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BEFORE THE CALIFORNIA

STATE WATER RESOURCES CONTROL BOARD

IN THE MATTER OF RIALTO-AREA PERCHLORATE CONTAMINATION AT A 160-ACRE SITE IN THE RIALTO AREA	SWRCB/OCC FILE A-1824 CITY OF RIALTO AND RIALTO UTILITY AUTHORITY'S REBUTTAL BRIEF Date: Currently Scheduled for July 9-12, 17-18, 2007

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CITY OF RIALTO AND RIALTO UTILITY AUTHORITY'S REBUTTAL BRIEF

IN THE MATTER OF

PERCHLORATE AND TCE CONTAMINATION AT A 160-ACRE SITE IN THE RIALTO AREA (SWRCB/OCC FILE A-1824)

I. INTRODUCTION.

In compliance with the Third Revised Notice of Public Hearing in the above-entitled matter, the City of Rialto and Rialto Utility Authority (collectively, "Rialto") submit the following rebuttal argument and supporting documents, testimony and exhibits in response to Goodrich Corporation's ("Goodrich") Brief; Opening Hearing Brief of Emhart Industries, Inc. ("EII"), Kwikset Locks, Inc. ("KLI"), Kwikset Corporation ("KC"), and Black & Decker Inc. ("BDI") (collectively, "Emhart Parties" or "Emhart"); and Pyro Spectaculars, Inc.'s ("PSI" or "Pyro") Hearing Brief. This Rebuttal Brief rebuts the evidence and argument submitted by Goodrich, Emhart and PSI (collectively, the "Dischargers"), including the opinions and testimony offered by witnesses, expert or percipient, testifying as part of the Dischargers' case. This Rebuttal Brief is in support of the Cleanup and Abatement Order issued by the Santa Ana Regional Water Quality Control Board ("Regional Board"), Executive Officer, on February 8, 2005 ("2005 CAO") and the Draft Amended Cleanup and Abatement Order No. R8-2005-0053 ("2006 Draft CAO") issued to Goodrich, the Emhart Parties and Pyro for water replacement, investigation and remediation of perchlorate and trichloroethylene ("TCE") contamination in soil and groundwater in the Rialto Area.

Based upon the substantial evidence presented in this Rebuttal Brief, and the underlying submissions, Rialto respectfully requests that the Hearing Officer recommend to the full State Water Resources Control Board ("State Board") that the 2005 CAO be issued and that the 2006 Draft CAO be adopted in full as proposed. As stated before, the importance of a prompt remedial action by the

Dischargers of perchlorate and TCE contamination in soil and groundwater at the subject property in Rialto cannot be overstated.

A. Environmental Studies to Date Confirm the Liability of the Dischargers.

The Dischargers spend much of their opening briefs arguing that the environmental investigations to date of the 160-acre parcel[1] have found de minimis discharges of contamination to soil by their past activities and no discharges to groundwater. As will be explained in detail below, these arguments are wrong. Contrary to their arguments, the investigations to date, while not yet complete, confirm that the 160-acre Parcel, including the portions owned and operated by the Dischargers are confirmed sources of perchlorate and TCE contamination to groundwater. Moreover, the investigations to date confirm that there are multiple source locations for contamination to groundwater at the property. While the Dischargers, to varying degrees, lay liability for groundwater contamination beneath the property at the doorstep of the now defunct Pyrotronics and the McLaughlin Pit, the evidence firmly establishes that the McLaughlin Pit is only one of several sources on the property. Despite the attempts of Goodrich and the Emhart Parties to shroud their own activities behind those of Pyrotronics, the evidence is irrefutable that the areas previously operated by these companies are the location of discharges of perchlorate and TCE to soil and those discharges have migrated to groundwater. The evidence firmly establishes that the use and discharge of perchlorate and/or TCE by Goodrich, the Emhart Parties and Pyro occurred at the Goodrich/Black & Decker Site and that use and discharge of perchlorate and TCE has adversely impacted groundwater beneath and downgradient of the property.

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[1] Rialto also refers to the 160 Acre Parcel as the "Goodrich/Black & Decker site."

Despite the myriad of data points, expert opinions, and geotechnical theories thrown up like a smokescreen by the Dischargers, determining liability in this matter is really quite simple. First, the evidence is irrefutable that widespread perchlorate and TCE contamination exists in groundwater across the property. Second, there are no known sources of perchlorate and TCE upgradient from the property. Third, the upgradient well at the site, PW-1, is free of TCE and perchlorate. Fourth, the McLaughlin Pit, which the Dischargers allege is the only "known" source of perchlorate to groundwater, is located at the southern, downgradient portion of the property. All of the wells up and cross-gradient to the McLaughlin Pit, and thus which cannot be impacted by releases from the McLaughlin Pit, are contaminated with perchlorate and TCE. Fifth, all three Dischargers admit to the use and discharge of perchlorate at the property. Sixth, while the Dischargers claim they have thoroughly investigated the property to a depth of approximately 15-25 feet bgs, they have found little or no perchlorate and TCE contamination in soil. While the Dischargers claim this fact absolves them, in reality it merely shows that the investigation to date is too shallow to detect the contaminants released at the site. Seventh, the widespread TCE and perchlorate contamination in groundwater across the property must be caused by multiple sources of perchlorate emanating from the areas of the property formerly occupied by the Dischargers and others. Eighth and finally, absent irrefutable evidence to the contrary, all of the foregoing points establish that the Dischargers used and disposed of contaminants at the property and those contaminants have migrated to groundwater.

B. <u>It Is Undisputed that Substantial Evidence Exists to Support Issuance of a Cleanup and Abatement Order against All Three Dischargers.</u>

1. <u>Undisputed Evidence Demonstrates the Presence of Perchlorate in the Soil and Groundwater, to the Extent Tested, in and adjacent to the Goodrich Burn Pit, as well as in and</u>

around All the Buildings Operated by Goodrich from 1957 to 1965.

Notwithstanding the bulk of materials presented, it is undisputed that Goodrich continually disposed of a slurry of TCE or chlorinated solvents containing perchlorate containing propellant, sweepings of ammonium perchlorate powder and dust, scrap propellant from the casting and manufacturing process, scrap propellant from salvage operations on defectively cast rocket tubes soaked in water, TCE or solvent in the Goodrich burn pit, which were burned, or partially burned, one to several times per week from 1957 to 1965. Goodrich also operated throughout the buildings on the Goodrich/Black & Decker Site.

Deep sampling (below 25 feet) within the Goodrich burn pit has not occurred, but multiple significant hits of perchlorate in this exact area of Goodrich's admitted disposal operation are in evidence. These samples respectively went to only 12, 15, and 25 feet, and found up to 760 ppb perchlorate in soil. Refer to Stephens Updated Exhibit 4, Perchlorate in Soil **(please turn to color copies at end of this Brief).** Immediately adjacent and downgradient from the Goodrich burn pit at CMW02 these numbers reach 1,700 ppb perchlorate at a depth of 180 feet. Perchlorate is also present in groundwater at a concentration of 160 ppb perchlorate at CMW02, immediately adjacent and downgradient from the Goodrich burn pit, and TCE is detected at 1,500 ppb in the same location. Stephens Updated Exhibit 5, Perchlorate in Groundwater.

These results alone establish the minimum substantial evidence required for issuance of a CAO against Goodrich. In addition, there is ample evidence of multiple operations of Goodrich throughout the Goodrich/Black & Decker site. Refer to section V of this Rebuttal Brief, as well as the sections concerning Goodrich's experts set forth in sections VIII and IX below.

2. WCLC.

Stephens Updated Exhibits 4 and 5 also show multiple detections

throughout the buildings from the WCLC operations up to 1957, including a series of specific locations at which WCLC disposed perchlorate on the soil. As set forth in section IV below, Emhart's experts failed to address absolute operating procedures in place on the WCLC operation prohibiting the burning of perchlorate materials, resulting in undisputed evidence of disposal onto soil. At Building 42, which was expanded by Goodrich, detections range up to 12,000 ppb perchlorate at a depth of two feet in the vicinity of the building expansion undertaken by Goodrich. These figures, coupled with the wastage factors of 4% and 5% during the WCLC operations, demonstrate conclusively that thousands of pounds of perchlorate were disposed of onsite during the WCLC operations. Refer to IV below, as well as rebuttal to the Emhart experts in sections VIII and IX.

3. Pyro Spectaculars, Inc.

Again, it is undisputed that Pyro Spectaculars handled hundreds of thousands of aerial display fireworks containing perchlorate, burned over 5.5 tons of pyrotechnic waste including perchlorate, tested tens of thousands of aerial display fireworks over the ground, and disposed of approximately 1,000 aerial display shells in the McLaughlin Pit. Refer to section VI below and evidence cited therein. It is undisputed among the parties that the McLaughlin Pit is one source of perchlorate contamination. Pyro Spectaculars' liability, and the existence of substantial evidence to support a CAO against Pyro Spectaculars, is undisputed.

Pyro Spectaculars' main argument that it lacks sufficient financial resources, is unsupported by the purported declaration of Ms. Sampiero, neglecting to account for the salaries, bonuses, and profit-sharing of the seven Souza family members, in the slightest way, or the existence of at least $2.5 million in recoverable insurance, as well as indications of greater insurance recovery.

C. The Rialto Rebuttal.

As set forth in the Declaration of Scott A. Sommer, Rialto entered into an agreement with the Dischargers to disclose the Rialto experts two weeks earlier

than ordered by the Hearing Officer, and Rialto's disclosure of its three experts occurred on March 29, 2007. Accordingly, Goodrich and Emhart had early knowledge of the Stephens, Hunt, and McPherson expert subjects, but failed to reciprocate with disclosure of their experts. Accordingly, at the time of the Rialto submission on April 12, 2007, Rialto did not have disclosure of the Goodrich and Emhart experts or their subject matters. Rialto did not have the slightest clue, for example, that evidence would be submitted of Oxley's burning experiments.

Accordingly, after receiving these materials on April 17, 2007, Rialto has asked Dr. Stephens to respond to Emhart's experts Chu and Powell, and Goodrich's experts Kavanaugh, Kresic, Bennett, and, to a limited extent, the areas that Oxley did not examine regarding the Goodrich burn pit. In an attempt to reconcile the widely disparate infiltration coefficients and infiltration rates of the Dischargers' experts, Dr. Stephens received the result of an actual infiltration test on the 160 acres to provide onsite data. Certain consulting occurred with Dr. Rob Bowman and Dr. Christa Hockensmith of New Mexico Tech regarding content of ammonium perchlorate materials, the type of experiments properly needed to verify and replicate the Goodrich burn pit conditions, as well as the behavior of these materials in soil. Dr. Stephens has examined the infiltration rates and other information from the County of San Bernardino consultant, Gary Lass, in an attempt to reconcile infiltration rates and respond to the expert testimony submitted by the Dischargers.

Dr. Stephens has also updated references and has included information relating to a change in the Environ nomenclature made between the time of receipt of Environ's test results (utilizing the old nomenclature) and reports issued in its Revised Study which did not contain x/y coordinates. The xy coordinates were received on May 9, 2007, and have been plotted into the updated exhibits submitted with Dr. Stephens' declaration.

Rialto's Rebuttal Brief addresses the erroneous legal arguments and

citations of the Dischargers, and responds to their arguments concerning the WCLC, Goodrich, and Pyro Spectaculars' operations and expert submissions. None of these arguments were received until April 17, 2007.

II. THE DISCHARGERS MISSTATE THE FINDINGS REQUIRED TO SUPPORT ISSUANCE OF A CLEANUP AND ABATEMENT ORDER UNDER WATER CODE SECTION 13304.

Water Code section 13304 provides that a Cleanup and Abatement Order ("CAO") is appropriately issued against anyone who has caused or permitted any waste to be placed where it probably will be discharged to a water of the state and creates, or threatens to create a condition of pollution or nuisance. As prior State Water Resources Control Board ("State Board") Water Quality ("WQ") decisions demonstrate, this is a very low evidentiary threshold, subject only to the terms of Water Code section 13304.

The Dischargers' opening briefs nevertheless misconstrue the provisions of Water Code section 13304 and ignore the applicable rules of procedure by attempting to place a non-existent burden of proof on the Advocacy Team. They seek to import the standard of judicial review for a civil case to the instant administrative hearing. But they have no legal basis for doing so. Specifically, Goodrich offers the unsupported contention that the Regional Board (through the Advocacy Team) bears the burden of proving by a preponderance of the evidence that the Dischargers "in fact discharged perchlorate to groundwater, and that [their] discharge has adversely and unreasonably affected the beneficial uses of that groundwater". (Goodrich Brief at 182-83.[2]) Emhart misinterprets Water Code section 13304 by stating that "as to existing 'conditions of pollution,' in order to

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[2] References are to Opening Briefs, unless otherwise stated.

establish liability under Water Code § 13304(a), the Advocacy Team must prove that the suspected discharger in fact discharged perchlorate to the groundwater, and that its discharge has adversely and unreasonably affected the beneficial uses of that groundwater." (Emhart Parties Brief at 5:6-14.) Pyro offers another tortured reading of the statute: "In order for any CAO to issue, the Advocacy Team must prove that Pyro actually discharged perchlorate to groundwater or onto the ground in a manner that 'threatens' groundwater and that such discharges of perchlorate created a condition of 'pollution' or 'nuisance'." (Pyro Brief at 15:5-8.)

As set forth below, the Dischargers' arguments with regard to the burden of proof are wrong for several reasons:

(1) There is no burden of proof prescribed under Water Code section 13304. This code provision merely requires a finding by the Regional Board that a party named in a CAO has caused or permitted waste to be placed where it probably will be discharged to a water of the state and creates, or threatens to create a condition of pollution or nuisance;

(2) Water Code section 13304 does not require that such finding be made on the basis of direct evidence of a release directly to groundwater; instead, circumstantial evidence of a discharge of waste to soil which probably results in an impact to groundwater, constituting a condition of pollution or nuisance, is sufficient;

(3) Water Code section 13304 does not require a finding that the discharge of waste unreasonably impacts the beneficial uses of the impacted water;

(4) The preponderance of the evidence standard urged by the Dischargers is the standard for judicial review of the State Board's determination, not the State Board's review of the issuance of a CAO. However, even if the judicial review standard urged by the Dischargers is applied, the CAO must be considered in light of the strong presumption of correctness afforded to agency decisions under the independent judgment standard of review; and,

(5) Most importantly, if a burden of proof is applied to this proceeding, the Dischargers – not the Advocacy Team - will bear the burden of proof.

A. In Order to Issue a CAO, Water Code Section 13304 Does Not Specify a Burden of Proof, But Merely Requires a Finding that A Person Has Caused or Permitted Waste to Be Placed Where it *Probably* Will be Discharged to a Water of the State and Creates, or Threatens to Create, A Condition of Pollution or Nuisance.

Title 23 of the California Code of Regulations, titled "Laws Governing Adjudicative Hearing," governs the rules of evidence applicable to State Board Proceedings: "Except as otherwise provided, all adjudicative proceedings before the State Board, the Regional Boards, or hearing officers or panels appointed by any of those Boards shall be governed by these regulations, Chapter 4.5 of the Administrative Procedure Act (commencing with section 11400 of the Government Code), sections 801-805 of the Evidence Code, and section 11513 of the Government Code." 23 CCR § 648(b). The Administrative Procedure Act ("APA") states: "The governing procedure by which an agency conducts an adjudicative proceeding is determined by the statutes and regulations applicable to that proceeding." Gov. Code § 11415.10(a). Evidence Code sections 801-805 pertain to expert witnesses. And, Government Code section 11513(c) states "the hearing need not be conducted according to technical rules relating to evidence and witnesses." Thus, none of the provisions pertaining to the rules of evidence for a State Board hearing make any mention of a burden of proof. To the contrary, the APA states clearly that the governing procedure for a State Board hearing shall be determined by the rules applicable to the proceeding, in this instance, Water Code section 13304.

Thus, issuance of a CAO is governed only by the liberal requirements of Water Code section 13304:

> Any person who has discharged[3] or discharges waste into the waters of this state in violation of any waste discharge requirement or other order or prohibition issued by a regional board or the state board, or who has caused or permitted, causes or permits, or threatens[4] to cause or permit any waste to be discharged or deposited where it is, or **probably** will be, discharged into the waters of the state and creates, or threatens to create a condition of pollution or nuisance, shall upon order of the regional board, clean up the waste or abate the effects of the waste, or, in the case of threatened pollution or nuisance, shall upon order of the regional board, clean up the waste or abate the effects of the waste . . . "

Water Code § 13304(a) (emphasis added).

This is a very liberal standard, and is not the same burden of proof faced by a plaintiff in litigation – the preponderance of the evidence standard. The State Board's prior decisions have recognized the difference in this standard. *See In the Matter of The Petition of Lindsay Olive Growers*, Order No. WQ 93-17 (1993 WL 522521 (Cal. St. Wat. Res. Bd.)) (rejecting application of *res judicata* premised on earlier superior court ruling to hearing before State Board over issuance of CAO, in part on the basis that the two involved different burdens of proof). None of the Dischargers have cited any authority to support their contention that the

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[3] The State Board has defined "discharge" to include passive migration of waste from the soil to the ground water. *Zoecon Corp.*, Order No. 86-2 (finding purchaser of contaminated property subject to Waste Discharge Requirements because ongoing movement of waste from land to groundwater constituted 'discharge').

[4] "Threaten," as used in section 13304 means "a condition creating a substantial probability of harm, when the probability and potential extent of harm make it reasonably necessary to take immediate action to prevent, reduce, or mitigate damages to persons, property or natural resources. (Cal. Water Code § 13304(f).)

preponderance of the evidence burden of proof should be applied to this proceeding.

Goodrich attempts to manipulate the provisions of the Water Code applicable to judicial review, to place a burden on the Regional Board in this proceeding. It cites to Water Code section 13330(d) which pertains to the applicable standard of review for a court to apply when reviewing a State Board decision. It cites Code of Civil Procedure §1094.5(c) and the case of *Strumsky v. San Diego County Employees Retirement Ass'n* (1974) 11 Cal.3d 28, 32, for the proposition that the Regional Board must satisfy the appellate standard of review. All *Strumsky* concludes (relying on Code of Civil Procedure § 1094.5) is that,

> Subdivision (c) of that section provides that when a claim of unsupported findings is made, abuse of discretion (which under subdivision (b) is established if the findings are not supported by the evidence) is shown in cases in which the court is authorized by law to exercise its independent judgment on the evidence if the court determines that the findings are not supported by the weight of the evidence; in all other cases abuse of discretion is established if the court determines that the findings are not supported by substantial evidence in light of the whole record.

Id. at 32. None of the provisions cited by Goodrich provide a burden of proof for the Regional Board to defend the issuance of a CAO. They merely establish the proper standard of review should a mandamus action later be undertaken to challenge the State Board's decision in this matter. And they in fact ignore the only provision on point for the State Board's review of a Regional Board's decision. The State Board is granted the specific power to review a determination of the Regional Board pursuant to Water Code section 13320(c), which does not prescribe a burden of proof, but merely states:

> The state board may find that the action of the regional board, or the failure of the regional board to act, was appropriate and proper. Upon finding that the action of the regional board, or the failure of the regional board to act, was inappropriate or improper, the state board may direct that the appropriate action be taken by the regional board, refer the matter to any other state agency having jurisdiction, take the appropriate action itself, or take any combination of those actions. In taking any such action, the state board is vested with all the powers of the regional boards under this division.

Pyro similarly cites several sources for the proposition that the Advocacy Team must defend the CAO by a preponderance of the evidence standard, none of which support that contention. Evidence Code section 115 provides: "'Burden of proof' means the obligation of a party to establish by evidence a requisite degree of belief concerning a fact in the mind of the trier of fact or the court. ... Except as otherwise provided by law, the burden of proof requires proof by a preponderance of the evidence." However, per the regulations applicable to State Board hearings, in particular Title 23 of the California Code of Regulations, section 648(b) and Government Code 11415.10(a), discussed above, Evidence Code section 115 does not apply to this proceeding.[5] Water Code section 13304 applies.

Pyro also cites several inapplicable cases in an effort to support its argument that a preponderance of the evidence burden applies to State Board Proceedings. *Ettinger v. Board of Medical Quality Assurance* (1982) 135 Cal. App. 3d 853 involved a mandamus proceeding over the revocation of a professional license. The court's holding "that the proper standard of proof in an administrative hearing to revoke or suspend a doctor's license should be clear and convincing

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[5] Moreover, the plain language of Evidence Code section 115 makes clear it pertains to court proceedings, and not to administrative proceedings.

proof to a reasonable certainty and not a mere preponderance of the evidence" is wholly inapplicable here. *Id.* at 856. Pyro also relies on *Pereyda v. State Personnel Bd.* (1971), 15 Cal. App. 3d 47, 52, a mandamus action involving the firing of a state correctional employee. *Pereyda* found only that "Evidence Code section 520 states that a party who is guilty of wrongdoing has the burden of proof on that issue. The proceeding before the Board is a civil one, and hence the burden of proof requires only a preponderance of evidence." *Id.* at 52. Again, Evidence Code section 520 is not applicable to this State Board Proceeding (see 23 CCR § 648(b)), and thus any ruling premised on it is likewise inapplicable.[6]

Finally, Pyro cites the California jury instructions for a civil case setting forth the preponderance of the evidence standard. As this is not a civil case before a jury, these jury instructions are irrelevant.[7]

Accordingly, the only standards which must be met for the issuance of the CAO to be proper are those set forth in Water Code section 13304.

B. Water Code Section 13304 Does Not Require Direct Evidence of a Discharge to Groundwater; Circumstantial Evidence Of a Discharge That Probably Impacts Groundwater Is Sufficient.

California law grants the Regional Boards broad latitude to issue CAOs when necessary to protect California's valuable and limited water resources from contamination. *In the Matter of Lake Madrone Water District*, WQ Order 85-10 at 5 ("The Legislature specifically set up a process whereby a Regional Board

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[6] If any guidance should be gleaned from the *Pereyda* decision, it is the finding that the State Personnel Board's decision could be set aside "only if it is found to be unsupported by any substantial evidence. All reasonable inferences must be drawn in support of the findings of the Board [citations omitted]. The findings and determination of the Board come before the reviewing court with a strong presumption as to their correctness and regularity." *Pereyda* at 50.

[7] Emhart contends that a preponderance of the evidence standard applies to this proceeding as the result of a prior court order regarding the issuance of an investigation order under Water Code section 13267. (Emhart Parties Brief at 6-7.) This argument is discussed, *infra*.

Executive Officer could act expeditiously to correct water quality problems"); *In the Matter of the Petition of Aerojet General Corporation*, WQ 80-4 ("The Regional Board has a clear duty to protect the quality of waters of the state for past, present and future beneficial uses..."). Precisely because of situations like here where groundwater contamination has been discovered many years after the events causing the contamination, the Regional Boards are granted broad leeway in issuance of CAOs. As stated by a leading treatise on California environmental law:

> Due to the passage of time and the difficulty of interpreting hydrogeologic evidence, it often is impossible to establish who is responsible for the contamination with a great degree of certainty. [¶] In these circumstances, the State Water Board has established extremely liberal rules regarding the kinds of evidence that will support the naming of parties on cleanup orders. Kenneth A. Manaster and Daniel P. Selmi, California Environmental Law and Land Use Practice, § 32.32[1][a] at p. 32-42.

Accordingly, in order to enable the Regional Boards to act expeditiously to protect water resources, State Water Board Resolution No. 92-94 sets forth the requirements for the Regional Boards when determining whether a person shall be required to investigate a discharge under Water Code section 13267, or to clean up waste and abate the effects of a discharge or a threat of a discharge under Water Code section 13304. Pursuant to Resolution 92-94, the Regional Water Board shall:

> A. Use any relevant evidence, whether direct or circumstantial, including, but not limited to, evidence in the following categories:
>
> 1. Documentation of historical or current activities, waste characteristics, chemical use, storage or disposal information, as documented by public records, responses to questionnaires, or other sources of information;

2. Site characteristics and location in relation to other potential sources of a discharge;

3. Hydrologic and hydrogeologic information, such as differences in upgradient and downgradient water quality;

4. Industry-wide operational practices that historically have led to discharges, such as leakage of pollutants from wastewater collection and conveyance systems, sumps, storage tanks, landfills, and clarifiers;

5. Evidence of poor management of materials or wastes, such as improper storage practices or inability to reconcile inventories;

6. Lack of documentation of responsible management of materials or wastes, such as lack of manifests or lack of documentation of proper disposal;

7. Physical evidence, such as analytical data, soil or pavement staining, distressed vegetation, or unusual odor or appearance;

8. Reports and complaints;

9. Other agencies' records of possible or known discharge; and

10. Refusal or failure to respond to Regional Water Board inquiries;

B. Make a reasonable effort to identify the Dischargers associated with the discharge. It is not necessary to identify all Dischargers for the Regional Water Board to proceed with requirements for a discharger to investigate and clean up;

C. Require one or more persons identified as a discharger associated with a discharge or threatened discharge subject to WC

Section 13304 to undertake an investigation, based on findings of I.A and I.B above;

D. Notify appropriate federal, state, and local agencies regarding discharges subject to WC Section 13304 and coordinate with these agencies on investigation, and cleanup and abatement activities."

(St. Wtr. Bd. Res. No. 92-94).

As clearly set forth by Resolution No. 92-94, the findings supporting issuance of a CAO may be premised on circumstantial evidence of waste releases, which include but are not limited to direct physical evidence of a probable discharge to groundwater. A finding premised on circumstantial evidence likewise is adequate to support the issuance of a CAO. Wat. Code §13304(a).

It is clear from a review of even just a handful of State Board cases, that the required finding of a probable discharge is easily met by the Regional Board, and frequently upheld by the State Board in the face of challenge.[8]

In the Matter of the Petitions of the County of San Diego, et al., 1996 WL 101751 (Cal. St. Wat. Res. Bd.), Order No. WQ 96-2, the State Board rejected the County of San Diego's contention that it should not be named as a discharger on a CAO because "it has not discharged to groundwater at the site, nor is it currently discharging." The State Board flatly rejected the contention that a direct discharge to groundwater must be shown in order to name a party on a CAO. As the sole operator of the landfill at issue, the County placed waste on the surface in such a way as to cause the current conditions at the site, including volatile organic compounds in groundwater. The State Board concluded that "[i]t is clear that under Water Code section 13304, any person whose action is the direct cause of a waste discharge is properly cited in a CAO." Id. at *4 (emphasis added). It even went a

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[8] It should be noted that not once, in any of the relevant State Board decisions, is a preponderance of the evidence burden placed on the Regional Board to defend a CAO.

step further, reasoning that "[t]he fact that there were other exacerbating factors [for the contamination], such as faulty surface maintenance, does not absolve the County of its liability." *Id.*

In the Matter of The Petition of the BOC Group, Inc., 1989 WL 119003 (Cal. St. Wat. Res. Bd. Order No. WQ 89-13), the State Board rejected the argument by petitioner BOC that the CAO issued to it should be rescinded. At issue was a leaking underground storage tank found by a subsequent property owner. BOC argued that it should not be named on the CAO because it was an innocent prior owner. The State Board disagreed, finding that "BOC would be liable under Section 13304 if it placed the tank in the ground where it was abandoned and thus threatens to create a pollution or nuisance." Relying wholly on circumstantial evidence, including aerial photographs showing stages of development, the fact that "the substances identified in the soil and ground water are the same type of substances as those found in the tank", and the fact that the types of substances are those that would be expected in the type of operations conducted by BOC on the property, the State Board found it was reasonable to conclude that BOC was responsible for placing the tank at the property, and thus was responsible for the discharge. "Even though the tank may not have leaked while BOC still owned the property, BOC caused the discharge because the existence of the abandoned tank threatened to cause and is still causing pollution."

In the Matter of the Petition of Zoecon Corporation, Order No. WQ 86-2, the State Board upheld the finding of the Regional Board that Zoecon was subject to a CAO, rejecting Zoecon's contention that it was not a discharger. Zoecon claimed that due to the low mobility of arsenic in soil it would take 1,000 years at current flow rates for the contaminated groundwater to reach the San Francisco Bay. The State Board concluded that "such movement of contamination, albeit slow, is still a discharge to waters of the state that must be regulated." *Id.* at 4. It further reasoned that "ground water quality in the shallow zone has been degraded and

existing and potential beneficial uses of currently uncontaminated ground water in the vicinity of the site within the shallow and deep aquifers could be adversely affected if the spread of contamination remains uncontrolled." *Id.*

Accordingly, the Dischargers' unsupported arguments that the Advocacy Team must "prove that the suspected discharger in fact discharged perchlorate to groundwater" (Emhart Parties Brief at 5:7-8) is incorrect. The CAO is proper because the evidence supports a finding that the Dischargers placed perchlorate in a place where it probably was discharged to groundwater.

C. Water Code Section 13304 Does Not Require a Finding that the Probable Discharge Result in an Impact to Beneficial Uses of Water.

The Dischargers contend that the only discharge which can support a CAO is that which results in unreasonable impact to beneficial uses to groundwater. (Goodrich Brief at 182-83; Emhart Parties Brief at 5:6-14). The Dischargers offer no support for this contention, and it has been flatly rejected by all of the cases on point. In fact, the State Board rejected this exact argument *In the Matter of the Petition of BKK Corporation*, Order No. WQ 86-13 (1986 WL 25520) (Cal. St. Wat. Res. Bd.). "The Regional Board need not await actual harm to beneficial uses to find pollution due to substances whose mere presence in drinking water is considered a health hazard. Moreover, there is no requirement that the affected waters must presently be used as a domestic water supply source in order to receive protection." *Petition of BKK Corp.*, at *4. Rather, the potential beneficial use of a contaminated aquifer, or alternatively the threat to a beneficial use aquifer, will support a finding of pollution sufficient to sustain a CAO.

Likewise, the State Board found that no showing of actual harm to the beneficial uses of affected waters is required in the case of *In the Matter of Aerojet General Corporation*, Order No. WQ 80-4 at pp. 17-18. The Regional Board "need not await actual harm to beneficial uses to find pollution due to substances whose mere presence in drinking waters is considered a health hazard" and "the fact that

there may be no immediate risk to health does not negate the finding that the discharge of waste . . . has in fact altered the quality of waters of the state to a degree which unreasonably affects the beneficial use of the water as a domestic supply." *Id.*

Despite the authority to the contrary, Emhart attempts to justify its argument that the Regional Board must prove harm to beneficial use by reliance on the definition of the term "pollution." (Emhart Parties Brief at n. 3 (purportedly referencing Water Code § 13050(l)). The term pollution is defined as: "an alteration of the quality of the waters of the state by waste to a degree which unreasonably affects either of the following: (A) The waters for beneficial uses. (B) Facilities which serve these beneficial uses." Water Code Section 13050(l). Likewise, "pollution" may include "contamination."[9] *Id.* However, Emhart's reading of the statute ignores the nuisance prong of liability, and in any event distorts the finding required for a condition of pollution. The Regional Board need merely find that a pollution is threatened. Accordingly, a threat (meaning a substantial probability of harm) to the beneficial use of groundwater is sufficient for issuance of a CAO premised on a condition of pollution. *See* Water Code §§ 13304(a), (f).

Here, the issue is moot because the contaminants at issue have clearly impacted drinking water wells. Nevertheless, the law is clear that showing an impact to a beneficial use is not required to support the issuance of a CAO.

D. The Dischargers Improperly Rely on the Standard of Judicial Review Which, Even if Applied, Must Grant Deference to the Agency Determination.

When a court reviews a decision of the State Board issued under Section 13320, it exercises its independent judgment as to whether the action was

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[9] Emhart purports to cite to this code provision, but does not provide the definition provided in the Code. (Emhart Parties Brief at n. 3.)

reasonable. Water Code § 13330(d) ("the court shall exercise its independent judgment on the evidence in any case involving the judicial review of a decision or order of the state board issued under Section 13320"). As detailed above, this standard clearly applies to judicial review of the State Board's determination, and not the State Board's review of the Regional Board's determination. But even if, for the sake of argument, the State Board were to apply the "independent judgment" standard for judicial review, it must do so with the proper deference to the Regional Board's findings.

It is well settled that upon judicial review, significant deference must be given to an agency's initial determination:

> [S]uch review 'does not mean that the preliminary work performed by the administrative board in sifting the evidence and in making its findings is wasted effort... [I]n weighing the evidence the courts can and should be assisted by the findings of the board. *The findings of the board come before the court with a strong presumption of their correctness, and the burden rests on the complaining party to convince the court that the board's decision is contrary to the weight of the evidence.*'

Fukuda v. City of Angels (1999) 20 Cal. 4th 805, 812 (examining the appropriate application of the "independent judgment" standard on appeal); *Building Industry Ass'n of San Diego County v. State Water Resources Control Board* (2004) 124 Cal. App. 4th 866, 879 (recognizing rule that trial court exercising its "independent judgment" to review State Board determination, must give "appropriate consideration to an administrative agency's expertise underlying its interpretation of an applicable statute.") This rule is even referenced in the cases cited by the Dischargers. *See infra.*

Accordingly, even if the State Board applies the "independent judgment" standard for judicial review as urged by the Dischargers, it must do so with great deference to the findings of the Regional Board.

E. If a Burden of Proof is Applied, it is the Dischargers – As the Parties Challenging the CAO - Who Bear the Burden of Proving the Standards of 13304 Have Not Been Met.

It is black letter law that the party bringing a lawsuit bears the burden of proving its claims. It is no different in an administrative context; the party challenging an administrative decision bears the burden of proof. "[T]he party challenging the administrative decision bears the burden of convincing the court that the administrative findings are contrary to the weight of the evidence." *Building Industry Ass'n*, 124 Cal. App. 4th at 879; *see also Fukuda*, 20 Cal.4th at 812 ("[T]he burden rests on the complaining party to convince the court that the board's decision is contrary to the weight of the evidence.") Here, the Dischargers seek to ignore the fact that they are the parties challenging the CAO in an effort to avoid their burden of proof. But if anyone bears a burden of proving the validity of the CAO, it is the Dischargers who must show that the lenient standards of Water Code Section 13304 were not met by the Regional Board. As demonstrated by the cases cited above, the Dischargers cannot make such a showing.

F. WATER CODE SECTION 13304 APPLIES TO THE DISCHARGES AT ISSUE, REGARDLESS OF WHEN THE NAMED DISCHARGERS CONTEND WASTE WAS RELEASED.

The Dischargers contend that that they are not liable under Water Code section 13304 because it is not "retroactive." Essentially, the Dischargers (particularly Goodrich), argue that Water Code section 13304(j) provides a defense to their liability. Water Code 13304(j) provides: "This section does not impose any new liability for acts occurring before January 1, 1981, if the acts were not in violation of existing laws or regulations at the time they occurred." This argument

is incorrect for two reasons. First, the Dischargers are responsible for their current discharges. Second, as set forth in several State Board decisions, the actions of the Dischargers were in violation of nuisance and other state laws at the time they occurred (i.e., prior to 1981), eliminating any defense pursuant to Water Code section 13304(j). Accordingly, Water Code Section 13304 encompasses the Dischargers' actions.

1. Migration Through Soil of Waste Previously Placed There Constitutes a Current Discharge.

"A discharge is 'the flowing or issuing out, of harmful material from the site or the particular operation into the water of the state. The particular operation which produced the harmful material, need not, however, be currently conducted.'" *In the Matter of the Petitions of Arthur Spitzer, et al.*, WQ 89-8, *3 (citing 27 Ops. Atty. Gen. 182, 183 (1956)). *See also Zoecon Corp.*, Order No. 86-2 (defining "discharge" to include passive migration of waste from the soil to the ground water); *In re Lindsay Olive Growers,* Order No. WQ 93-17 (current evidence of leakage from ponds in which waste was disposed prior to 1981 is sufficient to demonstrate current discharge). Given the evidence of continuing migration of Dischargers' waste through soil to groundwater, they are responsible for a current discharge, and no retroactive application of Water Code section 13304 is necessary to support a finding of liability.

2. The Dischargers' Conduct Constituted a Nuisance Even Prior to 1981.

The State Board in *County of San Diego*, Order No. WQ 96-2, rejected the exact argument raised by the Dischargers that § 13304 precluded the Regional Board from issuing a CAO for pre-1981 conduct. In reaching that conclusion, the State Board emphasized that it was not the placement of waste in a landfill that was the conduct with which the CAO was concerned. It was "the release of pollutants associated with that waste into the ground water that [was] the subject of

the CAO, and that release [was] a violation of law." The State Board further reasoned that California law has prohibited the creation or continuation of public nuisance since 1872 (citing Civ. Code § 3490) and the discharge of waste in any manner which would result in a pollution, contamination, or nuisance since 1949 (citing Health and Saf. Code § 5411). Thus, the creation of a nuisance by the Dischargers, even pre-1981, subjects them to regulation under Water Code section 13304.

The State Board considered this same question *In re Lindsay Olive Growers,* Order No. WQ 93-17. There, it specifically rejected the Dischargers' contention here, reasoning that although the Water Code,

> ...limits strict liability for acts before January 1, 1981, it does not limit liability for acts that were in violation of existing laws or regulations at that time. The leakage and pollution which resulted from Petitioner's discharge before 1981 was a violation of the law in existence at the time. Since 1872, California law has prohibited the creation of a public nuisance. In 1925, water pollution was held by the courts to be a public nuisance. And since 1949, California law has expressly prohibited any discharge of waste in a manner which results in pollution, contamination, or nuisance. Additionally, the Porter-Cologne Water Quality Act of 1969 defined nuisance and authorized Regional Water Boards to order cleanup. The definition included anything that: (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; (2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal; and (3) occurs during or as a result of the treatment of wastes.

In re Lindsay Olive Growers, Order No. WQ 93-17 at *5 (emphasis added). *See also In re Aluminum Co. of America*, Order No. WQ 93-9 (a petitioner could legally be required to clean up a mining site under § 13304 even though its ownership had ceased in 1980 because the petitioner's acts or failure to act were in violation of at least two laws in effect during the time of its ownership (citing again Civ. Code § 3490 and Health and Saf. Code § 5411)); *In re Wenwest Inc.,* Order No. 92-13 (a petitioner's argument that its liability arose from discharge which occurred before 1980 was of no legal significance because the discharge of hydrocarbons into the state's groundwater was a violation of law long before 1980).

Nuisance has been codified to include "[a]nything which is injurious to health . . . or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property. . . ." Civ. Code § 3479. A nuisance may be public or private, and continuing or permanent. Every nuisance that is not a public nuisance is a private nuisance. Civ. Code § 3481. "A public nuisance is one which affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal." Civ. Code § 3480.

As noted by the State Board in the *Lindsay Olive* decision, the pollution of water has long been held to constitute a public nuisance. *City of Lodi v. Randtron* (2004) 118 Cal. App. 4th 337, 357 (*citing People ex rel. Gallo v. Acuna* (1997) 14 Cal.4th 1090, 1104; *Newhall Land & Farming Co. v. Superior Court* (1993) 19 Cal.App.4th 334, 341); *see also People v. City of Los Angeles* (1958) 160 Cal. App.2d 494, 503 (recognizing regional board's non-exclusive right to initiate action for a public nuisance premised on water contamination); *Ingram v. City of Gridley* (1950) 100 Cal. App. 2d 815 (discharge to gravel pit of sewage that migrated to

slough constitutes public nuisance); *Peterson v. City of Santa Rosa* (1897) 119 Cal. 387, 390 ("The doctrine is well established that the fouling or pollution of water in a stream by ... sewage constitutes a nuisance"); *People ex rel. Lind v. City of San Luis Obispo* (1897) 116 Cal. 617, 617 (the discharge of sewage into creek is a public nuisance).

The purported elements of nuisance identified by Goodrich, are not supported by the case law or the statute codifying nuisance. (Goodrich Brief at 205-07.) Not surprisingly, Goodrich has not cited any basis for the elements it identifies. The simple fact, which Goodrich bends over backwards to evade, is that contamination of a public water constitutes a public nuisance.[10]

Similarly, a finding of nuisance does not require a showing of negligence. To the contrary, the tort of nuisance focuses on the consequence of the action, not the motivation for the action. Cal. Civ. Code § 3479; *Judson v. Los Angeles Suburban Gas. Co.* (1916) 157 Cal. 168, 173. "[I]t is immaterial whether the acts be considered willful or negligent; the essential fact is that, whatever be the cause, the result is a nuisance." *Snow v. Marian Realty Co.* (1931) 212 Cal. 622, 625-26. No case has held that a showing of negligence or intentional action is required for a finding of nuisance.

The cases cited by Goodrich for that proposition do not support it. (See Goodrich Brief at 206-07.) *Lussier v. San Lorenzo Valley Water Dist.* (1988) 206 Cal. App. 3d 92, 102 simply held that "where injury is allegedly caused by a natural condition, the imposition of liability on a nuisance theory, as a practical matter, requires a finding that there was negligence in dealing with it." Rather than narrowing the circumstances in which nuisance could be found, *Lussier* expanded the law of nuisance by allowing a nuisance claim when negligent conduct was

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[10] Goodrich's argument about unreasonable interference pertains not to public nuisances, but to private nuisances and is of no consequence here.

demonstrated, in a context where governmental immunity previously would have precluded liability. It did not address the strict liability nature of nuisance. The other cases cited by Goodrich fare no better in supporting its argument. In fact, they each find that nuisance, although often co-existent with negligence, may be established without a finding of negligence. *Spaulding v. Cameron* (1952) 38 Cal. 2d 265, 266 (declining to determine whether negligence was required for a finding of nuisance); *Sturges v. Harney* (1958)165 Cal. App. 2d 306, 318 ("a nuisance need not grow out of acts of negligence"); *Granone v. County of Los Angeles* (1956) 231 Cal. App. 2d 629, 649-51 (does not speak to whether nuisance requires a showing of negligence, but merely finds that a municipality may be liable in maintaining a nuisance, regardless of whether a governmental activity is involved); *Calder v. City and County of San Francisco* (1942) 50 Cal. App. 2d 837, 839 (finding that "while it is true that 'a nuisance and liability for injuries therefore may exist without negligence' [internal citations omitted]" they are often coexisting").

The mere creation of a nuisance - including pollution of water - regardless of intent, subjects the Dischargers to liability under section 13304, even for conduct occurring before 1981.

3. <u>The Dischargers' Placement of Waste Into the Environment Violated State Laws When It Occurred.</u>

(a) The Dickey Act.

Water pollution was regulated in California long before the Porter-Cologne Water Quality Control Act of 1969 ("Porter-Cologne Act"). Before the enactment of the Dickey Act (formerly located in Water Code § 13000 et seq.) in 1949, the California Department of Public Health ("Department") had primary responsibility

for regulation of water pollution in the state, with its main function being the issuance of permits for discharge of waste into waters of the state.[11]

Under the Dickey Act, the regulation of discharges creating a public health hazard remained with the Department, while regulation of other discharges was transferred to the Regional Water Quality Control Boards. Pursuant to the Dickey Act, the Regional Boards had the authority to investigate any source of water pollution or nuisance; require that any person discharging sewage or industrial waste furnish technical reports (*see* former Water Code § 13055 (1963)); and to issue cease and desist orders if it found that discharge was taking place (*see* former Water Code § 13060 (1963)). The Regional Board had a duty to require the abatement, prevention and control of water pollution (*see* former Water Code § 13052(a)) and to request enforcement of laws concerning water pollution or nuisance by appropriate federal, state and local agencies (*see* former Water Code §§ 13052(d), 13063 (1963)). In addition, when a discharger failed to comply with an order, the Regional Board was required to bring the matter to the district attorney, who in turn was required to seek injunctive relief. *See* former Water Code § 13063 (1963).

The argument that "the Dickey Act did not prohibit discharges outside a waste discharge requirement and did not contain any authority for the Regional Board to order cleanup or abatement or water replacement" has no merit. (Goodrich Brief at 194.) While the Dickey Act authorized the Regional Board to prescribe waste discharge requirements (*see* Cal. Water Code § 13053 (1963)), it

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[11] Other agencies involved in regulating water quality before 1949 included the Fish and Game Commission (*see* former Fish & Game Code § 481 (1944)), the Division of Water Resources in the Department of Public Works (*see* former Water Code §§ 200), 201 (1945), the Division of Architecture (*see* former Gov. Code § 14100 (1945)), the Department of Investment, Division of Real Estate (*see* former Bus. & Prof. Code §§ 11010, 11012 (1944)), the Division of Housing (*see* former Labor Code §§ 2419, 2419.6, 2420, 2422 (Supp. 1949)) and the Division of Oil and Gas of the Department of Natural Resources (*see* former Pub. Res. Code §§ 3106, 3202, 3211, 3228-3232).

by no means limited the Regional Board's authority to enforcement of only waste discharge requirements. Under the Dickey Act, a Regional Board was empowered to investigate *any* source of water pollution or nuisance. See former Water Code § 13055. In addition, whether the Dickey Act contained authority for the Regional Board to order cleanup or abatement is irrelevant. Section 13304(j) only requires that there be "a violation of existing laws or regulations at the time [the acts] occurred." As long as there is a violation of an existing law, the means of enforcement of that law does not matter.

(b) Health and Safety Code Provisions.

As set forth above, there is no question that the contamination of the environment has constituted a nuisance in California during the periods when the Dischargers operated.

Likewise, under the Dickey Act, pollution is defined as "an impairment of the quality of the waters of the State by ...industrial waste to a degree which does not create an actual hazard to the public health but which does adversely and unreasonably affect such waters for domestic, industrial, agricultural, navigational, and recreational or other beneficial use, or which does adversely and unreasonably affect the ocean waters and bays of the State devoted to public recreation." *See* former Water Code § 13005 (1963). Irrespective of whether perchlorate was a known contaminant at the time, as argued by Goodrich, it adversely and unreasonably affected waters of the state, thereby causing pollution in violation of the Dickey Act, subjecting the Dischargers to liability under Water Code section 13304.

Former Health and Safety Code section 5411 prohibited any person from discharging sewage or industrial waste in any manner which would result in contamination, pollution, or nuisance. See former Health & Saf. Code § 5411. The Department of Public Health was authorized to order the abatement of contamination. See former Health & Saf. Code § 5412. When the Department

found that a condition of pollution or nuisance existed, it was required to immediately refer the condition to the proper regional board for action. Cal. Health & Saf. Code § 5413. The release of perchlorate by the Dischargers would have resulted in a condition of contamination, pollution or nuisance, thereby violating provisions of the Health and Safety Code at the time of the discharger, subjecting it to current liability under Water Code section 13304.

III. THE EMHART PARTIES DISTORT THE PRIOR RULING REGARDING WATER CODE SECTION 13267.

The Emhart Parties suggest that a prior court ruling with regard to the issuance of an investigation order pursuant to Water Code section 13267, requires a "finding of current or past discharge on a Preponderance of the evidence standard." It somehow tries to bootstrap this ruling to apply also to the findings required pursuant to Water Code section 13304. Fundamentally, however, this argument is flawed as it overstates the prior ruling on the 13267 Order. This Order applies the preponderance of the evidence standard, (1) only to Emhart, and (2) only to the finding of a current or past discharge of waste, not to the finding of a current or past discharge of waste directly to groundwater, as Emhart suggests.

Water Code section 13267(b)(1) provides:

> In conducting an investigation ..., the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a

reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.

The plain language of Water Code section 13267 applies to any discharge of waste "that could affect the quality of waters."[12] "This section broadly authorizes the regional water quality control boards to require persons who discharge, have discharged, or are 'suspected of having discharged or discharging' waste that could affect water quality to furnish technical or monitoring program reports." In re Petition of Chevron Products Company, Order WQ 2004-0005.

The November 8, 2004 Superior Court Order referenced by Emhart (Emhart Parties Brief at 6) solely addressed the issue of whether Emhart was denied due process as the result of being named on a CAO prior to an evidentiary hearing on the issue. The reference in the Superior Court's order to the proper standard of review is mere dicta. That dicta states that only as to Emhart, given the large size of the potential burden in this particular case, due process requires "a finding of past or current discharge on a Preponderance of Evidence standard." (11/8/04 Order to Emhart, p. 3). In the context of Water Code section 13267, which requires a basic finding of a suspected discharge that could affect the waters of the state, all this order requires to a preponderance of the evidence is a finding that Emhart discharged waste somewhere where it could impact water. Emhart concedes this fact. Sufficient evidence supports a finding, even by a preponderance of the evidence, that Emhart discharged waste, rendering this argument little more than a red herring.

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[12] As set forth above, the term "discharge" as used in the Water Code is broadly construed to encompass the continuing migration of waste through soil. (See section II(A), infra.)

IV. THE EMHART ENTITIES FAIL TO ADDRESS THE 43,250 POUNDS OF AMMONIUM PERCHLORATE WCLC PROCESSED AT THE SITE, FAILS TO PROVIDE ITS EXPERT DILLEHAY WITH THE KEY STANDARD OPERATING PROCEDURES ADDRESSING THE DISPOSAL OF SCRAP PERCHLORATE – TAINTING ALL OF HIS "EXPERT" TESTIMONY - AND ULTIMATELY FAILS TO GRAPPLE WITH OR REBUT THE DOCUMENTARY AND TESTIMONIAL EVIDENCE THAT WCLC DISCHARGED UP TO 3,680 POUNDS OF PERCHLORATE TO THE BARE GROUND AT THE 160-ACRE SITE.

The Emhart Parties admit that WCLC used over 49,000 pounds of *potassium* perchlorate at the 160-acre site to manufacture photoflash cartridges and ground burst simulators. What they utterly fail to discuss is the 43,250 pounds of *ammonium* perchlorate WCLC processed at the site for Grand Central Rocket Company. Emhart relies **exclusively** on the "expert" testimony of Dr. David Dillehay ("Dillehay") for its calculations of the quantity of scrap perchlorate WCLC generated at the 160-acre site, but his testimony in this regard is not an expert opinion, but, rather, merely a calculated "judgment call" based on deposition testimony and documentary evidence he reviewed. With due respect to Dr. Dillehay, it is the Hearing Officer's duty to weigh the evidence – not Dr. Dillehay's. Emhart further relies **exclusively** on Dr. Dillehay's expert opinion about standard waste disposal practices in the munitions manufacturing industry to support its claim that WCLC would have burned its waste perchlorate in an incinerator. Dr. Dillehay's expert testimony in this regard completely undermined because **he failed to consider the key WCLC standard operating procedure governing the disposal of perchlorate-containing photoflash powder in rendering his opinion.** ("UNDER NO CIRCUMSTANCES shall any azide or styphenate residues, condensed fuzes, or contents of fuzes, photoflash powder, or any such hazardous or poisonous material be disposed of in either of the two incinerators."

January 3, 1954 WCLC Safety Regulations for handling Azides, Styphenates and Similar Explosives, ¶ 17, emphasis original. [KWK 43835-43837].)

Emhart does not address how much of the 43,250 pounds of ammonium perchlorate it processed for Grand Central Rocket Company was discharged to the bare ground at the 160-acre site, but Rialto's Opening Brief sets forth credible evidence to support a finding that **WCLC discharged up to 1,732 pounds of ammonium perchlorate to the bare ground** under this contract alone. (*See* Rialto's Opening Brief, p. 18:16-19:6.) Emhart should be barred from asserting rebuttal arguments or introducing rebuttal evidence on this topic, and the hearing officer should strike any such argument or evidence, because of Emhart's utter failure to address this obviously relevant issue in its opening brief – a tactic transparently calculated to prevent Rialto from addressing its contentions and argument with respect to this issue on rebuttal and in obvious disregard of the Hearing Officer's orders. Emhart was aware that this would be an issue in the case as early as 2002, when it asked Dr. Dillehay to opine on the subject of whether ammonium perchlorate would have been released during this process. In his November 2002 Declaration to the Santa Ana Regional Water Quality Control Board, Dr. Dillehay opined that no ammonium perchlorate would have been discharged during the drying process because the product would not have been removed from the shipping drums. (May 11, 2007, Deposition Transcript of David R. Dillehay, Ph.D. ("Dillehay DT"), p. 129:9-130-16.) He later learned that WCLC removed the ammonium perchlorate from the drums, dried, screened and otherwise processed it in the same way as potassium perchlorate had been processed at the WCLC plant, and retracted his November, 2002, opinion. (*Id.*)

Emhart admits it processed 49,597 pounds of potassium perchlorate to manufacture munitions at the WCLC facility in Rialto: (1) 46,372 pounds of potassium perchlorate to make 347,530 M-112 photoflash cartridges; (2) 3,134 pounds of potassium perchlorate to make 50,250 M-115 ground burst simulators;

and (3) 91 pounds of potassium perchlorate to make 250 XF-5A photoflash cartridges. (Emhart Opening Brief, pp. 26:11-28:25.) After these products were produced, Emhart claims there was no potassium perchlorate left in inventory at the plant. (*Id.*, at 28:26-29:1.) While Rialto disputes Emhart's implied argument that it would not have needed any potassium perchlorate to test and/or develop these products prior to entering into contracts for their production, and its claim that there was not a pound of potassium perchlorate left after the contracts were fulfilled, the only real dispute with respect to this 49,597 pounds of perchlorate is how much of it WCLC discharged to the bare ground at the 160-acre site. To resolve the dispute, two questions must be answered: (1) how was the perchlorate waste generated in WCLC's manufacturing processes disposed of; and (2) how much perchlorate was generated as waste in WCLC's production processes.

On the first question, Emhart's claim that WCLC burned all the perchlorate-containing wastes it generated at the 160-acre site in its incinerator is based **solely** on the single expert opinion of its paid expert Dr. Dillehay. (Emhart Opening Brief, pp. 29:27-30:16; Dillehay DT, pp. 14:17, 15:25 [Dillehay paid between $13,000 and $18,000 by Emhart for his opinions].) Dr. Dillehay admits that small amounts of fugitive perchlorate dust was generated when Thiokol handled potassium perchlorate in the manufacture of M-115 ground burst simulators, and that "when you're talking about 347,000 units, a little bit here and a little bit there can add up to a few pounds." (Dillehay DT, p. 59:5-17.) But, he concludes that WCLC would not have denatured perchlorate in water and disposed of it on the ground and/or into a trench, opining that "custom and practice in the munitions industry" would have dictated that it be burned. (*Id.*, at 10:25-11:15.) Dillehay's opinion on industry customs and practice is directly contradicted by extensive testimony set forth in Rialto's Opening Brief by seven different former WCLC employees who personally witnessed and/or actually participated in WCLC's "wet" disposal process of pouring buckets of perchlorate-contaminated mop water onto the bare ground outside

production buildings and/or carrying it to the disposal trench south of the plant and pouring it on the bare ground there. (Rialto's Opening Brief, pp. 19-34, *passim* [testimony of Gardner, Davis, Skovgard, Pfarr, Ransom, Clayton and Ashurst].) His opinion is also contradicted by WCLC's extensive set of Standard Operating Procedures ("SOPs") requiring the mopping and washing of all production areas where potassium perchlorate was handled and the "wet" disposal of all perchlorate-contaminated wastes, which SOPs were contemporaneously in effect at the time WCLC was processing perchlorate at the 160-acre site and to which WCLC employees testified they strictly adhered. (*Ibid.*) Further, this is an utter lack of foundation for the expert opinion offered by Dr. Dillehay, a person who has never been to the 160-acre site, was not in the "munitions business" until years after WCLC closed and industry practices had significantly changed, and whose opinion about waste disposal practices is directly contradicted by at least seven employees who worked at WCLC.

When WCLC closed its operations in 1957 and sold the 160-acre site to the Goodrich Corporation, Dr. Dillehay was still an undergraduate at Rice University (Dillehay DT, p. 17:7-8), and he did not have any involvement with the manufacture of military pyrotechnics similar to those made at WCLC until at least 1965 (*Id.*, at 21:23-25). In fact, Dr. Dillehay's first encounter with an M-112 photoflash cartridge was when Thiokol was demilitarizing some of them about "Mid 1975" in Longhorn Texas. (*Id.*, at 30:21-24.) Dr. Dillehay was never involved in the *manufacture* of M-112 photoflash cartridges. (*Id.*, at 18:23-19:2.) He did not see an M-115 ground burst simulator made until after 1970 (*Id.*, at 31:7-14), and has never even seen an XF-5A photoflash cartridge (*Id.*, at 31:15-20). Dr. Dillehay has never personally visited the 160-acre WCLC site in Rialto. (*Id.*, at 23:24-24:1.)

Dr. Dillehay did testify that it was customary in the munitions industry to have a written set of SOPs, and for those procedures to be strictly followed by plant personnel. (*Id.*, at 69:8-18.) He further testified that those SOPs varied from

facility to facility, and also changed over the years. (*Id.*, at 70:24-71:11, 83:5-10.) In fact, by the mid-1970's, when he was involved with manufacturing military pyrotechnics containing perchlorate at Thiokol, where it burned its perchlorate waste, Thiokol's standard operating procedures required "vacuum cleanup" of perchlorate dust, but Dillehay testified he did not see any documents that would indicate WCLC had vacuum cleanup technology in place. (*Id.*, at 85:3-11.) In fact, it did not, and the SOPs at WCLC required mop water and wet rag clean-ups in the drying, screening, blending, weighing and loading rooms as often as four times a shift. Dr. Dillehay also described the way potassium perchlorate was screened at Thiokol as very different from the way it was done at WCLC nearly 20 years earlier. Thiokol had air driven "granulators" that were part of a closed system to prepare perchlorate at the right particle size for use in loading military pyrotechnics, whereas WCLC hand-rubbed the perchlorate through a screen over a barrel. (*Id.*, at 88:20-90:5.)

Dr. Dillehay's opinion that photoflash powder containing potassium perchlorate and/or perchlorate itself would have been burned at WCLC is not based on any of the WCLC SOPs, but, rather, his experience at Thiokol and in the industry beginning *after* 1965. (*Id.*, at 76:1-17, 77:9-14.)[13] In his review of all the documents provided to him by Emhart, Dr. Dillehay had no reason to believe WCLC's SOPs were not followed. (*Id.*, at 73:24-74:2.) However, he did not review any deposition testimony of any of the seven WCLC employees who testified about following the SOPs and dumping mop water with potassium perchlorate in it onto the bare ground before signing his declaration. (*Id.*, at 116:6-12.) In his September 2002 Declaration to the Santa Ana Regional Water Quality Control Board, he opined that no water would have been used in the blending process at

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[13] Dr. Dillehay testified that every mixture of photoflash he could recall was some mix of potassium perchlorate and barium nitrate. (*Id.*, at 97:10-14.)

WCLC, but at that time he had not reviewed WCLC SOPs B-1, B-2 and B-3 **requiring** that the blenders be washed down with water wet rags and that the floors be mopped after every batch of photoflash powder was blended and/or at least four times a shift in both blending room A and blending room F. (*Id.*, at 118:15-119:11.)

One critical WCLC SOP Dr. Dillehay did not review prior to formulating the opinion about WCLC burning its perchlorate-based wastes set forth in his most recent declaration is the January 3, 1954 Safety Regulations for handling Azides, Styphenates, and Similar Explosives. (*Id.*, at 96:1-19, 98:1-99:4 [did not see paragraph 17 of the memorandum prohibiting burning of photoflash powder in incinerator before signing declaration], 107:10-16.)[14] In his earlier 2002 declaration to the Santa Ana Regional Water Quality Control Board, Dr. Dillehay testified he believed WCLC had strict "procedures to incinerate any waste containing perchlorate in a facility incinerator," but testified at his recent deposition that he had not seen the January 3, 1954 Safety Regulations at the time he made that statement. (*Id.*, at 120:20-121:8.) Indeed, Dr. Dillehay clarified at his deposition that his belief that WCLC had "strict procedures to incinerate any waste containing perchlorate in a facility incinerator" came from a document generally describing what the janitor's duties were, which did not specifically address photoflash powder

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[14] The exact text of paragraph 17 is "UNDER NO CIRCUMSTANCES shall any azide or styphenate residues, condensed fuzes, or contents of fuzes, **photoflash powder**, or any such hazardous or poisonous material be disposed of in either of the two incinerators." January 3, 1954 WCLC Safety Regulations for handling Azides, Styphenates and Similar Explosives, ¶ 17, bold emphasis added, other emphasis original. [KWK 43835-43837]. It should also be noted that, contrary to Emhart's completely unsupported and patently false assertion that there was no disposal pit south of the plant, this document references it as the place where azides, styphenates, photoflash powders and similar explosives are to be "drained into the ground." (*Id.*, at ¶ 16.) Emhart's false claim that no employee testified about the south disposal pit has already been addressed by Rialto in its Opening Brief at pp. 34-36. (*See e.g.,* testimony of Davis, Skovgard, Clayton and extensive citation to documentary evidence regarding the WCLC disposal pit.)

or perchlorate at all. (*Id.*, at 121:8-18.) When asked about the statements in his November 2002 Declaration to the Santa Ana Regional Water Quality Control Board, in which he opines that WCLC employed a "dry process" and would have incinerated perchlorate dust generated in the manufacturing process in the plant incinerator, Dr. Dillehay states that the janitor's memorandum was "pretty much all I had" in November, 2002. (*Id.*, at 127:20-128:11.) Ultimately, **Dr. Dillehay completely withdrew his opinion that photoflash powder and/or perchlorate wastes would have been disposed of by WCLC in the plant incinerator.** (*Id.*, at 122:14-123:17.)

Standard operating and safety procedures varied from place to place, and changed over time. Dr. Dillehay's expert opinion about safety and disposal procedures at a facility in Texas beginning nearly 9 years after WCLC's Rialto facility was closed and about standard industry practice nearly 20 years after it closed is simply no substitute for the eyewitness testimony of the former WCLC employees and the written SOPs that were contemporaneously in place at the facility, many of which Dr. Dillehay apparently was not aware until his recent deposition. The overwhelming evidence is that photoflash powder containing potassium perchlorate was denatured in water and dumped on the bare ground, either directly outside the production buildings, or at the disposal pit south of the plant. Of course, WCLC's mobilization of perchlorate wastes in water before dumping them onto the bare ground also contradicts Emhart's technical arguments, but those are addressed in another section of this rebuttal.

On the second question, Dr. Dillehay could not recall how much scrap perchlorate was allowed for with respect to any of the products containing potassium perchlorate that he was involved with manufacturing at Thiokol. (*Id.*, at 48:5-14.) Stated somewhat differently, he has no independent expertise in the subject of scrap potassium perchlorate generation in a munitions manufacturing operation and is, accordingly, not competent to offer an expert opinion on this

subject. In fact, Dr. Dillehay admits his "expert" opinion on scrap perchlorate generated at WCLC is based **solely** on his interpretation of WCLC's May 10, 1956, **DRAFT** Material Status Report. (*Id.*, at 48:23-49:20; *see also* 67:15-17 [admitting his testimony about perchlorate scrap for every product is based solely on the WCLC documents].) He further admits that he never reviewed a final version of the Material Status Report, that drafts are often revised before they become final, and that he himself revised a "draft" of the very declaration submitted on Emhart's behalf before signing it. (*Id.*, at p.50:4-15.) Dr. Dillehay's testimony on perchlorate scrap generated by WCLC must be disregarded and Rialto moves that it be stricken from the record. How the information in non-technical documents is to be interpreted is for the Hearing Officer to decide.

Moreover, Dr. Dillehay's own testimony about industry practices for estimating scrap chemical needs on successive contracts directly contradicts his interpretation of WCLC's **DRAFT** 1956 Material Status Report. Dr. Dillehay first explains that, after gaining experience with a process for a particular product, the second time around scrap estimates are refined and became much more accurate. (*Id.*, at 43:15-44:11.) Of course, it is inherently logical that experience generates wisdom. He then testifies that WCLC's processes for preparing and handling potassium perchlorate would be "virtually the same" for both the M-115 and the M-112 products. (*Id.*, at 60:3-18.) Dr. Dillehay cannot adequately explain why his ".25% scrap" interpretation of the **DRAFT** 1956 Material Status Report is directly contradicted by WCLC's 5**% scrap** estimate for potassium perchlorate on the M-115 ground burst simulator contract, which was not entered into until after completion of the M-112 contract and actual scrap allowances for perchlorate in WCLC's manufacturing process were well known to it. (*Id.*, at 62:12-63:18.) The most logical explanation for the discrepancy is that the **DRAFT** document was just that – a draft that had not yet been revised to reflect actual perchlorate scrap generated by WCLC in its production processes. The 5% scrap allowance in the

M-115 contract would have been based on wisdom generated from actual experience with the M-112 contract which, as Dr. Dillehay admitted, is a "much better rule of thumb." (*See id.*, at 44:8-9.) Accordingly, there is substantial evidence to support a finding that up to 1,976 pounds (4%) of the potassium perchlorate used to manufacture photoflash cartridges and ground burst simulators at WCLC was discharged into the soil.

In sum, the question of how much of the over 93,000 pounds of perchlorate WCLC handled at the 160-acre site was disposed of on the bare ground is not one Dr. Dillehay is competent to answer. The real question is whether substantial evidence supports a finding that WCLC discharged enough perchlorate to the ground that it either migrated to groundwater and/or threatens to do so. This is the ultimate question in this proceeding and must be answered by the Hearing Officer.

V. PRELIMINARY STATEMENT RE: GOODRICH DISPOSAL EVIDENCE.

There is no dispute Goodrich Corporation used and disposed of substantial amounts of ammonium perchlorate at its Rialto facility. Nor is there a dispute that substantial levels of perchlorate have been detected in the soil beneath Goodrich's former burn pit. The only facts truly disputed are the amounts of perchlorate used and disposed of at Goodrich's Rialto facility.

Once the erroneous estimates of Goodrich's paid experts with respect to the number of rocket motors produced and tested by Goodrich at the 160-acre site are adjusted to reflect the actual number of rocket motors documented by United States Government documents, Rialto's and Goodrich's estimates of the quantity of ammonium perchlorate discharged to the soil at the 160-acre site converge to only a few thousand pounds apart. After all of Goodrich's irrelevant and misplaced attacks on others, finger pointing, and hand wringing, it must admit that it discharged thousands of pounds of perchlorate-based propellant mixed with solvents and/or water onto bare ground at the 160-acre site. Accordingly, it is liable as a discharger under the Water Code.

A. Goodrich Underestimates the Amount of Ammonium Perchlorate from Production of Sidewinder Missiles.

Goodrich estimates that approximately 6,203 pounds of ammonium perchlorate originating from the Sidewinder rocket motor production was disposed of in the Goodrich burn pit. (Merrill Decl., Ex. A (Table 3).) While 6,203 pounds of ammonium perchlorate is a significant figure, Goodrich's estimate is too low, and should be approximately twice that amount. Dr. Merrill's estimate has several flaws including: (1) under-calculating the number of Sidewinder rocket motors government documents establish were loaded with propellant at Goodrich Rialto by 300 units; (2) underestimating the amount of ammonium perchlorate in each motor by at least 20 pounds; and (3) underestimating the number of Sidewinder motors that were salvaged.

B. Goodrich Underestimates The Number Of Sidewinders Loaded By Several Hundred.

Goodrich's paid expert, Dr. Merrill,[15] concludes Goodrich's production of Sidewinder missile motors (also referred to as Mk 31 Mod 0 and Mk 36 Mod 0) resulted in an approximately 6,203 pound ammonium perchlorate waste stream, which was sent to Goodrich's burn pit. Dr. Merrill's estimates, however, fail to account for nearly 300 Sidewinder rocket motors Goodrich is known to have loaded at the 160-acre site. While Dr. Merrill estimates only 436 Sidewinders were loaded by Goodrich, government documents conclusively reveal that at least **666 Sidewinders** were loaded by Goodrich for delivery to the Navy alone:

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[15] "At nearly every solid propellant manufacturing and/or testing facility where Dr. Merrill worked and described a burn pit similar to Goodrich's burn pit in Rialto, perchlorate is contaminating groundwater." *See e.g.* Edwards Air Force Base [multiple plumes], Bermite Saugus CA, Aerojet Rancho Cordova CA, Thokol Brigham City UT, United Technologies Chemical Systems Division Coyote [San Jose] CA, Thiokol Wasatch UT and Lockheed Propulsion Mentone CA. When asked what activities are occurring at Edwards Air Force Base, Dr. Merrill testified, "Now they're doing perchlorate remediation." (Merrill DT 147:15-20.)

200 Mk 31 Mod 0 delivered to NOTS (KWKA004521);

119 Mk 36 Mod 0 delivered to NOTS (KWKA004521);

311 Mk 36 Mod 0 defective, and not delivered (KWKA004521).

36 Mk 36 Mod 0 tested to address defect problem (KWKA00452728-35).

Not included in these 666 rocket motors are the 50-to-60 additional rocket motors that would have been loaded as part of the government-mandated production testing program. Indeed, Dr. Merrill estimated that at least 25 additional Sidewinder rocket motors were loaded for production testing purposes, but his "one per batch" estimate is based on a production run of 436 motors, and must be adjusted to account for the additional 230 motors the government documents establish he failed to account for in his calculations. Accordingly, Dr. Merrill and Goodrich have underestimated Goodrich's Sidewinder production by approximately 300 motors.[16]

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[16] A consistent and recurring issue with the expert testimony of Dr. Merrill is that it appears to be based on incomplete documentary evidence. Goodrich simply did not provide him with all the facts prior to his preparation and execution of his declaration. This is particularly true with respect to his estimates of the number of motors produced and the number of motors salvaged at Goodrich, with respect to TCE use and with respect to Goodrich burn pit operations. Moreover and more significant, however, is that Dr. Merrill's "estimates" on rocket numbers produced are not the proper subject of expert testimony. He admitted that his estimates are not based on his experience as a rocket scientist, but, rather, gleaned solely from a subset of the documents that will be introduced as evidence in this case. He also admits that he has weighed the credibility of conflicting deposition testimony and documentary evidence in arriving at his "estimates. (Merrill DT, pp. 64:11-65:9 [grinding operation conclusions came from weighing conflicting deposition testimony]; 78:25-79:22, 80:14-21 [conclusion about no TCE use required disregarding eyewitness testimony about TCE use]; 82:20-83:6[conclusion about no use of water to wet down containerized propellant required disregard of eyewitness testimony]; 92:10-93:9, 98:23-99:4[calculations on number of rockets produced at Goodrich required disregard of certain eyewitness testimony].) The myriad flaws in Dr. Merrill's purported "expert" testimony are set forth in detail in the Rialto Impeachment Appendix and in the Rebuttal Declaration of Daniel B. Stephens, each of which is submitted concurrently herewith. Dr. Merrill's "estimates" must be disregard and Rialto hereby moves that his non-expert opinions in this regard by stricken from the record. Judging the credibility of witnesses and giving due weight to conflicting evidence is not for an expert, but for the Hearing Officer to decide. For a detailed discussion of the significant shortcomings (continued...)

C. Goodrich Underestimates The Number Of Sidewinders Salvaged (or "Hogged-Out").

Dr. Merrill estimates that only 35 Sidewinder rocket motors were salvaged by Goodrich as a result of the documented head-end propellant grain cracking problems it had in Rialto. The evidence shows, however, that **311** Mk 36 Mod 0 Sidewinders rocket motors were in final assembly and about to be delivered to the Navy when head-end grain cracking problem was discovered in all of them. (KWKA004521). Goodrich thereafter reported to the Navy that the 311 Sidewinder motors "would not be submitted to Navy inspection, and that further loading would be suspended until a thorough investigation of the problem was made." *Id.*

A number of Goodrich employees testified that propellant removal and salvaging of rocket motor casing occurred "all the time." (*See* Bland DT 236:11-237:17.) Moreover, Dwight Wever, who didn't know how many Sidewinders were ultimately cast for production by Goodrich, testified that whatever the amount was, all of the Sidewinder motors developed cracks:

> Q. So do you know how many Sidewinders had actually been cast by Goodrich at the Rialto facility prior to leaving that facility at the end of 1963?
>
> A. No.
>
> Q. Now, with regard to the Sidewinders that were cast, did all of them crack?
>
> A. All of the production ones that we had, yes.
>
> Q. And what was done with all of those production Sidewinders?
>
> THE WITNESS: The propellant was removed.

(...continued)
relating to Dr. Merrill's "expert" testimony, please see Rialto's Impeachment Appendix, submitted concurrently herewith.

Q. Pardon?

A. The propellant was removed.

Q. Okay. And were the Sidewinder motor casings then returned to the government?

A. That's correct.

(Wever DT (vol.2) 345:23-346:16.) Goodrich engineer Polzien estimated that as many as 100 Sidewinder motors were salvaged. (Polzien DT (vol.2) 199:6-201:11.)[17] Accordingly, Goodrich's estimate of 35 salvaged Sidewinders is plainly too low and does not account for the 300 plus motors that were rejected and never delivered to the Navy. The propellant had to be "hogged out" of all of these motors before the casings could be reused, returned to the government or otherwise disposed of. Given that it was Goodrich's policy to salvage the defective rockets and return their casings to the Navy, it is reasonable to assume Goodrich did the same with all of the many hundreds of its defective Sidewinder motors.

D. Goodrich Underestimates Sidewinder Propellant Weight And Ammonium Perchlorate Content.

Goodrich grossly underestimates the weight of the Sidewinder rocket motor, and therefore the amount of ammonium perchlorate in each motor. Goodrich relies on the stray reference to the "Frame" weight of 55 pounds for the Sidewinder as the total weight of the rocket's solid propellant. (Ex. 20387, KWKA00452050). It is obvious the 55 pound weight is out of context because immediately below Frame "weight" in the document is "material" which is identified as aluminum. The plain inference is that the rocket motor's "aluminum" frame weighs 55 pounds.

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[17] When Merrill was asked why he discounted Mr. Polzien's testimony regarding Goodrich leaving things in the burn pit overnight, he stated, "I took it as a majority vote." (Merrill DT 152:15-20.) This typifies Dr. Merrill's "scientific method" with respect to many of the conclusions he reaches in his declaration, as set forth in detail at Tab 6 of Rialto's Impeachment Appendix.

More importantly, however, the overwhelming evidence in the public records and government documents and of Goodrich witness testimony establishes that the Sidewinder rockets weighed in the range of between 155 pounds and 198 pounds. For example, the Navy's current specification is that the Sidewinder missile weighs approximately 190 pounds.[18] Approximately 51 percent of the Sidewinder weight is attributable to propellant. (*See* Rialto's Opening Brief , pp. 41-43 [Government documents and Goodrich Engineer Polzien's estimates in accord – approximately 100 pounds of propellant per Sidewinder].) Goodrich and Rialto agree that Sidewinder propellant was approximately 80 percent ammonium perchlorate, therefore, each Sidewinder contained approximately 78 pounds of ammonium perchlorate.

E. Goodrich's Sidewinder Estimates Reveal Shortfall Of Approximately 5,500 Pounds Of Ammonium Perchlorate.

Goodrich's Expert, Dr. Merrill, assigned approximately 1.8 pounds of waste ammonium perchlorate for every Sidewinder manufactured. (*See* Merrill Decl., Ex. A (Table 3).) Accordingly, adding back in the additional 300 Sidewinder motors that were overlooked by Goodrich, results in an **additional 540 pounds** of ammonium perchlorate disposed of in Goodrich's burn pit even under Dr. Merrill's ultra-conservative standard.

Moreover, Goodrich's estimate of 35 salvaged Sidewinder rocket motors is not supported by substantial evidence, and contradicted by more reliable documentary evidence. At least 65 additional Sidewinder motors were salvaged containing on average of approximately 78 pounds of ammonium perchlorate. Furthermore, as discussed above, Goodrich underestimated the Sidewinder propellant weight on the 360 motors it did account for by at least 20 pounds per

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[18] *See* http://www.navy.mil/navydata/fact_display.asp?cid=2200&tid=1000&ct=2 (June 3, 2007).

motor. The result is an **additional 4,760 to 6,160 pounds** of ammonium perchlorate, on top of Goodrich's estimated 6,203 pounds of ammonium perchlorate discharged into Goodrich's burn pit.

F. Over 6,000 Pounds Of Water and Ammonium Perchlorate Slurry Was Poured Directly Into Goodrich's Burn Pit.

As discussed above, Goodrich's expert estimated at least 1,680 pounds of ammonium perchlorate was removed from salvaged Sidewinders (35 motors multiplied by 44 pounds of ammonium perchlorate), while the City more accurately estimated between 6,300 to 7,700 pounds of ammonium perchlorate was removed. Under either scenario, Goodrich's own expert, and the corroborating testimony of former Goodrich employees, confirm that the removed propellant was placed in buckets of water. (Merrill Decl ¶ 19; Haggard DT (vol.1) 115:7-116:24). The propellant and water slurry was then poured into Goodrich's burn pit where it seeped into the ground while waiting to be burned. (Polzien DT 87:1-24; 153:22-154:23; Wever DT 353:5-356-15).

G. Goodrich Underestimates the Amount of Ammonium Perchlorate from Production of LOKI Missiles.

Goodrich suggests it only loaded approximately 551 LOKI rocket motors (515 for production and 36 for test firing). (Merrill Decl., Ex. A (Table 2).) Goodrich's estimate errs by more than 1,000 LOKI rocket motors.

First, government documents conclusively show Goodrich was under contract to deliver 600 3.0" Mk 1 Mod 0 LOKI 1 missiles to the government, and in fact delivered at least **330** of these missiles. (KWKA00452488-90, KWKA00452500-03, KWKA00452544-45, KWKA00452557-59.) Second, a 1961 Goodrich technical paper prepared by Earl Denison and Archie B. Japs (of B.F. Goodrich) and entitled "Rocket Motors For Meteorological Studies," states that Goodrich loaded **1,000** LOKI IIA rocket motors at the Rialto Site for the Cooper Development Corporation, and Cooper's successor, the Marquardt Corporation.

The Goodrich company paper further establishes that Goodrich manufactured an additional **500** Mark 32 Mod O rocket motors for the Navy (the Navy's version of the LOKI IIA). Accordingly, Goodrich loaded at least **1,830** LOKI rocket motors, not including production test motors which Goodrich's own expert estimates at 36 motors.[19]

H. Goodrich Does Not Account for the 290 Pounds of Water-Perchlorate Slurry from 22 Salvaged LOKI Missiles Disposed of in Goodrich's Burn-Pit.

Goodrich experienced a similar head-end propellant cracking with the LOKI motor as it did with the Sidewinder. (KWKA00452271-77, at KWKA00452271). At least 22 LOKI motors were affected. (*Id.*) The propellant from the defective LOKI motors was cut-out, and solvents were used to thoroughly clean the insides of the casings. (Bland DT 231:23-232:9.) Approximately 290 pounds of ammonium perchlorate would have been removed from these 22 LOKI motors (22 x 13.3 pounds of ammonium perchlorate). The ammonium perchlorate that was removed was placed in water and then eventually disposed of by pouring the water-propellant mixture into Goodrich's burn pit. (Merrill Decl ¶ 19; Haggard DT (vol.1) 115:7-116:24; Polzien DT 87:1-24; 153:22-154:23; Wever DT 353:5-356-15.) The

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[19] Goodrich attacked the Advocacy Teams use of the Goodrich Technical report, arguing that document is ambiguous and inconsistent. The Hearing Officer will see for herself that the document is perfectly clear in its import. Beginning in early 1959, Goodrich began loading LOKI IIA motors for the Cooper Development Corporation and ultimately produced 1,000 loaded units. Not surprisingly, Goodrich's work for Cooper was not located by any party in the government's public records, because obviously it was not a government contract. Subsequently, Goodrich undertook a contract with the Navy to produce the Mark 32 Mod 0 rocket motor. As the paper states, the Mark 32 is the Navy's version of the LOKI IIA. Goodrich loaded 500 of the Mark 32 Mod 0 motors for the Navy, and test fired approximately 100 of these motors without a single malfunction. See, e.g., "Rocket Motors For Meteorological Studies," Earl Denison and Archie B. Japs. Goodrich's claimed "inconsistencies" are nothing more than a desperate fabrication. For a further discussion of Goodrich's history of loading Loki motors for Cooper Development Corporation, please see the rebuttal declaration of Daniel B. Stephens, submitted concurrently herewith.

effect of pouring water-soaked propellant fragments and incompletely-bound propellant particles into the Goodrich burn pit is discussed more completely by Dr. Stephens in his rebuttal declaration, but the short answer is that water mobilizes perchlorate's migration through soil.

I. Goodrich Falsely Claims there Is No Evidence of TCE Use at the Rialto Facility.

As set forth in the City's opening memorandum, there is substantial evidence of Goodrich's use of TCE at its Rialto facility. Goodrich, nonetheless, falsely claims that there is no evidence of its TCE use. This statement is based principally on the changed testimony of former Goodrich employee Dwight Wever, who testified at length in deposition about Goodrich's use of TCE, but later hedged his testimony stating he could not be certain if Goodrich used the solvent TCE or TCA. In declaring there is no evidence of TCE use at its Rialto facility, Goodrich has failed to "after the fact" manipulate the testimony of its former employee Gerald Bland in the way it did Mr. Wever's. Bland testified as follows:

Q. Are you familiar with the chemical trichloroethylene?

A. Very much so.

Q. Do you know whether Goodrich used trichloroethylene during your employment at the facility?

A. That's what they cleaned the mixer with.

* * * * *

Q. Okay. Did you personally ever have occasion to use trichloroethylene to clean any equipment?

A. Yes.

Q. Where did you use trichloroethylene to clean equipment?

A. There was some component parts. I was trying to think of what they are, where I would wash these parts in it. Maybe to wipe

down mandrels or something like that, or to clean out a bucket or a container that had some of the viscous liquid that go -- went to make up parts of the liner.

Q. Would you have had occasion to use trichloroethylene in the final assembly building?

A. No. No, I -- I used acetone.

Bland DT (vol.2) 232:16-22, 233:20-234:8.

Bland's deposition testimony is particularly relevant because Dwight Wever testified at length about Goodrich's use of TCE:

Q. For the Sidewinder and the Lokis that had the Goodrich formula that you witnessed, was there a cleaning process that used a solvent?

A. Yes.

Q. And was that used to clean out the mixer?

A. Yes.

Q. And the transfer units?

A. Yes.

Q. And what solvent was that?

A. TCE.

Q. That's trichlorethylene?

A. That's correct.

Q. Now, can you describe for us how trichlorethylene was used to clean -- let's start with a mixer for a moment.

A. After the propellant was transferred to the transfer vessel and taken away, the remaining propellant in the mixer, we took the beryllium spatulas and tried to scrape down the sides and remove as much of the propellant as we could from the sides as well as from the blades and that propellant went into a combustible container.

Q. A box or something?

A. A box or -- wooden box or cardboard box or whatever. Then we would take some TCE and charge it to the mixer and essentially slosh it around with the mixer blades to try to get most of the stuff at least off the bottom of the mixer and off the blades. And then we used TCE with rags to wipe down the rest of the mixer to get the rest of the propellant.

Q. I'm sorry, were you finished?

A. Yes.

Q. Would the TCE that was used in the mixer and sloshed around, was that transferred back into a container?

A. Yes, it was transferred back into a 5 5-gallon drum-type container.

Wever DT (vol.1) 58:4-59:16.

In his second day of deposition, Wever testified that he could not be certain the solvent used by Goodrich to clean the mixers was TCE or TCA. But whichever solvent was used, after cleaning Goodrich's propellant mixers the solvent was poured back into its 55-gallon drum container and subsequently poured out into the Goodrich burn pit. (Wever DT 57:22-58:15, 280:2-281:12.) Independent of Wever and Bland, the Emhart Parties expert, Dr. David Dillehay, who worked for Goodrich's competitor Thiokol, explained that TCE was the favored degreaser for rocket motor casings during the 1960s. (Dillehay DT 49:21: 51:10.) He testified that acetone and/or "hex" would not have been used during the 1960s to clean out rocket motor casings, but, rather, that TCE was the most efficient "solvent of choice" and was industry standard for such activities. (*Id.*) Given this industry practice, Bland's specific under oath recollection of TCE use in the Goodrich mixers, and Wever's initial belief the solvent was TCE, there is more than sufficient evidence to conclude that solvent used by Goodrich was indeed TCE.

VI. PYRO SPECTACULARS, INC.'S ACCUSATIONS ABOUT OTHER POTENTIAL DISCHARGERS DO NOT ABSOLVE IT OF LIABILITY UNDER THE WATER CODE; THERE IS SUBSTANTIAL EVIDENCE TO SUPPORT FINDINGS THAT IT DISCHARGED PERCHLORATE TO WATERS OF THE STATE OR TO SOIL WHERE IT THREATENS WATERS OF THE STATE THROUGH ITS TESTING AND WASTE BURNING OPERATIONS AND THROUGH ITS USE OF THE MCLAUGHLIN PIT.

Pyro Spectaculars, Inc. ("Pyro") spends the vast majority of its Opening Brief pointing fingers at other potential dischargers. It also claims, as a matter of semantics, that it did not "manufacture" fireworks at the 160-acre site. Neither is relevant to Pyro's liability under the Water Code. Importantly, Pyro admits: (1) it handled perchlorate-containing fireworks at the 160-acre site from 1979 to the present; (2) it burned pyrotechnic waste on the bare ground, some of which contained perchlorate, at the 160-acre site; (3) it tested aerial display fireworks containing perchlorate over the bare ground at the 160-acre site; and (4) it disposed of fireworks containing perchlorate by soaking them in water in the McLaughlin Pit. (Pyro Opening Brief, p. 5.) What Pyro fails to mention in its admissions is that it handled **hundreds of thousands** of aerial displays fireworks containing perchlorate, **burned over 5.5 tons of pyrotechnic waste**, some of which contains perchlorate, **tested tens of thousands** of aerial display fireworks over the bare ground continuously for a twenty year period, and **disposed of approximately 1,000 aerial display shells in McLaughlin Pit** at the 160-acre site.

Even if it were relevant, as will be demonstrated below, Pyro's attempt to minimize the releases of perchlorate it caused are flawed because they are based on declaration testimony from James R. Souza that has been fabricated since his deposition testimony was taken under oath. Mr. Souza stated at his deposition that

he had only seen the McLaughlin Pit a "few times." (December 5, 2006, Deposition of James Souza ("Souza DT")[20], p. 151:6 [the few times Souza observed McLaughlin Pit it was filled very close to the top with liquid].) He further testified under oath at his deposition that he had **no personal knowledge** about what Pyro may have put into McLaughlin Pit, and that any knowledge he did have came from his attorneys. (Souza DT, p. 154:1-155:4.) Mr. Souza also testified at his deposition that he had **no personal knowledge** about Pyro's use of the McLaughlin Pit to dispose of aerial shells. (*Id.*, at 156:24-157:1.) Under oath at his deposition, Mr. Souza testified **he did not know whether Pyro disposed of pyrotechnic powders in the McLaughlin Pit**. (*Id.*, at 159:3-7.) In fact, Souza testified "I really wasn't involved in the operations of the -- Pyro in the '80s." (*Id.*, at 160:23-24.)

Mr. Souza makes a startling "about face" in his Declaration submitted to the Hearing Officer. First, after saying he had no personal knowledge about whether Pyro disposed of aerials shells, and no personal knowledge about whether pyrotechnic powders were ever disposed of in the McLaughlin Pit, he now claims he knows that powders were not disposed of and that aerial shells were soaked there and then removed and burned. (Souza Decl., ¶¶ 22, 24.) He further claims to now know that the shells disposed of by Pyro in the Pit only contained 400 grams of pyrotechnic materials content each. (*Id.*, at ¶ 25.) Clearly, a person who has no knowledge concerning whether shells were even disposed of in the Pit is incompetent to testify about their size and pyrotechnic content. Because Mr. Souza testified he has no personal knowledge of any of these "facts," he is not competent to submit a declaration purporting to testify to them, and paragraphs 24-26 of his declaration must be stricken from the record.

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[20] Mr. Souza's deposition transcripts were submitted with Rialto's Opening Brief.

With respect to Pyro's burn pit on the 160-acre site, he testified at his deposition, that he never saw a burn take place there, and that he did not even know whether Pyro ever sent items to the burn pit to be burned. (Souza DT, p. 163:1-10.) Souza then purports to testify in his declaration to the Hearing Officer that Pyro burned only wood, cardboard, pasteboard, fuse and black powder at the 160-acre site. (Souza Decl., ¶ 26.) Since Souza has no personal knowledge about Pyro's burns at the 160-acre site, including whether they took place or what was burned, his declaration testimony in this regard is not competent and must be stricken from the record.[21]

Pyro argues that, based on a single statement by Pedro Mergil to Mr. Paine of the Santa Ana Regional Water Quality Control Board, McLaughlin Pit was not used by Pyro after 1983. Mr. Mergil's statement is simply that **Apollo** did not use McLaughlin Pit after 1983 and, even if true and accurate, this statement does not address Pyro's use of the Pit.

Pyro's attempts to trivialize its operations ring hollow. In 1987 alone it had over 180,000 pounds of fireworks stored at the site. Its website indicates it is the largest aerial display fireworks company in the world.

Rialto will not repeat the substantial evidence in its Opening Brief (pp. 60-78) concerning Pyro's releases of perchlorate to the environment at the 160-acre site, except to summarize as follows: (1) contemporaneously generated documentation on Pyro company letterhead clearly establishes that Pyro was putting 15-20, 800 gram, cardboard aerial shells, typically containing perchlorate,

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[21] Mr. Lehman's Declaration, in which he purports to disavow the January 17, 1984, letter stating how many shells Pyro disposed of in McLaughlin Pit and their pyrotechnic content, is wholly impeached by the "qualifications" and retractions to this declaration he made at his deposition. *See* Rialto's Impeachment Appendix submitted concurrently herewith. In any event, Lehman's Declaration is typical of Pyro's revisionist approach to this proceeding and the contemporaneously-generated documents is entitled to considerably more weigh than a self-serving interpretation of that document given some twenty years later.

into McLaughlin Pit every month from 1979 through at least 1984; (2) Pyro burned at least two "full truckloads" of pyrotechnic powders and composition and defective fireworks containing perchlorate that were manufactured at its Astro division, and over 11,000 pounds of pyrotechnic waste in an unlined earthen burn pit at the 160-acre site; (3) Pyro tested thousands of aerial display fireworks containing perchlorate over the bare ground at the 160-acre site over a twenty year period. All of these facts are corroborated by independent witnesses not on Pyro's payroll and/or contemporaneously-generated documents. The overwhelming scientific evidence presented by Rialto in its Opening Brief is that potassium perchlorate does not completely combust in fires or in fireworks tests. Pyro offers no scientific evidence to the contrary.

Shockingly, PSI submits a declaration from William Lehman stating that, although he recognizes his signature on the January 17, 1984, letter from PSI to Pyrotronics verifying that PSI disposed of 15-to-20 aerial display shells containing up to 800 grams of pyrotechnic powder each into McLaughlin Pit, today, he has no recollection of the letter or the Pit. Although it is not shocking that Mr. Lehman might not recall events or a single letter from over twenty years ago, his conclusion that the document must reference the PSI burn pit is simply beyond the pale. When queried on this subject at his deposition, Mr. Lehman responded that no one ever signed documents for him and no one had a stamp of his signature. (Lehman DT 97:1-18 [*see full discussion at* Impeachment Appendix, Tab 5.) He further testified that it was customary for the office to generate paperwork for his signature on his behalf, and that it was his practice to review the paperwork for accuracy before signing. (*Id.*, at 119:22-120:11.) Lehman testified that he would have relied on someone else to provide the information regarding the chemical composition in the letter, but that he had no reason to believe the statements in the letter about chemical compositions are not true because he does not know the chemical

compositions of pyrotechnic devices. (*Id.*, at 126:10-25.)[22] When confronted with the 1984 letter he signed stating 15 to 20 defective shells per month were put into the McLaughlin Pit during peak season, Lehman thought the number seemed high in terms of defective shells but conceded it had been a long time and he could not remember a precise number. (DT 123:19-124:15)

In short, the contemporaneously-generated 1984 document signed by Lehman – PSI's then-General Manager and on PSI letterhead is reliable evidence that PSI was disposing of perchlorate-containing aerial display shells by soaking them in McLaughlin Pit during the early 1980s, and is far more credible that PSI's modern fabrication of events.

When confronted with State regulations (and James Souza's Declaration) stating that duds should be doused with water and placed in buckets half filled with water, and asked whether PSI operators followed this policy, Lehman said he could only say what he did, which was not to use water. He acknowledged that other operators did use water and that shells would be returned in buckets of water. He also recalled mortar tubes with misfired shells inside being returned filled with water. (*Id.*, at 74:2-76:12, 83:21-85:17)

Finally, PSI claims it cannot afford to be ordered to investigate and/or clean-up the perchlorate contamination it has caused in Rialto, relying on the declaration of its bookkeeper Cheryl Sampiero. As set forth in detail at Tab 10 of Rialto's Impeachment Appendix, submitted concurrently herewith, Sampiero's declaration does not support PSI's claim. It fails to provide PSI's gross revenue figures, preventing an analysis of the amount of money the PSI principals draw out of the company each year. It does not account for management and/or officer and

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[22] There are a number of additional, post-hoc, self-serving and fabricated statements about PSI's burn pit and aerial display duds being soaked in water in PSI's Lehman Declaration which he disavowed and or qualified at his deposition. For a full discussion of these retractions and qualifications, see Tab 5 of Rialto's Impeachment Appendix

director salaries, bonuses and profit sharing for this closely held company. There are no fewer than seven Souza family members drawing annual salaries, and/or bonuses and/or profit sharing and benefits from PSI, including James Souza, Gary Souza, Ian Gilfillan (brother-in-law), Nancy Souza-Gilfillan, Steve Souza, Paul Souza and Christopher Souza. The figures provided by Ms. Samperio provide no insight into how much money the Souza's are taking out of the company on an annual basis, which is likely substantial given that PSI touts itself on its Website as a ninety-year-old company that is the "largest fireworks company on the West Coast and one of the largest in the country."

Moreover, PSI concedes it has a book value of almost $2.7 million, which could be sold off or used as collateral to obtain financing to pay for investigation costs, clean-up costs or replacement water. Importantly, Ms. Sampiero fails to account for the quantum of insurance assets available to PSI, except to admit it has insurance that has been paying for its investigation costs voluntarily undertaken and/or ordered by the Santa Ana Regional Water Quality Control Board, and covering its defense in the Federal CERCLA litigation. True and correct copies of PSI's Insurance certificates documenting some of PSI's available insurance assets are submitted concurrently herewith in Rialto's Request for Official Notice and are admissible under California Evidence Code as statements against interest.

VII. EMHART, FORMERLY KNOWN AS AHC, MERGED WITH KLI AND THEREBY ASSUMED ALL OF KLI'S LIABILITIES, WITHOUT REGARD TO WHETHER AHC CONTINUED WCLC'S OPERATIONS OR PRODUCT LINES.

The Emhart Parties place great stock in the fact that WCLC had discontinued its munitions business as a part of AHC's acquisition of KLI's stock. The Emhart Parties erroneously argue that if AHC did not continue WCLC's munitions business, AHC cannot be held liable for WCLC's munitions-related

activities. The Emhart Parties' argument is wrong because Emhart has confused the *de facto* merger exception and the *Ray v. Alad Corp.* "special" strict product liability exception[23] to the general rule that an acquirer of company assets takes free of the company's liabilities. (Emhart Parties Brief at 43-44.) The Supreme Court stated in *Ray v. Alad Corp.*, the *de facto* consolidation or merger exception is invoked:

> Where one corporation takes all of another's assets without providing any consideration that could be made available to meet claims of the other's creditors [citation omitted] or where the consideration consists wholly of shares of the purchaser's stock which are promptly distributed to the seller's shareholder in conjunction with the seller's liquidation [citation omitted]. *Id.* at 28.

A. WCLC's merger Into KLI and KLI's Subsequent Merger Into AHC Transferred WCLC's Contingent Environmental Liabilities to AHC.

The *de facto* merger exception articulated by the Court in *Ray v. Alad* focused on the nature of the transaction, not the product line. The *de facto* merger exception addresses the circumstance where, for all intents and purposes, two companies have in fact, if not in law, merged. Like a *de jure* merger, only the acquirer and the shareholders of the acquired company benefit, there is no accession of assets in the acquired company with which to pay creditors. Therefore, the acquirer in a *de facto* merger succeeds to all of the liabilities of the acquired company just as if the transaction were a *de jure* merger.

Emhart concedes that WCLC merged with KLI and, by law, KLI therefore succeeded to all of WCLC's liabilities, without limitation and without regard to

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[23] The Supreme Court in *Ray v. Alad Corp.*, (1977) 19 Cal.3d. 22 recognized four traditional exceptions to the general rule that an acquirer of corporate assets takes free of corporate liabilities, to wit (1) assumption of liabilities, (2) *de facto* consolidation or merger, (3) mere continuation and (4) fraudulent purpose. (*Id.* at 28,) and to these added a "special" fifth exception in circumstances involving strict tort liability for defective products. *Id.* at 30 - 34.

whether KLI continued WCLC's business. Thus, WCLC's contingent liabilities for discharging perchlorate into the environment passed to KLI. The Advocacy Team and the City of Rialto's submissions established that AHC merged with KLI and therefore succeeded to all of KLI's liabilities, including KLI's contingent liabilities for WCLC's dischargers of perchlorate. The Advocacy Team and the City of Rialto's submissions establish that AHC's acquisition and absorption of KLI through the exchange of AHC stock for KLI stock and the dissolution of KLI resulted in a de facto merger that passed to AHC all liabilities formerly held by KLI. The Emhart Parties erroneously assume AHC can slice and dice the liabilities AHC acquired when it merged KLI into AHC; however the Emhart Parties cite no authority that excepts this transaction from the general rule that the surviving company to a merger assumes all liabilities of the merged companies. Moe v. Transamerica Title Ins. Co. (1971) 21 Cal.App.3d 289, 304 ("It is the general rule that a corporation formed by consolidation or merger is answerable for the debts and liabilities of the constituent corporations, whether they arise ex contracu or ex delicto.")

1. Emhart Mischaracterizes the underpinnings for the *de facto* merger doctrine.

The Emhart Parties claim that *Ray v. Alad* stands for the proposition that successor liability "causes the one who takes the benefit to bear the burden." The Emhart Parties then argue the corollary must also be true, i.e., one who does not take the benefit does not bear the burden. (Emhart Parties Brief at 42-43.) While Rialto may disagree with the Emhart Parties' version of the proposition and whether the Emhart Parties' corollary is necessarily true, such discussion is unnecessary. The Emhart Parties have relied upon the California Supreme Court's justification in *Ray v. Alad* for creating the "special" strict tort liability exception; that reliance is misplaced.

The *de facto* merger exception discussed above is distinctly different from the "special' strict tort liability exception that the *Alad* Supreme Court created.

Indeed the *Alad* Court expressly created the "special' exception in part because the acquisition there did not fall within one of the four general exceptions, including de facto merger. *Ray v. Alad Corp.*, at 30. Consequently, the Court created a new "special" exception and justified imposing this new strict liability on a successor to a manufacturer (1) where the successor's acquisition of the original manufacturer's business destroyed the plaintiff's remedies, (2) where the successor had the ability to spread the original manufacturer's and (3) because fairness required the successor to assume the responsibility/burden for defective products which the Court found necessarily attached to the acquired goodwill. Thus the *Alad* Supreme Court and its progeny when considering whether to apply the "special" exception may discuss product line as it relates to the "special" exception's third element, but continuance of product line is not a factor in the test for finding a de factor merger. Indeed, Ray v. Alad stated simply a de facto merger can be invoked "where one corporation takes all of another's assets without providing any consideration that could be made available to meet claims of the other's creditors." Following Ray v. Alad's teaching, the Court of Appeal in *Marks v. Minnesota Mining and Manufacturing Co.* (1986) 187 Cal.App.3d 1429, 1435 succinctly held "the issues of corporate similarity or continuity of a predecessor's product lines are of no significance where, as here, the *form* of the acquisition dictates that liabilities are passed on." (emphasis in original).[24]

2. The authorities cited by the Emhart Parties do not refute that AHC effected a *de facto* merger with KLI.

The Emhart Parties' sweeping conclusion that under *Louisiana-Pacific v. Asarco, Inc.* (9th Cir. 1990) 909 F.2d 1260, ("*Asarco*") Emhart is not liable "under

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[24] Therefore, and contrary to the Emhart Parties' assertion, *Marks* clearly held that in answering the question "did the purchaser continue the enterprise after sale" corporate similarity and continuity of product lines are of no significance. What is important is the form of the acquisition. Here, AHC continued the KLI enterprise and thereby succeeded to KLI's liabilities.

any theory of successor liability for WCLC's alleged discharges" (Emhart Parties Brief at 45:25-28, emphasis added) is misplaced and unsupported. *Asarco* applies only in the context of asset purchases and does not address the express or implied liability exception, the product-line exception under *Ray v. Alad Corp.*, or the mere continuation exception to the general rule excluding successor liability for asset purchasers. *Id.* at 1264-1266. Instead, the *Asarco* court limited its analysis to the *de facto* merger exception and (separately) the continuing business enterprise exception under federal law, which is inapplicable to these proceedings. *Id.* at 1264-1266. The Emhart Parties confuse and conflate the discussion of these separate exceptions.

With respect to *de facto* merger law, the *Asarco* court looked to federal court decisions recognizing *de facto* mergers in the following circumstances:

> (1) there is a continuation of the enterprise of the seller in terms of continuity of management, personnel, physical location, assets, and operations;
>
> (2) there is a continuity of shareholders;
>
> (3) the seller ceases operations, liquidates, and dissolves as soon as legally and practically possible; and
>
> (4) the purchasing corporation assumes the obligations of the seller necessary for uninterrupted continuation of business operations.

Id. at 1264-1265 (citations omitted).[25]

The court found no *de facto* merger because the second prong was not met: there was no continuity of shareholders. *Ibid.* The court did not even address the

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[25] The Ninth Circuit subsequently called into doubt the *Asarco* court's concern that a federal rule regarding corporation succession should be adopted; as state law does not "vary widely" there is not need for a uniform federal rule under CERCLA. *Atchison, Topeka and Santa Fe Railway Company* (1998) 159 F.3d 358, 363-364.

first prong, which was the sole cite by the Emhart Parties from the *de facto* merger discussion. (Emhart Parties Brief at 45:9-11.)

Next, the *Asarco* court declined to determine whether to adopt *under CERCLA* the continuing business enterprise exception – a "more expansive version of the mere continuation exception." *Id.* at 1265-1266, 1265[26]. This says nothing of the applicability of the mere continuation exception to AHC's successor liability for WCLC's discharges. Moreover, the question here is not whether the "more expansive" continuing business enterprise exception applies under CERCLA, as federal law is not controlling. Accordingly, the *Asarco* court's discussion is irrelevant to these proceedings in which state law, not federal law, governs.

The Emhart Parties' reliance on *Chrysler Corporation v. Ford Motor Co.* (E.D. Mich. 1997) 972 F.Supp. 1097, 1111-12 is equally unavailing.[27] The court noted that the four requirements for de facto merger under Michigan law included "continuation of the enterprise of the seller corporation" and that "the seller corporation must cease ordinary business operations, liquidate and dissolve as soon as legally and practically possible." *Id.* at 1111. While the court is less than clear in detailing the assets the parent company KFC transferred to its subsidiary

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[26] The *Asarco* court declined to determine whether the continuing business enterprise exception applies under CERCLA based on its determination that the underlying facts were distinguishable from those of the Ninth Circuit's earlier decision in *Oner II, Inc. v. United States Environmental Protection Agency*, (9th Cir. 1979) 597 F.2d 184 (affirming EPA's authority to extend liability to successor corporations under the Federal Insecticide, Fungicide and Rodenticide Act), in which the successor had notice of the outstanding debt where the same person served as president of the predecessor and successor entities, and the successor was formed to continue the same business activity (and in that case retained the same personnel "in a responsible position"). *Louisiana-Pacific v. Asarco, Inc.*, 909 F.2d 1260, 1265-1266, 1265 (9th Cir. 1990).

[27] Although the Emhart Parties confuse the parent corporation (KFC) that sold its assets to its subsidiary corporation (KMC), which itself was acquired ultimately by Chrysler, it is of little import to the analysis.

KMC or whether KMC continued any portion of the KFC enterprise,[28] the court made crystal clear that the *de facto* merger doctrine was inapplicable because, far from liquidating and dissolving, KFC, the selling company, survived after the transaction with "substantial assts" for over twenty years. *Ibid.* Such is not the case here.

The Emhart Parties' citation to *Beatrice v. State Board of Equalization* (1993) 6 Cal.4th 767, 777-78 for the broad proposition that "expansion of successor liability is disfavored" strains credulity. (Emhart Parties Brief at 46-47.) The *Beatrice* Court merely acknowledged that *Ray v. Alad* created a "special," fifth exception to (1) assumption of liability, (2) *de facto* merger, (3) mere continuation and (4) fraudulent transfer exceptions which, as to that fifth exception, the Court expressly limited to tort liability. The *Beatrice* court said nothing to limit the application of successor liability generally or to limit any of the other four exceptions.[29] In any event, neither Rialto nor the Advocacy Team seeks to expand successor liability. Application of the existing doctrines to the facts here establishes that the Emhart Parties succeeded to WCLC's liabilities for discharging perchlorate into the environment.

3. The *de facto* merger doctrine applies to any transaction that effects a merger or consolidation.

The Emhart Parties' assertion that the *de facto* merger doctrine does not apply to the absorption of an enterprise through stock acquisition is wrong. The

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[28] Did the court find no continuation even though the subsidiary employed the acquired assets to continue some aspects of the parent enterprise – the interpretation the Emhart Parties prefer – or did it find no continuation because the subsidiary simply did not employ the assets to continue any enterprise formerly carried on by the parent? The answer cannot be gleaned from the opinion.

[29] For the same reasons, the Emhart Parties' citations to *Monarch Bay II v. Professional Service Industries, Inc.* (1999) 75 Cal.App.4th 1213 and *Franklin v. USX Corporation* (2001) 87 Cal.App.4th 615 are irrelevant at best. (Emhart Parties Brief at 47.)

Court of Appeal in *Marks v. Minnesota Mining and Manufacturing Co.*, *supra*, 187 Cal.App.3d, 1435-1438 analyzed two "reorganizations," first an asset purchase by a wholly owned subsidiary of defendant 3M and second, the subsequent dissolution of the wholly owned subsidiary and absorption of its business into defendant 3M. The *Marks* Court of Appeal concluded both transactions constituted *de facto* mergers of an absorbed enterprise. In so doing the Court held:

> The critical fact is that while there was more than one merger or reorganization, an analysis of each transaction discloses to us that its intrinsic structure and nature, unlike a sale of assets for cash, was of a type in which the corporate entity was continued and all liability was transferred. All the indicia of a merger are present. We accordingly conclude that the second reorganization, like the first, transferred all liabilities to the surviving corporation. *Id.* at 1438.

AHC dissolved, absorbed and thereafter continued internally KLI's enterprise in virtually the same manner that 3M dissolved, absorbed and continued its subsidiary's enterprise in *Marks v. Minnesota Mining and Manufacturing Co.* And like the finding in *Marks*, the "intrinsic structure and nature" of the AHC/KLI transaction "was of a type in which the corporate entity was continued and all liability was transferred."

The Emhart Parties can not find solace in *Potlatch Corp v. Superior Court* (1984) 154 Cal.App.3d 1144, cited by the Emhart Parties at page 48 of their brief, because *Potlatch* is both consistent with *Ray v. Alad* and *Marks v. Minnesota Mining and Manufacturing Co.* and distinguishable from the facts here. Simply stated, the Court of Appeal in *Potlatch* refused to find parent corporation Potlatch liable for damages caused by the failure of its wholly-owned subsidiary's product specifically because Potlatch never acquired the subsidiary's assets and carried on its business. Unlike the parties in *Marks* and unlike AHC and KLI here, Potlatch discontinued its subsidiary's business, sold its assets at auction and dissolved the

subsidiary. Most important, Potlatch did not absorb and continue any portion of its subsidiary's business.

> [The subsidiary] remained in existence until December 31, 1978, at which time it was dissolved in compliance with California law. Its business was discontinued and its plant and equipment were liquidated by an auction sale. Potlatch did not take over the business of [the subsidiary] nor absorb its plant and equipment. *Id.* at 1147-1148.[30]

Indeed, the facts here are much more like the facts in *Petrini v. Mohasco Corporation* (1998) 61 Cal.App.4th 1091. In *Petrini*, the wholly owned subsidiary of parent Mohasco sold asbestos-containing floor tiles. Over a four year period, the subsidiary sold off all of its assets. After the subsidiary had no remaining assets and only a lease and a pension for liabilities, it was merged into parent Mohasco. The widow and children of decedent who allegedly died from exposure to the asbestos in the floor products sued Mohasco as the corporate successor to its subsidiary. Mohasco citing *Potlatch* claimed it was not a successor because it acquired a mere shell and did not acquire or carry on its subsidiary's business. The *Petrini* Court of Appeal distinguished this case from *Potlatch* because unlike *Potlatch* the subsidiary here was merged into parent Mohasco. Citing both *Marks v. Minnesota Mining and Manufacturing Co.* – "successor liability found based on

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[30] For essentially the same reasons, *Phillips v. Cooper Laboratories* (1989) 215 Cal.App.3d 1648 cited by the Emhart Parties at page 49 is also distinguishable and unavailing. In the portion of the *Phillips* opinion that the Emhart Parties quote they somewhat disingenuously omitted the lead in sentence: "For the same reason, Nestle's acquisition of Miller's stock did not result in a de facto merger." *Id.*, p. 1660. Earlier, the Court identified the "same reason," to wit "Here, there was no merger because Miller continued to exist as a separate corporation for approximately 10 years after its stock was acquired by Nestle in 1958." *Ibid.* In 1968 Nestle dissolved Miller with no indication that it acquired its assets and/or resumed its business as a unit of Nestle. *Id.*p. 1653. Thus, that is why the *Phillips* court found, as the Emhart Parties selectively quoted, "Marks does not apply."

de facto merger" and a case adjudicating a statutory merger, the Court of Appeal held:

> The surviving corporation under a statutory merger is responsible for the liabilities of the merged corporation under both common law and statute. No authority has been cited or found indicating that such liabilities would be limited only to known ones. Thus, we conclude that Mohasco is liable as a successor in interest to [its subsidiary] by virtue of its merger of [its subsidiary] into itself. *Id.* at 1098-99.

Thus, like *Petrini*, AHC's merger (albeit a *de facto* merger) with KLI transferred to AHC all of KLI's liabilities, including those generated by previously discontinued businesses, such as that from WCLC.

Finally, the Emhart Parties attempt to dismiss *Arthur Spitzer et al.*, Order No. WQ 89-8 (SWRCB 1989) by claiming it is difficult to decipher and in any event distinguishable because what really troubled the Water Board was that the subsidiary was apparently abandoned without leaving assets or an ongoing business to satisfy its creditors. The Emhart Parties contend those facts did not occur here because KLI's "known debts and liabilities" were fully accounted for. (Emhart Parties Brief at 51.) The Emhart Parties are wrong on all accounts. The Water Board clearly articulated the guiding principle:

> The California Supreme Court has stated the principle that if one corporation acquires all the assets of another corporation without paying substantial consideration for the assets, the purchasing corporation is liable for the pre-purchase activities of the selling corporation. [citing *Ray v. Alad* and other cases]. That principle applies here. (emphasis added.)

Arthur Spitzer et al, *supra*, p. 23. The Water Board then examined the transaction and determined that the alleged corporate successor had acquired all of the assets of the discharger by acquiring all of its stock, rather than paying cash to the discharger for its assets. Thereafter, the corporate successor allowed the

discharger to go out of business. Moreover, based in part upon statements by counsel for the alleged corporate successor, the Water Board reasonably concluded that the corporate successor employed the assets acquired from the discharger. Based upon these findings the Water Board reasonably concluded that:

> In accordance with the principle articulated in *Ray v. Alad*, *supra*, it would be inequitable to afford [the corporate successor] the protection of the corporate veil of [the discharger].

Thus what troubled the Water Board was not just that the subsidiary was abandoned as Emhart Parties suggest. Instead, what troubled the Water Board, and what has troubled the courts since before *Ray v. Alad* and its progeny, is a transaction that results in the successor acquiring and employing the assets of another company without paying adequate consideration to that company. Just like the discharger and its subsidiary in *Arthur Spitzer*, AHC here acquired and employed KLI's assets without paying anything to the company for those assets.

For the reasons stated in Rialto's and the Advocacy Team's initial submissions, the conclusion is inescapable, AHC and KLI effected a *de facto* merger and as a consequence, AHC succeeded to all of KLI's liabilities, including KLI's liabilities for WCLC discharges of perchlorate into the environment.

B. <u>Emhart and AHC Assumed KLI's Contingent Liability for Discharges of Hazardous Substances into the Environment.</u>

In response to the Advocacy Team's evidence that AHC assumed KLI's contingent liability for discharges of hazardous substances into the environment, the Emhart Parties in effect argue AHC could not have assumed liability created under statutes enacted years after the assumption agreement.

- "Necessarily, an agreement limited by its terms to the assumption of those liabilities "in existence" on June 30, 1958, does not include liabilities created by later-enacted statutes, such as Water

Code §§ 13304 and 13267, neither of which would come into existence until many years later." (Emhart Parties Brief at 53:25-28.)

- "The Dissolution Certificate does not contain language which states that AHC expressly assumed KLI liabilities created by later-enacted statutes, like Water Code §§ 13304 and 13267." (Emhart Parties Brief at 54:22-24.)
- "Critically, the Advocacy Team presents no evidence that, between June 5, 1958, the date of the AHC Board's resolution, and 25 days later, June 30, 1958, the date of the assumption agreement, the AHC Board amended its resolution to authorize its officers to prepare and enter into a liability assumption agreement which would expressly assume KLI liabilities created by later-enacted statues, such as Water Code §§ 13304 and 13267." (Emhart Parties Brief at 55:9-13.)
- "Thus, even under Iron Mountain's analysis of federal law, because AHC's assumption agreement was limited to liabilities in existence on the date of KLI's dissolution, under federal law AHC did not contractually agree to assume in 1958 KLI's alleged liability under Water Code §§ 13304 and 13267, which would not be enacted for many years." (Emhart Parties Brief at 56:11-15.)
- "The gist of the Advocacy Team's "argument" is that 50 years ago KLI's directors would have been foolish to approve a KLI agreement that did not protect them against personal liability for unknown post-dissolution claims, including claims arising under later-enacted statutes, such as Water Code §§ 13304 and 13267, as well as CERCLA." (Emhart Parties Brief at 57:28-58:4.)

This defense is a red-herring. The true issue is when AHC acquired, dissolved and absorbed KLI, did it expressly or impliedly assume KLI's then existing liability for discharges of waste into the environment.

> Our discussion of the law starts with the rule ordinarily applied to the determination of whether a corporation purchasing the principal assets of another corporation assumes the other's liabilities. As typically formulated the rule states that the purchaser does not assume the seller's liabilities unless (1) there is an express or implied agreement of assumption, (2) the transaction amounts to a consolidation or merger of the two corporations, (3) the purchasing corporation is a mere continuation of the seller, or (4) the transfer of assets to the purchaser is for the fraudulent purpose of escaping liability for the seller's debts.

Ray v. Alad, supra, 19 Cal.3d. 28

The Emhart Parties would have the Water Board believe there were no then existing contingent environmental liabilities for AHC to assume. As Rialto detailed in its initial submission (Rialto Initial Brief, pp. 92-93) and rebuts, supra, the Emhart Parties are once again wrong.

The 1949 Dickey Act (Cal. Water Code § 13000), the 1907 Public Health Act (Public Health Code, 1906 Cal. Stat. 893-94) and common law nuisance claims (*See Lind v. City of San Luis Obispo* (1895) 109 Cal. 340, 341-42; *Thompson v. Kraft Cheese Co. of California* (1930) 210 Cal. 171, 173, 178-80; *The People v. The Truckee Lumber Co.* (1897) 116 Cal. 397, 400-02; *City of Turlock v. Bristow* (1930) 103 Cal. App. 750, 753-55) exposed KLI to liability for its discharges of wastes that could potentially contaminate waters in the State of California.

It is undisputed that any WCLC discharges occurred prior to AHC's acquisition of KLI. Therefore, WCLC's and later KLI's continuing contingent liability for those discharges also existed before and at the time of AHC's acquisition of

KLI. Thus, when AHC assumed all existing "contingent or otherwise known or unknown" liabilities (see CS-10), it assumed KLI's contingent liability for its discharges of wastes that could potentially contaminate waters in the State of California. Having assumed that liability, Emhart cannot now sidestep it simply because the legislature has codified its obligations under Water Code sections 13304 and 13267.

VIII. THE NAMED DISCHARGERS' EXPERT SUBMISSIONS ARE LARGELY IMPROPER.

A. Improper Expert Opinion is Subject to Exclusion From State Board Proceedings.

For reasons discussed below, the State Board should exclude several of the Dischargers' expert declarations. "Administrative agencies have discretion in determining whether to admit expert testimony." *In re Petition of Aerojet General Corporation and Cordova Chemical Company* (Order No. WQ 80-4, March 20, 1980). Specifically, State Board adjudicative proceedings are governed by "sections 801-805 of the Evidence Code..." regarding opinion testimony and scientific evidence. 23 Cal. Code Regs. § 648. Section 801 of the Evidence Code requires expert opinions to be based on matter on which other experts in the field would reasonably rely in forming an opinion. Evidence Code section 803 requires a trier of fact, upon objection, to exclude testimony in whole or in part that is based on improper matter. Accordingly, expert opinions are inadmissible during State Board hearings when based on speculation, conjecture, insufficient or incomplete data, or information not usually relied on by other experts in the field.

Section 801 of the Evidence Code provides that expert testimony is permitted in a proceeding where subject matter "is sufficiently beyond common experience that the opinion of an expert would assist the trier of fact." Cal. Evid. Code § 801. There are limits as to what constitutes admissible expert testimony. "[E]ven when the witness qualifies as an expert, he or she does not possess a

carte blanche to express any opinion within the area of expertise." *Jennings v. Palomar Pomerado Health Systems, Inc.* (2004) 114 Cal. App. 4th 1108, 1117. Specifically, the Evidence Code only permits consideration of expert testimony "[b]ased on matter...that is of a type that reasonably may be relied upon by an expert in forming an opinion upon the subject to which his testimony relates." Cal. Evid. Code § 801.[31]

Section 803 of the Evidence Code requires a trier of fact, upon objection, to "exclude testimony in the form of an opinion that is based in whole or in significant part on matter that is not a proper basis for such an opinion." Cal. Evid. Code § 803. Therefore, if an expert's testimony is based on unreliable or improper matter, such testimony should be excluded or stricken from the record.

The California Supreme Court has recognized the importance of the bases for an expert opinion. The court emphasized the significance of the "reasoning by which [the expert] progresses from [the] material to [the] conclusion." *People v. Coogler* (1969) 71 Cal. 2d 153, 166 (*quoting Carter v. United States* (D.C. Cir. 1957) 252 F.2d 608, 617). Therefore, expert testimony must rely on "matter [that] provides a reasonable basis for the opinion." *Lockheed Litigation Cases* (2004) 115 Cal. App. 4th 558, 563. Sources of information relied upon to form an expert opinion are considered improper or unreliable if it is not reasonable for an expert in the field to rely on such matter. *Id.* "Support for an expert's opinions should be confined to trustworthy sources that are commonly used by others in the same

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[31] "The *Kelly/Frye* rule established a legal standard for admission of scientific evidence based on its level of acceptance in the relevant scientific community." Harris Transportation Co. v. Air Resources Board, (Cal. Ct. App. 1995) 32 Cal.App.4th 1472, 1478 n.5. Under *Kelly/Frye*, scientific evidence or expert testimony based on a new scientific method "is admissible only upon a showing that the procedure has been generally accepted as reliable in the scientific community in which it was developed." In re Amber B., (Cal. Ct. App. 1987) 191 Cal.App.3d 682, 686 . Although the *Kelly/Frye* standard applies to administrative hearings in California, Harris Transportation, 32 Cal.App.4th at 1478, it is not relevant here as no new scientific methods are at issue.

trade or profession." Raoul D. Kennedy & James C. Martin, *California Expert Witness Guide* § 4.5(c) (2d ed. 2007). "Where an expert bases his conclusion upon assumptions which are not supported by the record, upon matters which are not reasonably relied upon by other experts, or upon factors which are speculative, remote or conjectural, then his conclusion has no evidentiary value." *Id. (quoting Pacific Gas Electric Co. v. Zuckerman* (1987) 189 Cal. App. 3d 1113, 1135). "[A]n expert opinion has no value if its basis is unsound." *Lockheed*, 155 Cal. App. 4th at 564.

Not only must the basis of the opinion be reasonably reliable in general, it must "provide a reasonable basis for the *particular* opinion offered." *Id.* (emphasis added). The determination of admissibility is case-specific, and the fact that a matter may be reasonably relied upon to form one opinion does not mean it provides a reasonable basis for all opinions. *Id.*

Expert testimony based on conjecture or speculation is inadmissible. *Toscano v. Greene Music* (2004) 124 Cal. App. 4th 685, 698. "Even an expert witness cannot be permitted just to testify in a vacuum by [*sic*] things that he might think could have happened.'" *Hyatt v. Sierra Boat Co.* (1978) 79 Cal. App. 3d 325, 338. In *Geffcken v. D'Andrea*, the court found the lower court's exclusion of expert testimony proper where the expert's conclusions were "speculative and conjectural" and the data on which they were based were unreliable and inconclusive regarding the toxin at issue. (2006) 137 Cal. App. 4th 1298, 1311. Furthermore, testimony was excludable because it relied on test results that were "inherently unreliable" where sampling techniques exhibited errors and inaccuracies. *Id.*

An expert opinion is also inadmissible if based on information not generally relied upon by other experts within the same field. *Stephen v. Ford Motor Co.* (2005) 134 Cal. App. 4th 1363, 1371. In *Stephen v. Ford Motor Co.*, the held that a tire expert's testimony was properly excluded where based on a method of analysis not typically used to evaluate tires and where the method, when used, required

empirical testing of results, which was not conducted in this case. 134 Cal. App. 4th at 1368. Although it is permissible for an expert to base an opinion on facts found or tests conducted by other experts in the field, *Hope v. Arrowhead & Puritas Waters, Inc.* (1959) 174 Cal. App. 2d 222, 230, these tests or studies must also be of the type that can be reasonably relied upon by other experts in the field. Cal. Evid. Code § 801.

B. The Dischargers' Experts Should Be Excluded.

The expert testimony of Dr. Jimmie Oxley, Dr. Min-Ying Jacob Chu, and Dr. Neven Kresic should be excluded or stricken from the record. Each of these witnesses' testimony is based on flawed data and unreliable information and is therefore subject to exclusion pursuant to sections 801 and 803 of the Evidence Code.

1. Dr. Oxley's Opinion Has Little or No Applicability to the Actual Goodrich Burn Pit Conditions and Should be Excluded on Grounds of Relevance and Procedural and Substantive Irregularities.

Goodrich submitted Dr. Jimmie Oxley's declaration, which related exclusively to creation of modern miniature perchlorate-containing propellant castings based on the publication entitled "An Illustrated Study of Amateur Small Rocket Motor Construction Utilizing Castable High Energy Resin Bonded Fuels" (refer to Oxley document production). As set forth in Dr. Oxley's declaration, Exhibit D, most of these cylindrical castings ranged from 25 to 150 grams (approximately 1 to 5 oz.), and three were approximately 1,774 grams (approximately 4 lbs.). All of the several ounce castings were burned under pristine laboratory condition and the three 4 lb. motors were burned within a

construction of bricks.[32] Dr. Oxley did not use the original Goodrich propellant recipes but devised her own. Declaration, Exhibit D.

Likewise, as there is no evidence that West Coast Loading burned its various materials, the Oxley tests have no application to West Coast Loading issues.

Even so, and based on the weak and improper methodology described below, Dr. Oxley achieved rinse water concentrations of up to 25,500 perchlorate parts per billion (ug/L) from even minute amounts of rinse water utilized of approximately 100 grams (1/10 of a liter or slightly more than 1/10 of a quart). She also achieved results only explained by the escape of invisible particles of perchlorate that were not burned.

Dr. Oxley's opinion is procedurally flawed because Goodrich did not disclose Dr. Oxley in violation of the March 29, 2007 agreement to disclose experts that had been identified, even though Rialto had identified all of its three experts two weeks prior to the date called for in the notice of hearing. Dr. Oxley also failed to produce laboratory reports, chain of custody, and other documents at the time of her deposition.[33] This will be the basis of a motion to exclude.

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[32] In contrast, there was no testimony of perfectly cast motors ever being burned in the Goodrich burn pit, and the propellant load of a sidewinder missile, for example, was approximately 97 lbs. From these limited controlled laboratory-style burns, Goodrich infers that the ammonium perchlorate powder swept from floors, mop water containing ammonium perchlorate in a dissolved or solluable form, TCE or chlorinated solvent "slurry" containing ammonium perchlorate powder and/or uncast propellant mix cleaned from equipment, and waste and broken shards of propellant soaked in water or solvent from the manufacturing or salvage of rocket tubes, when taken to the burn pit, and thrown into dirt and sand, in which the TCE slurry would sink into the ground, somehow would have achieved the same laboratory burn rates of pure propellant. The absence of comparability to the actual field conditions of the Goodrich burn pit renders Dr. Oxley's opinion irrelevant.

[33] On the afternoon of June 5, 2007, approximately one business day before completion of the rebuttal, Goodrich finally produced documents that they had been ordered to produce on May 17, 2007 at 9:00 a.m. Even so, laboratory reports for burns 1, 2, 3 and 11 were never produced, and the snippets of redacted reports for 4 through 10 were nineteen days late, rendering them (continued...)

Accordingly, the design of Dr. Oxley's experiment did not accurately represent the field conditions of the Goodrich burn pit and does not provide a reasonable basis to use her opinion for conclusions as to the TCE slurry, mop water, ammonium perchlorate powder, and waste perchlorate propellant residue soaked in water or TCE, as admitted in depositions of the Goodrich employees. In particular, Dr. Oxley never burned any of these materials singly or in combination, rendering her opinion irrelevant.

Specifically, Dr. Oxley based her work on an "amateur small rocket motor book". Deposition of Oxley 73:21-23. In rinsing the foil and middle pan of approximately 26x36 cm that she used for the burn, she obtained rinse water with concentrations of 25,500 perchlorate micrograms per liter (ppb). Declaration of Oxley, Exhibit D, burn 6; deposition page 79:5-7. There were irregularities in her work, in which she obtained .142 parts per million (142 ppb) from a sawdust used for a control, and agreed that the placing of this sawdust in her roasting pan used for the previous burns would be consistent with perchlorate residue remaining on the roasting pan notwithstanding the earlier rinsing. Deposition 83:11-16; 86:10-16. Curiously, notwithstanding the foil and roasting pan dimensions of 26x36 cm each, her staff utilized only 1/10th (101 grams) of water for rinsing, strangely testifying that the rinsing took an intermittent 15 to 20 minutes, even though only 1/10th liter of water was involved. Deposition 90:22-91:18, 92:6-17. Dr. Oxley agreed that small particles of unburned perchlorate might have existed in the smoke. Deposition 95:19-21. She made no attempt to sample the smoke. Deposition 98:1-6.

In particular, Dr. Oxley did not test scrapings of propellant being placed in solvent such as TCE or TCA, nor did she test shavings or propellant placed in

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(...continued)
almost useless for preparation of the rebuttal.

water. Deposition 102:3-11. She did not test ammonium perchlorate powder such as from sweepings off a floor of a looser fine dust, even though she had read that in the Goodrich employee depositions. Deposition 102:23-103:6. She admitted that ammonium perchlorate powder by itself "doesn't burn very well" and "the ammonium perchlorate oxidizer doesn't burn well all by itself without a fuel". Deposition 103:15-19; 104:19-24. She admitted that she had done "cook-offs" with ammonium perchlorate on the liter scale and "we had residue that we had trouble burning". Deposition 105:9-12. Her work did not cover, and she was not offering an opinion, on what would happen to perchlorate that was dissolved into water and poured onto the bare ground in a burn pit. Deposition 108:18-22. There was nothing in her experiment that dealt with perchlorate contained in TCE and she was not offering opinions on perchlorate dissolved in any kind of chlorinated solvent. Deposition 109:8-13; 109:23-110:1. She had no experience in the experiment or elsewhere with chlorinated solvents being poured into soil or ground. Deposition 110:13-16.

Importantly, when asked about chlorinated solvents that managed to get onto the soil before combustion, after debating whether Goodrich even used chlorinated solvents, she agreed that "if you had solvent seeping into the soil . . . if the solvent managed to escape the burn region it would continue to escape [the combustion]". Deposition 114:15-20; 115:1-12.

As noted, Dr. Oxley's opinion was very short on testing the residue on bricks and admitted that some perchlorate "was not picked up by that rinsing". Deposition 118:21-119:2. Dr. Oxley also ran water through filters (Deposition 122:13), and did not sample the filter for retained perchlorate. Deposition 122:20-123:7, 124:17-125:5.

Apart from irregularities in the methodology, and some missing lab reports, and the minimal rinsing, as well as failure to consider solubility and temperature effects, the simple fact is that this test on pristine miniature rocket motor castings

does not replicate the conditions in the Goodrich burn pit and that far greater residues may have survived through a variety of mechanisms ranging from mop water, TCE slurry entering the ground, and incomplete burning of ammonium perchlorate powder or propellant soaked in water or solvent. Hypothetically, if Goodrich's expert, Merrill, is accurate, there were virtually no propellant scraps to burn in these burn pit incidents that ranged up to several per week, to assist in the combustion of the gallons of TCE and ammonium perchlorate powder. Goodrich has failed to show that the Oxley opinion provides any credible basis on which to assume that major residue from burning, disposal of mop water and TCE slurry, invisible incomplete perchlorate particles, and smoke, did not contaminate the Goodrich burn pit and surrounding areas over a seven year period of Goodrich operations, and were thereafter mobilized by rainwater, focused recharge (such as the bottom of the 6 foot deep Goodrich burn pit), or water released by subsequent operators on the site.

2. Dr. Chu's Opinion Should be Excluded.

Dr. Jacob Chu's opinion estimates the net recharge rate of rainwater to groundwater on three locations at the Goodrich/Black & Decker site. Recharge typically is determined by calculating the "hydraulic conductivity at saturation using field permeameter tests." (Stephens Rebuttal Decl., p. 3-14.) Instead, Dr. Chu based his own estimation on the Rosetta database of soils, ignoring relevant and available field data that reflect the specific nature of the soil at the site. The soil at the site is likely "coarser and more permeable" than the information factored into Dr. Chu's estimation would account for, and "by using a saturated hydraulic conductivity that is likely too low and unrepresentative of the field soil, Dr. Chu likely has underestimated the rate of recharge." (Id.)

In addition, Dr. Chu admits that he has never done these types of calculations or worked with field permeameter data before generating an estimation for this case. (Chu Deposition at 155:15-25). As such, it is questionable whether

he has the training, experience, and education to offer an expert opinion on the reliability of his recharge estimate calculations. At the very least, Dr. Chu's apparent lack of experience in the field should affect the weight of his testimony. See Cal. Evid. Code § 720(a) ("A person is qualified to testify as an expert if he has special knowledge, skill, experience, training, or education sufficient to qualify him as an expert on the subject to which his testimony relates"); People v. Stuller, (Cal. App. 1966) 10 Cal. App. 3d 582, 597 ("It is the function of a trial court to determine the qualifications of an expert, and the degree of his knowledge is a matter which affects the weight of his testimony...").

3. Dr. Kresic's Opinion Should Be Excluded.

Dr. Neven Kresic's opinion is based on results from flawed and unreliable vadose zone and groundwater models. The vadose zone model is flawed and unreliable because it: (1) is built on unsubstantiated perchlorate input concentrations, leakage rates beneath the pit, and hydraulic parameters derived from another basin, (2) is uncalibrated, and (3) does not correctly predict perchlorate soil impacts beneath the pit. The groundwater model is flawed and unreliable because it: (1) relies on perchlorate concentrations predicted by the vadose zone model, (2) contains dispersivity values that exceed the simulation length, and (3) is based on a groundwater flow direction from a single time period that is anomalous relative to the other available time periods. (Stephens Rebuttal Decl., section 1, passim.) Because of its reliance on flawed and insufficient data, Dr. Kresic's expert testimony should be excluded.

4. The Opinions of Drs. Kavanaugh and Powell, Which Rely Upon Opinions of Drs. Chu, Kresic and Oxley, Should Be Excluded.

The opinions of both Dr. Kavanaugh and Dr. Powell rely heavily on the opinions of Dr. Oxley, Dr. Chu, and Dr. Kresic and should therefore also be excluded for their reliance on inadmissible testimony. Given the errors inherent in

the underlying opinions detailed above, the portions of the opinions of Dr. Kavanaugh and Dr. Powell that are based on improper matter should be stricken upon objection, pursuant to § 803 of the Evidence Code. If not excluded, the flaws in the underlying opinions upon which Drs. Kavanaugh and Powell base their opinions, should significantly impact the weight of their opinions.

IX. THE DISCHARGERS' EXPERT OPINIONS DO NOT REFUTE THE DISCHARGERS RESPONSIBILITY FOR CONTAMINATION IN THE RIALTO-COLTON BASIN

A. Introduction

Data collected by numerous consulting firms over the past several years firmly establishes that operations conducted by Goodrich, WCLC, Pyro Spectaculars and others at the 160-acre parcel are a source of perchlorate contamination in soil and groundwater at the property. In an attempt to refute these facts, these companies largely rely upon expert advocates who are guilty of both understating the contribution of their clients and overstating the contribution of contamination by third parties.

The most recent investigation of the 160-acre parcel by, primarily, Environ International Corporation ("Environ") at the direction of counsel for the Emhart Parties, is a classic study in how to study a question without finding the answer. Environ's March 30, 2007 "Revised Focused Summary Report of Investigation of WCLC Use Areas, 160-Acre Site, Rialto, California" ("Environ Revised Report") (Emhart Ex. E1) is an example of this charade. Environ investigated shallow soils at the property, with a limited investigation in a few areas to a maximum depth of 50 feet below ground surface (bgs) and the McLaughlin Pit to the depth of groundwater. Based upon this investigation, the Emhart Parties claims that it has thoroughly investigated the site and ruled out any discharge of perchlorate by WCLC to soil or groundwater.

This position is fundamentally flawed in that the groundwater beneath the site is heavily contaminated and site-specific factors at the 160-acre site would naturally tend to drive perchlorate and TCE contamination released at the site much deep into the vadose zone and underlying aquifers. Investigation of the 160-acre site to the typical depth of 6 – 12 feet bgs, the depth at which most samples were taken by Environ and the consultants the preceded it, is insufficient to evaluate the discharge of contaminants, particularly a soluble material such as perchlorate, to the surface of the property up to 50 years ago. Goodrich's expert witness, Dr. Michael Kavanaugh, admitted as much when he testified in deposition regarding the open-bottomed sumps located at several former buildings at the site that clean rain water would "carry the perchlorate deeper" into the vadose zone. (Kavanaugh Depo.131:21-25:).

B. Investigations of the 160-Acre Site

Contrary to the Emhart Parties, Goodrich and Pyro Spectacular's representations, the 160-acre site has not be adequately investigated and these companies cannot rely upon the investigations to date as evidence that their operations did not contribute to perchlorate and TCE contamination in soil and groundwater. Several consulting firms have investigated portions of the 160-acre parcel where Goodrich, WCLC and Pyro Spectaculars previously operated. However, none of these investigations have sufficiently evaluated the contribution of these business to soil and groundwater contamination.

Site specific investigations for perchlorate and TCE in shallow soils and groundwater have been completed by various parties over the past decade or so. The most recent soil and groundwater investigation of the site was conducted jointly by Environ for the Emhart Parties and Adverus for Pyro Spectaculars in 2006 and 2007 and is summarized, along with all of the data of the prior third party investigations, in the Environ's 2007 Revised Report (because Pyro Spectaculars has not completed a report, the Environ Revised Report does not directly address

the installation of monitoring wells CMW-01 and CMW-02 by Adverus) attached as Exhibit E1 to the Emhart Parties' original submission. Environ was responsible for the soil investigation at the property. While Environ took many more samples in more locations than previously done in prior investigations, Environ's 2006/2007 investigation was similar to past investigations in that the vast majority of soil samples were taken at shallow depths. Environ investigated the portion of the property previously occupied by WCLC (which frequently overlapped with areas occupied by Goodrich and Pyrotronics) and evaluated 28 study areas where the company was known or suspected to have used perchlorate.

In addition, as part of the joint investigation with Pyro Spectaculars, the two companies installed five groundwater monitoring wells on the property. Pyro Spectaculars installed monitoring wells CMW-01 and CMW-02 adjacent and down gradient from the McLaughlin Pit and the Goodrich Burn Pit, respectively. (Emhart Ex. E1.) The Emhart Parties installed three monitoring wells, CMW-02, -03, and -04 across the center of the 160-acre parcel, down gradient from much of the area formerly occupied by WCLC and Goodrich (one well was installed down gradient from Goodrich's former 150-Gallon Mixer). (Emhart Ex. E1.)

C. Results of Investigation

The data collected during the 2006/2007 joint investigation, as well as the prior investigations which are summarized in the Environ Revised Report, firmly establishes discharges of perchlorate and TCE to soil and groundwater at the 160-acre site as a result of operations by Goodrich, WCLC, Pyro Spectaculars and others. The soil and soil gas samples are spread widely across the center, northern portion, and limited portions of the southern portion of the 160-acre parcel, with soil sampling concentrations in the areas of former WCLC, Goodrich and Pyro Spectacular operations including the Goodrich Burn Pit, the McLaughlin Pit, former Building 42 (Area 18), and southern disposal pits purportedly used by the fireworks companies. Soil vapor samples were collected in more limited locations, with an

emphasis on the former Goodrich Burn Pit. Groundwater samples were collected in five locations, all essentially down gradient from historical site operations, including CMW-05 which is located down gradient from Goodrich's former 150-gallon mixer. However, no immediately down gradient well was advanced below the former fireworks disposal pits. (Emhart Ex. E1.)

The data generated from these studies show detections of perchlorate in disparate locations across the 160-acre property in the shallow soils, and in two instances, in the deeper vadose zone. Investigation of the McLaughlin Pit confirms that is a source of perchlorate contamination to the vadose and saturated zones. Similarly, the boring for CMW-02, near the Goodrich Burn Pit, documented soil contamination to 258 feet bgs. (Emhart Ex. E1.) Numerous other locations at the property, including former Building 42 (Area 18) operated by WCLC), mixing, weighing and screening areas (used by Goodrich, WCLC and the fireworks companies), the Goodrich Burn Pit (used by Goodrich), the 150-Gallon Mixer (used by Goodrich), the Sidewinder salvage are (used by Goodrich and WCLC), and several other locations all showed detections of perchlorate in the shallow soils. (Emhart Ex. E1.) In total, Environ reports that 730 soil samples were taken and analyzed for perchlorate with 185 detections in the various investigations. While many of these samples were clustered in several specific areas (the McLaughlin Pit and Goodrich Burn Pit for example) numerous additional detections of perchlorate were noted across the property. The detection rate in soils at the property was therefore 25% of all samples despite the fact that only a relative handful of samples were taken below 15 feet bgs. (Ibid.)

Shallow soil sampling detections for TCE were, not surprisingly given the gravel lithology at the site, significantly less numerous. However, shallow sampling in the Goodrich Burn Pit returned detectable concentrations of TCE in soil vapor. (Emhart Ex. E1.) Groundwater sampling at the property and adjacent to the property document obvious contribution of perchlorate and TCE from several

different locations at the 160-acre site. There are nine groundwater wells within and immediately adjacent to the property. These wells include PW-1 through PW-4 and CMW-01 through CMW-05. PW-1 is located up gradient of the property and its maximum detections of perchlorate and TCE has been 6.3 ug/l and <1 ug/l, respectively. The wells located down gradient of former site operations, with the exception of CMW-03 which is located toward the western side of former operations, have consistently shown perchlorate detections in the tens, if not hundreds, of parts per billion. TCE has also been detected in all wells except for up gradient monitoring well PW-1. (Emhart Ex. E1.) Given that there is no identified up gradient source for perchlorate and TCE at the 160-acre site, and given the lateral and horizontal spread of groundwater contamination at the site, there are several locations at the property that clearly contributed perchlorate and TCE to the groundwater. (Declaration of Daniel B. Stephens, April 12, 2007, pp. 6-7, 11, 12.) ("Stephens Decl.")

D. Analysis of Data

The submissions by Goodrich, the Emhart Parties and Pyro Spectacular do not contradict the obvious fact that their activities, among others, have historically contributed to soil and groundwater contamination at the 160-acre property. Rather than concentrating on the correlation between site data and past operations, these parties choose to emphasize the absence of data, primarily soil detections below 25 feet bgs, to support their positions. However, as will be explained below, the location of groundwater contamination, specifics of contaminant chemistry, site lithology, weather conditions, topography, artificial recharge, vegetation and several other factors contribute the reduced number of detections of perchlorate and TCE in soil at the property without exculpating the Dischargers. This fact is further highlighted by the Dischargers own investigation strategy. By limiting soil samples almost exclusively to the top 5 - 25 feet bgs in the area of their historic operations, Goodrich, the Emhart Parties and Pyro

Spectaculars have effectively avoided sampling in the finer soils deep within the vadose zone where perchlorate and TCE will most likely accumulate before migrating to groundwater. Of the 730 soil samples analyzed for perchlorate, in only five areas: former WCLC Building 42 (Area 18), Bunker B-1, the Goodrich Burn Pit, the McLaughlin Pit, and the southern waste disposal pits, are there soil samples below 15 feet bgs. Moreover, with the exception of CML-01, located in the McLaughlin Pit, the deepest of these borings of 50 feet bgs. Additional deep samples were collected from the borings converted into CMW-01, CMW-02, CMW-03 and CMW-05. Both CMW-01 and CMW-02, which are located under a concrete pad, reveal consistent detections of perchlorate to deep within the vadose zone. (Stephens Decl. p. 14-15.)

Shallow sampling is insufficient to investigate the 160-acre site for historic TCE and perchlorate discharges. This is because neither contaminant, unless the release location is subsequently protected by a relatively impervious surface such a concrete or a building, is likely to remain lodged in shallow soils at the site. As alluded to above and explained below, this fact due to site specific conditions at the 160-acre site.

E. Groundwater Contamination

The lateral dispersion of perchlorate and TCE contamination in the groundwater beneath and adjacent to the 160-acre site firmly establishes the liability of Goodrich, the Emhart Parties and Pyro Spectaculars for groundwater contamination at the property. First, as discussed above, groundwater monitoring wells are spread across the 160 acre-property and offsite of the 160-acre property. All wells, with the exception of up gradient well PW-1 show relatively consistent detections of the contaminants in issue. Second, monitoring of groundwater gradients at the property over the past several years indicates that local groundwater flow is to the southeast and that direction has varied only slightly in recent years. (Rebuttal Declaration of Daniel B. Stephens dated June 7, 2007

("Stephens Rebuttal Decl."), p. 1-12) Third, the McLaughlin Pit, to which Goodrich, WCLC, and Pyro Spectaculars attribute essentially all perchlorate contamination in the groundwater at the 160-acre parcel is located down gradient or cross gradient to all on-site and immediately adjacent groundwater monitoring wells except monitoring well CMW-01. (Emhart Ex. E1.) As such, it cannot be the source of contamination for monitoring wells at the property other than CMW-01. Fourth, there is no up gradient source of perchlorate and TCE above the 160-acre parcel (Stephens Decl., pp. 11-12.) Fifth, lacking an up gradient source of contaminants, and given the presence of TCE and perchlorate in all on-site monitoring wells, there are sources of TCE and perchlorate contamination at the 160-acre parcel in addition to the McLaughlin Pit. Sixth, Goodrich, WCLC, and Pyro Spectaculars all admit to the use and discharge of perchlorate to ground surfaces at the 160-acre parcel in the area of their former operations. (See Powell Decl. ¶¶9-11 and Kavanaugh Decl. ¶¶ 12-23.) Seventh, it is correct that other companies who operated at the 160-acre site, namely Pyrotronics, used and likely disposed of perchlorate to the soil. (Stephens Decl., pp. 2-5, Kavanaugh Decl. ¶¶ 42-62.) However there is no evidence that soil contamination from these parties, and not soil contamination from WCLC, Goodrich and Pyro Spectaculars, is the contamination that migrated to groundwater beneath the property. Rather, if one were to believe the arguments of the Emhart Parties, Goodrich and Pyro Spectaculars regarding the fate and transport of perchlorate and TCE in soil (excluding the McLaughlin Pit) at the 160-acre site, no releases of contamination to the surface would ever reach groundwater!

Based upon the foregoing facts, there is no denying that the disposal of contaminants by Goodrich, WCLC and Pyro Spectaculars is a source of contamination to soil and groundwater at the 160-acre site. A short recitation of facts is useful to illustrate the liability of each company.

F. Goodrich

Review of Goodrich's Brief contains numerous admissions by the company that it both used and disposed of perchlorate at the 160-acre property. Based upon company admissions, it is responsible for discharges of perchlorate to soil at the former Goodrich Burn Pit. (Kavanaugh Decl. ¶¶ 12-23.) In addition, employee testimony indicates that the company discharged perchlorate at other site locations due to washing activities. Finally, testimony also indicates that TCE was discharged to the former burn pit. (Stephens Rebuttal Decl., pp. 2-13 2-17.) Review of the soil and soil gas data confirms the discharge of TCE and perchlorate to the burn pit. (Emhart Ex. E1.)

While Goodrich's experts claim that natural recharge would never be sufficient to transport this contamination to the groundwater, review of nearby soil sampling data contradicts this hypothesis. CMW-02, located approximately 100 feet down gradient of the Goodrich Burn Pit contains high levels of perchlorate and TCE in groundwater and also contains detectable levels of perchlorate in soil to 285 feet bgs. (Emhart Ex. E1.) Because there is no known source of anthropogenic water at this well location, the contamination must necessarily have been transported by the natural recharge waters that Goodrich claims will never migrate below 50 feet bgs. Moreover, because there are no known users of this area of the property, other than Goodrich, it is appropriate to assume that further investigation of this site is appropriate to rule out Goodrich's responsibility for the contamination at monitoring well CMW-02. Also of importance is the fact that the well up gradient of this location, CMW-03, while contaminated with perchlorate and TCE, has shown contaminants at much lower levels than at CMW-02 making it less likely that the contamination comes from a source up gradient of the Goodrich Burn Pit.

G. The Emhart Parties

The Emhart Parties make much of the investigation performed to date by Environ and others to establish that it is not a source of perchlorate contamination to groundwater. However, as explained previously, the investigations to date do not exculpate the company, rather they simply establish the need for further investigation. Environ's investigation, for example, of Building 42 and several other locations where WCLC used perchlorate establishes the discharge of perchlorate at areas where WCLC used this material. The expert opinion of Dr. Powell admits to the use and disposal of perchlorate by the WCLC. (Powell Decl. ¶¶9-11.) The groundwater contamination confirms that sources of perchlorate, and TCE, originated from areas at which WCLC used and discharged perchlorate. (Emhart Ex. E1.) While Emhart holds the results of Environ's investigations up as a shield to its liability, the collection of soil and groundwater data by the company, while certainly not complete, can only be interpreted to confirm that released of perchlorate from WCLC operations are one of several probable sources of perchlorate contamination in groundwater beneath the 160-acre parcel.

H. Pyro Spectaculars

Little detail is required to confirm Pyro Spectacular's liability. The other Named Dischargers spent much time in their opening briefs detailing the history and impact of the McLaughlin Pit on groundwater contamination. Rialto agrees that the McLaughlin Pit is a source of perchlorate contamination to groundwater. The evidence is irrefutable that Pyro Spectaculars disposed of waste materials containing perchlorate to the McLaughlin Pit and at the site. (See Opening Brief pp. 60-78.) While Pyro Spectaculars claims that its wastes were subsequently retrieved from the containment pond, testimony indicates that the integrity of the materials had already been compromised and the contents likely released to the pond water. (Ibid.) As such, Pyro Spectaculars is an obvious source of perchlorate contamination to soil and groundwater beneath the McLaughlin Pit.

I. Site Lithology

As discussed above, site specific factors contribute to both the absence of significant contaminants in the shallow soils as well as the widespread groundwater contamination at the property. Investigations to date have generally characterized the soil types at the property.. Relying upon borings logs for PW-02 and CMW-01, Goodrich expert declarant Dr. Neven Kresic identified the soil textural classes for purposes of vadose and saturated zone modeling beneath the Goodrich Burn Pit and the McLaughlin Pit. (See Exhibits L3 and L4 to Declaration of Neven Kresic, April 16, 2007) ("Kresic Decl."). As described in Exhibit L5 to the Kresic Declaration, the soil beneath the property to a depth of almost 300 feet bgs is comprised of gravels, coarse sands and medium sands. (Ex. L5, Kresic Decl.). Relying upon published values, according to Dr. Kresic these soil classes are reported to have saturated hydraulic conductivities between 200 foot per day for gravels (the first 100+ feet bgs beneath the property) to 1.496 feet per day for medium sands. (Ex. L, p. 4, Kresic Decl.).[34]

The implications of over 100 feet of gravel beneath the 160 acre parcel are profound for purposes of analyzing contaminant migration. As noted by Dr. Chu, groundwater recharge associated with rainfall at the property is highly dependent upon site specific factors such as near-surface soil properties; rainfall intensity and duration; the extent and type of vegetation; and micro-topographic features. (Ex. B, p. 3, Declaration of Min-Ying Jacob Chu, April 16, 2007) ("Chu Decl."). The importance of near surface soil properties, such as the 100+ foot of gravel beneath the 160-acre site is largely a factor of the pore space or permeability of the soil type. Gravels have significantly greater permeability than fine soils such as silts and clays which tend to slow water movement, and thus contaminant migration,

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[34] Emhart expert declarant Dr. Jacob Chu reviewed boring logs for the property but did not characterize the soil textural classes. (Deposition of Jacob Chu, May 10, 2007 108:23 – 109:19)

through the subsurface. The greater the permeability of the soil, the easier for highly soluble contaminants such as perchlorate to migrate downward with rain or other water. This infiltration of rainwater or other sources of water in the gravel zone makes it less likely to observe residual perchlorate in shallow soils. (Stephens Decl., p. 16). As a result, the absence of perchlorate in the soil cannot be taken as an indication that perchlorate did not migrate through the soil to deeper levels or groundwater. (Id. at 13-17).

The predominance of gravels in the shallow soils therefore implies that the majority of contaminants will quickly migrate, under saturated or unsaturated conditions, into the deeper aquifer. An investigation of the shallow soils to typically 25 feet bgs is therefore insufficient for purposes of evaluating discharges at the 160-acre parcel.

J. Rainfall Intensity and Duration

Neither Dr. Chu nor Dr. Kresic accurately portray the typical rainfall patterns at the 160-acre site. In failing to acknowledge these typical rainfall patters in Rialto, they overlook the second factor impacting site specific recharge and associated perchlorate migration – rainfall intensity and duration. This oversight is inappropriate in light of Dr. Chu's testimony that rainfall intensity promotes more infiltration. (Chu Deposition 102:12-16.) As explained by both Dr. Chu and Dr. Kresic, rainfall over the past several decades averages approximately 15.4 inches per year according to Dr. Kresic (Ex. L, p. 5, Kresic Decl.) and 16.45 inches per year according to Dr. Chu (Ex. B, p. 2, Chu Decl). However, neither expert, for purposes of their analysis, took into consideration of the impact of the intensity of rain events on the gravelly soils at the property. Dr. Kresic, for example, averaged rainfall over 365 days for purposes of calculating daily water flux for his vadose zone model of the Goodrich Burn Pit. (Ex. L, p. 5, Kresic Decl.) However, an assumption that minute quantities rain fall daily on the property is not representative of the 160-acre site. As conceded by Dr. Kresic, he is not familiar

with daily pattern of rainfall in Rialto, California. (Kresic Deposition, 108:25 – 109:21) However, Dr. Kresic did note that he did not expect any runoff at the property given the permeable soils at the site. (Kresic Deposition, 88:15-89:5; 89:19-90:6) This concession implies that Dr. Kresic is aware that any rainfall, irrespective of intensity, would quickly percolate into deeper soils at the site.

Dr. Chu is also guilty of ignoring the rainfall patterns in Rialto and their impact on contaminant migration. He calculates estimated perchlorate migration rates from average annual precipitation rates. (Ex. B, p. 8-10, Chu Decl.) However, these calculations ignore the fact, as admitted by Dr. Chu, that the 160-acre site would have been subject to storms of short duration and high intensity (Chu Deposition 99:15-100:2.) and such intensity promotes infiltration. (Chu Deposition 102:12-16.) Infiltration naturally promotes downward migration of the contaminants discharged at the site.

As noted by Goodrich expert Dr. Michael Kavanaugh, clean rainwater can have a dramatic impact on contamination in the near surface soils at the property. In discussing the impact of rainwater on unlined sumps potentially contaminated by wash waters from Pyrotronic's activities (See Declaration of Michael C. Kavanaugh (Kavanaugh Decl."), ¶¶ 47, 50), Dr. Kavanaugh testified that rainwater would flush the perchlorate contamination deeper into the soil. (Kavanaugh Depo. 130:25-131:25.) Accordingly, a shallow investigation of the top few feet of the property is unlikely to detect a highly soluble contaminant like perchlorate and therefore undercuts the Dischargers' reliance upon the investigations to date.

K. Vegetation

Removal of vegetation at the 160-acre site would have a profound impact upon the infiltration of surface waters, whether from rainfall or anthropogenic sources such as mop or cleaning water, at the 160-acre site. The four primary expert witnesses for Goodrich and the Emhart Parties, Drs. Chu, Powell, Kresic and Kavanaugh, all failed to consider the impact of this critical site condition on the

migration of perchlorate and other contaminants at the property. Ignoring or dismissing this site specific factor, all four experts rely heavily upon estimated recharge rates for natural precipitation drawn from available literature. For example, Dr. Kresic uses a recharge rate of 3.2% of natural precipitation based upon a 1997 USGS report (Exhibit L7, Kresic Decl.) for his Recharge Estimate #1 and a maximum 5% recharge rate for his Recharge Estimate #2 (Ex. L8, Kresic Decl., Ex. L, p. 5, Kresic Decl.). Similarly, Dr. Chu analyzed a range of similarly low recharge rates also drawn from available sources. (See Table 1, Chu Decl.) However, these recharge rates are not specific to the site and based upon site specific data, instead, as noted in the Declarations of Drs. Chu and Kresic, these recharge rates were average rates expressed for, generally, the entirety of the Rialto-Colton Basin, San Bernardino County, or some other arid location and would include recharge rates for vegetated property.(Ex. B, Chu Decl.; Ex. L, Kresic Decl.)

The failure of these experts to consider site specific conditions leads to their gross underestimation of contaminant migration in soils. Review of numerous aerial photographs for the site document that during the period of occupation from the early days of the Rialto Ammunition Storage Plan in the 1940s to the present, natural vegetation has been removed from the area of the Goodrich, WCLC, Pyro Spectaculars, and Pyrotronics operations. (See Exhibits to Declarations of Adam Bennett and Wayne Grip.) As described by Dr. Stephens, studies have revealed that recharge in bare sand soils with no vegetation in arid climates can amount to as much as 59% of rainfall. (Stephens Rebuttal Decl., pp. 1-3 - 1-4.) For natural recharge alone, without considering the impact of anthropogenic water or focused recharge, Dr. Stephens estimates natural recharge from rainfall of 1.25 feet per year for a site similar to the 160-acre property with some vegetation. However, significantly greater infiltration from natural recharge can under certain conditions where vegetation has been removed, as is the case at the 160-acre parcel.

(Stephens Rebuttal Decl., p. 1-4.) Therefore the impact of vegetation removal at the site results in significantly greater recharge values than relied upon by the Dischargers' experts and contributes to continued rapid migration of perchlorate and TCE downward though the gravels and sands at the 160-acre site.

L. Topographic Features

Goodrich and the Emhart Parties also ignore the site-specific impact of topographic features at the site. Dr. Linkletter testified that there has been no attempts to his knowledge to evaluate site-specific topographic features at the site (as well as vegetation). (Linkletter Deposition 77:10-78:15.) Drs. Chu, Kresic, Kavanaugh and Powell similarly all failed to consider site specific topography in their analysis. (See Chu, Kresic, Kavanaugh and Powell Declarations.) As explained by Dr. Chu, micro-topographic features, such as a small hole in the ground, can directly increase the potential for recharge. (Chu Deposition 106:19 – 107:23.) However, the impact of such features on water infiltration and contaminant migration as been ignored. (Ibid.)

A classic example of a site specific feature that would impact water infiltration is the Goodrich Burn Pit. Despite the fact that the pit was described as being bermed with earthen walls, Dr. Kresic, for purposes of vadose zone modeling, assumed there would be no runoff into the burn pit because he believed that either the soils at the site were too permeable to permit runoff or he was unable to answer whether runoff existed from the sidewalls (Kresic Depo. 88:15-90:6). Dr. Kavanaugh similarly discounted significant runoff from the sidewalls to the pit, again noting the soils were too permeable to permit runoff into the pit. (Kavanaugh Depo. 89:22-91:1.)

However, as explained by Dr. Stephens, a feature such as a bermed pit would typically generate runoff in the heavy storms observed in arid climates which increase the amount of water infiltrating the bottom of the pit. (Stephens Rebuttal Decl., p.2-8 .). The Goodrich Burn Pit is just one of many potential topographic

features that would impact water infiltration at the property. Such features include runoff from buildings, runoff from hard surfaces, berms, ditches, slopes and other natural features at the site.

Dr. Chu's report, albeit unknowingly, addressed one such feature in the form of runoff from a roof at the former Building 42. As explained by Dr. Chu, exposed areas around buildings may receive more recharge as the result of rain falling on impervious surfaces (roofs, paved walkways, etc.) which may drain to the surrounding exposed ground. (Ex. B, p. 9, Chu Decl.). Dr. Chu specifically notes that such conditions may impact the extent of perchlorate downward migration. (Ibid.) However, Dr. Chu, in analyzing the extent of perchlorate in the area of Building 42 overlooks the likely impact of runoff from the roof in an attempt to explain the numerous perchlorate detections in soil at this building. Dr. Chu equates recent vegetation observed near Building 42 with an area of high runoff from the back of the building. (Ex. B, p. 9-10, Figure 13, Chu Decl.)[35] He then points out that the perchlorate detections in the area of the back of the building are detected at a maximum of 10 feet bgs. (Ibid.) However, his analysis is entirely convoluted. First, the additional recharge would tend to drive contamination deep into the vadose zone. Thus, stopping an investigation in the shallow soils is not sufficient to rule out impact to the deeper soils or aquifer. Second, numerous detections of perchlorate were found at Building 42 to depths of 25 feet bgs beneath the building. Dr. Chu does not mention this fact. Further he ignores that fact that the presence of contamination beneath an impervious barrier is contrary to his opinion that natural recharge cannot drive contamination deeper than 10 feet bgs. (Ex. B, pp. 9-10, Chu Decl.)

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[35] Dr. Chu's analysis ignores the fact that Figure 13a and 13b documents the absence of vegetation adjacent to Building 42 during its period of operation.

M. Artificial Recharge/Anthropogenic Water

A major issue impacting recharge rates and contaminant transport at the 160-acre site is the introduction of anthropogenic water by the occupants of the property. Three of the four environmental experts addressing vadose zone transport (Chu, Kresic and Powell) ignore or discount the issue altogether while Dr. Kavanaugh applies information regarding Pyrotronic's use of wash water to selectively imply that recharge of this type could be responsible for perchlorate contamination in groundwater beneath the property while ruling out any such impacts from Goodrich's document disposal of wash waters. (See Kavanaugh Decl. ¶¶ 42-50)

When questioned about the use and disposal of mop and wash water by Goodrich and WCLC, all four experts either stated that they did not evaluate the impacts of such water or believe it to be insignificant. Dr. Chu, for example, testified that counsel for the Emhart Parties informed him prior to his deposition that mop water had been disposed of on bare ground by WCLC. (Chu Depo. 39:1-7; 39:20-25). Based upon this information provided by counsel, Dr. Chu stated the following:

> Q: Did you reach any opinions or conclusions regarding the impact of the disposal of mop water on bare surface grounds on the mobility of surficial perchlorate present in the vadose zone?
>
> A: I do have opinion.
>
> Q: And what is that opinion?
>
> A: I don't think mop water contributes significant or – strike Mop water can only contribute a very limited penetration through the vadose zone. It is not significant at all.
>
> Q: And what is the basis of that opinion?

A: Based upon my report and the facts of the soil sampling results.

Q: How much mop water did you assume was disposed of on the property to reach the opinion that you just provided?

A: I have to say I rely on the facts of the soil sampling results and then my calculation in my report.

Q: So in rendering that opinion, the quantity of mop water disposed of on the property is irrelevant?

Mr. Meeder: Objection, argumentative, misstates his prior testimony.

The Witness: Based on the facts, I can say that if there is significant water cause mobilization of perchlorate into the vadose zone, then we will observe peak concentrations in deeper part of vadose zone. But this does not show in our sampling results.

By Mr. Elliott:

Q: How do you define deeper part of the vadose zone? What are the depths you're talking about?

A: Okay. Based on the – over 25 feet below ground surface.

* * *

Q: Now, other than in the area around Building 42, how many other samples were collected below 25 feet at the 160-acre parcel by Environ?

A: I don't know that fact.

(Chu Depo., 40:11- 41:18; 42:12-15) When questioned further about the bases for his opinion, Dr. Chu recanted his conclusion regarding the impact of mop

water disposal at the property: "Okay. I think I should say that I didn't have – I haven't evaluated the other facts that can contribute, you know, to my opinion here. I don't think I have considered other facts enough to form opinion here." (Chu Depo., 43:19-23.)

This testimony by Dr. Chu is illustrative of how the Emhart Parties and Goodrich have sought to avoid the impact of their wash and waste water disposal on the perchlorate released as part of their operations to the soil of the property. On the one hand Dr. Chu testifies that he would expect to see soil detections lower than 25 feet bgs as the result of the introduction of anthropogenic water, but is unaware of the extent of sampling below 25 feet bgs at the property. (Chu Depo. 40:11-41:18, 42:12-15.) When asked about the amount of water introduced, clearly a relevant factor in the analysis, he essentially ignores the issue and then recants his opinion altogether.

Similarly, neither Drs. Powell nor Kresic considered reasonable impacts of wash or mop water in their analysis of the mobility of contaminants in soil at the 160-acre parcel. (See Powell and Kresic Declarations.) However, Dr. Kavanaugh was clearly aware of the potential impact of anthropogenic waters and, as noted above, used that information to attribute liability for groundwater contamination to Pyrotronics, a defunct corporation who is not a part of the CAO. Even so, Dr. Kavanaugh failed to evaluate the potential impacts of other sources of mop or cleaning waters in his analysis. Instead he dismissed this issue with no evaluation by merely reciting to Dr. Kresic's vadose zone modeling analysis -- despite the fact that this analysis did not consider anthropogenic sources of water. (Kavanaugh Decl. ¶ 34.)

Contrary to the assumptions and conclusions of Goodrich and the Emhart Parties expressed by their experts, the discharge of anthropogenic waters at the property clearly occurred as testified to by numerous company employees and that discharge of water contributed to the migration of contaminants through the vadose

and into groundwater. As explained by Dr. Stephens, anthropogenic water introduced at the property would come from several documented sources: discharge of contaminated mop and cleaning water by WCLC and Goodrich to the area of their operation, discharge of contaminated cleaning water by Pyrotronics in areas both utilized by Pyrotronics as well as, in some cases, Goodrich and/or WCLC, (as well as potentially the large amounts of discharge between 1987 and the present by Rialto Concrete Products for dust suppression on unpaved portions of the current RCP property). (Stephens Rebuttal Decl., pp. 3-2 - 3-3, Ex. 1-2.)

As explained in significantly more detail in Dr. Stephens rebuttal declaration, relying upon the testimony of the former Goodrich, WCLC and Pyrotronic employees and their documented standard operating procedures, Dr. Stephens and his staff estimated the average annual quantities of water discharged from cleanup operations by each company. With respect to WCLC, the company reportedly discharged perchlorate contaminated water at buildings 12, 40, 42, 47 in quantities ranging between 5,200 gpy to 20,800 gpy during its years of operation. (Stephens Rebuttal Decl., Ex. 1-2) Goodrich reportedly used and discarded cleanup water, much of which was purportedly discharged to the Goodrich Burn Pit from buildings 3, 4, 6, 19, 31, 34, 47, 48, 61, 64, and 70 in volumes ranging between 3,900 to 78,000 gpy. (Ibid.) Following in these companies' footsteps (or more appropriately footprint), Pyrotronics used significantly more water at the property. Pyrotronics used and discharged cleaning waters in large quantities from buildings 2, 3, 4, 5, 6, 12, 19, 42, 44, 49, 50, 70, 95, 96, 97, 98 and 99. This discharge of cleaning waters averaged between 73,840 gpy for some buildings to 468,000 gpy for other buildings. (Ibid.)

This use of water by WCLC, Goodrich and Pyrotronics would have an significant impact on the migration of contaminants through the vadose zone to the groundwater. Given that the companies overlapped on their occupation and use of several buildings, the discharges by Goodrich would have the natural tendency to

drive WCLC contamination deeper into the vadose zone and aquifer. Similarly, wastewater discharge by Pyrotronics would have the same impact on the previous contamination arising from WCLC and Goodrich at overlapping buildings and in the surrounding area. (Stephens Rebuttal Decl. Ex. 1-2.)

Using reasonable assumptions regarding site soil properties, and the estimates of discharged wastewater, Dr. Stephens was able to calculate the migration rates for perchlorate discharged to the surface of the property. As documented by Dr. Stephens the estimated natural recharge rate from rainfall at a vegetated site is 1.25 feet per year. However, with the removal of vegetation, under certain conditions, natural recharge from rainfall will increase dramatically. (Stephens Rebuttal Decl., pp. 1-4 – 1-5.) Dr. Lass, the County of San Bernardino's consultant for groundwater impacts stemming from the County landfill, who was cited as a reliable source by Dr. Chu in his expert declaration (See Ex. B, Chu Decl.), generally concurs with a greater natural infiltration rates in his recent work for the County.

However, once focused recharge or anthropogenic water is introduce, the migration rate of the contamination increases significantly. With focused recharge and anthropogenic water contamination could reach groundwater in a matter of years rather than the tens of years expected under natural recharge. As explained by Dr. Stephens, the downward rate of migration of mop water would be between 25 and 82 feet per year if discharged to bare soil depending upon the occurrence of site specific features that promote infiltration such as topography, focused recharge, soil characteristics, etc. (Stephens Rebuttal Decl., pp. 1-4 – 1-5.) . Given that the depth to groundwater has varied under the property, but has averaged approximately 400 feet bgs, under anthropogenic recharge conditions, perchlorate released at the surface could reach groundwater in as little as five years from the date of initial discharge.

N. Invalid Discharger Expert Analysis

The work by Dr. Stephens regarding the infiltration of natural and anthropogenic waters at the property by itself refutes the opinions of Drs. Kavanaugh, Kresic, Powell and Chu regarding the probability of perchlorate and TCE contamination migrating to groundwater beneath the 160-acre parcel. However, a careful review of these experts' own work also reveals the fallacies and errors of their analyses.

1. Dr. Kresic

As explained briefly above, Dr. Kresic was tasked with two activities: (1) model vadose zone fate and transport of perchlorate from the McLaughlin Pit and Goodrich Burn Pit and (2) model saturated zone fate and transport of perchlorate beneath the McLaughlin Pit and Goodrich Burn Pit.. (Ex. L, p. 1, Kresic Decl.) This latter assignment was largely intended to determine whether contamination originating from the McLaughlin Pit could be responsible for groundwater contamination observed in monitoring well CMW-02, located down gradient from the Goodrich Burn Pit. As will be explained below, and in significantly more detail in Dr. Stephens' declaration, Dr. Kresic's work is flawed and invalid.

Relying upon his modeling work, Dr. Kresic reaches the conclusion that the Goodrich Burn Pit does not contribute to the perchlorate found in groundwater beneath the 160-acre site. (Kresic Decl. ¶ 25) With regard to the McLaughlin Pit, Dr. Kresic opines that the model demonstrates that that perchlorate from the McLaughlin Pit has reached groundwater and is the source of contamination in well CMW-01 (Kresic Decl. ¶ 28) Further, Dr. Kresic concludes that the McLaughlin Pit is the source of the perchlorate contamination observed in groundwater at well CMW-02. (Kresic Decl. ¶ 35). While it is true that the McLaughlin Pit is a source of groundwater contamination, Dr. Kresic's work is otherwise inaccurate and unreliable.

There are several fundamental errors to Dr. Kresic's modeling activities. Thus the conclusions he reaches from the application of the models are incorrect. Without discussing all of the errors in detail, we will list the major flaws. As explained in his declaration, Dr. Kresic's work is based upon the application of two public domain computer models, VS2DTI, a USGS model used for fate and transport of perchlorate in the vadose zone and BioScreen-AT version 1.41 for analysis perchlorate transport in the saturated zone. While the use of these particular models is not objectionable, Dr. Kresic's model setup parameters and model runs are faulty.

Dr. Kresic's vadose zone model is not based on soil properties (i.e., hydraulic conductivity, unsaturated properties, water retention curves, etc.) collected at the site or even within the Rialto-Colton Basin. Instead, he relies on data collected beneath an intermittent stream near Victorville, California – approximately 40 miles from the site and on the opposite side of a mountain range. (Stephens Rebuttal Decl., p. 1-4.) . The net result is that Dr. Kresic, as noted above, ignores site specific conditions such as the impact of the absence of vegetation. The absence of proper model inputs, such as a site specific recharge rate, radically reduces the rate of migration of contaminants in the subsurface predicted by the model. Dr. Kresic also inappropriately relies upon estimates of natural recharge developed for basin-scale groundwater models to estimate the amount of infiltration of natural recharge at the site. These basin-scale estimates of natural recharge include variations in topography, vegetation type and density, and land use. Thus, basin-scale estimates of natural recharge are not valid for small-scale simulations of water flow and solute transport at the 160-acre site. (Stephens Rebuttal Decl., p. 1-3.). Dr. Kresic also failed, with respect to the application of the vadose zone model to the Goodrich Burn Pit, to consider the likelihood of anthropogenic water. Witness testimony establishes that buckets of

water containing scrap propellant were likely disposed of at this location. (Stephens Rebuttal Decl., p. 1-5.)

With respect to the McLaughlin Pit, Dr. Kresic's model is further flawed and unreliable because it is built on unsubstantiated perchlorate input concentrations and leakage rates beneath the structure. Dr. Kresic's model purports to include inputs for leakage derived from Dr. Kavanaugh's estimates of the water flux from saturated gunnite. However, according to Dr. Kavanaugh, once gunnite saturation is reached, which will occur shortly after commencing use, the McLaughlin Pit will leak at a conservative rate of approximately 400 gallons per day. (Kavanaugh Decl. ¶ 59, Kavanaugh Depo. 178:16-179:7, 181:20-182:7.) Dr. Kresic ignores Dr. Kavanaugh calculations of leakage. Dr. Instead he "calibrated" both leakage and perchlorate concentrations in leakage to match the perchlorate soil data at CML-01. (Kresic Depo. 137:6-14.) In order to match this data, Dr. Kresic included leakage rates as inputs to his model that radically differed from those estimated by Dr. Kavanaugh. For example, rather than a 400 gpd figure, daily leakage was instead input as 180 gpd in 1976, 239 gpd in 1977, 479 gpd in 1981 and 299 gpd in 1984. As to the perchlorate concentration, he made no attempt to reasonably determine the actual concentrations and instead merely chose a concentration that would fit the soil data. (Kresic Depo. 138:20-139:21.) As described by Dr Kresic, his work was not calibration, wherein a modeler uses reasonable assumptions to provide inputs. Rather, he forced the model to match the soil contamination by using input factors completing lacking in validity or credibility.

Both the vadose zone model (as applied to the McLaughlin Pit and the Goodrich Burn Pit) and the saturated zone model are, essentially, uncalibrated. Dr. Kresic purports to establish the reliability of his McLaughlin Pit model against the CML-01 soil contamination data. However, the data he quotes is (1) in error and (2) includes soil samples taken from the saturated zone. (Stephens Decl., pp. 1-17 – 1-20.) As conceded by Dr. Kresic, his model cannot replicate perchlorate

concentrations below the water table. (Kresic Depo. 132:5-7.) This fact alone rebuts the model because review of the plots of his various modeling runs of the McLaughlin Pit (See, generally, Ex. L11 – L26, Kresic Decl.) visually establishes that absent replication of the 1700 ug/l detection in groundwater, the model does not match the soil data in CML-01. As to the Goodrich Burn Pit, Dr. Kresic cannot validate his model against soil data since no data exists below 25 feet bgs. (Kresic Depo. 149:24 – 152:13-22) The absence of data below 25 feet bgs is not sufficient for calibration nor can it be used as a basis to conclude that there has been no perchlorate migration deeper into the soil and groundwater. (Stephens Rebuttal Decl., p. 1-7.)

Similarly, the saturated zone model is unreliable. First, it is impossible to reproduce the model because Dr. Kresic, inappropriately, deleted his model runs. (Kresic Depo.53:19-54:3.). Second, Dr. Kresic failed to calibrate the model. (Stephens Rebuttal Decl., pp. 1-21 – 1-22 .). Third, he relied upon an input parameter, the mass of perchlorate entering the aquifer, which is an unreliable output of the vadose zone model. It is worth noting that Dr. Kavanaugh himself questions the reliability of the saturated zone model due to questions about the proper input for perchlorate concentrations. (Kavanaugh Depo. 47:4-49:6.)

2. Dr. Chu

Dr. Chu's work is fundamentally flawed, albeit in a different manner than that of Dr. Kresic. Dr. Chu was tasked by the Emhart Parties to evaluate the mobility of surficial perchlorate present in the vadose zone at the 160-acre property under natural precipitation conditions. (Chu Decl. ¶ 2.) Noting that net recharge rate and soil properties can strongly influence the extent of perchlorate migration vadose zone, Dr. Chu makes those two factors the focus of his study. (Ex. B, p. 2, Chu Decl.) Soil boring logs and the results of site specific geotechnical analysis are the purported primary sources of the information he relies upon for his calculations. (Ibid.) However, review of Dr. Chu's declaration reveals that this is not the format

he followed. Instead, Dr. Chu chose to ignore site specific data to generate a result, namely the conclusion that perchlorate will not migrate deeper than a few feet at the site, which is unsupported by the very field data he purportedly relies upon. Furthermore, the mere fact that Dr. Chu conducted his analysis "under natural recharge conditions" reveals that he did not consider the impact of documented disposal of anthropogenic water upon the transport of perchlorate in the subsurface. (Stephens Rebuttal Decl., pp. 3-2 – 3-3.) . Ignoring this site specific recharge factor artificially reduces the extent of perchlorate migration likely to have occurred at the site.

Initially it must be noted that Dr. Chu's qualifications to perform his expert analysis are suspect. While no one questions Dr. Chu's academic credentials, it is a fact that this is the first time that Dr. Chu performed the technical Darcian analysis discussed in his report and which forms the core basis of his opinion. When questioned regarding his prior application of the Darcian analysis, Dr. Chu conceded that he had never previously used the Rosetta program in tandem with his Darcian analysis. (Chu Depo. 155:15-25.) In part, he attributed his lack of experience with the methodology to the fact that he had not previously had a chance to work with the kind of field data available in this case. (Ibid.) Dr. Chu's lack of experience seriously calls into question the admissibility of an already flawed analysis.

As explained above, and in more detail in the declaration of Dr. Stephens, anthropogenic sources of water were discharged at the 160-acre parcel during and following WCLC's occupation of the property. Both the testimony of WCLC employees and WCLC's Standard Operating Procedures indicate that frequent routine cleaning of buildings resulted in the disposal of significant amounts of perchlorate-laden water to bare ground adjacent to WCLC buildings. (Stephens Rebuttal Decl., pp. 3-2 – 3-3; Ex. 1-2). Subsequent site operators, including Goodrich and Pyrotronics operated in many of the same buildings used by WCLC.

While the testimony regarding Goodrich is limited, it supports the conclusion that some wash water was allowed to run to the bare ground. (Stephens Rebuttal Decl., pp. 3-2 – 3-3; Ex. 1-2.) As to Pyrotronics, the available evidence indicates that significant quantities of water were used to wash down numerous buildings. The perchlorate-laden water was observed to either run out onto the bare ground or to open-bottomed sumps that were observed to frequently overflow. (Kavanaugh Decl. ¶¶ 44, 47, 48, 50; Stephens Rebuttal Decl. Ex. 1-2) All of these sources of water were ignored in Dr. Chu's analysis.

The selection of sampling locations for his analysis compounds Dr. Chu's erroneous dismissal of the impact of anthropogenic water. Dr. Chu's analysis is based upon soil samples collected from CMW-04, CMW-05 and M2-34. Rather than using data from borings located adjacent to locations where anthropogenic water was likely discharged, the boring locations are generally too distant to be impacted by wash waters and concentrated runoff and recharge from buildings – this point is documented by the sparse detections of perchlorate in the soil at these locations. (Stephens Rebuttal Decl., p. 3-5.). As such, the sparse field data he relied upon may more accurately address natural recharge but ignores the specifics of water use at the 160-acre site.

As part of his analysis, Dr. Chu discusses three methods for evaluating net recharge rates for the site. These methods include a literature review, estimations based upon the Budyko hydrologic model and a Darcian method. (Ex. B, pp. 3-5, Chu Decl.) The reliance upon literature and estimates using a hydrologic model are not appropriate for the 160-acre parcel because they fail to consider the site specific factors that Dr. Chu claims will influence perchlorate migration. While literature reviews and simplistic models are appropriate for considering sites comparable to those in the literature, because the 160-acre parcel was denuded of vegetation, it renders the majority of the data drawn from the cited literature inapposite to the conditions at the site. Due to the sensitivity of recharge to

vegetation, the recharge rates discussed by Dr. Chu would only apply to vegetated portions of the property, if any. (Stephens Rebuttal Decl., pp. 3-8 – 3-9.).

The Darcian analysis, which is essentially the key to Dr. Chu's calculation, is flawed. As noted above, the sample locations relied upon by Dr. Chu are quite distant from the buildings at which perchlorate was used by WCLC. As such, they do not accurately reflect the likely locations of perchlorate release and introduction of anthropogenic waters. Dr. Chu also misapplied the data collected by Environ from these borings. While the information was available, he failed to consider the saturated hydraulic conductivity measured in soil samples. Rather, Dr. Chu used the Rosetta program to generate an estimated parameter to use in his calculations. (Chu Depo. 135:18 – 138:1) However, as noted by Dr. Stephens, the use of the Rosetta-generated saturated hydraulic conductivity is in error because the Rosetta program does not contain data for coarse sediments similar to those at the 160-acre property. (Stephens Rebuttal Decl., pp. 3-14 – 3-15.) The values of hydraulic conductivity from the Rosetta program are much smaller than would be expected for the gravels and sands observed at the site. (Ibid.)

Dr. Chu also ignored other, more accurate, means of calculating unsaturated hydraulic conductivity at the site for purposes of estimating perchlorate migration. He concedes that his estimation approach is not the most accurate means of assessing hydraulic conductivity and named two other approaches that are more accurate. (Chu Depo. 138:23 – 139:14) However, neither analysis was performed. In addition, Dr. Chu concedes that his Darcian analysis is not reliable when applied to soils shallower than 50 feet bgs. (Chu Depo. 145:8-11) Despite the availability of field data regarding measured saturated hydraulic conductivity, which in turn can be used to calculate unsaturated hydraulic conductivity, Dr. Chu failed to take steps to validate his analysis. As conceded by Dr. Chu, estimation methods are not as reliable as field measurements. (Chu Depo. 146:10-13.) The Mualem model chosen by Dr. Chu to predict unsaturated hydraulic conductivity is a

statistically-based model of theoretical pore size distribution (pore size may directly affect the conductivity or permeability of a soil type). While the model is widely used, its reliability is uncertain until it is adjusted to match field conditions. Therefore it reliability will be markedly improved if unsaturated hydraulic conductivity is measured at one or more different water contents and the theoretical model adjusted or calibrated to conform to actual measurements. (Stephens Rebuttal Decl, , p. 3-12.). Chu elected not to perform this important validation step.

In sum, Dr. Chu performed an analysis which contained inherent flaws and which was admittedly not as accurate as field data would provide. He appears to realize this limitation because he relies heavily on the field data to support his results. According to Dr. Chu's calculations, perchlorate should not migrate to depths below 50 feet bgs at the site. Based upon this calculation he notes that the field data, with detections significantly shallower than 50 feet bgs is consistent with his analysis. (Ex. B, p 8-10, Chu Decl..) However, there is an inconsistency with this statement. There are numerous detections at the site well below 10 feet bgs and several detections which are unbounded at 25 feet bgs (Building 42 and the Goodrich Burn Pit for example). These detections are inconsistent with Dr. Chu's assumptions and observations because many of these deeper detections lie below a building or concrete so they are beyond the impact of natural recharge that Dr. Chu considers the initial driving force of the perchlorate. Moreover, at the location of CMW-02, one of the few deep borings on the site, there are consistent detections of perchlorate to almost 300 feet bgs without any apparent source of anthropogenic water. In looking at only a limited data set for his analysis, Dr. Chu effectively ignores the impact of CMW-02 on his work. (See Chu Depo. 199:17 – 200:4.) Due to these errors and other described by Dr. Stephens, Dr. Chu's analysis underestimates the actual depth of migration by surficial perchlorate. (Stephens Rebuttal Decl., pp. 3-15 – 3-18.)

3. Dr. Kavanaugh

Dr. Kavanaugh's opinions are, by design, few and generally unsupported. Rather than performing any significant technical calculations associated with fate and transport of contaminants, his opinions are largely a recitation of questionable facts followed by an unfounded conclusion. While attempting to insulate Goodrich from liability, Dr. Kavanaugh ignores the glaring facts that contradict his opinions.

Beyond his relatively unsupported conclusions, Dr. Kavanaugh can be faulted for relying upon the flawed work of Drs. Oxley, Kresic and Merrill. As noted in Dr. Kavanaugh's declaration at Paragraphs 20, 22, 23, 29 and 30, Dr. Kavanaugh relies upon the evaluations and opinions of these persons as support for his opinions that the disposal of TCE and perchlorate by Goodrich, if any, did not migrate to groundwater beneath the 160-acre parcel. In particular, at Paragraph 29, Dr. Kavanaugh opines that Dr. Kresic's modeling results "conclusively show that perchlorate from the burn pit could not have reached groundwater." (Kavanaugh Decl. ¶ 29 citing Kresic, 2007.) Review of the Conclusions expressed by Dr. Kavanaugh in Paragraphs 89 to 99, reveals that in every instance wherein Dr. Kavanaugh concludes that Goodrich operations were not a source of TCE or perchlorate contamination in the aquifer, he relies upon the modeling work of Dr. Kresic and/or the opinions of Drs. Oxley and Merrill. (Kavanaugh Decl. ¶¶ 89-99.) Reliance by Dr. Kavanaugh on these expert's flawed opinions introduce similar flaws into his analysis.

We have already addressed in detail the errors by Dr. Kresic, so they will not be repeated here. However, it is worth noting that Dr. Kavanaugh confirmed that he did not independently run the models of vadose and saturated zone flow at the

property. (Kavanaugh Depo. 44:8-24) Therefore, to the extent he relies upon modeling to support his opinion, he is dependent upon Dr. Kresic's work.

As to Dr. Kavanaugh's reliance upon Drs. Oxley and Merrill, as discussed elsewhere in this memorandum, the methodology, and therefore the opinions, of both experts are significantly flawed. For example, Dr. Oxley is guilty of fairly egregious laboratory errors in that she cannot produce the chain-of-custody nor the laboratory reports for the laboratory samples sent out for analysis following her tests of residual perchlorate. In addition, her test methodologies themselves were in error and introduce unreasonable bias. The test conditions do not even remotely replicate the burning of perchlorate in the Goodrich Burn Pit. Similarly, her method of rinsing the test areas (either foil tray or brick oven) with a de minimis quantity of water appears designed to limit the amount of residual perchlorate rinsed from the test locations and subsequently analyzed. (See Oxley Decl.) Additional detailed examples of Dr. Oxley's improper methodology, including the use of a "amateur small rocket motor book" to construct her sample engines, is discussed above.

Dr. Merrill, by comparison, performs no traditional expert analysis. Rather, his opinion regarding the mass of perchlorate burned in the Goodrich Burn Pit is drawn from his review of Goodrich witness depositions and a limited review of relevant public documents on Goodrich operations. As noted by Dr. Stephens, Dr. Merrill selectively relies upon witness testimony regarding Goodrich operations by discounting or ignoring testimony that he considered reliable. However, the discounting of testimony as unreliable without any secondary source to confirm its unreliability contravenes appropriate scientific methodology. By discounting and thus ignoring this testimony, Dr. Merrill introduced bias and error into his calculations which is at odds with a reasonable analysis of the amount of perchlorate used and disposed of by Goodrich. However, Dr. Kavanaugh himself is apparently guilty of the same discounting, because he explained that independent of Dr. Merrill, his staff reviewed the same depositions and actually

calculated a smaller amount of perchlorate used by Goodrich than that estimated by Dr. Merrill! (Kavanaugh Depo. 60:15-65:21.)

The error inherent in the work of Drs. Oxley and Merrill can be documented by a simple mathematical calculation. Relying upon the work of Drs. Oxley and Merrill, Dr. Kavanaugh calculated the residual mass of perchlorate left in the burn pit which could enter the vadose zone as less than one pound over the entire period of Goodrich operations. (Kavanaugh Decl. ¶ 23.) When questioned about this conclusion , Dr. Kavanaugh stated that his actual estimate was roughly one tenth of a pound. (Kavanaugh Depo. 84:5-12.) However, Dr. Kavanaugh further admitted that his staff had recently calculated the mass of perchlorate remaining in the Goodrich Burn Pit in 2007 as based upon the soil samples taken from the site. While Dr. Kavanaugh states that the estimates are rough, he calculates that between 3/10ths and 6/10ths of a pound of perchlorate is in the shallow vadose zone beneath the Goodrich Burn Pit. (Kavanaugh Depo. 84:13-85:7.) While these numbers are still quite small, the figures are three to six times the original calculation of Dr. Kavanaugh! This simple calculations confirms that either Dr. Merrill or Dr. Oxley, or both, are very wrong in their estimates of perchlorate disposed of in the Goodrich Burn Pit.

Dr. Kavanaugh chooses to emphasize the impact of Pyrotronic's cleaning operations without considering the impact of these activities on prior occupants of the property. As discussed previously, many of the buildings at the 160-acre property where perchlorate was handled were used by WCLC, Goodrich and Pyrotronics, as well as other occupants. As discussed by Dr. Kavanaugh in his declaration at Paragraphs 42 through 49 and 98, Dr. Kavanaugh concludes that cleaning activities by Pyrotronics contributed to groundwater contamination. (Kavanaugh Decl. ¶¶ 42-49, 98.) However, Dr. Kavanaugh improperly discounts or ignores cleaning activities testified to by Goodrich employees. (Kavanaugh Decl. ¶ 19.) Residual perchlorate likely left in wash water would result in high

concentrations of contaminated wash water. (Stephens Rebuttal Decl., p. 2-5 – 2-6.) Disposal of this material was at either the Goodrich Burn Pit or elsewhere on the property according to witness testimony. (Stephens Rebuttal Decl., pp. 2-4 – 2-6.) As such it is improper for Dr. Kavanaugh to fail to evaluate the impact of contaminated anthropogenic water on the vadose and saturated zone at the property.

Turning a blind eye to data is another one of Dr. Kavanaugh's errors. For example, Dr. Kavanaugh testifies in his declaration that the soil contamination in the soil boring at CWM-02 is consistent with the absence of significant soil migration of contaminants due to natural recharge. (Kavanaugh Decl. ¶ 31.) However, Dr. Kavanaugh fails to given proper credit to the implications of this data point. The soil boring at CMW-02 revealed consistent detections of perchlorate to 258 feet bgs. Dr. Kavanaugh reports the detection at 160 and 180 feet in mg/kg. However, all of the rest of the perchlorate data collected in the field is reported in ug/kg. In making the conversion from ppb to ppm, Dr. Kavanaugh attempts to limit the impact of the data from CMW-02.

Rather than supporting Dr. Kavanaugh's 's analysis, CMW-02 turns it on its head. (Stephens Rebuttal Decl., pp. 2-10 – 2-11.) The soil contamination in CMW-02 reveals contamination from the ground surface to close to the water table, in a boring that has been covered with concrete since approximately 1987. There is no known source of anthropogenic water at this location to provide a hydraulic head to support migration. Instead it appears that the contamination migrated to that depth merely due to natural recharge and gravity. Most importantly, this boring lies within 100 feet from the Goodrich Burn Pit. Given that there are no known operations in this area by Pyrotronics, Pyro Spectaculars, or WCLC, it is reasonable to assume that potential Goodrich operations occurred in this area and may account for the contamination. When asked for his opinion on the source of the contamination in

soil at CMW-02, Dr. Kavanaugh responded that while he ruled out the Goodrich Burn Pit, he was otherwise uncertain of the source. (Kavanaugh Depo. 101:8-13.)

Dr. Kavanaugh also chooses to ignore the widespread TCE contamination in groundwater at the property. With the exception of up gradient well PW-1, essentially all other wells have consistently shown detections of TCE over time. Arguing that TCE was not detected in soil samples at the Goodrich Burn Pit, Dr. Kavanaugh concludes that the pit is not the source of TCE to soil and groundwater. (Kavanaugh Decl. ¶ 38.) However, this statement ignores that fact that the Goodrich Burn Pit is the only location revealing any TCE contamination, albeit in soil gas, in soil at the property. (Stephens Rebuttal Decl., pp. 2-14 – 2-16.) Because TCE is widely detected in groundwater at the site (including very high levels down gradient from the burn pit in monitoring well CMW-02), and the burn pit is the only identified source of TCE in soil, it is reasonable to conclude that this location is one of the sources of TCE at the property. (Stephens Rebuttal Decl., pp. 2-14 – 2-16.)

4. Dr. Powell

Similar to Dr. Kavanaugh, Dr. Powell also misplaced his trust in Dr. Chu. While Dr. Powell attempted to distance himself from reliance upon Dr. Chu at his deposition, he clearly states in his declaration that the estimation performed by Dr. Chu is one of the bases for his conclusions. (See Powell Depo. 23:7-17, 25:13-18, Powell Decl. ¶ 8.) As discussed above, due to flaws in his work, reliance upon Dr. Chu's opinions regarding the extent of perchlorate contamination migration in the vadose zone renders Dr. Powell's conclusions similarly flawed.

Dr. Powell initially opines that "only trace amounts of perchlorate were released in the WCLC Study Area." (Powell Decl. ¶ 9.) To support this opinion Dr. Powell points to the investigations performed to date at the 160-acre site as well as the work of Dr. Chu. (Ibid.) However, the assumption that the investigation of the property exculpates WCLC (despite the fact that Dr. Powell admits WCLC

discharged perchlorate to the property (Powell Decl. ¶ 10), is specious. The work performed to date by Environ has identified a limited number of perchlorate detections in soil which, with the exception of the McLaughlin Pit, have purportedly not resulted in impacts to groundwater. (Ehmart Ex. E1.) However, what Dr. Powell overlooks is that the investigations to date, by Environ and others, has also confirmed widespread groundwater contamination, including both TCE and perchlorate, that cannot be attributed to the McLaughlin Pit which was located at the down gradient side of the property. (Emhart Ex. E1.) If one were to assume that Dr. Powell is correct in concluding that the 28-acre study area is not a source of perchlorate to groundwater, then the evidence would indicate that there was no source of perchlorate contamination at the property. Given the widespread groundwater contamination beneath the property and the absence of up gradient sources, this conclusion is obviously wrong. Therefore, despite the alleged quality of the investigations to date, there is no refuting that the property, including the area of the former WCLC operations, is a source of groundwater contamination. While the Emhart Parties may have only found a small amount of shallow contamination associated with past WCLC operations, that residual contamination is evidence of discharge of perchlorate by WCLC which, in the absence of evidence otherwise, impacted groundwater.

Dr. Powell's declaration is also rife with inaccuracies and incorrect conclusions, while too numerous to address in this memorandum, Dr. Stephens' declaration addresses many of these errors. Dr. Stephens' declaration, for example, refutes Dr. Powell's conclusions regarding the absence of perchlorate contamination in soil at the property as well as the migration rate of perchlorate in the vadose zone.

X. ISSUES RAISED BY THE NAMED DISCHARGERS ARE DESIGNED TO DIVERT ATTENTION ON THE REAL ISSUE FOR ADJUDICATION: THE NAMED DISCHARGERS' OWN LIABILITY.

A. Goodrich's Contention That Chilean Fertilizer Cannot Be Disregarded As A Source Of Perchlorate Contamination Fails To Address Contamination Known To Be Emanating From The 160-Acre Parcel And, In Any Event, Does Not Exculpate It From Liability Under The Water Code.

Goodrich's "Chilean Fertilizer defense" lacks merit factually and, in any event, is not a defense to its own liability under the Water Code for at least three reasons. First, contrary to Goodrich's factually-unsupported and somewhat misleading assertion that "agricultural activities did exist hydrologically upgradient of the [160-acre] Property[,]" **there is absolutely no evidence that any Citrus Groves ever existed updgradient from the Property or that Chilean Fertilizer was ever used in connection with any other "agricultural activity"** that may have taken place there. Second, because of the very low concentrations of perchlorate in Chilean Fertilizer, even if it was used upgradient of from the 160-acre site, an assumption for which there is absolutely no factual support, **such use does not account for perchlorate "hits" as high as 10,000 parts per billion in wells on the 160-acre site**. Finally, even if Chilean Fertilizer is **a source** of perchlorate contamination elsewhere in the Rialto/Colton Groundwater Basin, it does not legally exculpate Goodrich from its liability under the Water Code since, as detailed in Rialto's Opening Brief and in this Rebuttal Brief, **Goodrich discharged significant quantities of perchlorate to the ground at the 160-acre site, which perchlorate is now contaminating and/or threatening to contaminate Rialto's water supply.**

Goodrich's contention that Chilean Fertilizer was used on Citrus Groves upgradient of the 160-acre site is based **solely** on the "interpretation" of aerial

photographs by its paid expert – Adam Bennett. Mr. Bennett's opinions were significantly undermined at his deposition and by actual on the ground facts. (*See* e.g. Rialto's appendix re: impeachment of experts showing, *inter alia*, that Bennett misidentified what were actually houses as agricultural wells, and that he completely overlooked a second Goodrich burn pit].) Moreover, Goodrich plays fast and loose with Mr. Bennett's opinions. Bennett's stated opinion is that citrus orchards he believes he can observe in aerial photographs "in the vicinity surrounding the 160 Acre Site....are mainly concentrated to the south below Baseline Avenue and to the east along Lytle Creek with some select areas to the northwest at the foothills of the San Gabriel Mountains." (Bennett Decl., p. 3:24-26.) However, Bennett's own Exhibit K clearly shows that the **Baseline Avenue areas are miles downgradient from the 160-acre site**, and that the **Lytle Creek areas are miles cross-gradient from the 160-acre site**. Water simply does not flow uphill. Even if Chilean Fertilizer was used in these areas and even if it leached to groundwater, this does not explain the presence of perchlorate on the 160-acre site at all, let alone at levels of up to 10,000 parts per billion. Also, the groves identified by Bennett at the foothills of the San Gabriel are across what is known as "Barrier J" – a (*200 feet of newer alluvium impermeable) fault line separating the Rialto/Colton Groundwater Basin from the Chino Groundwater Basin – from the 160-acre parcel. Accordingly, even if Chilean Fertilizer was used in the San Gabriel foothills area and even if it leached to groundwater, it would be contaminating the Chino Basin – not the Rialto/Colton Basin, and its use does not explain the presence of perchlorate in groundwater beneath the 160-acre site at levels up to 10,000 parts per billion!

Mr. Bennett provides a further interpretation of aerial photographs, opining that he can observe "agricultural activities" on the "surrounding properties" and "northwest of the 160 Acre Site." (Bennett Decl., pp. 3:27-28, 4:`12-16.) Bennett interprets the aerial photographs as depicting "orchards and agricultural fields,

including wheat type and row crops[."] (Bennett Decl., p. 4, 14-16.) Critically, on properties on which Bennett purports to be able to "see" agricultural activities on properties "surrounding" the 160-acre site, he does not opine that those activities include citrus farming. There is no evidence that Chilean nitrate fertilizer was ever used as a source of nitrate on any crop other than citrus. Goodrich's citation to Bennett's interpretation of the aerial photographs as evidence that **citrus groves** exist "hydrologically upgradient of the Property" takes far too much liberty with his actual opinion that "agricultural activities" are observed there, and is inapt. (See Goodrich Opening Brief, p. 173:14-16.) Indeed, Goodrich itself later retreats from its bold and misplaced citation to Bennett's interpretations, more honestly contending merely that "agricultural activities did exist upgradient of the Property." (*Id.*, at 174:22-24.) Unfortunately for Goodrich, the presence of agricultural activities, as opposed to citrus farming with Chilean nitrate, is irrelevant.

In paragraph 8 of his declaration, Bennett also temporally limits his conclusion about his interpretation of the aerial photographs showing "agricultural activities" on properties "surrounding" the 160-acre site to the time period between 1954 and 1996. (Bennett Decl., p. 3:27-28.) In paragraph 10 of his declaration, he expands this temporal limitation to "agricultural activities" that were taking place northwest of the 160-acre site to between 1930 and 1986. However, as Dr. Adams, Goodrich's agricultural expert, noted at his deposition, synthetic nitrogen fertilizers, which do not contain perchlorate, had almost completely replaced Chilean nitrate fertilizers by 1935, and were being recommended for use in areas like Rialto as early as 1926.[36] (*See* Rough Transcript of Deposition of John Adams, Ph.D., submitted concurrently herewith, pp. 33:2-11, 35:22-36:4 [by 1935 Chilean

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[36] Dr. Adams has operated an orange grove established by his grandfather in 1907 below Baseline Avenue in Rialto for 26 years. (Goodrich's Adams Decl., ¶ 3.) He has lived in Rialto all of his life (except while attending college), and is familiar with the major streets and avenues and layout of the City. (Adams Deposition Transcript, p. 19:1-8.)

nitrate would not likely have been the fertilizer being used on citrus in Rialto], 44:4-16 [by 1926, University of California was recommending replacing Chilean fertilizers with sodium nitrate for soils like those in Rialto].) Even if the "agricultural activities" Bennett purports to observe were citrus groves, an assumption that has no factual basis, the use of Chilean fertilizer for citrus farming during this time period was already being phased out or had altogether ceased.

Mr. Bennett's interpretation of the aerial photographs and conclusions about farming and agricultural activities upgradient from the 160-acre parcel are also contradicted by Goodrich expert Dr. Adams, and by known "on the ground" facts.[37] Dr. Adams, a lifetime resident of Rialto and whose family has been farming citrus in Rialto since 1907, testified extensively about the location of all the citrus groves he knows to have existed in Rialto, and he could not identify a single grove upgradient from the 160-acre parcel or even near it. (Adams Deposition Transcript, pp 67:1-71:3, Exhibit 4807 [there were no groves between Locust and Sierra above Highland].)

Goodrich relies, in part, on the testimony of Dr. Adams to support its contention that Chilean nitrates applied as fertilizer leached to groundwater. (Goodrich Brief at 179:19-22.) But, Dr. Adams himself testified that he had no knowledge of this occurring in Rialto (Adams Deposition Transcript, p. 37:11-38:3), and that he had "no understanding of how it [potassium perchlorate] would interact with soil or how it would move through soil." (*Id.*, at 18:3-7.) In fact, at his deposition, Dr. Adams wholly retracted the opinion in his declaration and relied

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[37] Unlike Mr. Bennett, Dr. Adams was not paid by Goodrich for his testimony. Tellingly, at his deposition, Dr. Adams withdrew and/or qualified many of the statements crafted by Goodrich that it submitted in his declaration. (*See* Rialto's Impeachment Appendix, submitted concurrently herewith, for a complete discussion of the retractions and/or limitations of the expert opinions in the Declaration Goodrich submitted on behalf of Dr. Adams.)

upon by Goodrich in its brief that over- application of Chilean nitrate fertilizer likely resulted in increased nitrate levels in groundwater. (*Id.*, at 65:21-66:4.)

Historic records obtained by Rialto further establish the dearth of agricultural activity on the entire former 2,800-acre Rialto Ammunition Backup Storage Point ("RASP") area bounded by Sierra, Highland, Riverside and Linden Avenues and within which the 160-acre site is centrally located. Government documents relating to the Department of Defense's condemnation of the 2,800-acre RASP site indicate that, in 1942, when the property was "taken" by the federal government "approximately 2,300 acres of the project were uncleared brush lands, the balance of approximately 500 acres cleared land was planted to grain, or summer fallowed, except for approximately 100 acres set in grapes." (Rialto338766-69, at 68.) In other words, as of 1942, there were not orchards at all, let alone citrus orchards, on the entire 2,800-acre RASP site within which the 160-acre site is located. An aerial photograph of the "lands taken" for the RASP flown on February 20, 1942, clearly shows that there is no orchard or row crop farming in the vicinity of or upgradient from of the 160-acre site at that time. (Rialto338598.) Finally, a 1949 Land Use Map of the Rialto Colton Basin prepared by the San Bernardino Valley Municipal Water District in 1996 clearly shows that the closest citrus orchards are miles away and downgradient from the 160-acre parcel, with no upgradient irrigated agricultural activity whatsoever. (Ex. A, Introduction, p. 4, to Rialto's Request for Official Notice submitted concurrently herewith.) The entire area upgradient from the 160-acre site is shown on the 1949 Land Use Map as "native vegetation." (*Id.*) These historic documents are consistent with Dr. Adams' recollection that there were no citrus groves in the vicinity of or upgradient from the 160-acre site at any time.

Except as set forth above with respect to the impossibility of perchlorate from Chilean nitrate fertilizer being capable of migrating miles upgradient to the 160-acre parcel, for the sake of brevity, Rialto will not repeat the expert opinions of

factual underpinnings of Dr. Stephens, nor those of the Advocacy Team, regarding Chilean nitrate fertilizer not being able to account for perchlorate hits at up to 10,0000 parts per billion on the 160-acre parcel, but incorporates those facts and arguments by reference herein as if set forth in full. Nor will Rialto repeat the legal arguments made previously herein about Goodrich's liability as a discharger under the Water Code irrespective of the implication that it may not be the sole source of perchlorate contamination in the Rialto/Colton Groundwater Basin, which arguments are also expressly incorporated in this section of Rialto's Rebuttal and applied to Goodrich's purported "Chilean fertilizer defense."

B. Arguments re: the Allegedly Improper Closure of the McLaughlin Pit Do Not Exculpate the Dischargers.

Goodrich argued that the Regional Board should be held liable for operating the McLaughlin Pit in violation of its waste discharge requirements (WDRs) for over sixteen years and, after 1984, closing the Pit without complying with its Subchapter 15 requirements. (Goodrich Brief at 265.) Goodrich further argues that the Board installed four unlined settling ponds directly over areas of known perchlorate storage. (Goodrich Brief at 265.) As the court stated in *AMW Materials v. Town of Babylon*, 348 F.Supp.2d 4, 13 (E.D.N.Y. 2004), if the government acquires "ownership or control of a facility involuntarily, as a result of a sovereign function...the State or local government is only liable for gross negligence or willful misconduct. *Babylon* at 13. Courts do not generally hold a government entity liable as a operator for responding to a site to conduct clean-up activities. *Stilloe v. Almy Bros., Inc.,* (N.D.N.Y. 1992) 782 F.Supp. 731, 736 . Furthermore, mere regulatory oversight by the government is insufficient to create operator status. *See., e.g., U.S. v. Dart Indus., Inc.*, (4th Cir. 1988) 847 F.2d 144 (holding that a state agency was not an operator solely by conducting inspections and issuing permits). Under *Dart Industries*, the Regional Board would not be deemed an operator of the McLaughlin Pit for merely exercising its duties and issuing permits

in the Pit's closure. Even if the Regional Board were an "operator" under CERCLA, Goodrich would have to satisfy the *Babylon* rule and prove that the Board acted with gross negligence or willful misconduct. It did not, and could not.

C. Evidence of Other Potential Dischargers Does Not Exculpate the Dischargers.

The Regional Water Board cannot be held liable for exercising its discretion to omit certain dischargers from the CAO, nor does the Regional Board's refusal to include other alleged dischargers in the CAO in any way absolve the Dischargers of liability. Determining whether a particular party should be included in an enforcement action, by its very nature, involves a conscious balancing of the risks and advantages of the situation. The Regional Board is by no means imposed with a duty to name all parties involved. *See, e.g., Zoecon Corp.*, Order No. 86-2 (SWRCB 1986) (stating that regional water board did not act inequitably in omitting from an order landowners on down gradient, contaminated properties). The State Water Board has gone so far as to state that "[i]t is not the responsibility of the Regional Board to track down all possible contributors to the groundwater pollution and apportion their share of the responsibility . . . ." *The Santa Clara Transportation Agency*, Order No. WQ 88-2 (SWRCB 1988); *see also Union Oil Company of California*, Order No. 90-2 (SWRCB 1990) (upholding the regional boards decision to investigate in a reasonable manner as the matter evolved and more evidence was gathered). These orders support the proposition that because there is no duty for the Regional Board to name all responsible parties, the act is purely discretionary and immunity applies. It should also be noted that no mandatory obligation to prosecute is imposed by statute. The court's decision in *Wilson v. Sharp*, 42 Cal.2d 675 (1954) is especially instructive on the issue. If, as in that case, a county counsel is granted immunity from prosecuting a case even after gaining knowledge of illegality, the Regional Board in this matter must also be granted the same immunity for omitting dischargers from the CAO.

The State Water Board's ruling in response to the Dischargers' Motion to Dismiss provides further support for immunity. In its March 20, 2007 ruling, the State Water Board held that neither the State nor Regional Water Board is required by law to name all potentially responsible parties in a particular CAO. The State Board emphasized that additional PRPs could be added at a later time if it finds it appropriate to do so. This ruling is in accordance with the principle articulated in the *Union Oil* order which stated that dischargers can be added once more information is presented to the board. The very purpose of the hearing scheduled before the State Water Board in this matter is to gather such information.

D. Goodrich's "Government Contractor" Argument is Misleading and False.

The government contractor defense provides immunity from negligence in the form of a design defect involved in contracts serving the federal government. Goodrich has argued that because it was acting under a contract with the federal government, it is protected from liability for the release of hazardous substances since the release was directed by the government and not Goodrich.

1. Under *Boyle*, a government contractor is immune from negligence for a design defect in military equipment manufactured for the United States.

The Supreme Court articulated a test to determine whether a government contractor could be immune from prosecution in *Boyle v. United Technologies Corp.*, 487 U.S. 500 (1988). In that case, the plaintiff was killed in a helicopter crash and the cause of the crash was determined to be a design defect in the helicopter as designed by the United States military and built by the defendant. *Id.* at 503. The Court stated that although there was no clear statutory prescription preempting state tort law, the presence of a "unique federal interest" was sufficient as a substitute in the form of federal common law. *Id.* at 504. In *Boyle*, the Court found the unique federal interest to be the contracts for procurement of military

equipment; and imposing liability would affect the terms of the contracts and, therefore, the United States directly. *Id.* at 507. Stating that the presence of a unique federal interest was necessary, but not sufficient, the Court required the finding of a "significant conflict" between the unique federal interest and the operation of state law. *Id.* The "significant conflict" in *Boyle* was due to a state law holding government contractors liable for design defects in military equipment and the Federal Tort Claims Act (FTCA) which, although it subjects the government to liability for negligence, provides an exception when the government is acting in a discretionary function. *Id.* at 511.[38] Under this rubric, the Court's three-prong test stated that "[l]iability *for design defects in military equipment* cannot be imposed, pursuant to state law, when (1) the United States approved reasonably precise specifications; (2) the equipment conformed to those specifications; and (3) the supplier warned the United States about the dangers in the use of the equipment that were known to the supplier but not to the United States." *Id.* at 512 (emphasis added).

2. *Boyle* and related subsequent cases are limited to those actions involving negligence in a products liability context and, therefore, have no application in this matter.

Goodrich argues that the government contractor defense precludes liability since Goodrich was acting under the direction of the United States. In support of this contention, Goodrich cites *Miller v. Diamond Shamrock Co.,* (5th Cir. 2001) 275 F.3d 414 for the proposition that the government contractor defense applies in cases of environment contamination. Rialto Opening Brief at 256-257. *Miller*, however, did not involve environmental contamination. Rather, it involved civilian workers suing the manufacturer of Agent Orange for exposure to the compound

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[38] According to the Court, the "selection of the appropriate design for military equipment to be used by [the] Armed Forces is assuredly a discretionary function within the meaning of [the FTCA]. *Id.* at 511.

while working under a government contract. *Id.* at 417. Further, the *Miller* court itself stated that the "military contractor defense shields a contractor from liability *for a defect in an item* built or manufactured at the government's discretion. *Id.* at 418 (emphasis added). Likewise, the Court in *Boyle* also limited the defense to situations involving design defects in military equipment and to prevent "state *tort* suits against contractors [that] would produce the same effect sought to be avoided by the FTCA. *Boyle* at 511 (emphasis added). Similarly, other cases decided under the *Boyle* test are limited to those involving negligence and product defects. *See, e.g., Ibrahim v. Titan Corp.,* 391 F.Supp.2d 10, 17 (D.Col. 2005) (refusing to extend the *Boyle* preemption analysis beyond the negligence and product liability context to automatically preempt any claims, including intentional tort claims.); *see also*, *Bentzlin v. Hughes Aircraft Co.*, (C.D. Cal. 1993) 833 F.Supp. 1486 (stating that the "rationale upon which the *Boyle* case fashioned a federal common law defense against design defect claims support preemption of plaintiff's tort suit....").

In contrast, Rialto's case before the State Water Board is not a tort suit. It does not involve any negligence claims or design defect claims for the design of the rockets and flares manufactured at the Rialto facility. In this context, therefore, the *Boyle* factors have no application.

Goodrich also argues that the government contractor defense applies in situations where the government controls the exact method of disposal. Rialto Opening Brief at 257. For example, in *OSI, Inc. v. United States,* (11th Cir. 2002) 285 F.3d 947, the court held that the government was immune from a tort suit brought under the FTCA because the dumping of hazardous waste on land owned and/or leased by the Air Force was subject to the discretionary function exception of the FTCA. *Id.* at 952; *see also, Aragon v. United States*, 146 F.3d 819 (10th Cir.

1998) (involving contamination resulting from the military using TCE as a solvent on an Air Force base).[39]

A number of cases involving asbestos products also utilized the *Boyle* test to reach the opposite conclusion, that a government contractor was not immune from liability. One distinction in these cases is that *Boyle* was discussed in a non-military context. More importantly, however, the plaintiffs in the asbestos cases based their claims on a state failure to warn tort theory with respect to the dangers of asbestos. *See, e.g., In re Hawaii Federal Asbestos Cases*, (D. Hawaii 1988) 715 F.Supp. 298 . Although the court refused to extend government contractor immunity in a non-military context, it noted that the government contract specifications did not require or forbid warnings of any kind. *Id.* at 300; *see also, Faulk v. Owens-Corning Fiberglass Corp.*, 48 F.Supp.2d 653, 665, n. 16 (E.D.Tex. 1999) (stating that because the government specifications were silent as to warnings regarding asbestos, the contractor could have complied both with the government contract and state warning laws.). These cases, although refusing to apply the government contractor defense, remain in accordance with *Boyle* because they are still in a products liability context. The cases also prove that if the government contractor can comply with both state law and the government contract, liable under state law can be imposed because the requisite "significant conflict" from *Boyle* would not be present.

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[39] On a side note, Goodrich argues in its brief that military manuals and guides "have the force of law." Brief at 250 citing *Pub. Util. Comm'n of Cal. v. United States*, (1958) 355 U.S. 534, 542-43 . In a subsequent decision by the Supreme Court, however, the Court stated that an agency manual, in contrast to a regulation, is not necessarily entitled to the force and effect of law. *Schweiker v. Hansen*, (1981) 450 U.S. 785, 789 (holding that the Social Security Claims manual had no bending effect on the government). The *Schweiker* case is cited in the *Aragon* case, which Goodrich relies upon for its proposition that environmental contamination by the military is a discretionary function. Rialto Opening Brief at 257.

3. Goodrich's Argument, if Accepted, Supports a Finding of Arranger Liability.

By analogy to section 107 of CERCLA, a potentially responsible party is "any person who by contract, agreement, or otherwise arranged for disposal or treatment . . . of hazardous substances owned or possessed by such person, by another party . . . at any facility;" 42 U.S.C. § 9607(a). The language "otherwise arranged for" has been the subject of numerous litigation and different circuits have developed different tests to determine whether a party can be held liable as an "arranger."

(a) The Ninth Circuit Rule.

A liberal construction of the term "arranged for" in CERCLA has led some circuits to adopt a test requiring a mere showing of control over the disposal of hazardous substances in order to impose "arranger liability." The Eighth Circuit fist addressed the issue in *U.S. v. Northeastern Pharmaceutical & Chemical Co.,* (8th Cir. 1987) 810 F.2d 726 (*NEPACCO*). There, the court held that it is the "authority to control the handling and disposal of hazardous substances that is critical under the statutory scheme. *Id.* at 743. According to that court, "requiring proof of personal ownership or actual physical possession of hazardous substances as a precondition of liability . . . would be inconsistent with the broad remedial purposes of CERCLA. *Id.* The Eighth Circuit later reiterated this standard in *U.S. v. Aceto*, (8th Cir. 1989) 872 F.2d 1373 . That court interpreted the phrase "arranged for" in light of two essential purposes of CERCLA: 1) a prompt and effective response to the problems resulting from hazardous waste disposal; and 2) that those responsible for problems caused by waste disposal bear the costs for remedying the harmful conditions. *Id.* at 1380 *citing U.S. v. Reilly Tar & Chemical Corp.*, 546 F.Supp. 1100, 1112 (D. Minn. 1982). Like the court in *NEPACCO*, the court in *Aceto* held that liability may be imposed on those who had the authority to control the disposal, even without ownership or possession (although the defendant in

Aceto retained ownership of the hazardous substances). *Aceto* at 1382. In doing so, the court expressly rejected the argument that a party could be liable only if it intended to dispose of waste. *Id.* at 1380.

Subsequently, the Ninth Circuit adopted the rule developed in *NEPACCO* and *Aceto* while deciding whether the defendant, who supplied hazardous substances to the plaintiff, could be held liable as an "arranger" under CERCLA. *See, Jones-Hamilton Co. v. Beazer Materials & Services, Inc.*, (9th Cir. 1992) 973 F.2d 688. Since Beazer retained ownership of the material it supplied to the plaintiff, the court held that defendant "arranged for disposal" under CERCLA. *Id.* at 695. *See also, U.S. v. Shell Oil Co.*, (9th Cir. 2002) 294 F.3d 1045, 1055-56 (holding the proof of ownership not required because actual control is the "crucial element."). The Fifth Circuit was a step removed from the "authority to control disposal" language articulated in *Aceto* and referenced a Second Circuit decision stating that it was the "*obligation* to exercise control over hazardous waste disposal, and not the mere ability or opportunity to control the disposal." *Geraghty v. Conoco, Inc.*, (5th Cir. 2001) 234 F.3d 917, 929 citing *General Elec. Co. v. AAMCO Transmissions, Inc.*, 962 F.2d 281, 286 (2d Cir. 1992) (emphasis in original).

More recently, the Third Circuit addressed the numerous tests employed by the various circuits to articulate a "boiled down" version of determining "arranger liability" under CERCLA. *Morton International, Inc. v. A.E. Staley Manufacturing Co.*, (3d Cir. 2003) 343 F.3d 669. The court concluded that the all circuit courts were virtually unanimous with respect to two points: that determining "arranger liability" was a fact-sensitive inquiry requiring a multi-factor test and that courts must look beyond the defendant's characterization of the transaction at issue. *Id.* at 677. After considering the circuits' disagreement as to which factors are considered, the court concluded that the most important factors in "determining 'arranger liability' are: (1) ownership or possession; and (2) knowledge; or (3)

control." *Id.* The court also noted although other factors (discussed above) are relevant in a particular situation, the enumerated factors "are closely related to most or all the other factors identified." *Id.* at 678, n. 5.

(b) Goodrich would likely be liable as an "arranger" under any current test.

Regardless of the test applied in making the determination of "arranger liability" with respect to Goodrich's operations and disposal of perchlorate, Goodrich should be liable. Under the Third Circuit's all-encompassing test, Goodrich was in possession of perchlorate at the Rialto facility. The "ownership *or* possession" language defeats Goodrich's argument that the Department of Defense, and not Goodrich, owned the materials once they were purchased and Goodrich was reimbursed under its contract with the federal government. (*See* Goodrich Brief at 244). Even if Goodrich did not own the materials or the final product, it was in possession of both, including the perchlorate. Further, Goodrich had knowledge that hazardous waste can or will be released since it was disposing of perchlorate into the bare ground and unlined pits. Applying tests/factors from other circuits would also impose "arranger liability" upon Goodrich. For example, under the Sixth and Seventh Circuit tests, Goodrich demonstrated the requisite intent to dispose of perchlorate by intentionally dumping the used materials and solutions onto the bare ground and unlined pits. The more liberal interpretations of the Eighth and Ninth Circuits would impose "arranger liability" because ownership would not need to be proven and Goodrich had control over the disposal of the perchlorate.

Goodrich's argument that it was a "government contractor" is misleading, as its liability can be premised on any number of theories.

E. Other Unsupportable Arguments Made by the Dischargers.

1. Rialto's Alleged Liability.

None of the Dischargers bring forth credible evidence to support a conclusion that the City of Rialto could be a liable party. Goodrich argues that Rialto is a responsible party for an alleged failure "to enforce the McLaughlin Pit-closure mitigation measures mandated by CEQA." (Goodrich Brief at 272.) However, there is no evidence that Rialto discharged perchlorate, TCE or any other waste contaminant at the Goodrich/Black & Decker site. Therefore, Rialto cannot be named as a discharger under Water Code Section 13304.

2. Miscellaneous "Defenses".

(a) Estoppel as to Rialto's Claims.

Goodrich further asserted that Rialto would be collaterally estopped from advancing claims related to water replacement and reimbursement because the federal court had previously dismissed Rialto's state law tort claims based on preemption. (Goodrich Brief at 219-220.) Goodrich also argues by implication that collateral estoppel applies because the federal court had dismissed the suit brought by City of Colton after finding that Colton had not complied with NCP. (Goodrich Brief at 218-19.) Goodrich's arguments on this issue have no merit.

The doctrine of collateral estoppel, or issue preclusion, operates to bar re-litigation of *issues* previously litigated between the same parties on a different cause of action if the issues for which collateral estoppel is sought in the second action: (1) are identical to those litigated in the first action; (2) were actually litigated and necessarily decided in determining the first action; (3) are asserted against a participant in the first action or one in privity with that party; and (4) the former decision was final on the merits. *Pajaro Valley Water Management Agency v. McGrath* (2005) 128 Cal.App.4th 1093, 1100 (first emphasis original, remaining emphasis added, citations omitted). Goodrich's first argument fails to satisfy all but the third element and the second argument fails to satisfy any of these elements.

In response to defendants' arguments that Rialto's state law tort claims are preempted by CERCLA and the NCP, the Rialto federal court granted the City leave to amend those claims to clarify that the remedies sought under those claims were not available under CERCLA and did not conflict or interfere with CERCLA's objectives. (Goodrich Opening Submission, Ex. 20332, p. 25.) To the extent that there is a purported preemption issue between the claims now brought under the Water Code provisions and CERCLA, the court certainly has not decided or come to a decision on the merit on that issue, as it has never been before the court. The provisions of the Water Code are separate and distinct from the common law state tort claims at issue in the prior order and no collateral estoppel exists.

With respect to the dismissal of Colton's lawsuit, it is clear that the issues are not identical to the ones here. Whether the City of Colton has complied with NCP is irrelevant to the determination of Rialto's compliance with NCP. Whether the City of Rialto has complied with the NCP was never litigated nor decided. Even if, arguendo, Rialto has to comply with the NCP requirements in order to recover response and water replacement cost under the Water Code as Goodrich suggests, the Court in Colton's lawsuit has not made any factual determination, let alone a final determination on the merits, regarding Rialto's compliance with the NCP.

(b) Res Judicata and Collateral Estoppel due to Prior Orders against the Dischargers.

Goodrich argues that since the Regional Board issued a CAO in 2002 and later rescinded it, the Regional Board (and the State Board) is now precluded from issuing a CAO to Goodrich. (Goodrich Brief at 237-238.)

A court may apply res judicata and collateral estoppel so as to make a prior administrative adjudication binding in a subsequent action where the following requirements are met: (1) the administrative agency acted in a judicial capacity; (2) resolved disputed issues of fact properly before it; (3) the parties were provided

with an adequate opportunity to litigate their claims. *U.S. v. Utah Const. & Min. Co.* (1966) 384 U.S. 394, 421-22; *Brosterhous v. State Bar* (1995) 12 Cal. 4th 315, 324. Collateral estoppel applies where, in addition, (1) the issues in the two proceedings are identical; (2) the prior proceeding resulted in a final judgment on the merits; and (3) the same parties or their privities are involved. *People v. Sims* (1982) 32 Cal. 3d 468, 484.

Accordingly, an administrative decision that is not a final determination on the merits has no preclusive effect. *Gage v. Gunther* (1902) 136 Cal. 338, 346-47; *Sale v. Railroad Commission* (1940) 15 Cal. 2d 612, 616. Here, it cannot be said that the Regional Board's "rescission" of the order is a final one, or an adjudicative determination, with respect to the issue of Goodrich's liability, which is at issue here.

As Goodrich indicates, the Regional Board issued a CAO to Goodrich and Kwikset in 2002 (CAO No. R8-2002-0051). In that order, the Regional Board ordered Goodrich and Kwikset to submit proposals and implement the proposals, upon approval by the Board, to delineate the extent of the contamination and remediate the site. The Regional Board later rescinded CAO R8-2002-0051 (*see* October 25, 2002 Agenda Item 6), upon petitions filed by Goodrich and Kwikset. The Regional Board found that it was not reasonable to only focus on two PRPs where there might be other PRPs and directed the staff to issue § 13267 letters to all PRPs with the goal to broaden the order to include all PRPs. The rescission order did not resolve any liability issue with respect to Goodrich. It merely postponed the issuance of a CAO until the Regional Board could successfully bring in additional PRPs.

Accordingly, the prior CAO proceedings were in effect "suspended" to allow for further investigation of other PRPs. There was no prior final determination made regarding Goodrich's liability or the merits of the claims involved. Instead, the CAO was "rescinded" on procedural rather than substantive grounds, to specifically allow

for the addition of other liable parties. This in no way suggests any adjudication of Goodrich's liability.

Further, the doctrine of res judicata cannot be applied when an agency has continuing jurisdiction pursuant to statute to rescind, amend or alter its decisions. *Employers' Liability Assur. Corp., Limited, of London, England v. Industrial Acc. Com.* (1935) 7 Cal. App. 2d 190, 193; (*cf. Azadigian v. Workers' Comp. Appeals Bd.* (1992) 7 Cal.App.4th 372, 377-78 (finding additional requirement of good cause under workers' compensation statute); *Olive Proration Program Com. v. Agricultural Prorate Com* (1941) 17 Cal. 2d 204, 209. Here, the Regional Board indeed has continuing jurisdiction over the investigation and cleanup of the Rialto site and, therefore, res judicata does not apply here.

(c) Laches.

Goodrich further asserted that the Regional Board would be barred from acting by the doctrine of laches. (Goodrich Brief at 236-37.)

Under appropriate circumstances, the defense of laches may operate as a bar to a claim by an administrative agency, if the requirements of unreasonable delay and resulting prejudice are met. *Fountain Valley Regional Hospital and Medical Center v. Bonta (1999)* 75 Cal. App. 4th 316, 323. The elements of unreasonable delay and resulting prejudice may be met in two ways. *Id.* at 323-324. First, the elements may be demonstrated by the evidence in the case, and the person arguing in favor of a finding of laches has the burden of proof. Second, the element of prejudice may be presumed if there exists a statute of limitations which is "sufficiently analogous to the facts of the case," and the period of such statute of limitations has been exceeded by the administrative agency in making its claim. *Id.* In such case, the burden will shift to the agency to show that the delay involved was excusable and to rebut the presumption that such delay resulted in prejudice to the opposing party. *Id.*

There are no directly applicable statutes of limitation in administrative proceedings. *Id.* at 324. Goodrich impliedly suggests that the passing of the 3-year statute of limitations under Code Civ. Proc. § 338(i) is the basis for applying the laches doctrine to bar the Regional Board's action. First, Code Civ. Proc. § 338(i) is not an "analogous" statute that may be "borrowed" to apply to the issuance of a CAO, for the reason that it interferes with the authority of § 13304 to require responsible parties to cleanup their past discharges and ignores the fact that many groundwater contamination cases are so complex that it would take a considerable amount of time to determine the source and extent of a contamination before an order can be issued. Even if Goodrich is correct – and it is not – that § 338(i) can be borrowed here, the statute of limitations would not have run because the 3-year clock does not start until the Regional Board has collected enough facts to determine the suspected dischargers and evaluate the actions it should require. In addition, under *Fountain Valley Regional Hospital and Medical Center*, the passing of a borrowed statute of limitation only shifts the burden to a government agency to show excusable delay and lack of prejudice; the doctrine of laches does not apply *per se*.

Further, the principle of *Fountain Valley Regional Hospital and Medical Center* should not be applied to Regional Board here. Discussing the difficulty in obtaining all relevant information, which may be readily available to the parties themselves, much of the information needed before a regional board can issue a CAO may not be readily available. This is especially true here where the Dischargers operated in some cases more than sixty years ago and have prevented free access to information. Finally, Goodrich makes no showing – nor can it – of any resultant "prejudice" caused by the Regional Board's continued investigation prior to continuing with the CAO proceedings.

XI. NONE OF THE NAMED DISCHARGERS HAVE, OR COULD, CONTRADICT THE IMPACTS OF THEIR CONTAMINATION ON THE RIALTO WATER SYSTEM.

A. Costs/Impact.

Rialto has submitted evidence of the costs incurred in providing replacement water at Chino 1 and Chino 2, and other related expenses. These costs were submitted pursuant to Water Code Section 13304(a). To date, the Dischargers have not provided meaningful rebuttal to these replacement water expenses.

B. Joint and Several Liability is Appropriate Because the Dischargers' Harm Is Not Divisible.

All of the Dischargers argue against the imposition of joint and several liability. However, none of them are able to illustrate how the discharges and resulting impacts are divisible, if at all, or articulate a reasonable theory for apportionment. In fact, their evidence compels the opposite conclusion. The burden shifts to the Dischargers to provide a theory of allocation, but they completely failed to do so. *Summers v. Tice* (1948), (1948) 33 Cal.2d 80; Restatement of Torts Section 443B(3).

"An agency interpretation of the meaning and legal effect of a statute is entitled to consideration and respect by the courts...the binding power of an agency's *interpretation* of a statute or regulation is contextual: Its power to persuade is both circumstantial and dependent on the presence or absence of factors that support the merit of the interpretation...An 'administrative interpretation ... will be accorded great respect by the courts and will be followed if not clearly erroneous....'" *Yamaha Corp. of America v. State Bd. of Equalization* (1998) 19 Cal.4th 1, 7 (emphasis original). Accordingly, although courts independently review the text of a statute, they must "tak[e] into account and respec[t] the agency's interpretation of its meaning, of course, whether embodied in a formal rule or less formal representation." *Id.* Relevant factors for deference include "the

particular agency offering the interpretation...[factors] 'indicating that the agency has a comparative interpretive advantage over the courts' [e.g., factors that "assume the agency has expertise and technical knowledge, especially where the legal text to be interpreted is technical, obscure, complex, open-ended, or entwined with issues of fact, policy, and discretion"] and [factors] 'indicating that the interpretation in question is probably correct' [e.g., "careful consideration by senior agency officials...evidence that the agency 'has consistently maintained the interpretation in question, especially if [it] is long-standing'"...]." *Id.* at 7-13. Similarly, under the primary jurisdiction doctrine, where issues are placed within the "special competence" of an administrative body, limited judicial review is more rationally exercised by "preliminary resort for ascertaining and interpreting the circumstances underlying legal issues to agencies that are better equipped than courts by specialization, by insight gained through experience, and by more flexible procedure." *Palmer v. University of California*, 107 Cal.App.4th 899, 573-574 (2003).

Accordingly, Orders and Resolutions of the State Water Resources Control Board are entitled to heightened deference. The State Board has an interpretive advantage of the courts regarding provisions of the Water Code, including expertise and technical knowledge regarding groundwater contamination, sources and cleanup thereof and policy and discretion issues regarding naming of dischargers in CAOs. Moreover, the State Board has consistently found that liability is joint and several under the Water Code. For example:

In a series of prior Orders, we have established certain principles regarding liability for groundwater cleanups. Cleanup liability is broad and may extend, depending on the facts of the case to old landowners, present landowners, old tenants, and present tenants. In cases involving several potentially responsible parties, it is appropriate to name in cleanup orders all parties for which there is reasonable evidence of responsibility for each party named. In reviewing an action

of a Regional Board, we look at the record to determine whether, in light of the record as a whole, there is a reasonable and credible basis to name a party. *U.S. Cellulose and Louis J. and Shirley D. Smith*, Order No. WQ 92-04. (at p. 2) (emphasis supplied)

The State Water Board has consistently supported the concept of joint and several liability in cleanup actions. In part, this conserves the time and resources for parties who all have some level of liability. In *Union Oil Company of California*, Order No. WQ No. 90-2, the State Water Board stated that the Regional Board is authorized:

> to issue either one order, or several orders with coordinated tasks and time schedules, to all persons it finds are legally responsible, requiring any further investigation and cleanup which is necessary.

(at p.3) The Board went on to say that, "while we consider all dischargers *jointly and severally liable* for discharges of waste, it is obviously not necessary for there to be duplication of effort in investigation and remediation." (Id, at p. 4) (emphasis supplied).

Moreover, the Water Code itself supports imposition of joint and several liability. For example, Water Code section 13267 only requires that reporting requirements bear a "reasonable relationship" to "the need for the report and the benefits to be obtained from the reports," and not any nexus with an individual Discharger's purportedly divisible share of liability. The Water Code provisions are, thus, focused on providing a cleanup plan and not on apportioning shares of liability. Nothing in the provisions of Water Code section 13304 suggest liability should be other than joint and several. Applicable regulations likewise do not require several only liability. See 23 Cal. Code Regs., section 2907-2910. In addition, the California Environmental Protection Agency's State Auditor Report for 2004 found that the "nine regional water boards apportion liability for cleanup using a strict application of joint and several liability" so that orphan shares do not exist.

(p. 2 ["even though some share of the cleanup costs is not attributable to a responsible party, each must assume full responsibility for those costs"].)

Pyro, citing to testimony by the Advocacy Team members, admits that the harm is not divisible or necessarily able to be attributed to one discharger rather than another. For example:

> Q. So on any given day, at any sample that's taken from this basin, when you actually take the sample and you look at the data, and if you see perchlorate or you see trichloroethylene, you can't say under oath that that TCE or perchlorate came from any particular operation versus another one, can you?
>
> ...
>
> A. Probably not.

(Pyro Brief at 4.) Pyro goes on to admit that while there were duds (that were disposed of by burning and therefore a source of perchlorate contamination), Pyro "did not keep records of the type of shell that was a dud, so there is no way to know the type or total amount of fireworks composition in any of those duds." (Pyro Brief at 13; emphasis added.) Pyro relies on testimony from Robert Holub of the Advocacy Team that supports the imposition of joint and several liability here: "We have made an attempt and it's probably not technically possible to differentiate which perchlorate from which party – how much perchlorate from each party got to groundwater." (Pyro Brief at 25; emphasis in original.)

Here, none of the Dischargers supply any evidence of what their purported respective share of liability is, and further, argue that such a task may be impossible! Since the burden to prove allocation is on the Dischargers, the State Board is therefore within its discretion to order joint and several liability.

XII. CONCLUSION.

This proceeding is of critical importance to Rialto, which is facing the worst financial and health crisis in its history. Rialto and its citizens respectfully submit that substantial evidence exists for entry of the CAO against the Dischargers.

Dated: June 7, 2007

Respectfully submitted,

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