1993

Interwest Construction, a Utah corporation v. R. Roy Palmer and Val W. Palmer, dba A.H. Palmer and Sons : Reply Brief

Utah Court of Appeals

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Mary Anne Q. Wood; Richard G. Wilkins; Anthony B. Quinn; Wood, Spendlove & Quinn; Counsel for Appellant.

IN THE UTAH COURT OF APPEALS

INTERWEST CONSTRUCTION, a Utah corporation, Plaintiff/Appellee vs. R. ROY PALMER and VAL W. PALMER, dba A.H. PALMER & SONS, Defendants/ Appellees	REPLY BRIEF Case No. 930220-CA APPEAL FROM THE FIRST JUDICIAL DISTRICT COURT OF CACHE COUNTY, JUDGE LOW Priority Number 15
R. ROY PALMER and VAL W. PALMER, dba A.H. PALMER & SONS, Third Party Plaintiffs/Appellees vs. JOHN RYSGAARD, dba FIBERGLASS STRUCTURES COMPANY and FIBERGLASS STRUCTURES COMPANY, INC., Third Party Defendants/Appellees	
FIBERGLASS STRUCTURES AND TANK COMPANY, fka FIBERGLASS STRUCTURES COMPANY OF ST. PAUL, INC., Third Party Plaintiffs/Appellees vs. THIOKOL CORPORATION, Third Party Defendant and Counterclaimant/Appellant	

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INTRODUCTION

The briefs filed by appellees A.H. Palmer & Sons ("Palmer") and Interwest Construction ("Interwest")[1] bring to mind an old trial lawyer's adage: If you can't dazzle the court, you can at least baffle it. Both briefs are founded upon evident misconstructions of controlling law and plain distortions of the record. Indeed, the level of legal and factual confusion generated is so high that an orderly (and comprehensible) reply is difficult. Thiokol Corporation, however, will attempt to penetrate the fog.

Palmer and Interwest variously assert: (1) that Thiokol has not "marshalled" the evidence (Palmer Brief 20-23; Interwest Brief 6[2]), (2) that the trial court either did not use -- or quite properly invoked -- negligence principles to absolve them of contractual liability (Pal. Br. 7-8, 23-29; Int. Br. 6-8), (3) that Thiokol has waived (or modified) its contractual rights (Pal. Br. 34-39, Int. Br. 8-13), (4) that Thiokol's deficient plans and supervision absolve them of contractual liability (Pal. Br. 40-44), (5) that Thiokol's tort theories are inappropriate (Pal. Br. 29-34, Int. Br. 15-19), and (6) that implied warranty and strict liability theories do not apply to the case (Pal. Br. 44-47, Int. Br. 13-15). Thiokol will respond to these contentions, although not in the order presented by appellees.

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[1] John Rysgaard, dba Fiberglass Structures Company and Fiberglass Structures Company, Inc., ("Rysgaard," or "the tank manufacturer") has not filed a brief or otherwise refuted any of the arguments made in Thiokol's Opening Brief (hereinafter "Thiokol Br.").

[2] Hereinafter cited as "Pal. Br." and "Int. Br."

Despite Palmer's and Interwest's histrionics about "marshalling the evidence," this is not a case that turns upon how the Court construes the record. Thiokol's opening brief carefully (and as dispassionately as possible) presented all of the arguments (and evidence) presented by Palmer and Interwest in support of their claims. See Thiokol Br. 2-13, 15-19. Indeed, any additional "evidence" cited by appellees in their briefs either does not add to Thiokol's summary of the evidence or (even worse) distorts the record.[3] Thiokol, moreover, has not asked this Court to discard the trial court's factual findings.[4] This case, in short, presents legal issues regarding contract construction, not factual disputes. Kimball v. Campbell, 699 P.2d 714, 716 (Utah 1985).

Because the appellees' "factual" contentions have been raised in a studied attempt to deflect attention from clear legal error, Thiokol will respond to factual arguments last and concentrate, initially, on the questions of law presented. Contrary to appellees' submissions, the trial court **did** apply negligence principles to this contract case, a result that is simply unsupported by any authority. Thiokol, furthermore, did not waive or modify its contractual rights. Thiokol's tort, warranty, and

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[3] Virtually all of the "Factual support for Findings of the Court" presented on pages 8-20 of Palmer's brief is summarized on pages 2-13 and 15-19 of Thiokol's opening brief. Indeed, as discussed in Section VI below, the only real "additions" contained in Palmer's brief are outright factual distortions. See, e.g., Pal. Br. 19 (asserting that Thiokol's expert "stated that the failure was not inconsistent with upward pressure") (citing Tr. 357-58). The transcript, however, reveals that the expert testimony **was precisely to the contrary.** See infra Addendum ¶ 3.

[4] See Thiokol Br. 29-30 & n.24.

strict liability theories, moreover, are well-founded and were improperly disregarded by the trial court.

I. THE TRIAL COURT'S INVOCATION OF COMPARATIVE NEGLIGENCE IN A BREACH OF CONTRACT CASE IS UNSOUND AND UNPRECEDENTED

Palmer and Interwest argue that the trial court either did not use negligence principles (Pal. Br. 7-8) or, alternatively, that "contract defense principles similar to tort defenses" were properly invoked. Id. at 23; Int. Br. 6-8. These contentions are unfounded. Even cursory perusal of the Memorandum Decision (App. A to Thiokol's Brief) and the appellees' briefs demonstrates that "[t]his . . . contract case" (Pal. Br. 2) was decided on comparative negligence grounds -- a result totally unsupported in theory or precedent.

The trial court's supposed "contract" analysis proceeded along the following lines: (1) the standards of NBS PS15-69 and the industry-wide safety factor of 10 were not incorporated into the contract (App. A at 2, 6), (2) Thiokol did not show the "cause" of the tank failure (App. A at 2, 4-5), and (3) the ultimate rupture of T33 was Thiokol's responsibility because the company "should have been aware of" the tank's defects (App. A at 6). While the first step in this reasoning **does** turn on contract principles, the trial court plainly misapplied the controlling law. Thiokol Br. 27-28.[5] The second and third steps of the court's analysis,

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[5] A document is incorporated into a contract so long as the reference is clear and called to the attention of the contracting parties. Thiokol Br. 17 (citing extensive authority). Val Palmer (Tr. 1787) and the tank manufacturer (Tr. 1923, 1975) admitted that Thiokol's contract referenced NBS PS15-69. Indeed, they expressly reassured Thiokol that the "Structural Layer" of the tanks would be fabricated **"as per NBS**

however, are grounded -- not in contract -- but in tort.

"Causation" -- the second step in the trial court's "contractual" inquiry -- is an element of a negligence, not breach of contract, action. See Williams v. Melby, 699 P.2d 723, 726 (Utah 1985) (listing the elements of a negligence action as duty, breach, "causation of injury," and damages). A contract action, by contrast, is complete upon showing of a contract, breach and damages. E.g., John Edward Murray, Jr., Murray on Contracts § 117 at 673 (1990) ("Any breach of contract, total or partial, provides the aggrieved party with a right to bring an action for damages").[6] The existence of a contract here is undisputed, and the appellees have conceded "that there was a breach of the

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PS 15.69." App. J. ¶ 3 (emphasis added). Industry standards, moreover, are incorporated into a contract "[u]nless otherwise agreed." Restatement (Second) of Contracts § 222(3); Rex T. Fuhriman, Inc. v. Jarrell, 445 P.2d 136 (Utah 1968). Every expert who testified at trial -- including those hired by Palmer and Interwest -- agreed that a 10-to-1 safety factor is an industry standard. Tr. 1602, 1890 (testimony by Palmer experts). Therefore, the trial court's conclusion that NBS PS 15-69 and a safety factor of 10 were not "incorporated with sufficient clarity for the designer to be aware of their application" (App. A at 6) is erroneous as a matter of law.

[6] Even if "causation" were somehow relevant to breach of contract, the lower court's legal conclusion that Thiokol had not established that element is erroneous. The undisputed testimony was that, if the tanks had been built to a safety factor of three (let alone the factor of ten required by industry standards), the "overfilling" found by the trial court would not have resulted in the rupture of tank T33. See Thiokol Br. 31-32 (citing Tr. 2132-34); cf. Pal. Br. 13 (misconstruing the testimony at Tr. 2132-33). Palmer asserts that Thiokol's expert, on those pages, "could not account for the failure." Pal. Br. 13. In fact, the testimony cited by Palmer is that, if (as Palmer asserts) the tanks had been built to a safety factor of three, overfilling could not have caused the rupture because overfilling would only take "100th of the safety factor." Tr. 2133 (emphasis added). The tanks, in short, **did not even have a safety factor of three.** See infra Addendum ¶ 2.

contract, a technical breach, by virtue of the fact that defective tanks were supplied." Tr. 2321 (Interwest's closing argument); accord App. A at 6 (Memorandum Decision) (the "tanks were under-designed," and "did not have sufficient hoop or tensile strength and likely may have eventually failed in any regard").

Because the contract and its breach were conceded by appellees and acknowledged by the trial court, why did the court refuse to award damages? Because the court relied upon negligence principles in step three of its analysis to absolve the appellees: Thiokol "should have been aware of the need for higher standards as applied to both wall thickness, woven roving overlapping and safety factors." App. A at 6. Thus, even though Thiokol's contractors supplied tanks with insufficient wall thickness, substandard overlapping of woven roving, and an "almost immaterial" safety factor (Tr. 602), Thiokol was negligent in not detecting such derelictions and, therefore, must bear any losses resulting from the failure of T33.

That comparative fault is the basis for the trial court's "contractual" decision is also demonstrated by opposing counsels' closing arguments at trial (Tr. 2322)[7] and their appellate briefs. Interwest's brief (at 7) forthrightly asserts that "Thiokol's relative knowledge, expertise, and opportunities to prevent the damages at issue in this litigation give rise to significant comparative fault issues." Palmer, for its part, while never

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[7] Tr. 2322 (Interwest's counsel argues that Thiokol should be precluded "to the extent that we can prove they were actionably negligent").

conceding that comparative negligence lies at the root of the trial court's decision,[8] nevertheless expends significant effort arguing Thiokol's fault. E.g., Pal. Br. 11-12, 15-20, 40-44.

But, notwithstanding opposing counsels' novel (and at times incomprehensible, e.g., Pal. Br. 23-26) arguments, the trial court's application of comparative fault to a contract case is theoretically unsound and absolutely unprecedented. It is theoretically unsound because it denies Thiokol the right to secure "legally enforceable promises" (Restatement (Second) of Contracts § 344 cmt. a) any time Thiokol's "relative knowledge [or] expertise" (Int. Br. 7) is greater than that of the promisor. Thiokol Br. 24-26. Appellees have been excused from breach because, notwithstanding their shoddy performance, Thiokol should have prevented or halted **their** defaults.[9] No court -- to Thiokol's knowledge -- has ever seriously entertained such reasoning.[10]

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[8] Cf. Pal. Br. 7-8 (asserting that the trial court did not rely upon negligence principles).

[9] See Pal. Br. 42-44 (arguing that, "because Thiokol created the plans and specifications and closely supervised all work, especially the fix, the parties are absolved of responsibility"). According to Interwest, Thiokol may not recover because it "was more involved in the manufacture of the product at issue here than any of the parties it is seeking to recover from." Int. Br. 17 (emphasis deleted). Poor, unhappy Thiokol! If Palmer and Interwest are right, it may not "draft a reasonable contract and thereafter assume performance . . . in the ordinary course." Thiokol Br. 25.

[10] E.g., Jackson State Bank v. King, 844 P.2d 1093, 1096 (Wyo. 1993) ("because [the attorney/client relationship] is contractual in nature and is to be treated according to the law of contracts, there is no justification to invoke the comparative negligence statute"); Rediske v. Minnesota Valley Breeder's Ass'n, 374 N.W.2d 745, 749 (Minn. Ct. App. 1985) (refusing to apply Minnesota comparative fault statute to contract action); Fortier v. Dona Anna Plaza Partners, 747 F.2d 1324, 1337 (10th

Nor have counsel for Palmer or Interwest cited any authority for application of comparative negligence principles to contractual breach. On the contrary, Interwest (perhaps inadvertently?) has cited authority fatal to the appellees' position. As support for the proposition that comparative negligence principles are applicable, Interwest cites H. Woods, Comparative Fault § 14.17 (2d ed. 1987). That treatise, however, explains that "'[c]ontributory negligence has **never** been an available defense in cases involving express warranties'" because "express warranty is clearly a contract action to which negligence has no relationship." Id. (emphasis added).

The remaining "authority" cited by appellees similarly undercuts their position. Palmer and Interwest both cite Jacobsen Construction Co. v. Structo-Lite Engineering Co., 619 P.2d 306 (Utah 1980), for the proposition that "tort defenses, such as the former assumption of risk [a comparative fault principle[11]], apply in contract." Pal. Br. 23; Int. Br. 7-8. Jacobsen, however, did

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Cir. 1984) ("contributory negligence has no place in contract and fraud actions"); Haysville U.S.D. No. 261 v. GAF Corp., 666 P.2d 192, 199 (Kan. 1983) ("The use of comparative negligence theory is not proper in breach of contract actions"); Broce-O'Dell Concrete Prods., Inc. v. Mel Jarvis Constr. Co., 634 P.2d 1142, 1145 (Kan. Ct. App. 1981) ("It is well settled that contributory negligence is no defense to a breach of contract"); Rotman v. Hirsch, 199 N.W.2d 53, 56 (Iowa 1972) ("contributory negligence would not be available as a defense to an action on contract"); Fresno Air Serv. v. Wood, 43 Cal. Rptr. 276, 279 (Dist. Ct. App. 1965) ("Assumption of risk and contributory negligence appear to fall within the general field of trespass and negligence . . . and hence are not applicable as theories of law and defenses to actions . . . for breach of contract"); see also Lee v. Andrews, 667 P.2d 919, 921 (Mont. 1983) (finding use of "comparative negligence principles" in a contract case erroneous).

[11] Meese v. Brigham Young Univ., 639 P.2d 720, 726 (Utah 1981) ("assumption of the risk" is merely one aspect of comparative negligence) (Pal. Br. 25-26).

not hold that assumption of the risk (or other comparative fault principles) are applicable to contract actions. Quite the opposite: it unequivocally rejected that notion. As the court explained:

> For purposes of analysis, assumption of risk is often divided into three categories. Those courts which attempt to deal with the various concepts subsumed under the one label **refrain** from considering one form, that is, the "express" form of assumption of risk. . . . **An express assumption of risk involves a contractual provision in which a party expressly contracts not to sue for injury or loss which may thereafter be occasioned by the acts of another. We not only follow suit by refraining to include this form of assumption of risk in our discussion, but furthermore fail to see a necessity for including this form within assumption of risk terminology. As stated in James, Assumption of Risk, 61 Yale L.J. 141 (1952), the field of contract law is more than adequate to deal with this bar to recovery.**

619 P.2d at 310 (emphasis added; citations omitted). Thus, Jacobsen actually stands for the proposition that contractual undertakings are unrelated to tort, and that it is unnecessary -- and unwise -- to import "tort" into "contract."[12]

Vernon v. Lake Motors, 488 P.2d 302 (Utah 1971), furthermore, does not support Palmer's assertion that contributory negligence is a defense "in contract." Pal. Br. 25. Vernon merely holds that assumption of the risk, in limited circumstances, is a valid defense in certain warranty cases. 488 P.2d at 304-05

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[12] Because the Jacobsen court expressly excluded contracts from comparative fault analysis, Palmer's citation of Moore v. Burton Lumber & Hardware Co., 631 P.2d 865, 869-70 (Utah 1981), is unavailing. Moore is cited (Pal. Br. 24) for the proposition that assumption of risk may "involve[] an express agreement by the plaintiff to accept the risk of danger." 631 P.2d at 869-70. This contractual "assumption of the risk," of course, is precisely the concept **excluded** from tort theory by Jacobsen, 619 P.2d at 310 (the "field of contract law is more than adequate to deal with this bar to recovery").

("deliberately and unreasonably proceeding to encounter a known risk" may reduce warranty recovery); see also H. Woods, Comparative Fault § 14.17 (2d ed. 1987). A "warranty" action, however, **is not** a "contract" action. As explained in Thiokol's opening brief (at 26-27 & n.17), warranty had its inception in and retains the characteristics of a tort action. Contributory negligence, therefore, remains "a good [warranty] defense." Nelson v. Anderson, 72 N.W.2d 861, 865 (Minn. 1955).[13]

The trial court, despite Palmer's current protestations (Pal. Br. 7-8), quite clearly accepted the appellees' invitation to release them from contractual liability "to the extent that we can prove [Thiokol was] actionably negligent." Tr. 2322. This result completely undoes the theoretical underpinnings of contract law (i.e., the enforcement of mutually bargained promises, see supra note 10) and is absolutely unsupported by precedent. The decision of the trial court must be reversed and the case remanded for calculation of Thiokol's damages.[14]

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[13] Thiokol's warranty claims are not barred because the company did not "know of the defect and the danger, but nevertheless 'deliberately and unreasonably' go[] ahead." Vernon, 488 P.2d at 305; see Thiokol Br. 38-39. On the contrary, Thiokol had been consistently assured that the repaired tanks were safe. E.g., Thiokol Br. 9-10; App. O ¶ 2 (express warranty guaranteeing the "structural integrity of [the repaired] tanks for a period of three years against structural failure").

[14] Palmer's citation (Pal. Br. 26) of the Restatement (Second) of Contracts § 344 to support "comparative fault" contracts verges on the ludicrous. That section provides that Thiokol is entitled to either its "expectation interest" (i.e., the benefit of its bargain), or its "reliance interest" (i.e., the costs it incurred relying on the contract). Thiokol has been denied recovery of either interest. Thiokol did not (as Palmer cynically asserts) "expect" -- much less "rely upon" -- the appellees' delivery of "an inferior product which [would] someday

II. THIOKOL DID NOT WAIVE OR MODIFY ITS CONTRACT RIGHTS

Interwoven throughout the trial court's decision and the appellees' briefs are assertions that Thiokol either "waived" (App. A at 6; Pal. Br. 26-29; Int. Br. 8-13) or "modified" (App. A at 7; Pal. Br. 34-39) its contract rights by accepting the repair of the tanks. Although Palmer (Pal. Br. 35) and Interwest (Int. Br. 9) both concede that -- at the time of the first tank failure -- Thiokol could have declared breach and required replacement of the tanks, they nevertheless assert that Thiokol "waived" or "modified" its rights by accepting, instead, the appellees' proffered repair. These arguments are insupportable.

Thiokol (with one exception) does not dispute the law of "waiver" and "modification" cited by appellees. The Utah Supreme Court "has consistently defined waiver as 'the intentional relinquishment of a known right.'" Soter's, Inc. v. Deseret Fed. Sav. & Loan Ass'n, 857 P.2d 935, 939-40 (Utah 1993) (quoting Rees v. Intermountain Health Care, Inc., 808 P.2d 1069, 1073 (Utah 1991)).[15] Parties to a contract, moreover, "may, by mutual consent, modify any or all" of their contractual obligations. Ted R. Brown & Assocs., Inc. v. Carnes Corp., 753 P.2d 964, 968 (Utah Ct. App. 1988) (emphasis added). To establish a modification,

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fail." Pal. Br. 26.

[15] Accord Anderson v. Brinkerhoff, 756 P.2d 95, 98 (Utah Ct. App. 1988) ("Waiver is defined as the voluntary and intentional relinquishment of a known right"); Epperson v. Roloff, 719 P.2d 799, 804 (Nev. 1986) (defining waiver as "an intentional relinquishment of a known right") (quoting J. Calamari & J. Perillo, The Law of Contracts § 11-34, at 446 (2d ed. 1977)); Vessels Oil & Gas Co. v. Coastal Ref. & Mktg., Inc., 764 P.2d 391, 392 (Colo. Ct. App. 1988) (same).

"[h]owever, the minds of the parties must have met." Provo City Corp. v. Nielson Scott Co., 603 P.2d 803, 806 (Utah 1979). And, evidence showing this meeting of the minds -- contrary to Palmer's unsupported fiat (at 39) -- must be "clear and convincing, and of the most positive character." 17A C.J.S. Contracts § 588 (1963).[16] Furthermore, the contract here expressly provides that "this contract may not be altered, amended or modified except in writing, signed by duly authorized representatives of both parties." App. D to Thiokol's Opening Brief at ¶ 4.

The appellees' arguments (adopted by the trial court)[17] fall decidedly short of establishing either "waiver" or "modification." There is no "clear and convincing" evidence (see supra note 16), nor is there any "writing, signed by duly authorized representatives," supporting either theory. App. D, ¶ 4. Indeed, Interwest candidly concedes that "there is no evidence that Thiokol expressly relinquished its rights as against Interwest either at [the time of the repair of the tanks] or [at] any other time." Int. Br. 11. Palmer and Interwest, however, assert that an intent to waive or modify can be "inferred" from Thiokol's actions. Id.

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[16] Accord Mathis v. Thunderbird Village, Inc., 389 P.2d 343, 349 (Or. 1964) (although parties, by subsequent actions, may modify contract, "[l]ike other nonwritten contractual modifications, the evidence of the modification must be clear and convincing"); Grizzly Bar, Inc. v. Hartman, 454 P.2d 788, 791 (Colo. 1969) ("Modification of a written agreement must be demonstrated by clear and satisfactory evidence. . . . It cannot be effected by the sole action of one of the parties. Consent of both is necessary. The same meeting of minds is needed as was necessary to make the contract in the first instance.").

[17] App. A at 7 (finding "waiver" and/or "modification" for the reasons "argued by Palmer").

The trial court (based upon Palmer's arguments, App. A at 7) "inferred" waiver and/or modification from the following: (1) Thiokol "opted to approve the fix and accept the tanks" (Pal. Br. 35-36; App. A at 7); (2) Thiokol used its "independent expert Dr. Thomas to verify the fix" (Pal. Br. 35; App. A at 7); (3) Thiokol negotiated with the tank manufacturer regarding the "fix," leaving "Interwest and Palmer out of the loop" (Pal. Br. 35; App. A at 3, 7); and (4) Thiokol sought an extended warranty directly from the manufacturer (Pal. Br. 36; App. A at 3). Accord Int. Br. 10-13. These actions, however, do not -- as a matter of law -- amount to "waiver" or "modification" of the original contract.

To begin with, even granting that Thiokol independently sought to verify the soundness of the "fix," directly negotiated with the tank manufacturer, sought an extended warranty covering the "fix," and left Palmer and Interwest "out of the loop" (a position at odds with uncontradicted record evidence),[18] these actions simply do not "waive" or "modify" Thiokol's rights. Indeed, Palmer and Interwest, concede that "the tanks were to be within specifications after the fix" (Pal. Br. 36, citing Finding of Fact 23). The "fix," in short, according to the express assurances made to Thiokol (e.g., Exh. 13), would not "waive" or "modify" the contract but, on the contrary, was intended to bring the tanks **into**

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[18] Palmer's and Interwest's "out of the loop" arguments ignore uncontradicted evidence that they urged Thiokol to accept the repair. See Tr. 1551, 1556 (testimony by Palmer's foreman regarding the "prodding" it took to get Thiokol to accept the "fix," and Palmer's "delight" when the "fix" was accepted). See also Thiokol Br. 43-44 & App. P.

conformity with the terms of the original contract.[19]

Thus, Thiokol's attempts to verify the soundness of the "fix" -- as well as its discussions with the tank manufacturer and its procurement of an express warranty covering the repaired tanks -- plainly do not show that Thiokol "has intentionally relinquished a known right, either expressly or by conduct inconsistent with an intent to enforce that right." Lone Mountain Production Co. v. Natural Gas Pipeline Co., 710 F. Supp. 305, 311 (D. Utah 1989) (discussing the Utah law of waiver), aff'd, 984 F.2d 1551 (10th Cir. 1992). Nor do such actions demonstrate that "the minds of the parties . . . have met upon an asserted contract modification." Provo City Corp. v. Neilson Scott Co., 603 P.2d 803, 806 (Utah 1979). On the contrary, Thiokol's actions demonstrate its continuing efforts to insure that -- as required by the original contract -- the "structural laminate sequence" of the tanks would be built according to "the 'applicable' sections of . . . NBS-PS-15-69." Exh. 13 at 2 (tank manufacturer's final written communication, reassuring Thiokol regarding the soundness of the proposed "fix").[20]

Because Thiokol's actions in negotiating the "fix" do not evidence any intent to depart from the terms of the original

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[19] E.g., Exh. 13 (tank manufacturer's written assurance that the repair would brings the tanks into conformity with **"the 'applicable' sections of . . . NBS-PS-15-19"**) (emphasis added).

[20] And, although Palmer quibbles with Thiokol's original contract terms (Pal. Br. 40-42), it cannot escape the fact that **its own expert witnesses** testified that, given identical specifications, they could have "designed perfectly serviceable tanks" (Tr. 1898) that would not have failed. Tr. 1647.

contract, the present "waiver" and "modification" arguments necessarily boil down to the simple assertion that Thiokol lost its rights because it "opted to approve the fix and accept the tanks." Pal. Br. 35-36; accord App. A at 7. The law, however, must encourage -- not penalize -- parties who attempt to resolve contractual disputes by private agreement.[21] If the trial court and appellees are correct, Utah law demands immediate litigation rather than conciliatory negotiation. Cf. Int. Br. 9 (chastising Thiokol for negotiating a "fix" rather than exercising its "existing right" of immediate suit); Pal. Br. 35-36 (same).

The result reached below is contrary to sound policy. Indeed, the very authority appellees cite demonstrates the absurdity of their "waiver" and "modification" arguments. In Vessels Oil & Gas Co. v. Coastal Refining & Marketing, Inc., 764 P.2d 391 (Colo. Ct. App. 1988) (cited at Int. Br. 9), Vessels brought a breach of contract action in Colorado against Coastal. Although the contract contained a forum selection clause requiring litigation in Texas, Coastal did not invoke the clause and, instead, conducted settlement negotiations. After settlement talks failed, however, Coastal invoked the forum selection clause. Vessels -- like the appellees here -- argued that, by engaging in settlement discussions, Coastal had "waived" the Texas forum.

The Colorado Court of Appeals resoundingly rejected the waiver argument. After noting that "waiver is the intentional relinquishment of a known right," the Colorado court concluded that

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[21] Thiokol Br. 42.

two months of settlement negotiations did not result in waiver precisely because "good faith settlement negotiations" are "a practice to be encouraged, not penalized." 764 P.2d at 392. Likewise, the amicable resolution of contractual disputes -- by the cure of defective performances -- is "a practice to be encouraged, not penalized."[22]

III. THIOKOL'S NON-CONTRACTUAL THEORIES WERE IMPROPERLY DISREGARDED BY THE TRIAL COURT

Appellees assert that they are not liable in tort (Pal. Br. 29-33; Int. Br. 15-19), that the UCC is inapplicable (Pal. Br. 46-47; Int. Br. 13-15), and that strict liability theory is unavailable to Thiokol (Pal. Br. 44-46; Int. Br. 17-18). These submissions are flatly contrary to controlling law.

A. Palmer and Interwest Are Liable in Tort

The trial court, based upon arguments presented by Palmer, held tort law inapplicable here. App. A at 6-7. Palmer relied upon East River Steamship Corp. v. Transamerica Delaval, Inc., 476 U.S. 858 (1986), to support this position before the trial court. In tacit recognition that its East River arguments are unfounded (see Thiokol Br. 45-46), Palmer now avoids any reference to that case and retreats, instead, to Beck v. Farmers Insurance Exchange,

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[22] Accord Kostelac v. United States, 247 F.2d 723, 729-30 (9th Cir. 1957) (attempted contractual "cure" does not result in "waiver" of right to rescind because "the law ought to encourage the parties to reach amicable settlements of [contractual] disputes"); Chaplin v. Bessire & Co., 361 S.W.2d 293, 297 (Ky. 1962) (same); Thiokol Br. 41-42; see also Phoenix Ins. Co. v. Heath, 61 P.2d 308, 311-12 (Utah 1936) (cited in Int. Br. 10) (an insurer's request that its agents comply with orders is not a "waiver"; the request does not "indicate a waiver or relinquishment" of the insurer's contractual rights).

701 P.2d 795 (Utah 1985). Beck, however, accords Palmer no surer legal footing than East River.

In Beck, the Utah Supreme Court **did not hold** that "if parties arrange rights, duties and obligations under a contract, their cause of action for breach of those obligations is in contract and not in tort." Pal. Br. 29. Rather, the Supreme Court merely refused to recognize -- in the context of the first-party relationship between an insurer and its insured -- the tort of bad-faith refusal to settle. 701 P.2d at 798.[23] The Supreme Court's limited conclusion in Beck -- i.e., that bad faith claims between an insurer and its insured are covered by the duty of good faith and fair dealing (701 P.2d at 799-80) -- quite clearly does not establish, as a general matter, that a contract precludes all tort claims between contracting parties.

Indeed, in Culp Construction Co. v. Buildmart Mall, 795 P.2d 650 (Utah 1990), also cited by Palmer (at 30-31), the Supreme Court clarified that Beck does not "preclude the bringing of a tort claim independently of a contract claim." 795 P.2d at 654. In Culp, the court held that a claim for negligent misrepresentation (arising out of the issuance of a contract of title insurance) could be brought concurrently with a contract claim because "'the acts constituting a breach of contract may also result in breaches of duty that are independent of the contract and may give rise to

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[23] Specifically, the court concluded that "the good faith duty to bargain or settle under an insurance contract is only one aspect of the duty of good faith and fair dealing implied in all contracts and . . . a violation of that duty gives rise to a claim for breach of contract." 701 P.2d at 798.

causes of action in tort.'" 795 P.2d at 654 (quoting Beck, 701 P.2d at 800 n.3).

The Utah Supreme Court, moreover, has unequivocally held that "[a] party who breaches his duty of due care toward another may be found liable to the other in tort, even where the relationship giving rise to such a duty originates in a contract between the parties." DCR Inc. v. Peak Alarm Co., 663 P.2d 433, 435 (Utah 1983).[24] Accordingly, in line with the "majority of jurisdictions," the Utah Supreme Court "recognized a duty to exercise reasonable care on the part of one who undertakes to render services." 663 P.2d at 436.

The tort-based duty to exercise reasonable care unambiguously extends to contractors in the position of Palmer and Interwest. They were under a duty to perform "in accordance with the plans specifications, and directions given [them] by [Thiokol] with a reasonable degree of skill," or "that degree of skill and care ordinarily possessed and exercised by other contractors doing the same or similar work in this locality." Andrus v. State, 541 P.2d 1117, 1121 (Utah 1975) (citing Marin Mun. Water Dist. v. Peninsula Paving Co., 94 P.2d 404, 406 (Cal. Dist. Ct. App. 1939)). As a result, they are liable for all damages flowing from their breach

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[24] The DCR court emphasized that the fact a party is "'acting . . . under a contract'" does not relieve that party from tort liability because "'the two duties are distinct.'" Id. at 436 (quoting Flint & Walling Mfg. Co. v. Beckett, 79 N.E. 503, 505-06 (Ind. 1906)).

of that duty.[25] The trial court's refusal to consider Thiokol's tort claims constitutes error and requires reversal.[26]

Palmer's and Interwest's tort liability, finally, is not solely derivative, as Interwest claims. Int. Br. 15. As noted in Thiokol's Brief (at 48 n.41), neither Palmer (Tr. 1473, 1791-92) nor Interwest (Tr. 1258-59) investigated the tank manufacturer's experience -- despite their express contractual obligation to do so.[27] Such an investigation would have revealed the manufacturer's

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[25] In Marin, 94 P.2d at 406, the court held that "[w]here a contractor departs" from contract specifications "which results in injury to adjacent property, then he is responsible in damages for the tort he has committed."

[26] Palmer's citation of Paul Mueller Co. v. Cache Valley Dairy Ass'n, 657 P.2d 1279 (Utah 1982), to support its claimed exemption from tort liability (Pal. Br. 33-34) is inapposite and, in a very real sense, ironic. That case, unlike the present situation, did not involve a contractor's tort liability for injuries to person or property flowing from the contractor's failure to conform to contract specifications. Rather, Paul Mueller merely involved a contractor's possible liability for "economic loss"; i.e., "loss attributable to nondangerous defects in the product." 657 P.2d at 1286. Thus, the case simply has no bearing where (as here) a contractor's shoddy performance results in danger to person or property. Cf. DCR Inc. v. Peak Alarm Co., 663 P.2d 433 (Utah 1983) (post-Paul Mueller case imposing "a duty to exercise reasonable care" in the rendering of services). Moreover, the Paul Mueller court concluded that an owner who had contracted to purchase the defective product did not need to invoke tort theory because the owner's contractor -- who had actually procured the defective product -- "bore responsibility for correction of such defects." 657 P.2d at 1286. The reasoning of Paul Mueller, in short, would not absolve Palmer, but instead would impose upon Palmer -- who contracted with Rysgaard to provide the defective tanks -- the "responsibility for correction of [the tanks'] defects." Id.

[27] The contract required the manufacturer to be a company **"whose products have been used satisfactorily in similar services for at least 2 years prior to the issue date of the Contract."** App. H ¶ 1.0.3.A.

unsuitability.[28] Because Palmer's and Interwest's "failure to exercise reasonable care" in the selection of the tank manufacturer clearly "increase[d] the risk of [physical] harm" to Thiokol, they are liable in tort. Restatement (Second) of Torts § 323 (adopted in DCR Inc. v. Peak Alarm Co., 663 P.2d at 436).

B. UCC Implied Warranties Are Applicable to This Case

Palmer and Interwest assert that the UCC is not applicable because the contract was not for the sale of "goods" (Pal. Br. 47, Int. Br. 13-14) and they are not "merchants" (Pal. Br. 46, Int. Br. 13-14). The contrary is true.

Palmer asserts that the contract was not for the sale of "goods" because the installed tanks are not personal property. Pal. Br. 47. This argument simply ignores the statutory definition of "goods." Thiokol Br. 36 (the tanks are "goods" because they were "movable" at the time they were "identified" to the contract; Utah Code Ann. §§ 70A-2-105(1), 70A-2-501(1)(b)).

Interwest, recognizing the frailty of the above argument, submits that -- even if the tanks are "goods" -- Thiokol contracted primarily for the purchase of "services." Int. Br. 13-14 (citing Aluminum Co. of Am. v. Electro Flo Corp., 451 F.2d 1115 (10th Cir. 1971). However, even if Thiokol's contracts are viewed as involving both "services" and "goods," the UCC controls. The test for classifying such contracts is whether the contract's predominant factor "is the rendition of service, with goods incidentally involved (e.g., contract with artist for painting) or

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[28] The manufacturer selected by Palmer and Interwest had built no tanks since 1970. Tr. 1967.

is a transaction of sale, with labor incidentally involved (e.g., installation of a water heater in a bathroom)." Bonebrake v. Cox, 499 F.2d 951, 960 (8th Cir. 1974) (footnotes omitted); accord Aluminum Co. of Am., 451 F.2d at 1115 (applying Utah law).

The predominant purpose of Thiokol's contracts with Palmer and Interwest was the acquisition of a waste water treatment plant, with the required labor only incidentally involved. Accord Omaha Pollution Control Corp. v. Carver-Greenfield Corp., 413 F. Supp. 1069, 1085 (D. Neb. 1976) (dispute involving the design, construction and installation of a sewage treatment plant is best resolved "by treating it as a sale of goods under the [UCC]. It is clear that courts are turning to the Uniform Commercial Code to resolve the problems of transactions of this type.") (citations omitted); St. Anne-Nackawic Pulp Co. v. Research-Cottrell, Inc., 788 F. Supp. 729, 734 (S.D.N.Y. 1992) (contract for construction of air pollution control device was "to allow plaintiff to acquire a pollution control system and any services were incidental to that primary purpose").

Palmer and Interwest, moreover, are "merchants." Palmer's assertion that it "has never held itself out as a fiberglass tank manufacturer" (Pal. Br. 46) is beside the point. Utah Code Ann. § 70A-2-104(1) provides that one becomes a merchant, not only by "hold[ing] himself out as having knowledge or skill," but also by employing an "intermediary who by his occupation holds himself out as having such knowledge or skill." As the leading hornbook on the Uniform Commercial Code explains:

The first phrase captures the jeweler, the hardware store

> owner, the haberdasher, and others selling from inventory. The second description, having to do with occupation, knowledge, and skill, **includes electricians, plumbers, carpenters, boat builders, and the like. . . .** [A] "bank" or "even universities" through their agents can have the necessary knowledge or skill to make them merchants.

White & Summers, Uniform Commercial Code § 9.6, at 345 (2d ed. 1984) (emphasis added) (citing Frantz, Inc. v. Blue Grass Hams, Inc., 520 S.W.2d 313 (Ky. 1974) (mechanical contracting firm held "merchant" with respect to cooling equipment it installed)). Accordingly, the "merchant" status of the tank manufacturer is imputed to Palmer and Interwest and the UCC implied warranties apply.[29]

C. Palmer and Interwest Are Strictly Liable for Their Defective Performances

The appellees, finally, assert that they are not liable under Section 402A of the Restatement (Second) of Torts. Palmer asserts that strict liability does not apply to transactions involving "sophisticated" parties (Pal. Br. 44-46), while Interwest asserts that strict liability does not apply to construction contracts. Int. Br. 17-18. Neither claim is meritorious.

Palmer's "sophisticated party" exception to strict liability is based on the much-criticized decision in Scandinavian Airlines System v. United Aircraft Corp., 601 F.2d 425 (9th Cir. 1979). In Salt River Project Agricultural Improvement & Power District v. Westinghouse Electric Corp., 694 P.2d 198 (Ariz. 1984), the Arizona

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[29] See also Schneider v. Suhrmann, 327 P.2d 822, 824 (Utah 1958) (implying warranties of merchantability and fitness for intended purpose **even without** the UCC; "the supplier is deemed to warrant the product to be reasonably safe and suitable for the use for which it is intended").

Supreme Court noted that, while "the need for risk distribution and compensation" is less compelling when "sophisticated" parties are involved (694 P.2d at 211; cf. Pal. Br. 45-46 (making identical argument)), that is an insufficient ground for limiting strict liability to "'ordinary consumers.'" 694 P.2d at 211 (citing Scandinavian Airlines).

> [T]he doctrine of strict liability has additional objectives [beyond risk distribution and compensation]. Foremost among these is the promotion of safety. The doctrine of strict tort liability provides manufacturers a strong incentive to design, manufacture and distribute safe products . . . . That goal of tort law is best served when those who distribute products are held strictly liable for damage resulting from products which contain unreasonably dangerous defects, which cause "accidents" endangering life or property, and which actually damage persons or property.
>
> * * * *
>
> Other factors militate in favor of a uniform rule which applies to all consumers. Immunity, including the limited immunity from claims by certain classes of claimants, does not promote adherence to the standards of care imposed by the law. . . . We do not limit the availability of § 402A recovery to "ordinary consumers" but recognize its viability for all who can meet its proof requirements. This court does not favor distinctions based upon the class or size of the parties before it. The applicability of a tort theory depends not upon the size of the plaintiff, but upon the nature of the claim. The very attempt to distinguish tort rights on the basis of economic strength would raise collateral issues which we deem irrelevant. An actor has no more privilege to inflict injury on the wealthy than on the poor. The same rules apply to all, plaintiff or defendant, large or small.

Salt River Project, 694 P.2d at 211-12 (citations omitted); accord Icelandic Airlines, Inc. v. Canadair, Ltd., 428 N.Y.S.2d 393, 399 (Sup. Ct. 1980).

Interwest's assertion that strict liability does not apply to construction projects is no more persuasive. Even assuming, as

Interwest argues (Int. Br. 17-18), that contractors should not be held strictly liable for the erection of an "unreasonably dangerous" building, **that is not the basis for Thiokol's claim.** Thiokol is simply asserting that Palmer and Interwest are liable for their provision of dangerously defective goods -- i.e., the "under-designed" tanks. App. A at 6. And, whatever the vagaries of strict liability theory as applied to "general contractors of large commercial buildings" (Pal. Br. 18), it is absolutely clear that the suppliers of dangerously defective products **used** in a construction project are strictly liable. Ernest W. Hahn, Inc. v. Armco Steel Co., 601 P.2d 152 (Utah 1979) (supplier of defective steel beam used in construction of mall strictly liable for damages flowing from mall's collapse).

Thiokol's tort, UCC and strict liability theories are well-grounded in law and were improperly disregarded by the trial court. This Court, therefore, must reverse and remand Thiokol's alternative theories for trial.

IV. PALMER AND INTERWEST HAVE DISTORTED THE RECORD TO DEFLECT THE COURT FROM THE LEGAL QUESTIONS RAISED BY THIS CASE

Because established law does not support the trial court's decision, appellees strenuously submit that Thiokol has disregarded the court's factual findings (Pal. Br. 8), failed to "marshall" the evidence" (Pal. Br. 20-23; Int. Br. 6), and not recited the evidence in the light "most favorable" to them. Pal. Br. 23. These issues do not loom large because, however one construes the record, the trial court's unprecedented use of comparative fault (see supra Part I), its disregard of the law of "waiver" and

"modification" (see supra Part II) and its refusal to decide well-founded tort theories (see supra Part III) require reversal. Appellees' "factual" assertions, in any event, are devoid of merit.

Thiokol has not "disregarded" the Findings of Fact (Pal. Br. 8), it has simply given them the same weight the trial court did. The memorandum decision was written by the court; the Findings of Fact by Palmer. Accordingly, the trial court itself discounted their importance. In post-trial arguments regarding the accuracy of the "findings," the lower court stated that "[w]hen you folks are arguing before the Court of Appeals on this thing you've [sic, you're] going to have the memorandum decision analyzed, torn apart, dissected. It's a bigger part of your arguments than the formal findings are." Tr. 2481-82. Thiokol, therefore, has merely relied on findings **actually made** by the trial court (i.e., the memorandum decision, App. A) rather than Palmer's post-hoc characterizations.

That reliance upon the trial court's memorandum rather than Palmer's "findings" is appropriate becomes clear when the merits of Palmer's "marshalling" and "favorable light" arguments are examined. Contrary to Palmer's assertion (at 8), Thiokol's opening brief fairly and succinctly summarizes all of the arguments made by Palmer and Interwest, as well as all of the evidence in support of those arguments. Compare Pal. Br. 8-19 with Thiokol Br. 2-13, 13-19; State v. Harrison, 783 P.2d 565, 566 n.1 (Utah Ct. App. 1989). Indeed, the only "additions" supplied by Palmer are outright distortions and patent mischaracterizations.

Because correction of the appellees' factual misstatements requires the citation of fairly lengthy excerpts from the

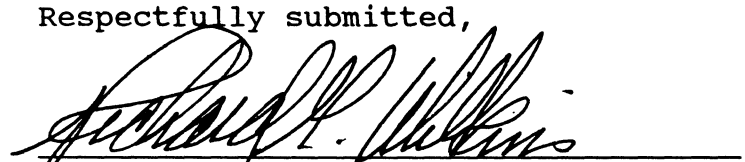
transcript, and because these factual matters are not (in any event) determinative of this case, Thiokol's response is set out in the Addendum to this Reply Brief. Thiokol hesitates to correct the "facts"; even Thiokol's limited response in the Addendum lends credence to the appellees' claim that this is a "clearly erroneous" case. E.g., Utah R. Civ. P. 52(a). It is not. See supra Parts I, II & III. Many of the "factual" assertions in Palmer's brief, however, are too outrageous to pass without comment -- as a brief perusal of the Addendum will demonstrate.

Moreover, the Addendum -- at the very least -- deflates Palmer's claim that the recitation of the evidence in Thiokol's brief does not adequately "favor" appellees. Pal. Br. 23. Palmer **is** entitled to all reasonable inferences from the record. It is **not** entitled to distort the record in any manner it sees fit.

CONCLUSION

The judgment of the trial court should be reversed and the case remanded for determination of Thiokol's damages incurred as a result of Interwest's, Palmer's and Rysgaard's breach of contract, breach of express and implied warranties, negligence and provision of unreasonably dangerous tanks.

Respectfully submitted,



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UTAH COURT OF APPEALS

INTERWEST CONSTRUCTION, a Utah corporation, Plaintiff and Appellant, vs. R. ROY PALMER and VAL W. PALMER, dba, A.H. PALMER & SONS, Defendants and Appellees.	**CERTIFICATE OF MAILING OF REPLY BRIEF**
R. ROY PALMER and VAL W. PALMER, dba, A.H. PALMER & SONS, Third Party Plaintiffs, vs. JOHN RYSGAARD, dba, FIBERGLASS STRUCTURES COMPANY and FIBERGLASS STRUCTURES COMPANY, INC., Third Party Defendants.	Case No. 930220-CA
FIBERGLASS STRUCTURES AND TANK COMPANY, fka FIBERGLASS STRUCTURES COMPANY OF ST. PAUL, INC., Third Party Plaintiffs, vs. THIOKOL CORPORATION, Third Party Defendant.	

I hereby certify that I caused to be mailed in the U.S. mail, postage prepaid, four true and correct copies of the REPLY BRIEF, to the following:

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Addenda

ADDENDUM

The briefs filed by Palmer and Interwest submit as "facts" numerous items that are either not supported -- or directly contradicted by -- the record. In each numbered paragraph below, Thiokol sets out a "factual" assertion made by appellees. Thiokol then reproduces the actual testimony from the transcript revealing the appellees' mischaracterization. To avoid the charge that it is merely "rearguing" its case (cf. Pal. Br. 22-23), Thiokol (to the maximum extent possible) will allow the transcript to speak for itself. However, because of the technical nature of the issues involved, some textual explanation is necessary to make the transcript comprehensible.

1. **Pal. Br. 4:** "Expert witnesses testified that had the tanks been used as contemplated by the plans and specifications, the tanks as manufactured would have been serviceable (Tr 2132-33)."

The foregoing is an outright misrepresentation of the cited testimony. At the cited pages of the transcript, Paul Tullis (a research scientist with Utah State University, Tr. 2101), testified -- not that tank T33 had been improperly "used" -- but that the tank was not built to even a safety factor of three (let alone the safety factor of ten required by NBS PS15-69 and industry standards). According to Tullis, completely overfilling the tanks would increase the water level by 7 inches, which in turn would increase pressure in the tanks by 3.36%. As a result, completely overfilling the tanks would only take 1/100th of the safety factor for a tank designed to a safety factor of three and the tank (even if it had been only one-third as strong as specified by NBS PS15-

69) would not have failed.

Tr. 2132-33 (cross examination):

Q. Let me ask this: assuming that all the tests done on the side walls of these tanks indicate that the tanks were probably strong enough to withstand three times the hoop stresses at the bottom of the tank, three times ultimate, can you account for in any fashion any additional pressures or additional stresses or additional something on this tank which would overcome that three times the ultimate hoop stress which has been measured?

A. No. I couldn't find any way of getting anything more than about seven inches [of overfilling], which is one point -- well, three percent.

Q. 3.36 percent?

A. A safety factor of three means 300 percent. We're taking three percent [because of the overfilling] so we're taking 100th of the safety factor.

Q. And that 3.3 percent you've calculated into, say, any rise, if there were one, for three inches in an open area in the center of the lid?

A. Well, the three percent is seven inches of rise [in water level].

Q. Seven inches of rise?

A. Spilling out of the manway.

On the very next page, Tullis (still under cross examination) gave his frank opinion as to why tank T33 failed. According to Tullis, the tank failed because it was weak.

Tr. 2134 (cross examination) (emphasis added):

Q. So assuming that there is three times -- assuming the strength of the side wall is three times that of the hoop stresses at the bottom of the tank, even if completely full you can't account for or understand how this tank failed, can you?

A. I wasn't asked to address why it failed. I was only asked to address were there any hydraulic forces [i.e., overfilling] sufficient to cause failure, and my answer would be no.

Q. From a hydraulic standpoint you can't see what additional forces would have caused it to fail because you can only account for 3.36 percent additional forces?

A. Right. My calculation -- my conclusion would be that it did not fail because of excessive force [i.e., overfilling], **it failed because of weakness of the tank. It could not take the normal force that was on the tank.**

The testimony cited in Palmer's brief, in short, does not establish that the tanks would have been "serviceable" if "used as contemplated by the plans and specifications" (Pal. Br. 4), but rather that the tanks would have been serviceable if they had been **built** as contemplated by the plans and specifications. The tanks, however, were not so built. Indeed, Palmer's own expert witnesses agreed that (contrary to Palmer's current position, Pal. Br. 40-42) the original plans and specifications for the tanks were not unusual and -- if followed -- would have resulted in perfectly safe tanks.

Tr. 1646-47 (George Fisher, Palmer's fiberglass expert) (cross examination):

Q. Now, the specifications, and I think its been referred to as Exhibit 183, for the tanks, they aren't unusual in the industry, wouldn't you say that's true.

A. That's correct.

Q. You've seen specifications like that?

A. Yes.

Q. And you've produced perfectly adequate, serviceable product as a result of those kinds of specifications?

A. That is correct.

Q. In fact, you bid on this project, didn't you?

A. Yes.

Q. And you weren't the successful bidder, but you bid on these very specifications?

A. Yes.

Q. Did you seek any clarifications?

A. No.

Q. You understood what was contemplated by these specifications, didn't you?

A. Yes.

Q. And you would have produced tanks that didn't fail after two months if you had been the one selected?

Mr. Daubney: Objection. Calls for a conclusion, Your Honor.

THE COURT: I'm going to allow it, though. I think he's in a position to so testify.

THE WITNESS: Absolutely.

See also Tr. 1898 (testimony of Brent Thomas, Palmer's expert witness) (witness responds "That's correct" to the question whether he could have used Thiokol's original plans and specifications to design and build "perfectly serviceable tanks").

2. **Pal. Br. 13:** "Dr. Tullis, Thiokol's hydraulic's expert, testified that if the side-walls of the tanks were three times as strong as the expected hoop stress of 3,000 psi, he could not account for the failure (Tr 2132-33). The side-walls were that strong."

The above characterization of the transcript is simply wrong. The testimony from Tr. 2132-33 is set out under paragraph no. 1, above. As a review of that testimony indicates, Dr. Tullis **did not** testify that he "could not account for the failure." Pal. Br. 13. Rather, Dr. Tullis testified that -- if, as Palmer asserts (Pal. Br. 13), the side-walls of the tanks had at least a safety factor of three -- then completely overfilling the tank would not have

resulted in its rupture. See Testimony from Tr. 2132-33 (under ¶ 1, above). Thus, rather than showing that Tullis "could not account for the failure" (Pal. Br. 13), the testimony on pages 2132-33 supports Tullis' ultimate conclusion that the tank "did not fail because of excessive force, it failed because of weakness of the tank." Tr. 2134.

3. Pal. Br. 19: "Dr. Glasso [sic] stated that the failure was not inconsistent with upward pressure (Tr 357-58)."

The trial court found that tank T33 failed as a result of overfilling, which put upward pressure on the tank causing it to burst. App. A at 5. As set out in Thiokol's Brief (at 18-19), this "upward pressure" theory was not supported by **any** evidence, expert or otherwise, except for self-serving statements by the tank manufacturer, John Rysgaard. E.g., Tr. 1948-51. Palmer, therefore, is understandably hard-pressed to come up with something (anything?) to support the trial court's "failure by overfilling" conclusion. But, Palmer's bald-faced assertion that Dr. Galasso did not find the failure "inconsistent" with uplift (Pal. Br. 19) is astounding, because a straightforward reading of the transcript reveals that **Dr. Galasso testified precisely to the contrary.**

Dr. Galasso testified that "[i]f something fails by uplift alone, then my experience is that the failure would be circumferential," rather than the vertical rupture experienced by T33. Tr. 357. And, when asked whether the failure of T33 was "inconsistent with that type of [i.e., an uplift] failure," Dr. Galasso succinctly replied, "[y]eah, it was, because in that kind of a failure [i.e., an uplift failure] there was no vertical

rupture." Tr. 358. The transcript excerpt follows.

Tr. 357-58 (emphasis added):

Q. . . . This failure that you've described, are there -- is this inconsistent with a failure resulting from upward pressure on the tanks?

A. Not usually, no.

Q. Explain what you mean.

A. Upward pressure on the tank -- well, the main stress in this tank was hoop stress. The largest stress was stress in the tangential direction, hoop stress. In something that had some -- in something that had a large -- well, uplift, uplift is reflected as an axial stress, not a hoop stress. **If something fails by uplift alone, then my experience is that the failure would be circumferential.** As a matter of fact, that's driven home because the first field tank I ever fixed was a field repair of a 30-foot tank in Bellingham, Washington that ruptured due to over pressure uplift and was not well held down. The tank bottom ruptured and it ruptured around almost 270 degrees. That tank was filled with acid and it ate the corporate -- ate the carport off a corporate headquarters of a major pulp mill and was quite a hot potato for about a year. I came to work there and my new boss said I have this little project for you.

Q. Was this failure inconsistent with that type of failure [i.e., uplift failure]?

A. Yeah, it was, because in that kind of a failure there was no vertical rupture. There was a circumferential failure.

See also Tr. 360-62 (Galasso summarizes numerous reasons why "this rupture was inconsistent with a rupture based upon an uplift pressure").

4. **Pal. Br. 12:** "Glasso [sic] admitted that the specifications don't state a safety factor (Tr 417), nor strength requirements for woven roving (Tr 418)."

Dr. Galasso did not give the above testimony. On the contrary, he testified that Thiokol's specifications required adherence to NBS PS15-69, and merely stated that he could not

remember whether NBS PS15-69 required a particular strength of woven roving. Tr. 417-18. And, somewhat later in his testimony, Dr. Galasso stressed that NBS PS15-69 establishes a safety factor of ten. Tr. 438, 446-47. The transcript excerpts follow.

Tr. 417-18 (cross examination) (emphasis added):

Q. And you've seen the plans and specifications that Thiokol prepared for submission on these tanks, have you not?

A. Uh-huh, as part of a much larger project.

Q. What does it say in there about the safety factor?

A. That I can remember it doesn't say anything about the safety factor. **It specifies or gives a specification which itself is an industry standard, or implies an industry standard safety factor.**

Q. The specification you're talking about is the PS 15-69?

A. Yes.

Q. And is there anything in the specifications that says the wall thickness?

A. I can't remember in this specification whether there is. 15-69 gives a minimum wall thickness of one-eighth.

Q. I'm talking, sir, about specific specifications.

A. I can't remember if this specification states a minimum thickness.

Q. Is there anything about the type or width or strength of the woven roving?

A. Not specifically mentioned in -- **not that I remember** that is specifically mentioned in the specifications.

Tr. 438 (cross examination) (emphasis added):

Q. . . . If we want a safety factor of ten then we say in the specifications we want a safety factor of ten, isn't that true?

A. Well, no. Another way to put it is to say I want to abide by a specification which has an applicable part saying that I want a safety factor of ten.

Tr. 446-47 (cross examination) (emphasis added):

Q. . . . Where does it say in this entire document [i.e., NBS PS15-69], sir, that you have to have a safety factor of ten?

A. It's implied by the footnote.

Q. Don't tell me what's implied, tell me where it says it.

A. If it doesn't say it it does give me guidance and the only thing I can do as a prudent designer is to go by the guidance given me in the specification, no matter where I see it. **In this case I see it in the footnote.**

Q. When it says based on a safety factor of ten to one, doesn't that imply that other safety factors might be used?

A. No, it does not.

Q. But does this say that this is a minimum safety factor or a mandatory one?

A. No. **It just says -- this says it is based -- the design intent is a safety factor of ten. If I choose to overdesign it, fine, I'm sure nobody would worry about that. If I choose to underdesign it, I think I'm conflicting with the intent of the specification.**

5. Pal. Br. 5: "Sometime after June 18, 1989, Thiokol . . . modified the tanks from gravity fill, as designed and specified, to pressure fill (Tr. 147, 2083, 1285, 1304)."

Int. Br. 3: "The tanks were changed from a gravity fill to a pressure fill system . . . [citing same transcript pages noted by Palmer].

There is absolutely **no** evidence that Thiokol's addition of pumps resulted in "pressure fill." The "pressure fill" contention was the centerpiece of Palmer's "attenuation" argument. See Thiokol Br. 17-18 & n.11. Palmer's experts, however, admitted that -- if the pipe filling the tank had "open channel flow" (i.e., air space inside the pipe) -- "attenuation" would not occur and could have no impact on the tank. Tr. 1369-72, 1393, 1431, 1436. Palmer's experts also conceded that "open channel flow" results in

"gravity flow." Tr. 1372. The evidence was undisputed that the pipes filling the tanks would always have "open channel flow" (Tr. 2116-17), resulting in "gravity flow" -- not "pressure" -- filling of the tanks. Tr. 2119, 2123.

Indeed, the evidence on this issue was so clear that the trial court rejected Palmer's contention that Thiokol had modified the tanks to "pressure fill." The court concluded (App. A at 5) (emphasis added):

> Much also has been said relative to the change in the method of filling the tanks from gravity feed to overhead feed. Though that is a substantial change which in and of itself may void any warranties given, the Court is not persuaded that that change without more resulted in the failure. **The evidence of vibration or trauma to the tanks from the overhead filling was, to this Court, insufficiently persuasive to indicate that it was a causative factor.**

6. Pal. Br. 13: "Dr. Glasso [sic, Galasso], Thiokol's main expert, admitted he could not determine what caused the failure (Tr 448). . . . He was, at most 'suspicious' that the lack of sufficient overlap may have caused the problem, but could not state any cause with reasonable probability (Tr 356)."

The above is an intentionally misleading summary of the testimony given by Dr. Maurice Galasso, an independent consulting engineer specializing in commercial fiberglass design. Tr. 319. Review of the transcript at pages 356 and 448-49 reveals that Dr. Galasso was, indeed, "suspicious" that the tank failed at an overlap of the woving roving because the rupture exposed straight, uncut edges of the fabric. But, far from being unable to "determine what caused the failure" (Pal. Br. 13), Galasso -- in response to questions from the trial court -- gave his best professional opinion that the failure was caused by insufficient

overlapping of the woven roving. Dr. Galasso's actual testimony, from pages 355-56 and 448-49 of the transcript, follows.

Tr. 355-56 (emphasis added):

Q. You talked about the weakness at an overlap. Are there any indications from the photographs that indeed this failure did occur where the woven roving did not have sufficient overlap?

A. Yes, I think so.

Q. Can you identify those points in the photographs?

A. Okay.

MR. KELLY: This is Exhibit 323 the witness is referring to. **[Exh. 323 is included in Appendix K to Thiokol's Brief.]**

THE WITNESS: Okay. This is fairly high up on the tank wall, but I believe -- I can't see what goes on in here, but I can see here and what basically you see here, **whenever I see anything like that, a very sharp edge with very little taper to it, the first thing I will look for is very little overlap, because typically you don't get -- a failure does not look that sharp. That's almost -- its very suspicious that the failure occurred in the resin in something like that.**

Most failures show, you know, a failure path which is not -- does not have the ends of the roving showing like that. It may pull out all right, but you have different length rovings. That can be shown, though we don't have one here, but if you look on test samples you'll see that behavior. These things basically usually do not break right across the sample. They break rather irregularly. The only time they really want to break right across the sample is if they have a preferred path of breaking, but that sort of thing makes me very suspicious, although I can't look at that. If I could look at that and put that back together I could give you a better opinion, **but any time I see something like that I'm very suspicious that there was -- I'm very suspicious about the overlap. That's the first thing I will look at.**

Tr. 448-49 (emphasis added):

THE COURT: You told us . . . how this thing broke or failed?

THE WITNESS: My idea of it, yeah.

THE COURT: But you haven't been able to specify exactly why it broke, have you?

THE WITNESS: No.

THE COURT: You simply don't know?

THE WITNESS: It is my best opinion based on what I can see and what information has been given to me.

THE COURT: In other words, it is your opinion that somewhere on that tank there was a place where the tensile strength was not above the pounds per square inch applied, correct?

THE WITNESS: Someplace that would not sustain that stress and it ruptured, it locally ruptured.

7. **Pal. Br. 6-7:** "The operation of the pumps created an uplifting force of approximately 17,000 pounds (Tr. 2136-38, 604-05)."

   Pal. Br. 19: "Dr. Paul Tullis, Thiokol's hydraulic expert, testified that overfilling the tanks would cause an uplifting force between 7,000 and 28,000 pounds (Tr. 2136, 2138)."

Palmer makes the above assertions to support its claim that the tanks were "neither designed nor built" to sustain the claimed uplift force. Pal. Br. 7. The cited transcript pages, however, provide no support for the asserted "28,000 pounds" of pressure. The transcript, instead, reveals that (at most) overfilling the tanks would produce between 6,000 and 16,000 pounds of uplift. Tr. 2136 (6,000 to 7,000 pounds); Tr. 2137 (15,000 to 16,000 pounds); Tr. 605 (11,000 pounds).

That uplift, moreover, would only "increase[] the stress [on the tank] three percent" (Tr. 2138) -- an increase well within the design parameters of the tanks, even assuming they had a safety factor of three rather than ten. Tr. 605 (noting that the uplift

created by completely overfilling the tank "would not be enough to cause any significant increase in the stress on the tank walls to be of any concern"). See also Tr. 3233 (a 3% increase in stress on the tanks would take "100th of the safety factor" of three).