rather than proceeding under the EIR. This approach violated the well-established CEQA principle that the "project" that must be evaluated is the "whole of the action." *See CEQA Guidelines §15378(a).* Under CEQA, the term "project" refers to "the activity which is being approved and which may be subject to several discretionary approvals ... the term 'project' does not mean each separate approval." *Id. §15378(c); see Association for a Cleaner Env't v. Yosemite Community College Dist.* (2004) 116 Cal.App.4th 629, 637 (finding that the closure and removal of a firing range included cleanup activities related to that closure). In preparing the Negative Declaration based on the premise that the corrective action was the "project" (rather than a component of the Project), DTSC illegally circumvented its role as a responsible agency under the Project EIR. DTSC's past transgression, however, does not relieve DTSC of its responsible agency role in connection with the remaining DTSC discretionary approvals for the Project, including the Determination.

c. The discovery of chloroform in the groundwater in excess of RBTCs established in the Project EIR is new information requiring preparation of a subsequent EIR

Notwithstanding the improper Negative Declaration, the Determination remains a component of the Project, and therefore remains subject to the EIR. As a responsible agency with respect to the Project, CEQA requires DTSC to determine whether the EIR provides adequate CEQA review for the Determination, and if not, to prepare a subsequent EIR if permitted by CEQA. New information of substantial importance requiring preparation of a subsequent EIR exists when a previous EIR is silent on the new information, and that information potentially would have one or more significant effects not discussed in the previous EIR. *See Security Envt'l Sys. v. South Coast Air Quality Mgmt. Dist.* (1991) 229 Cal.App.3d 110.

DTSC cannot reasonably conclude that the EIR provides adequate CEQA review for the Determination, given the EIR did not even identify chloroform contamination in the groundwater in the vicinity of Building 028J in excess of the RBTC established by the EIR, and thus did not disclose the potentially significant health risk to sensitive receptors via inhalation.

The EIR establishes an RBTC of 52 ug/L for chloroform in groundwater. It was not until after certification of the EIR and demolition of Building 028J that chloroform concentrations in excess of the EIR-established RBTCs were discovered in this area, necessitating the chloroform corrective action and the Determination. The discovery of chloroform in the groundwater in excess of RBTCs in this area is new information of substantial importance that was not and could not have been known at the time of the EIR, and raises the possibility of significant Project impacts (*e.g.*, significant health risks to sensitive receptors via inhalation) not identified in the EIR. The possibility of significant impacts is exacerbated by the Determination, which would authorize cessation of remediation activities notwithstanding the failure to meet the RBTC of 52 ug/L established in the EIR or even the cleanup goal of 80 ug/L established in the Corrective Measures Study, the Regional Board Site Cleanup Requirements for the site and the Negative Declaration. As a responsible agency with respect to the Determination, DTSC is required to prepare a subsequent EIR, rather than the Addendum to its impermissible Negative Declaration, to assess the new information regarding chloroform contamination in the groundwater.

2. DTSC's Addendum Is Inadequate

Even if DTSC were permitted to utilize the Negative Declaration, rather than the Project EIR, as the basis for CEQA review of the Determination, the Addendum is legally inadequate. CEQA permits preparation of an addendum to a negative declaration only when none of the conditions requiring preparation of a subsequent negative declaration or subsequent EIR have occurred. *CEQA Guidelines §15164(a)*. The explanation of the decision not to prepare a subsequent EIR must be included in the record and supported by substantial evidence. *Id. §15164(e)* As described below, the conditions requiring preparation of a subsequent negative declaration or EIR have occurred, and DTSC's findings to the contrary are not supported by substantial evidence.

a. The Addendum is not supported by substantial evidence

In the Addendum, DTSC takes the position that: (i) the 80 ug/L cleanup goal for groundwater has been met "to the extent practicable" and (ii) Hitachi's failure to meet the 80 ug/L goal will not change the finding of the Negative Declaration that the impacts of the corrective action are "less than significant". These conclusions are not supported by substantial evidence.

The Negative Declaration firmly establishes 80 ug/L as the cleanup goal, without regard to practicability. It states: "the Regional Water Quality Control Board – San Francisco Bay (RWQCB – SF) has specified a cleanup standard of 80 ug/L for trihalomethanes (chloroform is a trihalomethane) for groundwater at the Hitachi GST site. ***Consequently, this value is the cleanup goal for chloroform in groundwater***" (emphasis added). Practicability is not mentioned with respect to the cleanup goal. Instead, The Negative Declaration discusses practicability only with respect to the operation of the extraction system. Specifically, it states

that the "extraction system will be operated, to the extent practicable, until the cleanup goals are met." The Negative Declaration continues, "If the cleanup goals cannot be met by continued operation of the 2-Phase™ Extraction system, then an alternative remedial approach will be considered and potential environmental impacts will be evaluated in a separate CEQA document." In other words, the Negative Declaration unequivocally requires that the 80 ug/L cleanup goal be met, but provides for consideration of an alternative *remedy* to the extent that the goal cannot practicably be met through use of the extraction system.

The relevant inquiry pursuant to the Negative Declaration therefore is not whether meeting the cleanup goal is practicable, but whether continued operation of the extraction system is a practicable means of meeting the cleanup goal. Nowhere does the Addendum contain *any* evidence that continued operation of the extraction system is not practicable. In fact, continued operation of the extraction system is both technologically feasible and economically feasible, as demonstrated by the fact that the system continued to operate and to remove material amounts of chloroform until it was shut down.

Moreover, the only evidence provided in support of the contention that continued operation of the extraction system is not a practicable means of meeting the cleanup goal is the assertion that chloroform has reached asymptotic levels i.e. that the remediation system mass removal rate remained consistent over time. In fact, this assertion, if true, actually demonstrates the effectiveness of the system during the period of its operation. As demonstrated above, for several months prior to shutdown, the remediation system consistently was removing .05 pound of chloroform per week, while Hitachi estimated as little as .24 pound of chloroform mass remaining. Assuming the accuracy of the mass estimates offered by Hitachi and approved by DTSC, continued operation of the system for a few more months would have achieved the 80 ug/L goal. DTSC's conclusion to the contrary in the Addendum is not supported by *any* evidence, much less substantial evidence.

The Addendum goes on to cite to a variety of reasons why meeting the 80 ug/L cleanup goal allegedly is unnecessary. As noted above, however, if continued operation of the extraction system were not a practicable means of meeting the cleanup goal, then the Negative Declaration requires consideration of "an alternative remedial approach." By contrast, the Determination would allow cessation of operation of the extraction system without meeting the 80 ug/L cleanup goal *or* considering an alternative remedial approach, in violation of the express requirements of the Negative Declaration.

b. Approval of the determination requires a subsequent negative declaration or subsequent EIR, because it constitutes a change in the "project" that could have significant impacts not disclosed in the Negative Declaration

Even if DTSC were permitted to utilize the Negative Declaration as the basis for CEQA review of the Determination, DTSC should have prepared a subsequent negative declaration or subsequent EIR, rather than the Addendum. Approval of the Determination without achievement of the 80 ug/L goal constitutes a change in the "project" analyzed in the Negative Declaration. *See Environmental Council of Sacramento v. City of Sacramento* (2006) 142 Cal.App.4th 1018, 1035 (holding that, when a lead agency identifies assumptions on which the CEQA analysis is

based, those assumptions "become an integral part of the project description. If they fail to become reality ..., we are dealing with a different project."). Where changes occur in a project for which a negative declaration has been prepared, the lead agency must consider whether those changes involve new or substantially more severe significant environmental effects than identified in the negative declaration, in which case a subsequent negative declaration (if the impacts can be mitigated) or subsequent EIR (if the impacts may not be mitigated) is required. *CEQA Guidelines §15162; see City of San Jose v. Great Oaks Water Company* (1987) 192 Cal.App.3d 1005, 1017.

The Addendum fails to identify non-attainment of the 80 ug/L cleanup goal and a change in the cleanup goal from that standard as a change in the project. As noted above, DTSC's suggestion that the Negative Declaration only requires achievement of the cleanup goal "to the extent practicable" is incorrect.

The Addendum next asserts that meeting the 80 ug/L cleanup goal is unnecessary, noting that the Regional Board's 80 ug/L standard for the site is a drinking water standard and that achievement of that standard is unnecessary because deed restrictions prevent use of groundwater at the site for drinking water. As demonstrated above, notwithstanding the deed restriction, achievement of the MCLs is mandated by the Porter Cologne Act, the Basin Plan, California regulations, Regional Board policy and the Site Cleanup Report for the Site. These laws and regulations exist to protect public health and safety.

The Addendum further asserts that public health and safety is adequately protected because RBTCs identified in the Negative Declaration (380 ug/L, versus 52 ug/L identified in the EIR) have been meet. This conclusion is not supported by substantial evidence. In fact, the evidence in the record demonstrates that groundwater currently exceeds RBTCs. In one post-remediation sample in December of 2008, the concentration in well EW-17 reached 560 ug/L, well above RBTCs, even under the much less stringent Negative Declaration standard. Even if the 380 ug/L RBTC were met, however, the Addendum does not provide substantial evidence to support the assertion that health and safety would be protected notwithstanding the failure to meet the established health and safety standard of 80 ug/L. As demonstrated in Signature's previous submissions and above, the model used to derive the 380 ug/L RBTC is very poorly calibrated to actual site conditions, and consistently underestimates the soil gas levels that will result from particular groundwater chloroform concentrations.

Even if the 380 ug/L RBTC were met, the prior CEQA documents for the site led the public to believe that a more protective cleanup goal would be enforced (52 ug/L in the case of the EIR and 80 ug/L in the case of the Negative Declaration), without reference to the distinction between drinking water standards and vapor migration standards. Failure to prepare a subsequent Negative Declaration or EIR to address this significant relaxation of the cleanup goal would deprive the public, which relied on the EIR and the Negative Declaration, of meaningful participation regarding the issue of the achievement of the cleanup goal. *See Mira Monte Homeowners Assn. V. County of Ventura* (1985) 165 Cal.App. 3d 357, 365 (County failed to prepare subsequent EIR after identification of previously unidentified encroachment into wetlands. Court held that "the failure to prepare a subsequent or supplemental EIR deprived the public, who relied on the EIR's representations, of meaningful participation regarding the issue of wetland degradation."). Especially in connection with a large, long-term project such as this,

in order to provide the public a meaningful opportunity to participate regarding the appropriate cleanup goal, DTSC must prepare a subsequent negative declaration or subsequent EIR.

3. Conclusion

As a responsible agency with respect to the Project, DTSC is required to assess the Determination against the Project EIR. Because the discovery of chloroform in the groundwater in excess of RBTCs identified in the EIR results in a new and potentially significant Project impact not identified in the EIR, DTSC must prepare a subsequent EIR. Even if DTSC were permitted to rely upon the Negative Declaration, the Addendum is legally inadequate. The conclusions of the Addendum that the 80 ug/L goal only had to be met to the extent practicable, that attainment of the 80 ug/L goal is not necessary and that impacts will not occur because RBTCs have been met, are not supported by substantial evidence. In addition, the elimination of the 80 ug/L goal denies the public of a meaningful opportunity to participate. As such, even if DTSC were not a responsible agency pursuant to the EIR, DTSC would be required to prepare a subsequent negative declaration or subsequent EIR.