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Itzchak E. Kornfeld  
*Itzchak E. Kornfeld & Associates*

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# Cleaning Up Superfund: A Proposal for Permanent Cleanups and Returning Land Back to Nature — With Applications to the Petroleum Industry

ITZCHAK E. KORNFELD\*

With few exceptions EPA has not made a distinction between estimated risks which are real and current versus those which are speculative and contingent on uncertain future uses of contaminated land or water or uncertain migration of contaminants.<sup>1</sup>

EPA has not carried out a comprehensive and systematic site discovery program nationwide . . . .

. . . EPA's screening procedures for determining whether sites require remedial cleanup under Superfund incorrectly eliminate some sites which really do require cleanup. EPA has not estimated the magnitude of these false negative decisions . . . . From 240 to 2,000 false negative decisions may exist.<sup>2</sup>

As Congress prepares, once again, to reauthorize the Comprehensive Environmental, Response, Compensation and Liability Act (CERCLA or "Superfund"),<sup>3</sup> there is an overriding tension in

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\* Itzchak E. Kornfeld & Associates, Philadelphia, PA; J.D., 1980, Tulane Law School; M.A., Geochemistry, 1980, Brooklyn College; B.S., Geology, 1976, Brooklyn College. The author served as Senior Geohydrologist for EPA's first Superfund Field Identification Team (FIT) where he worked on many Superfund sites, including Love Canal, Pride Landfill, and Lipari Landfill. He also spent over seven years working as a geologist for Texaco, Inc. in the swamps of Mississippi, south Louisiana, and along the eastern seaboard.

The author extends his thanks to Maria L. Barracca, MBA, Theodore C. Forrence, Jr., Esq., and Richard Parker, Esq., for their observations and comments on early drafts of this manuscript.

<sup>1</sup> OFFICE OF TECHNOLOGY ASSESSMENT, CONGRESS OF THE UNITED STATES, COMING CLEAN. SUPERFUND PROBLEMS CAN BE SOLVED 12 (1989) [hereinafter OTA REPORT].

<sup>2</sup> *Id.* at 10.

<sup>3</sup> CERCLA §§ 101-405, 42 U.S.C. §§ 9601-9675 (1988), as amended by the Superfund Amendments and Reauthorization Act of 1986, Pub. L. No. 99-499, 100 Stat. 1613 (codified as amended in scattered sections of 42 U.S.C.). In 1990, Congress breathed new financial life into the Superfund, under its budget-making authority, appropriating an

environmental policy making in the 1990's that, frankly, did not exist a decade ago. The Environmental Protection Agency's (EPA) helter-skelter remediation strategy<sup>4</sup> is driven by overly stringent cleanup standards,<sup>5</sup> and the result is that only a few sites, of the existing 39,000 on the CERCLIS,<sup>6</sup> are actually being cleaned-up but at a tremendous cost per site,<sup>7</sup> and without regard for the harm posed to human health and the environment.<sup>8</sup>

In 1986 when Congress first recast CERCLA by enacting the Superfund Amendments and Reauthorization Act of 1986,<sup>9</sup> it stated that "[t]he current reauthorization, coming when it does, forces Congress to face a very fundamental policy question: how to ensure in the future that there are adequate resources, and to see that past, thoroughly repudiated, mismanagement problems are behind us."<sup>10</sup>

However, Congress did not force itself hard enough. It once again punted to the Environmental Protection Agency and the courts to tell us what it meant. Superfund is plagued by a profusion of criticism.<sup>11</sup> It has been asserted that, "[t]he goal of CER-

additional \$5.1 billion into the fund. The Omnibus Budget Reconciliation Act of 1990, Pub. L. No. 101-508, 104 Stat. 1388 (codified in scattered sections of 42 U.S.C.).

<sup>4</sup> "In some cases, EPA may decide that even though a conflict of interest with a potential contractor or PRP exists, other considerations may justify its selection as a governmental contractor. Examples of such considerations include the uniqueness of site conditions, remedy or the PRP's prior involvement at the site, the limited extent of potential liability of the contractor (or affiliate) . . ." 55 Fed. Reg. 8665, 8736 (1990). Additionally, "[c]learer priorities and less maneuvering room in environmental goals can make the Superfund system work better, fairer, and faster. By not setting clear priorities, government has fed unrealistic public expectations . . ." OTA REPORT, *supra* note 1, at 4.

<sup>5</sup> "The [EPA] rules are such that cleanup of industrial sites to standards of drinking water purity, even when there is little or no reason to do so, is frequently mandated under Superfund." Richard L. Stroup & Bradley Townsend, *EPA's New Superfund Rule: Making the Problem Worse*, 3 CATO REV. OF BUS. & GOVT. REG. 71, 73 (1993).

<sup>6</sup> CERCLIS is the abbreviation of the CERCLA Information System, EPA's comprehensive data base and management system that inventories and tracks releases addressed or needing to be addressed by the Superfund program. For a more thorough discussion of CERCLIS see *infra* note 39.

<sup>7</sup> The average cost is \$20 million to \$30 million per site. OTA REPORT, *supra* note 1, at 201 n.35. (citing ENVTL. PROTECTION AGENCY, MANAGEMENT REVIEW OF THE SUPERFUND PROGRAM (1989)).

<sup>8</sup> OTA REPORT, *supra* note 1, at 25.

<sup>9</sup> Pub. L. No. 99-499, 100 Stat. 1613 (codified in scattered sections of 42 U.S.C.).

<sup>10</sup> Act of Oct. 17, 1986, Pub. L. No. 99-499, 1986 U.S.C.C.A.N. (99 Stat.) 2835, 2837 (codified in scattered sections of 42 U.S.C.).

<sup>11</sup> See, e.g., *Amoco Oil Co. v. Borden, Inc.*, 889 F.2d 664, 667 (5th Cir. 1989) (quoting *United States v. Mottolo*, 605 F. Supp. 898, 902 (D.N.H. 1985), ("[CERCLA has] a well deserved notoriety for vaguely drafted provisions and an indefinite, if not contradictory, legislative history."); *Amland Properties Corp. v. Aluminum Co. of America*, 711 F.

CLA is simple: the cleanup of hazardous substances. The question of who is responsible for that cleanup has proven to be not so simple.”<sup>12</sup> Unfortunately, the focus of the debate and administration of CERCLA has shifted from the permanent cleanup of abandoned hazardous waste sites and protection of human health and the environment to spending billions of dollars in creating a new “legal, consulting, technology, and site and laboratory services industry [thriving] on Superfund . . . . [And] overall, the cleanup industry pays little penalty for Superfund’s ineffectiveness and inefficiency.”<sup>13</sup> Although there are many people in these industries who sincerely care about the problem of site remediation, they are bulldozed over by Superfund’s implementation problems, not the least of which is the EPA’s apparent loathing of permanent cleanups and reliance on contractors. These “administrative” costs and languor in clean-up of the apparently unending number of sites widely miss the intent of the Superfund, that is, the cleanup of hazardous substances.<sup>14</sup>

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Supp. 784, 789 (D.N.J. 1989) (speculating that CERCLA’s “‘precipitous passage’ perhaps explains the ‘inartful drafting and numerous ambiguities’ that characterize its provisions.” (citing *Artesian Water Co. v. Gov’t of New Castle County*, 851 F.2d 643, 648 (3d Cir. 1988))); Paul J. Acton & Lloyd S. Dixon, *Superfund Transaction Costs: The Experiences of Insurers and Very Large Industrial Firms*, in RAND, THE INSTITUTE FOR CIVIL JUSTICE (1992); Shreekant Gupta et al., Do Benefits and Costs Matter in Environmental Regulation? An Analysis of EPA Decisions Under Superfund, Paper Presented at the New York University School of Law Conference on Superfund Reauthorization (Dec. 3-4, 1993)(on file with the author). “Of all environmental programs in the U.S., the Superfund program is perhaps the most controversial” Gupta, at 1; Barnaby J. Feder, *In the Clutches of the Superfund Mess*, N.Y. TIMES, June 16, 1991, at § 3, at 1; Jessica Matthews, *Superfund Boondoggle*, WASH. POST, Sept. 6, 1991, at A21.

<sup>12</sup> In *Re Diamond Reo Trucks, Inc.* 115 B.R. 559, 562 (Bankr. W.D. Mich. 1990) (emphasis supplied).

<sup>13</sup> OTA REPORT, *supra* note 1, at 21-22.

<sup>14</sup> See, e.g., Act of Oct. 17, 1986, Pub. L. No. 99-499, 1986 U.S.C.C.A.N. (99 Stat.) 2835 (codified in scattered sections of 42 U.S.C.).

### A. CERCLA: A Statute Lacking Clarity

Society often forgives the criminal; it never forgives the Dreamer.<sup>15</sup>

Like Dickens' Pip, Congress had *Great Expectations* when it enacted CERCLA, the statute designed to deal with the cleanup of hazardous sites.<sup>16</sup> Congress reacted to the public hue and cry over widespread contamination caused by improper disposal of hazardous and toxic substances at Love Canal, New York.<sup>17</sup> In spite of these great ideals, the statute has been assailed as being crafted in great haste.<sup>18</sup> Thus, its legislative history has been said to be sparse<sup>19</sup> and apparently, born out of quick compromise.<sup>20</sup>

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<sup>15</sup> SEAN MCCANN, *THE WIT OF OSCAR WILDE* 49 (1992) (citing OSCAR WILDE, *THE CRITIC AS ARTIST*).

<sup>16</sup> "CERCLA was enacted on December 11, 1980 to establish a comprehensive response and liability mechanism to control and clean up releases into the environment of hazardous waste substances, and to provide compensation for costs incurred in responding to the releases and for damage to natural resources." *United States v. Shell Oil Co.*, 605 F. Supp. 1064, 1068 (D. Colo. 1985). "There are four elements to prima facie CERCLA liability: 1) a release of hazardous substances must have occurred, 2) at a facility, 3) causing the plaintiff to incur response costs, 4) and the defendant must be a responsible party as defined under [CERCLA] § 107(a), 42 U.S.C. § 9607(a). (citations omitted)." *CPC Int'l, Inc. v. Aerojet-General Corp.*, 759 F. Supp. 1269, 1276 (W.D. Mich. 1991).

<sup>17</sup> See, e.g., LOIS MARIE GIBBS, *LOVE CANAL MY STORY* (1982).

<sup>18</sup> "Superfund was not created on the basis of lengthy, detailed studies which made the case for its need. Superfund was born out of something close to public hysteria, news stories about leaking toxic waste sites, vivid pictures of sites, and first-person accounts of health effects." OTA REPORT, *supra* note 1, at 22.

<sup>19</sup> For example, one commentator in conjecturing why the statute abounds in a dearth of any legislative record has noted that:

[t]he bill which became law was hurriedly put together by a bipartisan leadership group of Senators (with some assistance from their House counterparts), introduced, and passed by the Senate in lieu of all other pending measures on the subject. It was then placed before the House, in the form of a Senate amendment of the earlier House bill. It was considered on December 3, 1980, in the closing days of the lame duck session of an outgoing Congress. It was considered and passed, after very limited debate, under a suspension of rules, in a situation which allowed for no amendments. Faced with a complicated bill on a take it-or-leave it basis, the House took it, groaning all the way.

Frank P. Grad, *A Legislative History of the Comprehensive Environmental Response Compensation and Liability (Superfund) Act of 1980*, 8 COLUM. J. ENVTL. L. 1, 1 (1982).

<sup>20</sup> Compare *United States v. Chem-Dyne Corp.*, 572 F. Supp. 802 (S.D. Ohio 1983) with *United States v. A & F Materials Co., Inc.*, 578 F. Supp. 249 (S.D. Ill. 1984) (providing contrasting readings of whether Superfund's legislative history did or did not include strict and "joint and several" liability).

However, CERCLA is in many ways indistinguishable from other statutes.<sup>21</sup> As was recently noted, "Superfund costs are not absurdly high. On the contrary, they are comparable to those of other government programs, especially if about half of the spending is allocated to health, environmental, and social benefits other than preventing cancer deaths."<sup>22</sup> Even a statute as well-debated, compromised and crafted as the Civil Rights Act of 1964<sup>23</sup> engendered a tremendous amount of litigation, so it is no surprise that CERCLA is accompanied by litigation costs. Despite the lack of legislative guidance, courts have found that Congress intended liability under CERCLA to be strict,<sup>24</sup> joint and several;<sup>25</sup> Congress affirmed this view when it enacted SARA.<sup>26</sup> Moreover, Superfund has been interpreted to be a *remedial* law designed to safeguard public health and the environment, and therefore its provisions must be construed liberally.<sup>27</sup> Finally, like all of life's events, a statute such as CERCLA evolves with experience.

### B. *Reauthorization: Can We Make Cleanup Permanent?*

[E]nvironmental laws have strived to respond to the reordering of social priorities that has resulted from an enhanced understanding of the need for pollution control.<sup>28</sup>

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<sup>21</sup> *E.g.*, Civil Rights Act of 1964, Pub. L. No. 88-352, 78 Stat. 242 (codified as amended in scattered sections of 42 U.S.C.) demonstrates how the legislative process can surmount all the procedural hurdles that constitutional doctrine and legislative tradition have placed in the way of important and controversial legislation. *See, e.g.*, WILLIAM N. ESKRIDGE, JR. & PHILIP P. FRICKEY, *CASES AND MATERIALS ON LEGISLATION STATUTES AND THE CREATION OF PUBLIC POLICY* 1 (1988).

<sup>22</sup> OTA REPORT, *supra* note 1, at 26.

<sup>23</sup> Pub. L. No. 88-352, 78 Stat. 241 (codified as amended in scattered sections of 42 U.S.C.).

<sup>24</sup> *See, e.g.*, *United States v. Monsanto Co.*, 858 F.2d 160 (4th Cir. 1988); *United States v. Northeastern Pharmaceutical & Chem. Co., Inc.*, 579 F. Supp. 823 (W.D. Mo. 1984), *modified*, 810 F.2d 726 (8th Cir. 1986), *cert. denied*, 484 U.S. 848 (1987); *United States v. Price*, 577 F. Supp. 1103, 1113 (D. N.J. 1983); *City of Philadelphia v. Stephan Chem. Co.*, 544 F. Supp. 1135, 1140 n.4 (E.D. Pa. 1982).

<sup>25</sup> *See, e.g.*, *Versatile Metals, Inc. v. Union Corp.*, 693 F. Supp. 1563, 1571 (E.D. Pa. 1988); *United States v. A & F Materials Co.*, 578 F. Supp. 1249, 1255 (S.D. Ill. 1984); *United States v. Chem-Dyne Corp.*, 572 F. Supp. 802, 808 (S.D. Ohio 1983).

<sup>26</sup> Pub. L. 99-499, 100 Stat. 1613 (codified in scattered sections of 42 U.S.C.).

<sup>27</sup> *Wilshire Westwood Assoc. v. Atlantic Richfield Corp.*, 881 F.2d 801, 804 (9th Cir. 1989).

<sup>28</sup> Richard J. Lazarus, *Changing Conceptions of Property and Sovereignty in Natural Resources: Questioning the Public Trust Doctrine*, 71 IOWA L. REV. 631 (1986).

Congress will upon reauthorization face a thirteen-year history of Superfund. Most sites have still not been remediated after all these years. For example in 1989, J. Winston Porter, then the EPA's Assistant Administrator for Solid Waste and Emergency Response, waxed poetically that "[a]bout 50 sites [out of about 30,000 sites in the inventory of potential Superfund sites] are cleaned up."<sup>29</sup> Thus, after eight years of effort we were to be satisfied or overjoyed that only fifty sites were cleaned up. Consequently, the issue confronting the legislators who will rewrite the law is how to employ the seasoning gained from past experience to restore the land, if at all, to its pre-polluted state and to make cleanup of the environment proceed in an effective and long-term manner.

Unfortunately, most cleanups have been short-term or interim.<sup>30</sup> Although, much light has been cast on the cost of remedies, cost cannot be the gravamen of the process without assessing the long-term risks posed by the ever-increasing number of sites on the CERCLIS.<sup>31</sup>

Our throwaway society has left us a legacy of a landscape soiled by over a century of unthinking littering and dirtying of the earth's soil, water, and the ecologies they support.<sup>32</sup> This damage

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<sup>29</sup> J. Winston Porter, *Superfund Progress (And Other Well-Kept Secrets)*, in 2 HAZARDOUS MATERIALS CONTROL 44, 45 (1989).

<sup>30</sup> OTA REPORT, *supra* note 1, at 34. Many Superfund sites, especially landfills, have been capped until a long-term solution can be found. See, e.g., OFFICE OF TECHNOLOGY ASSESSMENT, CONGRESS OF THE UNITED STATES, ARE WE CLEANING UP? TEN SUPERFUND CASE STUDIES 25 (1988) (citing Compass Industries) [hereinafter ARE WE CLEANING UP?].

<sup>31</sup>

First, we know very little about the risks posed at Superfund sites and the likely costs of cleanup . . . . Second, any discussion of cleanup standards [which must be the basis of any permanent remedy caused by "a release or substantial threat of release into the environment of any pollutant or contaminant which may present an imminent or substantial danger to the public health or welfare . . . ." 42 U.S.C.A. § 9604 (a)(1)(B) (emphasis added)], requires some technical sophistication about the variety and effectiveness of different waste remediation technologies. Many in the political [and business] arena lack this expertise.

Katherine N. Probst, *Evaluating the Economic Impact of Alternative Superfund Financing Schemes 1* (Nov. 1993), Address Before the New York University School of Law Conference on Superfund Reauthorization (Dec. 3-4, 1993) (transcript on file with the author).

<sup>32</sup> Polychlorinated biphenyls (PCBs) were manufactured for over 70 years for their chemical stability, fire resistance and electrical properties. They were used in compressors, transformers, capacitors and other hydraulic equipment. However, the EPA found that PCBs were toxic to humans and wildlife because they are long-lasting, mutagenic in low doses and bioaccumulate. See generally *Polychlorinated Biphenyls (PCBs) Manufacturing*,

caused by our industrialized society has been taking place for almost a century. The expectation of those who have profited from this damage—that this long-term injury can be undone either quickly, cheaply, or otherwise—strikes this author as somewhat naive. To be sure, the federal and state governments, in their zeal to enhance and further commerce, encouraged and were in complicity with this damage.<sup>33</sup> This view is analogous to expecting the cleanup of the mess created by a jar of honey, which takes a second to fall off of a kitchen counter and splatter its goo all over the kitchen, to take no longer than the second it took to make its descent prior to impact. Or, in the alternative, it is similar to expecting the clean up of damage caused by the earthquake that struck Los Angeles, on January 17, 1994, to be accomplished in a few days.

The issue, thus, comes back to what role Congress intended for the Superfund law. Many of us believe it was the cleanup of hazardous sites. But now when sites are being over-engineered, we are losing site of the prize. Just as the people of the midwest paid dearly during the horrendous flooding<sup>34</sup> as a consequence of over-engineering of dams and flood control structures on the Mississippi River by the Army Corps of Engineers, the American taxpayers are paying dearly for unimaginative engineering of clean-

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Processing, Distribution in Commerce, and Use Prohibitions, 40 C.F.R. § 761 (1986). Congress' Office of Technology Assessment has noted that

[t]here is massive documentation of substantial contamination of air, land, surface water and groundwater in virtually every part of the United States.

For many of the prevalent contaminants, there is undisputed information on adverse health and environmental effects.

OTA REPORT, *supra* note 1, at 22. "Furthermore, OTA roughly estimated, in 1989, that the cost of tidying-up humanity's housecleaning mess will cost \$500 billion over 50 years." OTA REPORT, *supra* note 1, at 27. Although there have been complaints regarding Superfund's costs, especially its transactional costs, the United States recently spent over \$500 million to realign the Hubble telescope. In comparison, the cost of attempting to sanitize a legacy consisting of over 60 years of indiscriminant dumping and wanton disposal or operations motivated primarily by greed and profit-seeking, the relative cost of cleanup of these complex geological and hydrological systems appears small.

<sup>33</sup> Of the current 1283 sites on the National Priorities List (NPL), 116 or 11.1% are federal facilities, such as military bases, ammunition plants, and landfills. For a definition of the NPL, see *infra* note 39; see also *Cadillac Fairview/California v. Dow Chem. Co.*, 840 F.2d 691,693 (9th Cir. 1988) (discussing government contract with Dow to operate a rubber plant and authorizing Dow to dump hazardous by-products from the facility at the site); Douglas Pasternak & Peter Cary, *A \$200 Billion Scandal*, U.S. NEWS & WORLD REP., Dec. 24, 1992, at 34-47.

<sup>34</sup> Mark Lacey, *Missouri's Flood-Weary Officials Start Tackling Tough Job of Cleanup*, L.A. TIMES, Aug. 8, 1993, A9.



ups at Superfund sites.<sup>35</sup> We need less slide rules and concrete and more creativity.

The United States recently spent hundreds of millions of dollars to right the flawed \$1.6 billion Hubble Space Telescope;<sup>36</sup> a single mission to explore the seas using submersibles costs tens of millions of dollars. Should we not explore the cleanup and rehabilitation of our environment from the wanton dumping of hazardous substances with equal commitment, exuberance, and initiative? My answer is yes. However, the question that many are asking is "has EPA used its already allocated funds wisely?" The answer in many cases is no.

This article addresses the need for institutional alternatives that would remedy the lack of permanence of current Superfund cleanups. Part I outlines the shortcomings of current cleanups and how Congress' mandate and EPA ideology and inaction conflict. Part II proposes the abandonment of some aquifers and sites which an independent commission would determine are not high-priority cleanups. Thereafter, the article recommends institutional alternatives, such as planting indigenous plants, fencing, and building dikes and boardwalks on the site so that these sites can be returned back to nature. Finally, Congress is urged to grant conservation easements and/or fee simple title for these sites to local land trusts and to remove the hammer of liability from over their heads. The potentially responsible parties (PRPs) would bargain for the right to pay for the maintenance of the site and place the money in an escrow fund dedicated to that site. Part III discusses the difficulty of assigning ownership to these local conservancies. In part IV, the article discusses permanence of cleanup remedies. Many sites have been around for over ten years and have been studied to death, but no cleanup has yet begun. Finally, the article concludes with a series of examples of sites listed on the National Priorities List (NPL) or CERCLIS which contain oil and gas drilling muds, workover fluids and brines, and proposes a solution that would help to eliminate these sites from the current inventory and backlog of sites the EPA has yet to clean up.

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<sup>35</sup> See H.R. REP. NO. 99-253(I), 99th Cong., 2d Sess. 1, 57 (1986), *reprinted in* 1986 U.S.C.A.N. 2835, 2839 (emphasizing the value of treatment and alternative technologies).

<sup>36</sup> John Noble Wilford, *Space Team Fixes Flaw in Telescope*, N.Y. TIMES, Dec. 8, 1993, at A1. "[A]stronauts . . . inserted a . . . \$100 million replacement [camera] . . . . The other fix for the telescope's vision is a \$50 million device . . . ." *Id.* at A23.

## I. HOW CLEAN IS CLEAN?

How much Cleanup is really necessary? Insisting on perfect, quick and certain solutions, and ignoring resource limits can defeat cleanups of specific sites and threaten the national program. Conversely, insisting on low cost cleanups can compromise protection of health and environment. The unsuccessful attempt to balance Superfund's environmental goals against technical and economic resources has revealed the lack of well-crafted, long term strategy in statute or implementation.<sup>37</sup>

### A. CERCLIS, NPL and Risk

Man has a tropism for order.<sup>38</sup>

As noted above, there are currently over 39,000 sites on the CERCLIS.<sup>39</sup> Many of these sites will never demand the cleanup efforts or urgency required by those sites listed on the NPL.<sup>40</sup>

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<sup>37</sup> OTA REPORT, *supra* note 1, at 26.

<sup>38</sup> NATHANAEL WEST, *MISS LONELYHEARTS* 30 (1962).

<sup>39</sup> Telephone Interview with Bill Rosen, Superfund Program, Environmental Protection Agency Region IV, Atlanta, Ga. (Dec. 22, 1993).

CERCLIS is the abbreviation of the CERCLA Information System, EPA's comprehensive data base and management system that inventories and tracks releases addressed or needing to be addressed by the Superfund program. CERCLIS contains the official inventory of CERCLA sites and supports EPA's site planning and tracking functions. Sites that EPA decides do not warrant moving further in the site evaluation process are given a "No further Response Action Planned" (NFRAP) designation in CERCLIS. This means that no additional federal steps under CERCLA will be taken at the site unless future information so warrants. Sites are not removed from the data base after completion of evaluations in order to document that these evaluations took place and to preclude the possibility that they be needlessly repeated. Inclusion of a specific site or area in the CERCLIS data base does not represent a determination of any party's liability, nor does it represent a finding that any response action is necessary. Sites that are deleted from the NPL [National Priority List] are not designated NFRAP sites. Deleted sites are listed in a separate category in the CERCLIS data base.

40 C.F.R. § 300.5 (1992).

<sup>40</sup> The "National Priorities List (NPL) [is] the list, compiled by EPA, pursuant to CERCLA section 105, [42 U.S.C.A. § 9605], of uncontrolled substance releases in the United States that are priorities for long-term remedial evaluation and response." 40 C.F.R. § 300.5 (1992). These sites are targeted for Superfund's remedial program under CERCLA § 105, 42 U.S.C. § 9605 (1988).

In order for a site or area to be listed on the NPL it must, upon evaluation by the EPA or a State, receive a score of 28.5 or greater utilizing the Hazard Ranking System. The "Hazard Ranking System (HRS) is the method used by EPA to evaluate the relative

Even some of the sites listed on the NPL may never be remediated to the standards required at present by the EPA. Currently, groundwater at the site is cleaned up to meet drinking water standards, which in many cases is unnecessary because the land will never support that use. For instance, it has been found that "about [fifty] percent of cleanups address *speculative future risks* which preempts spending to identify and reduce current risks at many other sites; [and] about [seventy-five] percent of cleanups are unlikely to work over the long term . . . ."<sup>41</sup> Additionally, the EPA has been criticized for not setting "clear priorities [and thus feeding] unrealistic public expectations . . . ."<sup>42</sup> Furthermore, the government has been rebuked for

largely ignor[ing] the front-end of Superfund; for example, there is no Federal site discovery program. New National Priorities List (NPL) sites are no less hazardous than sites discovered earlier, according to EPA data. But sites in the program may wait years for significant attention. The size of the NPL is a policy choice, and cleanups are channeled from Superfund to other less stringent cleanup programs in the shadow of Superfund. Thus, Superfund may increasingly become a re-cleanup program.<sup>43</sup>

### B. *Giving up on Perfect Cleanups*

Each generation must decide whether a given site is a unique resource that needs to be preserved. Unfortunately, future generations are not represented in this deliberation, although the decision could have an irreversible impact on them.<sup>44</sup>

At this juncture, the EPA has been incapable of remediating each and every site on the NPL, let alone the CERCLIS. Thus, I believe and urge that we face the situation head-on and abandon some aquifers<sup>45</sup> and sites from the massive efforts, both financial and technical, required to bring them back to the pristine state in

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potential of hazardous substance releases to cause health or safety problems, or ecological or environmental damage." 40 C.F.R. § 300.5 (1992).

<sup>41</sup> OTA REPORT, *supra* note 1, at 3 (emphasis added).

<sup>42</sup> *Id.* at 4.

<sup>43</sup> *Id.*

<sup>44</sup> Edith Weiss, *The Planetary Trust: Conservation and Intergenerational Equity*, 11 *ECOLOGY L.Q.* 495, 536 (1984).

<sup>45</sup> "An aquifer is a saturated permeable rock layer that will provide water in a useable quantity for a well or spring." Itzhak E. Kornfeld, *Groundwater and Hazardous Waste Landfills Do Not Mix*, 5 *TUL. ENVTL. L.J.* 557, 569 (1992) (citation omitted) [hereinafter

which they existed prior to contamination.<sup>46</sup> As has been pointed out by Congress' Office of Technology Assessment:

It is sound environmental thinking to defer actions when risks are future, potential and highly uncertain. The chief benefit would be channeling Superfund resources where they are most needed. At many sites, limited cleanup actions may effectively deal with current risks, while leaving future uncertain risks for future actions, as resources become available.<sup>47</sup>

Just as we can neither restore the old timber forests that fell to the axe of this country's European settlers, nor remove "the visual blight or visual pollution created by suburban tract housing,"<sup>48</sup> we must take cognizance of the fact that we cannot save some areas from the degradation that *homo modernus* has precipitated. This suggestion is not so radical. The EPA has already authorized the abandonment of a number of aquifers: one aquifer connected to Atlantic City, New Jersey's water source, later contaminated by the Price Landfill Superfund site, in adjacent Pleasantville, New Jersey,<sup>49</sup> and; the Trinity Aquifer, which serves as

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Kornfeld, *Groundwater*]; see also *Lincoln Properties, Ltd. v. Higgins*, 23 *Envtl. L. Rep. (Envil. L. Inst.)* 20,665, 20,668 n.8 (E.D. Cal. Jan. 18, 1993).

<sup>46</sup> However, this approach may be "unlikely popular with the American public, which has consistently ranked cleaning up toxic waste sites as one of our top environmental priorities." Probst, *supra* note 31, at 2. (citations omitted). But see Rita Robinson, *Cleaning Up Toxics*, *CIVIL ENGINEERING*, Feb. 1986, at 46. "[N]either the public, the press nor the politicians seem . . . to realize how much time money, this cleanup [will] take. Even with the rapidly developing technology, site cleanups are still being measured in years and in millions of dollars." Robinson, at 46.

<sup>47</sup> OTA REPORT, *supra* note 1, at 33.

<sup>48</sup> Interview with Missy Randolph, environmental activist, in Lumberville, Pa. (Jan. 1, 1994).

<sup>49</sup> The preliminary remedial activities associated with Price Landfill focused on the relocation of the ACMUA (Atlantic City Municipal Utilities Authority) wellfield from its former site approximately 0.7 miles east of the landfill. The original wellfield consisted of four shallow (upper Cohansey) and six deep (lower Cohansey) production wells, pumping at approximately 13 mgd (million gallons per day).

The relocated wellfield, which consists of nine production wells and was completed in December 1985, is located approximately two miles northwest of the landfill, on the northern shore of the western ACMUA reservoir. Each of the nine new production wells is screened in the lower Cohansey Formation at depths of up to 220 feet and has a pumping capacity of approximately 1.5 mgd.

The relocation of the ACMUA wellfield represented the initial phase of the proposed remedial action to alleviate potential public health impacts resulting from groundwater contamination in the area of Price Landfill.

Memorandum from James R. Marshall, Acting Director, Emergency & Remedial Response Division to Christopher J. Daggett, Regional Administrator, United States Environ-

the sole source of groundwater in the Odessa, Texas area, which was heavily contaminated with chromium.<sup>50</sup> In the Trinity Aquifer instance the EPA provided an alternative water source by extending "the City of Odessa's water system" to provide water service to the impacted area.<sup>51</sup> Abandonment of these resources is similar to zoning decisions; in other words, they are policy choices about how certain tracts of land will be treated and classified.

## II. PROPOSAL: RETURN THE LAND BACK TO NATURE

The precedent of aquifer abandonment being set, Congress in its reauthorization of CERCLA should allow PRPs,<sup>52</sup> especially site owners<sup>53</sup> whose properties have been adjudged a low priority for cleanup, those sites not on the NPL or sites which cannot currently be cleaned up, the opportunity to bargain away cleanup liability. A blue ribbon commission, similar to other federal commissions such as the Federal Energy Regulatory Commission, would be set up to decide which sites should be adjudged a low or high cleanup priority.

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mental Protection Agency, Region II, Price Landfill Record of Decision 3 (Sept. 29, 1986) (on file with author) [hereinafter Price Landfill ROD].

<sup>50</sup> *In re Bell Petroleum Services, Inc.*, 3 F.3d 889, 892-93 (5th Cir. 1993).

<sup>51</sup> *Id.* at 893.

<sup>52</sup> A PRP is defined, in part, as the owner/operator, CERCLA § 101(20)(A)(ii), 42 U.S.C. § 9601(20)(A)(ii) (1988):

in the case of any on-shore facility or an off-shore facility, and person owning or operating such facility, and (iii) in the case of any facility, *title or control* of which was conveyed due to bankruptcy, foreclosure, tax delinquency, abandonment, or similar means to a unit of State or local government, any person who owned, operated or otherwise controlled activities at such facility immediately beforehand. (emphasis added)

*Id.*

<sup>53</sup> See 42 U.S.C. § 9601 (20)(A). The definition includes any party who owns, operates, controls a facility (defined at 42 U.S.C. § 9601(9)), or owned the facility prior to a bankruptcy, foreclosure, or tax delinquency in which the property's title was conveyed to any governmental unit of a state or locality. It does not however, include a person who owns a property merely to maintain a passive security interest in the property.

The bargain between the PRPs and the government, would be in exchange for providing either a fee simple deed<sup>54</sup> or a conservation easement<sup>55</sup> on which the PRPs would plant indigenous or native flora,<sup>56</sup> build raised-board walkways, fence off the site as is currently done on highway right-of-ways, and maintain the site in perpetuity or until a permanent cleanup method and/or remedy can be employed. This selective revegetation would allow nature the opportunity to heal itself.<sup>57</sup> It would also give back to the biosphere that which prior human deeds cleaved from it. Site runoff

<sup>54</sup>

The most unrestricted transfer of land by a landowner is an estate in fee simple absolute, which has a potentially infinite duration. By transferring in fee simple absolute, the . . . [owner] gives up his entire interest in the estate . . . The grantee . . . may administer or dispose of the property in any manner chosen. (citations omitted)

Itzhak E. Kornfeld, *Conserving Natural Resources and Open Spaces: A Primer on Individual Giving Options*, 23 ENVTL L. 185, 188 (1993) [hereinafter Kornfeld, *Conserving Resources*]; see also *Lefkowitz v. Cornell University*, 35 A.2d 166 (1970), *aff'd*, 153 N.E. 2d 552 (1971); RICHARD R. POWELL & PATRICK J. ROHAN, *POWELL ON REAL PROPERTY* ¶ 179 (1987).

<sup>55</sup>

A conservation easement is designed to preserve the servient land [the landowner's property] in an undeveloped or natural state. Conservation easements protect open space, scenic views, wildlife habitats, and outdoor recreation areas . . . . The grantor of a conservation easement retains ownership of the servient land and may use the property for any purpose not inconsistent with the servitude. The grantee is typically a governmental unit or a private conservation agency. (citations omitted)

JON W. BRUCE & JAMES W. ELY, JR., *THE LAW OF EASEMENTS AND LICENSES IN LAND* ¶ 11.02 (1988).

A conservation easement, like other easements creates a [contractual] relationship between the landowner and the grantee. The landowner's property (the servient estate) is burdened by the restrictions of the easement [*i.e.*, a negative easement, because the landowner forgoes or is restricted from using "one or some of his rights with respect to the property while continuing to hold title to the land"], either for the benefit of a parcel of land owned by the grantee (the dominant estate), or for the grantee's personal benefit.

Kornfeld, *Conserving Resources*, *supra* note 54, at 195. For a more thorough discussion of conservation easements, see *infra* note 67 and accompanying text.

<sup>56</sup> Indigenous flora include plants such as sunflower and cottonwood in Kansas, goldenrod and Kentucky coffeetree in Kentucky, or mountain laurel and hemlock in Pennsylvania. As has been noted by one author, "[d]ecades ago, America decided that polluted rivers were unacceptable, and now, as cleanups succeed, restoration of the nation's waterways is viewed as inadequate if it does not also include species that once thrived in them." Susan Q. Stranhan, *Restoration Drama*, PHILA. INQUIRER MAG., Oct. 3, 1993, at 18.

<sup>57</sup> Although some would quarrel with this proposition, the earth has rebounded from fires, earthquakes, meteorite impacts, oil spills, floods (the ferocity of which the midwest witnessed this past summer) and has healed itself from these catastrophic disasters. It would probably rebound from this wound as well, obviously sooner with our help.

would be controlled by the planting of groundcover such as mosses, ivy, ferns and similar foliage. Moreover, where contaminated sites border water bodies, such as rivers, creeks or lakes, plant breakers "which can be used as living sponges to filter out pollutants"<sup>68</sup> can be densely planted to control any surface runoff into these inland waters. This inexpensive type of institutional solution<sup>69</sup> would, thus, spare the American taxpayer the following: the multimillion dollar expense and visual oppression of fences; the multiacre Resource, Conservation and Recovery Act (RCRA) subtitle D caps, some of which will begin to erode and/or exfoliate in twenty years; and the sterile and antiseptic landscape of current Superfund sites.<sup>60</sup> People could make use of the sites as a living laboratory or for limited recreational use. The caveat would be that none of these sites could be off-gassing volatile organics or other gases from the soil. This scenario is precisely what the situation was in September of 1985 at the Price Landfill, adjacent to Atlantic City, New Jersey's well-field.<sup>61</sup> Moreover, this proposal

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Louis Licht, a doctoral candidate in civil and environmental engineering at the University of Iowa, is developing a way to use poplar trees as living sponges to filter pollutants out of farm runoff water before it enters creeks. Densely planted poplar whips form buffer strips between fields and creeks, soaking up large amounts of nitrates, a major component of agricultural water pollution.

Good Guy of the Month Calender, Greenpeace (July 13-14 1991) (on file with the author).

<sup>69</sup> Institutional controls are those that attempt to remediate sites without the traditional engineering and transactional difficulties that often plague standard approaches. Examples of these types of solutions have been proposed by Senator David Brightbill of Pennsylvania's Senate, who has introduced S. 972, 178th Pa. Gen. Ass. (1993), a bill that would encourage the reuse of industrial and commercial sites. This initiative's main ingredient is a commitment to modify remedial liability standards for certain parties who want to reuse or expand use of contaminated sites. The initiative applies to both owned and orphaned sites.

In two Pennsylvania bills, H. 952, 176th Pa. Gen. Ass. (1993) and S. 650, 178th Pa. Gen. Ass. (1993), the "Greenfield" initiative applies to those sites where no viable responsible party can be found to underwrite the cleanup.

On the federal side, there is also a bill introduced by Rep. Mel Reynolds, H.R. 2340, 103rd Cong., 1st Sess. (1993) which would likewise provide a means for cleaning up abandoned industrial sites. See, e.g., Richard M. Daley, *Wastelands Transformed*, N.Y. TIMES, Jan. 4, 1994, at A15.

<sup>60</sup> See, e.g., Price Landfill ROD, *supra* note 49, at 18 (discussing a site "secured by a fence to restrict access" although no health risks posed by air pollution off-gassing from the site. "In addition, along with the minor regrading of this relatively flat site, a berm and/or other measures will be constructed around the site perimeter to prevent precipitation runoff and off-site soil erosion, and to induce further infiltration until final closure.").

<sup>61</sup> *Id.* "[P]revious air monitoring, utilizing field instrumentation, has shown no elevated contaminant concentrations . . ." *Id.*

would apply to inner-city properties as well. This point was recently brought home by Laverne Bostic-Wiggins, Project Director of the Greater Germantown Housing Development Corporation, and Sydelle Zove of the Manheim Laundry Cleanup Committee in their attempt to provide inner-city housing in Philadelphia, Pennsylvania.<sup>62</sup>

A site's PRPs would place maintenance and future remedy costs in an escrow account managed by a local conservancy or non-profit organization dedicated to maintaining the site. An escrow fund would avoid the diversion of funds by Congress and successive administrations to offset the federal budget deficit. An example of this "fiscal detouring" was recently profiled regarding the funds dedicated by Congress for remedying soil erosion caused by strip mining in the area surrounding Bulan, Kentucky.<sup>63</sup> However, Congress would need to remove the hammer of liability for owners from above the heads of these conservancies.

#### A. *The Opportunity to Bargain*

Giving a PRP the right to bargain away liability in exchange for maintaining a site would alter the current Superfund scheme in two ways. First, it would require the Superfund or some alternative fisc to pay for remediating the site. Second, once a PRP grants an easement or contributes to revegetation of the land, maintenance and other structural changes to the site, it would not face any future CERCLA liability.<sup>64</sup> Practically speaking, most sites that are in the process of being cleaned up by the government are taken<sup>65</sup> until they are fully remediated, by being fenced, capped and equipped with monitoring and/or extraction wells on site. Thus, granting an easement would be no great hardship for the landowner.

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<sup>62</sup> Roundtable Discussion on the Reuse of Industrial Sites, Philadelphia, Pa. (Oct. 14, 1993) (Sponsored by the Pennsylvania Environmental Council (PEC) and moderated by Joanne R. Denworth, Esq., President PEC and Richard Hayden, Esq.) (on file with the author).

<sup>63</sup> Keith Schneider, *Strip Mining Scars Endure as Repair Fund Dries Up*, N.Y. TIMES, Dec. 4, 1993, at 1.

<sup>64</sup> That is, there would be no opportunity for the government to hold out the possibility of reopening the cleanup or any cleanup options under the "relevant and appropriate" provisions of CERCLA's § 121, 42 U.S.C. § 9621 (1988), or any other section of the statute.

<sup>65</sup> E.g., U.S. CONST. art. V; U.S. CONST. amend. XIV.



Furthermore, since the parties would be bargaining at arm's length over a contract, the intervention and the supervision of the judicial system will be minimal,<sup>66</sup> thus, unclogging already over-congested federal dockets.

### B. Conservation Easements

Conservation easements have been recognized by state<sup>67</sup> and federal<sup>68</sup> legislators. "Furthermore, a substantial body of case law exists which has skirted the common law restrictions on 'new' types of easements."<sup>69</sup> The easement referred to herein would be "appurtenant" as opposed to an easement "in gross." An appurtenant easement is one which benefits the dominant or benefitted tenement or land, *i.e.*, it "touches and concerns" some estate in land.<sup>70</sup> The following example demonstrates the difference between an appurtenant easement and an easement in gross.

A owns a tract of land but must cross B's land to reach a road. A's tract is the dominant tenement (benefitted by access to the road) and B's tract is the servient tenement (burdened by allowing A to cross his land). Alternatively, if A's land had a pond in which an endangered fish lived, and A agreed to set aside the tract occupying the pond to allow C to maintain the tract and study the fish, this would be an easement in gross because the easement to C burdens the servient land but does not benefit any dominant tenement. Easements may be established by express agreement of the parties or implied from the circumstances.

If the benefitted party is given the right to undertake a given activity on the servient estate (such as studying the fish population in the example above), the easement is affirmative. If instead the owner of the servient estate agrees to restrict his ac-

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<sup>66</sup> Trial courts will, of course, be required to sign-off on these contracts to preserve the parties' rights, as is currently done in consent decrees and under CERCLA's settlement provisions, as enunciated in § 122 (codified at 42 U.S.C. § 9122).

<sup>67</sup> See, *e.g.*, CAL. GOV'T CODE § 6950 (West 1980); MD. NAT. RES. CODE ANN. § 3-201 (1989); N.Y. GEN. MUN. LAW § 247 (McKinney 1986); see also, Kornfeld, *Conserving Resources*, *supra* note 54, at 197.

<sup>68</sup> *E.g.*, 7 U.S.C. § 1997(b) (1988); National Trails System Act, 16 U.S.C. §§ 1241, 1246(k) (1988); I.R.C. § 170(f)(3)(B)(iii)(1988) (defining a "qualified conservation contribution"); see also, Kornfeld, *Conserving Resources*, *supra* note 54, at 197, 216.

<sup>69</sup> Kornfeld, *Conserving Resources*, *supra* note 54, at 197 (citing North Dakota v. United States, 460 U.S. 300 (1983); United States v. Lake Misere Land Co., 412 U.S. 580 (1973)).

<sup>70</sup> *Id.* at 192; see *supra* note 39 and accompanying text (citing JOHN E. CRIBBET & CORWIN W. JOHNSON, PRINCIPLES OF THE LAW OF PROPERTY 296 (3d ed. 1989)).

tivity on the land, the easement is negative. A conservation easement is a negative easement because it prevents the grantor from using his land in any way that would alter the existing natural or ecological condition of the land.<sup>71</sup>

Were Congress to provide for the type of conservation easement detailed above, a natural question is who would be granted the easement. For the most part, these easements could be maintained and the public interest protected by local land trusts established by the area's citizens, or, in the alternative, by larger land trusts, such as the Nature Conservancy, the Trust for Public Lands, or the Natural Resources Defense Council, as trustees of the natural and other resources on the site. However, these organizations would require that they be shielded from CERCLA's draconian liability, including its ability to pierce the corporate veil and hold individual corporate officers liable.<sup>72</sup>

Additionally, under the current Superfund scheme PRPs may also be held liable for damages to "natural resources,"<sup>73</sup> which includes "fish, wildlife, biota, air, water, ground water, drinking water supplies, and other such resources belonging to managed by, held in trust by . . . the United States."<sup>74</sup>

The bitter irony of accepting any interest in land, which under CERCLA's section 107(a) would make the grantee an owner, is that in attempting to conserve or protect natural resources, a landowner as private trustee, may be liable for natural resource damages if these "resources" were or are damaged either prior to the grantee's or purchaser's acquisition or post acquisition. Furthermore, the officers and directors of a land trust, charitable corporation, or a charitable association may also be liable in tort (e.g., negligence and breach of fiduciary duty) to the general membership for not exercising a site inspection.<sup>75</sup>

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<sup>71</sup> Kornfeld, *Conserving Resources*, *supra* note 54, at 195, 196; *see supra* note 48 and accompanying text (citing Gerald Korngold, *Privately Held Conservation Servitudes: A Policy Analysis in the Context of Gross Real Covenants and Easements*, 63 TEX. L. REV. 433, 435 (1984)).

<sup>72</sup> *See, e.g.,* *Mobay Corp. v. Allied-Signal, Inc.*, 761 F. Supp. 345, 354 (D.N.J. 1991); *United States v. Northeastern Pharmaceutical & Chem. Co., Inc.*, 579 F. Supp. 823, 847-49 (W.D. Mo. 1984).

<sup>73</sup> CERCLA §§ 101(16), 107(f), 42 U.S.C. § 9601(16) (defining natural resources), § 9607(f) (1988) (natural resources damages liability and designation of public trustees); *see also* *Ohio v. Interior Dep't*, 30 Env't Rep. Cas. (BNA) 1001 (D.C. Cir. 1989).

<sup>74</sup> 42 U.S.C. § 9601(16).

<sup>75</sup> Kornfeld, *Conserving Resources*, *supra* note 54, at 211.

Therefore, Congress must provide express provisions which would clear up the murkiness in the "who is an owner" debate.

### III. SHOULD CONGRESS DEFINE OWNER?

CERCLA's legislative history assumes that any "titleholder is an owner" under the statute. The House Report on the legislation states that "[o]wner is defined to include not only those persons who hold title to a . . . facility, but those who, in the absence of holding a title, possess some equivalent indicia of ownership."<sup>76</sup> However, under CERCLA's section 101(20)(A),<sup>77</sup> a person holding a security interest, in order to protect that interest, is exempt from liability as an owner.<sup>78</sup> The purpose of this subsection is to protect the holder's interest in the property. Nevertheless, a complication in the CERCLA "drill" is encountered in the interpretation of the statute's definition of an owner and therefore, the exemptions from liability.<sup>79</sup>

The difficulty posed by the cases arguing the definition of ownership is that after protracted litigation, the defendants in most cases are ultimately adjudged not liable under CERCLA. Nonetheless, they have to spend a good deal of time and money seeking vindication, as well as burdening the legal system. A land

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<sup>76</sup> *City of Phoenix v. Garbage Services Co.*, 816 F. Supp. 564, 567 (D. Ariz. 1993) (citing H.R. REP. NO. 172, 96th Cong., 2d Sess. 36).

<sup>77</sup> 42 U.S.C. § 9601 (20)(A)(ii) states in relevant part: "in the case of an on-shore facility or an offshore facility, any person owning or operating such facility . . . *Such term does not include a person, who, without participating in the management of a vessel or facility, holds indicia of ownership primarily to protect his security interest in the vessel or facility.*" *Id.* (emphasis added); see also, *In Re Bergsøe Metal Corp.*, 910 F.2d 668 (9th Cir. 1990); *United States v. Fleet Factors Corp.*, 901 F.2d 1550 (11th Cir. 1990); 57 Fed. Reg. 18344 (1992) (to be codified at 40 C.F.R. pt. 300).

<sup>78</sup> 42 U.S.C. § 9601(20)(A)(ii).

<sup>79</sup> See, e.g., *Sneideker Developers Ltd. Partnership v. Evans*, 773 F. Supp. 984, 986 (E.D. Mich. 1991) (finding that a brother and sister who were bequeathed approximately 116 acres, a portion of which was used to dump hazardous waste, who "did not participate in the management of the facility," were not currently owners, but instead they retain[ed] title to the property to protect their security interest in it); *United States v. Pacific Hide & Fur Depot, Inc.*, 716 F. Supp. 1341 (D. Idaho 1989) (holding that under the "innocent landowner" defense of CERCLA's 42 U.S.C. § 9602(A)-(B), shareholders of a corporation, who acquired their interest via a bequest or gift were not liable as owners or operators of the site); *Ecodyne Corp. v. Shah*, 718 F. Supp. 1454, 1457 (N.D. Cal. 1989) (discussing the plaintiff's sale of property whose groundwater and soil were contaminated with chromium ["The term 'ground water' means water in a saturated zone or stratum beneath the surface or land or water." 42 U.S.C. § 9601 (12)]. The court dismissed plaintiff's cost recovery claims because during defendants ownership of the property there was no disposal).

trust does not have the resources nor the incentive to litigate liability under the statute. It is also questionable whether an easement, which has been interpreted as a contract right<sup>80</sup> as distinguished from a property right, would bring the easement holder under the ambit of CERCLA's liability scheme. However, there have been instances where easement holders had to look into the eye of liability as a consequence of contamination of their easement.<sup>81</sup> Therefore, Congress must provide express language to shield these land trusts from the ambiguities in CERCLA's liability scheme. Under this proposal, land trusts should be empowered by Congress to take on the awesome task of maintaining these sites. No less can be expected from a Congress which upon enactment of SARA, the first Superfund reauthorization, noted that "[w]e now understand that a cleanup frequently goes beyond simple removal of barrels. It often involves years of pumping contaminated water from aquifers. The total cost of completing the Superfund program is estimated to be as much \$100 billion. The total time will be decades."<sup>82</sup>

#### IV. PERMANENCE

The current reauthorization, coming when it does, forces Congress to face a very fundamental policy question: how to ensure in the future that there are adequate resources, and to see that past, thoroughly repudiated, mismanagement problems are behind us.<sup>83</sup>

Any cleanup should be permanent.<sup>84</sup> We can not have the legislative and executive branches of government working at cross purposes. Cleanups can and have taken ten years or more.<sup>85</sup> The EPA "often seem[s] ambivalent about implementing statutory policies and directives, such as the goal of minimizing imperma-

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<sup>80</sup> See, e.g., *supra* note 55.

<sup>81</sup> See, e.g., Jill D. Neiman, Note, *Easement Holder Liability Under CERCLA: The Right way to Deal with Rights of Ways*, 89 MICH. L. REV. 1233 (1991).

<sup>82</sup> SARA, Pub. L. No. 99-499, 100 Stat. 1613 (1986) (codified at 42 U.S.C. §§ 9601-9675 (1988)).

<sup>83</sup> *Id.*

<sup>84</sup> See, e.g., CERCLA § 121(b)(1), 42 U.S.C. 9621 (b)(1) (1988). "Remedial actions in which treatment which *permanently* and significantly reduces the volume, toxicity or mobility of the hazardous substances, pollutants, and contaminants is a principal element, *are to be preferred over* remedial actions not involving such treatment." *Id.* (emphasis supplied).

<sup>85</sup> OTA REPORT, *supra* note 1, at 13.

ment remedies based on containment and land disposal . . . Interpretations which are inconsistent with congressional intent are a problem . . .”<sup>86</sup> An example of this ambivalence is the EPA’s aversion to “converting cost-effectiveness into cost-benefit decision making.”<sup>87</sup>

In the most recent version of the National Contingency Plan (NCP),<sup>88</sup> the “bible” of remediation consistent methodology,<sup>89</sup> the EPA places cost above permanence of a remedy. The “EPA does not believe that it is possible or appropriate to address *the mandate to utilize permanent solutions and treatment to the maximum extent practicable* as an evaluation criterion because this mandate represents a conclusion reached about a remedy on the basis of several evaluation factors.”<sup>90</sup> This evaluation by the agency is in contradiction to Congress’ explicit contours of CERCLA as set forth in SARA’s legislative history. That legislative intent emphatically declares that “[t]he EPA Administrator is explicitly directed to select efficient and permanent cleanups, when possible, that will contribute to the long-term solution of the hazardous waste problem.”<sup>91</sup> Furthermore, as demonstrated below, the EPA contradicts itself regarding its factoring of the element of cost into the cleanup equation.

Congress mandated seven factors in its authorization of SARA’s section 121, which were to be, at a minimum, considered by the EPA in its consideration of permanent and long-term alter-

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<sup>86</sup> *Id.* at 16.

<sup>87</sup> *Id.*

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The National Contingency Plan (NCP), 40 C.F.R. Part 300, promulgated by the EPA as mandated by CERCLA § 105, 42 U.S.C. § 9605, guides federal and state response activities. The NCP identifies methods for investigating the environmental and health problems resulting from a release or threatened release and criteria for determining the appropriate extent of response activities.

*In Re Bell Petroleum Services, Inc.*, 3 F.3d 889, 894 (5th Cir. 1993) (citations omitted).

<sup>89</sup> In order for private parties who cleanup a site at their own cost to recoup those costs in a contribution action, cleanup must be consistent with the NCP. *See, e.g.*, *General Elec. v. Litton Indus. Automation Sys.*, 920 F.2d 1415, 1421 (8th Cir. 1990).

<sup>90</sup> 55 Fed. Reg. 8666, 8729-8730 (1990) (to be codified at 40 C.F.R. pt. 300) (emphasis supplied).

<sup>91</sup> SARA, Pub. L. No. 99-499, 100 Stat. 1613 (1986) (codified at 42 U.S.C. § 9601-9675 (1988)) (emphasis supplied). Note that the legislative history states that permanent cleanups should be undertaken “when possible.” 1986 U.S.C.C.A.N. 2840. Creating a conservation easement in this case would be a fitting interim measure when permanent cleanups are not possible, either due to a lack of technology or for some other reason.

native remedies.<sup>92</sup> In order to keep the Agency from setting its own agenda, as it did during the Reagan Administration,<sup>93</sup> Congress announced a goal of "cost effectiveness" in its enactment of SARA's section 121.<sup>94</sup> However, Congress' mandate of cost effectiveness was not to stand alone. Rather, it stated that "[i]n evaluating the cost effectiveness of proposed alternative remedial actions, the President shall take into account the total short- and long-term costs of such actions . . . ."<sup>95</sup> Although the EPA in promulgating its rules has enunciated goals consonant with those of Congress' express directives,<sup>96</sup> it has not undertaken to meet its burden. For example, the EPA in its 1990 NCP final rule states

<sup>92</sup> Congress directs that:

[t]he President shall conduct an assessment of permanent solutions and alternative treatment technologies or resource recovery technologies that, in whole or in part, will result in a permanent and significant decrease in the toxicity, mobility, or volume of the hazardous substance, pollutant, or contaminant. In making such assessment, the President shall specifically address the long-term effectiveness of various alternatives. In assessing alternative remedial actions, the President shall, at a minimum, take into account:

- (A) the long-term uncertainties associated with land disposal;
- (B) the goals, objectives and requirements of the Solid Waste Disposal Act [42 U.S.C. § 6901-6991h];
- (C) the persistence, toxicity, mobility, and propensity to bioaccumulate of such hazardous substances and their constituents;
- (D) short- and long-term potential for adverse health effects from human exposure;
- (E) long-term maintenance costs;
- (F) the potential for future remedial action costs if the alternative remedial action in question were to fail;
- (G) the potential threat to human health and the environment associated with excavation, transportation, and redisposal, or containment.

The President shall select a remedial action that is protective of human health and the environment, that is cost effective, and that utilizes permanent technologies or resource recovery technologies to the maximum extent practicable.

CERCLA § 121(b)(1), 42 U.S.C. § 9621(b)(1) (1988).

<sup>93</sup>

[T]he first administrator of the Superfund program undermined the intent of the program. Under the initial leadership of Assistant Administrator Lavelle, the program was victimized by gross mismanagement and policies which limited expenditures for site cleanups . . . .

SARA, Pub. L. No. 99-499, 100 Stat. 1613 (1986)(codified at 42 U.S.C. §§ 9601-9675 (1988)).

<sup>94</sup> 42 U.S.C. § 9621(a).

<sup>95</sup> *Id.*

<sup>96</sup> *E.g.*, in its final rule the agency states:

The preamble to the 1985 NCP goes on to explain in more detail the role of cost in that rule . . . . Finally, the lead agency would not always select the most protective option, regardless of cost. The lead agency would instead

that as far as "applicable or relevant and appropriate requirements (ARAR)" are concerned the agency has only promulgated "final [Maximum Contaminant Levels] MCL [for groundwater] levels . . . for approximately 33 chemicals . . . although there are a large number of hazardous substances that may contaminate the ground water . . ." <sup>97</sup> Furthermore, analysis by the Congressional Office of Technology Assessment demonstrates that the "EPA select[s] less stringent clean up technologies to obtain voluntary or negotiated settlements with responsible parties. Excessively flexible government policies and rules allow significantly different clean ups at similar sites." <sup>98</sup>

Where is the permanence in the EPA's efforts to meet its articulated *lebensraum* of permanent cleanups? And is Congress naive enough or in complicity with the Agency's inaction? I believe that Congress, being a deliberative body that is sometimes mired by conflicting opinions, cannot pass laws which contemplate every situation or lay out a strict map of what it proposes in its delegation to an Agency. However, after five years of relative inaction by the EPA, Congress passed SARA and gave the EPA a new course and leeway in passing CERCLA's section 121. <sup>99</sup> In section 121, Congress provided that cleanup or remedial actions "shall be relevant and appropriate (ARARs) under the [given cleanup requirements of the site's] circumstances." <sup>100</sup> Again, where is the permanence in the engineering solutions and inaction? It does not exist, as demonstrated through a discussion of the oil and gas drilling and production industry.

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consider costs, technology, reliability, administrative and other concerns, and their effects on public health and the environment . . .

50 Fed. Reg. 47921 (1985) (to be codified at 40 C.F.R. pt. 300) (emphasis added).

Today's rule continues the approach embodied in the 1985 NCP, although some of the terminology has changed. First, the approach promulgated today requires that alternatives are determined to be adequately protective and ARAR-compliant ["relevant and appropriate under the circumstances" 42 U.S.C. § 9621 (d)] before cost effectiveness is considered in the remedy selection . . . Second, today's rule recognizes that a range of alternatives can be protective and ARAR-compliant and that cost is a legitimate factor for choosing among such alternatives.

National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. pt. 300 (1992).

<sup>97</sup> 55 Fed. Reg. 8727 n.11 (to be codified at 40 C.F.R. pt. 300).

<sup>98</sup> OTA REPORT, *supra* note 1, at 6.

<sup>99</sup> 42 U.S.C. § 9621.

<sup>100</sup> 42 U.S.C. § 9621(d)(1).

## V. CASE STUDIES: THE OIL AND GAS INDUSTRY

The lure of the black 'gold' is to profit and create wealth.<sup>101</sup>

It was recognized early on that oil and gas operations were detrimental to the environment.<sup>102</sup> Nonetheless, the harm caused and posed by the oil and gas industry's drilling and operation practices must be balanced against those of other sites. Additionally, damages caused by the chemicals used and wastes generated by the drilling and production of oil and gas depend on the quantity of each toxic substance at each individual site. CERCLA's cleanup standard continues to strive for protection of human health and the environment.

*A. Environmental Damage from Oil and Gas Exploration and Production*

In 1887 the operations of John D. Rockefeller's Standard Oil began an age of pollution that placed natural resources and entire ecological systems under siege.<sup>103</sup> "As early as 1904, scientists learned that naturally occurring radioactive material (NORM) is often produced in conjunction with oil field hydrocarbons."<sup>104</sup> Contamination of land and water from salt water or oilfield brine was recognized early on as a side effect of the industry.<sup>105</sup> More-

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<sup>101</sup> A. Ben Mitchell, *A Duty to Plug—The Deep Pocket Theory*, in EASTERN MINERAL LAW FOUNDATION, PROCEEDINGS OF THE NINTH ANNUAL INSTITUTE 20-1 (Cyril A. Fox, Jr. et al. eds., 1988) [hereinafter DUTY TO PLUG].

<sup>102</sup> ROBERT O'CONNOR, *THE OIL BARRONS MEN OF GREED AND GRANDEUR* 49 (1971).

<sup>103</sup> [T]here were premonitory shudders over the *environmental changes* that the [oil] industry could bring. Standard had intended to locate [a refining] facility close to Chicago at the terminus of its pipeline, but an uproar ensued over the sulphur-laden fumes caused by the Frasch [refining] process and the refinery had to be moved 17 miles away and cross the Indiana line. Within a few years, the dunes and woods and duck-hunting bogs around Whiting were transformed into a reeking, smoke blackened, sulphur-blighted area. Around the Standard refinery, a complex of allied industries sprang up, including a barrel factory and an acid producing plant. It all provided an example, uncomprehended at the time of the price the country would pay for the privilege of making Rockefeller and his friends so rich.

*Id.* (emphasis added).

<sup>104</sup> James R. Cox, Comment, *Naturally Occurring Radioactive Materials in the Oilfield: Changing the Norm*, 67 TUL. L. REV. 1197 (1993).

<sup>105</sup> See, e.g., *Landers v. East Texas Salt Water Disposal Co.*, 248 S.W.2d 731 (1952) (holding two polluters jointly and severally liable for damages caused by each independently dumping produced salt water into a lake and thereby killing fish).



over, drilling fluids and cuttings, which are disposed of in unlined earthen pits,<sup>106</sup> incorporate water and oil-based fluids and contain a host of organic and heavy metal constituents, including barium from barite-based muds, chromium, and lead.

Fluids employed to complete and stimulate production, like corrosion inhibitors and acidizing fluids used to enhance the porosity<sup>107</sup> of the producing rock formation, contain hazardous constituents.<sup>108</sup> Lastly, when a well produces it will yield both hydrocarbons and water. The subsurface water which rises or is pumped up with the hydrocarbons during the production of oil and gas is termed "produced water."

[These] [p]roduced waters or oilfield brines contain [hazardous substances in] high levels . . . [such as] benzene, toluene, ethylbenzene, polynuclear aromatic hydrocarbons (PNAs), heavy metals and radioactivity in the form of Radium 226. The benzene and Radium 226 are known human carcinogens (agents that cause cancer), and many PNAs are suspected human carcinogens. The concentration of benzene in the produced water is high enough to classify it as a hazardous waste if it were not for the federal exemption."<sup>109</sup>

Finally, there is the problem of abandoned and unplugged wells.<sup>110</sup> As one commentator noted, "[t]he abandoned well is, at best, just a hole in the ground. At worst, the abandoned well can cause injuries to persons and property of such a nature that it has been likened to a timebomb."<sup>111</sup>

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<sup>106</sup> See, e.g., Wilma Subra, *Oil and Gas Drilling and Production Waste*, in 1992 LOUISIANA LEGISLATIVE BRIEFING BOOK: THE ENVIRONMENT 30 (1992) (on file with the author). "The drilling fluids and cuttings are stored in unlined surface impoundments and are disposed of by land farming, land spreading, and trenching." *Id.*

<sup>107</sup> A measure of "the ratio of the volume of interstices of a material to the volume of its mass [i.e., the percentage of a rock's solid versus its void space]." WEBSTER'S NEW COLLEGIATE DICTIONARY 888 (150th anniversary ed. 1981); see also JOHN T. DEWAN, ESSENTIALS OF MODERN OPEN-HOLE LOG INTERPRETATION 5 (1983); Kornfeld, *Ground-water*, *supra* note 45, at 568.

<sup>108</sup> See, e.g., Subra, *supra* note 106, at 30.

<sup>109</sup> *Id.* at 29. The exemption referred to is enunciated at Solid Waste Disposal Act § 3001, 42 U.S.C. § 6921 (b)(2)(A) (1988).

<sup>110</sup> "Plugging is a term of art and as such has various definitions . . . [E.g.] a conservation measure required by statute in some jurisdictions upon abandonment of a well . . ." DUTY TO PLUG, *supra* note 101, § 20.02, at 20-2 (citations omitted).

<sup>111</sup> DUTY TO PLUG, *supra* note 110 (citation omitted); see also *Div. of Water, Jefferson Co., Kentucky Nat. Res. and Envtl. Protection Cabinet, No. 93-03-159-01109, Environmental Incident Report* (on file with author). "Possible wellhead leaking a brine water

Oil and gas drilling and production wastes are exempt under section 3001(b)(2)(A) of the Solid Waste Disposal Act of 1984<sup>112</sup> and under CERCLA.<sup>113</sup> However, the EPA has and will attempt to override Superfund's "petroleum exclusion" wherever possible, especially where liability may be founded upon hazardous substances and or constituents which may be contained in petroleum, such as heavy metals or VOCs.<sup>114</sup>

The problem facing Congress is that as the oil and gas industry is abandoning exploration and subsequent production in the U.S.<sup>115</sup> and is moving to international exploration,<sup>116</sup> the base of oil and gas operators and royalty interest owners<sup>117</sup> has plummeted precipitously. Thus, many of the parties who actually contaminated the land, especially the small independents who could not afford to ride the oil patch's economic roller coaster, are no longer available to face the imposition of liability.<sup>118</sup> To be sure,

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with sulphur smell . . . Department of Mines & Minerals is doing record check in attempt to locate the well's operator." *Id.*

<sup>112</sup> Solid Waste Disposal Act § 3001, 42 U.S.C. § 6921 (b)(2)(A) (1988), which provides in pertinent part that "drilling fluids, produced waters, and other wastes associated with exploration, development, or production of crude oil or natural gas . . . shall be subject to State and Federal regulatory programs . . . in accordance with subparagraphs (B) and (C) of this paragraph." *Id.*

<sup>113</sup> See, e.g., UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, SCOPE OF THE CERCLA PETROLEUM EXCLUSION UNDER SECTION 101 (14) AND 104 (A)(2) (1987) [hereinafter EPA PETROLEUM EXCLUSION].

<sup>114</sup> E.g., *United States v. Alcan (Butler)*, 964 F.2d 252, 266 (3d Cir. 1992); telephone interview with Bill Rosen, EPA Region IV (Dec. 17, 1993); see also EPA PETROLEUM EXCLUSION, *supra* note 113, at 1.

<sup>115</sup> Allen R. Myerson, *Old Age Catches up with Oil Patch*, N.Y. TIMES, Dec. 5, 1993, § 3, at 1. "In April [1993], the national rig count reached the lowest point in 50 years of record-keeping . . . [F]rom Exxon on down to a Ma and-Pa operator . . . They're getting out of the country and going overseas." *Id.* at 6 (quoting Jay Spiller, a Texas independent oil operator).

<sup>116</sup> *Id.*

<sup>117</sup> A royalty interest is a percentage of production, usually paid in money to either a landowner, a lessee or any other party who purchases the interest. ROBERT D. LANGENKAMP, OIL BUSINESS FUNDAMENTALS 17 (1982).

<sup>118</sup> E.g., Louisiana has 130 sites on the CERCLIS "[a]ssociated with oil & gas exploration and production." Subra, *supra* note 106, at 31; "For each dollar decline in the price of oil—and prices have dropped \$4 in two months—Texas loses 17,000 jobs . . ." Myerson, *supra* note 115, at 6. Additionally, there are hundreds of orphaned and abandoned wells in California, Kentucky, Louisiana, Pennsylvania and Texas. Louisiana has 21,784 inactive oil and gas wells. Subra, *supra* note 106. Pennsylvania has approximately 554 orphaned wells—wells whose operators are unknown—and hundreds of wells abandoned by operators without plugging them. BUR. OF OIL AND GAS MANAGEMENT, PA. DEP'T OF ENVTL. RES., REVISED API NUMBER CODE INSTRUCTIONS (on file with the author).

the large multinational companies<sup>119</sup> remain profitable and viable. However, they will not be PRPs at every site, especially in states like Kentucky, New York, Pennsylvania and West Virginia. Thus, the proposal arises for "institutional controls" to *green* certain sites.

### B. Cleanup

The proposal for conservation easements and/or fee simple grants to conservancies is particularly appropriate for sites contaminated by oil and gas drilling and production wastes. It is true that many of these sites contain heavy metals, such as barium (from drilling muds), arsenic, and volatile organic compound (VOCs) such as benzene and toluene, all of which are actionable as hazardous substances or contaminants.<sup>120</sup> Nonetheless, many of these sites, from a cost-benefit analysis, pose little threat to human health and the environment because they are in rural agricultural settings, where populations are low. It was recently noted that "[the EPA's] spending is focused on relatively few sites and on complete, defensible cleanups at those sites, which are often, nonetheless, hotly debated. Many sites—both known and as yet undiscovered—remain largely unattended."<sup>121</sup>

The government's focus must be on those sites that pose high risk to human health and the environment, not on sites that the EPA has had on its books for over ten years, studied to death, and upon which it has only recently decided to focus. If these sites posed such a danger to human health and the environment, they would surely have been attended to years ago.

#### 1. Louisiana's Gulf Coast Vacuum Services<sup>122</sup>

This NPL site was initially brought to the EPA's attention on June 27, 1980 via a citizen's complaint. The EPA first began investigating the site in July 1980, conducting a series of studies

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<sup>119</sup> *E.g.*, Amoco, Atlantic Richfield, Chevron, Exxon, Mobil, Occidental, Shell, Sun, and Texaco.

<sup>120</sup> Each is listed by the EPA as a substance for which maximum concentration levels (MCLs) have been set under the Safe Drinking Water Act, 42 U.S.C. §§ 300f to 300j-11 (1988) and the 1986 NCP, as set forth in 40 C.F.R. § 300.-68(i) app. V(2).

<sup>121</sup> OTA REPORT, *supra* note 1, at 26.

<sup>122</sup> The entire discussion of this NPL site is taken from OFFICE OF EMERGENCY AND REMEDIAL RESPONSE. U.S. ENVTL. PROTECTION AGENCY. EPA/ROD/RO6-92/076, SUPERFUND RECORD OF DECISION: GULF COAST VACUUM SERVICES (OPERABLE UNIT 1),

through June of 1988 and placing the site on the NPL in March 1989.<sup>123</sup> In March of 1990, almost ten years after the site was first complained about, the EPA conducted the first of three removal actions. That operation was in response to “overflow from both the West Pit and Washout Pit . . . [as a result] of heavy rainfall in the area.”<sup>124</sup>

#### a. Site Characteristics

The site is twelve and eight-tenths acres in area and operated from 1969 to 1984.<sup>125</sup> The Record of Decision (ROD) describes the site as a “former vacuum truck and oil field plant in Vermilion Parish, Louisiana.”<sup>126</sup> The Gulf Coast Vacuum site is located approximately three and a half miles from the town of Abbeville and “is bounded to the north and west by pasture land and to the east and south by the D.L. Mud Superfund site and LeBoeuf Canal.”<sup>127</sup> Land use in the area is predominantly agricultural. There are ten residences within one-half mile of the site. Each residence utilizes the ground water from the underlying Chicot Aquifer for drinking and irrigation.<sup>128</sup> Some thirty-nine private wells are lo-

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LA (1992) [hereinafter GULF COAST ROD]. The site will hereinafter be referred to as “GULF COAST VACUUM.”

<sup>123</sup> *Id.* at 5.

As a result, an EPA Field Investigation Team (FIT) conducted a preliminary assessment and preliminary sampling inspection in July and September 1980, respectively. A more detailed sampling program was conducted by the EPA Technical Assistance Team (TAT) in July 1985. An Expanded Site Inspection (ESI) was performed in 1987 by the FIT. The site information and sampling data collected in the ESI were used to determine if the site posed a significant environmental and human health risk. The site was proposed for inclusion on the National Priorities List (NPL) in June 1988. In March 1989, pursuant to Section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended, (CERCLA), 42 U.S.C. 9605, and became qualified for investigation and remediation under CERCLA.

*Id.*

<sup>124</sup> *Id.*

<sup>125</sup> The GULF COAST ROD states, in the summary and abstract, that the site operated between 1969 and 1980. However, under site history, the ROD states that the site operated until 1984. GULF COAST ROD, *supra* note 122, at 4.

<sup>126</sup> *Id.* at i (abstract).

<sup>127</sup> *Id.* at 1.

<sup>128</sup> The Chicot Aquifer underlies most of southeastern Louisiana. It “consists of a coarsening downward sequence of clays, silts, sands and gravels . . . . Locally, the Upper Chicot Aquifer has been subdivided further [into 2 units] . . . . The [upper] Abbeville Unit [consists] . . . of fine to sandy silt at the top and grades downward within a few tens of feet into sand and gravel . . . .” *Id.* at 9.

cated in the vicinity of the site, with only twenty wells being used for any type of domestic water supply.<sup>129</sup> The site contains "two open waste pits, specifically, the Washout Pit and West Pit, and two vegetated areas, known as the Former West Pit."<sup>130</sup> Both organic and inorganic contaminants are limited to the upper twenty to thirty feet beneath the site.<sup>131</sup> None of the contaminants, which include benzene, PCBs, arsenic, and barium all above the MCL action level, were found below that depth.<sup>132</sup> Residential well depths in the area "typically range from eighty to [two hundred thirty] feet below surface."<sup>133</sup> Upon testing of four residential wells adjacent to the site, ranging in depth from eighty feet deep to one hundred five feet deep, the EPA did not detect any site related contaminants. Furthermore, site related contaminants were not detected in any of the irrigation wells tested.<sup>134</sup> The geologic horizon containing the contaminants is separated from the drinking water source by silt, clay, and impermeable rocks, and therefore, the EPA found no vertical migration down into the aquifer.<sup>135</sup> Of greater import is the fact that in its "exposure assessment" the EPA found that "[t]he current potential use of the groundwater is for drinking water purposes as well as for irrigation. Although the upper units of Chicot Aquifer identified at the site do not have an official classification, *the ground water is considered suitable for drinking water purposes.*"<sup>136</sup>

Air monitoring conducted during August of 1991 found that there was no release of VOCs from undisturbed soil and "low levels" from disturbed soils.<sup>137</sup> The selected remedy as set out in the ROD will cost \$13,026,000 (in present dollars), which incorporates annual operational and maintenance costs of \$18,050 for thirty years.<sup>138</sup>

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<sup>129</sup> *Id.* at 4.

<sup>130</sup> *Id.* at i (abstract).

<sup>131</sup> GULF COAST ROD, *supra* note 22, at 9.

<sup>132</sup> *Id.* at 19.

<sup>133</sup> *Id.* at 19-21.

<sup>134</sup> *Id.* at 9, 12.

<sup>135</sup> *Id.* at 21.

<sup>136</sup> *Id.* at 23.

<sup>137</sup> GULF COAST ROD, *supra* note 22, at 27-28.

<sup>138</sup> *Id.* at iii (Abstract). Given the EPA's 13-year involvement with the site, this author is alarmed that EPA's economists would set a 30-year remedy using the present cost of money, as opposed to projecting costs which include inflation, future cost of labor, etc.

### The remedy

includes consolidation and onsite incineration of approximately 12,000 cubic yards of organic and inorganic contaminated waste pit sludge and 7,950 cubic yards of associated soil, 12,000 gallons of [underground storage tank and above ground storage tank] contents, and 155 cubic yards of tank sludge, followed by stabilization/solidification of the residual ash, if necessary; stabilizing and solidifying onsite approximately 18,900 cubic yards of site inorganic-contaminated soil, and 600 cubic yards of surface sediment; disposing of all of these residuals in an onsite excavation and covering the area with a clay cover; allowing the ground water to naturally attenuate; and monitoring ground water in the upper and lower aquifers.<sup>139</sup>

### b. PRP Involvement

Gulf Coast Vacuum was the last in a line of five owner-operators of drilling mud or service companies. It declared bankruptcy in 1984. In 1988 the EPA identified 370 PRPs. During December 1989 the Agency issued Special Notice Letters to 153 PRPs.<sup>140</sup> None of the PRPs joined in the RI/FS. Thus, the Superfund had to be tapped to cover the cost of the EPA's studies and inaction until the heavy rains which flooded the pits caused an emergency removal action in 1990.<sup>141</sup> Had Congress adopted the proposal suggested herein, this site would have been off of the NPL and millions of dollars projected for this site would have been available to remedy a site posing actual, not potential, harm to human health and the environment.

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<sup>139</sup> *Id.*

<sup>140</sup> *Id.* at 4-5.

<sup>141</sup> *Id.*

c. The Remedy Is Demeaning to CERCLA's Scheme

The remedy suggested above<sup>142</sup> is laudable, but only if the site endangers public health or the environment. However, the EPA does not make that case in the ROD. Other than removal of buried tanks and pit contents, the major concern outlined by the Agency is surface or pit runoff.<sup>143</sup> This runoff can be prevented by stabilizing the site and planting it over with indigenous plants and trees, such as live oaks, shrubs, grasses, and so forth. According to the ROD, the site already supports vegetation.<sup>144</sup> Planting indigenous flora is far cheaper and more appropriate than capping the site in order to impede site runoff. Moreover, a floral cover would also halt runoff of soils, which would most likely contain pollutants from the site.<sup>145</sup> Thus, the site would be relieved from the ugly asphalt, concrete or clay capping that the EPA and its consulting engineers would prefer. We as a nation have paid a heavy toll for the legacy of "engineering" Mother Nature. Other examples of unsuccessful attempts to control nature include: the floods of the summer of 1993, caused by "engineering" the Mississippi River; and the diversion of sediment from the Mississippi River south of New Orleans with the subsequent starvation of the area's wetlands.

As pointed out above, the ROD states that none of the drinking water or irrigation wells tested by the EPA contained a trace of on-site contaminants. The site's geology, as outlined in the ROD, demonstrates that there is no vertical migration of contami-

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<sup>142</sup> See note 132 and accompanying text. "Remedy" or "remedial action" is defined as CERCLA § 101, 42 U.S.C. § 9601(24) (1988) as "those actions consistent with permanent remedy taken instead of or in addition to removal actions in the event of a release or threatened release . . . The term includes, but is not limited to, such actions at the location of the release as storage, confinement, perimeter protection using dikes, trenches, ditches . . ." 42 U.S.C. § 9601(24).

<sup>143</sup> GULF COAST ROD, *supra* note 122, at 4, 8, 18.

<sup>144</sup> *Id.* at 1.

<sup>145</sup> Ben W. Breedlove et al., *Creation of an Urban Wildlife Sanctuary*, in URBAN WETLANDS: PROCEEDINGS OF THE NATIONAL WETLAND SYMPOSIUM 214 (Jon A. Kusler et al. eds., 1988); John C. Ellsworth, *Assessing Wetland Visual Quality: Comparative Approaches and Management Implications*, in URBAN WETLANDS: PROCEEDINGS OF THE NATIONAL WETLAND SYMPOSIUM 97 (Jon A. Kusler et al. eds., 1988); Jon A. Kusler, *Urban Wetlands and Urban Riparian Habitat: Battleground or Creative Challenging for the 1990's*, in URBAN WETLANDS: PROCEEDINGS OF THE NATIONAL WETLAND SYMPOSIUM 2 (Jon A. Kusler et al. eds., 1988); Richard C. Smardon, *Aesthetic, Recreational, Landscape Values in Urban Wetlands*, in URBAN WETLANDS: PROCEEDINGS OF THE NATIONAL WETLAND SYMPOSIUM 92 (Jon A. Kusler et al. eds., 1988).

nants into the aquifer supplying these wells.<sup>146</sup> Furthermore, the surficial groundwater horizon, the Perched Unit, "was found to have only a limited areal extent [on the site]" even though it "has been impacted by [metals]."<sup>147</sup>

The Agency has, thus far, undertaken three removal actions as a consequence of the rainwater-overfilled pits. At this juncture, the EPA proposes only an "interim action [which] will include another pump and treatment of the accumulated rainwater, much like the three [previous] removal actions . . ." <sup>148</sup> Further interim action will include excavation and consolidation of the pits.<sup>149</sup> Had EPA undertaken cleanup of the pits initially and vegetated the site, the \$13 million-plus remedy proposed by the ROD would not have been necessary. Once administration of the bankrupt estate was completed, the site could have been turned over to a conservancy for revegetation and maintenance. Additionally, the PRPs may have joined in this remedy rather than rebuffed the EPA's entreaties. Now the EPA will most likely institute a cost recovery action against the PRPs, further stretching its resources and burdening the judicial system. The institutional remedy would have been cheaper, faster and more efficient, not to mention aesthetically pleasing and *permanent*.

## 2. PAB Oil and Chemical Services, Inc., Louisiana<sup>150</sup>

This site, as is noted above, is adjacent to and very similar to the Gulf Coast Mud Site. It too was listed on the NPL in 1989 as a result of a citizen's complaint in June of 1980. Although the site's operational history is somewhat different, environmental impacts of its contaminants are very similar, with the caveat that this site tested positive at two sampling locations for Aroclor 1260, a PCB, in the sludges collected from a pit in the northeast

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<sup>146</sup> GULF COAST ROD, *supra* note 122, at 21. "The Lower Aquifer Unit [found at depths greater than 80 feet] does not appear to have been impacted by the Gulf Coast site." *Id.*

<sup>147</sup> *Id.* at 19. For a full discussion of the risk factors involved at this site, see notes 125-138 and accompanying text.

<sup>148</sup> *Id.* at 7.

<sup>149</sup> *Id.*

<sup>150</sup> The discussion and excerpts for this site are taken from the site's Record Of Decision, which was signed on September 22, 1993. U.S. ENVIRONMENTAL PROTECTION AGENCY, RECORD OF DECISION FOR PAB OIL AND CHEMICAL-SERVICES, INC. SITE, VERMILLION PARISH, LOUISIANA (1993) [hereinafter PAB ROD].



corner of the site.<sup>151</sup> Furthermore, dioxins and a furan appeared in the sludges of three of the site's pits.<sup>152</sup> Moreover, pesticides and arsenic were found at the site. However, the EPA attributes the incidence of the pesticides to local agricultural activities and the arsenic as "naturally occurring . . . in the ground water . . ."<sup>153</sup> No PCBs or dioxins were detected in the pit sediments or in off-site surface soils. Additionally, no contaminants were found on the outside of the berms surrounding the pits.<sup>154</sup>

This site, like the Gulf Coast Mud Site, was also studied throughout the 1980's. The Remedial Investigation (RI) was completed on October 31, 1991. "The RI Report was finalized in January 1993."<sup>155</sup> An emergency removal action was conducted by a number of the PRPs in February 1992. This site is also located in a rural agricultural area, with the surrounding properties' use being limited to livestock grazing and crop production.<sup>156</sup> The site is 16.7 acres in size.<sup>157</sup> Its geology and hydrology are very similar to that of the Gulf Coast Mud Site. For brevity's sake, the reader is referred to the ROD for a complete site history and characteristics.

The three pits are underlain with a layer of clay at approximately 15 feet from the surface. Groundwater was encountered at 30 feet below the surface again in the Chicot Aquifer. The EPA found "no significant, positively identified contaminant trends . . . [in] groundwater samples [from] wells screened at 30 feet to 40 feet."<sup>158</sup> However, there were localized elevated levels of some metals, including barium, chromium and lead. Some of these metals were above their MCL, such as chromium, lead and nickel.<sup>159</sup>

Ten residential water supply wells were sampled. None were impacted by contaminants from the PAB Site.<sup>160</sup> There were also "no significant levels of contaminants in the air."<sup>161</sup> Exposure

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<sup>151</sup> *Id.* at 10.

<sup>152</sup> *Id.* at 11.

<sup>153</sup> *Id.* at 8-9.

<sup>154</sup> *Id.* at 12.

<sup>155</sup> *Id.* at 3.

<sup>156</sup> PAB ROD, *supra* note 150, at 1.

<sup>157</sup> *Id.*

<sup>158</sup> *Id.* at 16.

<sup>159</sup> *Id.*

<sup>160</sup> *Id.* at 17.

<sup>161</sup> *Id.*

risks<sup>162</sup> were considered for trespassers, potential residents of the site, residents growing vegetables on the site, fish swimming in a brine pit which is scheduled to be remediated, and small mammals.

It is interesting to note that from 1976 to 1992, the date of initial operation through the final phase of the RI, no contaminants had impacted the groundwater. However, the EPA considers this pathway "a potential route of contaminant migration."<sup>163</sup> If the Agency were to cleanup the site within the next few months, no such "potential" would exist. Additionally, if the site was fenced, vegetated and maintained by a local conservancy, the "potential" for trespassers would be extremely diminished. Furthermore, there will be no impact on fish if the brine pit is remediated. At this juncture, there is no off site runoff impacting the surrounding area. Therefore, no pathway exists which could poison adjacent land. However, even if such runoff took place, a berm or dike surrounding the site would solve this problem. Such a remedy is in accord with CERCLA's express language.<sup>164</sup> The remedy for this site is scheduled for thirty years, at a cost of over \$30 million in present dollars. Additionally, no person in the community would either live on the site, grow vegetables, or graze beef in the soil unless the site was "certified" clean.<sup>165</sup> Why does the EPA waste taxpayers money by evaluating these "non-risks"? Finally, the EPA's analysis suggests that the only risks to any mammals *may* be to rabbits who ingest barium. However, "[h]igher trophic level organisms that may feed on rabbits . . . are unlikely to experience adverse effects from exposure to barium."<sup>166</sup> So why all the effort at this site?

One of the most disheartening features of the CERCLA process is that the EPA in the ROD prides itself in meeting Congress' mandate of keeping the local public in "the loop" of the

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<sup>162</sup> The risk exposures at this site are the same ones that were evaluated for the Gulf Coast Mud Site.

<sup>163</sup> PAB ROD, *supra* note 150, at 17.

<sup>164</sup> CERCLA § 101, 42 U.S.C. § 9601(24) (1988).

<sup>165</sup> See PAB ROD, *supra* note 150, at 19-20 (exposure pathways).

<sup>166</sup> *Id.* at 24. Additionally, the ROD in the "Environmental Assessment" section states that "[n]o rare, threatened or endangered species are associated with the site and nearby areas. Local species of wildlife of minor recreational importance and migratory waterfowl are the only ecological resources of potential significance associated with this site . . . ." *Id.*

Superfund's drill.<sup>167</sup> However, when the area's citizens during the community involvement phase raised less costly nonengineered remedies, e.g., planting native wetland plants "in the former saltwater pit area after cleanup," the comments were rebuffed and for the most part buttressed with the standard EPA engineering babble.<sup>168</sup> Were the community, or any third party, to contest the EPA's remedy, that challenge would most likely be dismissed under the Supreme Court's rules of *Chevron* and *Citizens to Preserve Overton Park*.<sup>169</sup> This type of Agency thinking is in keeping with the OTA's observations that a whole new consulting industry has been born out of Superfund<sup>170</sup> and its findings that "about 50 percent of cleanups address *speculative risks* which preempts spending to identify and reduce current risks at many other sites."<sup>171</sup>

### 3. J&B Refining and Southern Tanks, Inc., Oklahoma

These two adjacent sites were recently listed on the CERCLIS. They contain similar contaminants as the Gulf Coast Mud and PAB Sites. However, these sites have not been fully evalu-

<sup>167</sup> See, e.g., *id.* at 4.

<sup>168</sup> The full comment and response follow:

1. *COMMENT*: One commentator suggested that native wetland plants be planted in the former saltwater pit area after cleanup. The purpose of the wetland would be to provide a good salt tolerant vegetative cover, absorb any toxic elements that might reappear in the future and act as a "monitor" or "warning sign" for future use.

*RESPONSE*: The selected remedy proposes that all areas that could potentially contain high concentrations of toxic elements or salinity will be addressed through active treatment, thus eliminating the need for wetland plants to absorb such elements in the future. Local topsoil which can support conventional vegetative growth will be placed on the *clay cap covering* the treated residuals. *An extensive O&M [operations and maintenance] plan will be developed and implemented with the main purpose to monitor and ensure that the remedy remains fully protective.*

RESPONSIVENESS SUMMARY FOR THE PAB OIL SUPERFUND SITE RECORD OF DECISION AT 3-4 (emphasis supplied)[hereinafter SUMMARY] (on file with the author); see also, Comment 9 regarding modelling of a chloride plume when "the presence of a chloride plume was not confirmed by the RI data . . ." SUMMARY at 8.

<sup>169</sup> *Chevron, U.S.A. v. NRDC*, 467 U.S. 837 (1984) (citations omitted) (holding courts will defer to agency expertise, where it is a reasonable interpretation of Congress' intent because these are political questions which the judiciary will not delve into) (citing *TVA v. Hill*, 437 U.S. 153, 195 (1978)); and *Citizens to Preserve Overton Park v. Volpe*, 401 U.S. 402, 408-10 (1971) (Where agency has record to support its decision court will not interfere).

<sup>170</sup> See e.g., *supra* note 13 and accompanying text.

<sup>171</sup> See *supra* note 41 and accompanying text.

ated. The area surrounding the two sites is rural and quiet, similar in character to the two sites in Louisiana. One interesting point is that the concentration of the metals cadmium, lead and zinc were found to be at "normal background levels."<sup>172</sup> Before the government spends a great deal of money on studies at these two sites, it should evaluate them for institutional controls, including deed restrictions.

### CONCLUSION

But it is Superfund's environmental mission which is its reason for being, and environmental and community groups work hard to keep attention focused on that mission. *Stressing non-environmental goals (e.g., numbers of cleanup decisions and actions, dollars obtained from responsible parties) polarizes environmental and community interests against those of industry and government, and it encourages EPA officials to lose sight of their mission.*<sup>173</sup>

The EPA currently has over 39,000 sites on the CERCLIS. That number will surely rise. Many of these sites have been on the EPA's books for more than ten years without any remediation effort being undertaken. Yes, the EPA can show reams of volumes of studies, but studies do not equal cleanups. Many of the sites will not need the massive cleanup efforts that the EPA, guided by its contractors, has proposed. Congress has in the past commanded the EPA to meet mandated actions. For example, frustrated by the executive branch's footdragging and stalling tactics regarding the control of hazardous and solid waste, Congress provided hard-hammer deadlines to the EPA in its 1984 amendments to the Resource Conservation and Recovery Act.<sup>174</sup>

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<sup>172</sup> OKLAHOMA DEPT. OF HEALTH PRELIMINARY ASSESSMENT OF SOUTHERN TANKS, INC. at 7 (1993).

<sup>173</sup> OTA REPORT, *supra* note 1, at 27 (emphasis supplied).

<sup>174</sup> See e.g., Hazardous and Solid Waste Disposal Act's § 3004 (d), (e), (f), (g) and (h), 42 U.S.C. § 6924 (d), (e), (f), (g) and (h) (1988); see also William L. Rosbe & Robert Gulley, *The Hazardous and Solid Waste Amendments of 1984: A Dramatic Overhaul of the Way America Manages Its Hazardous Waste*, 14 ENVTL L. REP. (ENVT. L. INST.) 10,458 (Dec. 1984); 54 Fed. Reg. 26,594 (1989) (to be codified at 40 C.F.R. pt. 300).

With the current engineering solutions not showing much success,<sup>175</sup> Congress in its third time up at bat with CERCLA must begin to look at institutional controls, such as granting conservation easements upon which local and/or national conservancies and land trusts will plant indigenous flora. Thus, the earth we have soiled will begin to heal itself. Additional measures could include deed restrictions on fee simple grants from PRP owners and maintenance funds or future monies being placed in an escrow account dedicated specifically to each site. Furthermore, Congress must limit liability to these land trusts so that they will take on the awesome responsibility for caring for these sites.

Institutional controls are especially appropriate for oil and gas sites which contain drilling muds, workover fluids, and salt water pumped up with the hydrocarbons. Sites in rural areas pose less actual harm, relative to the many sites which are currently on the NPL, and institutional controls would be an appropriate cleanup remedy. This solution is also appropriate for inner-city properties, especially those that are on city water and will likely never use groundwater for any purpose whatsoever. These solutions will be more cost effective, freeing up monies to deal with the worst sites and making cleanup permanent.

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<sup>175</sup> At the Petro-Processors Superfund site, the EPA has proposed and a Judge has approved a 300-year pump and treat cleanup remedy. Telephone interview with David Weeks, EPA Region VI Superfund Branch (Dec. 22, 1992).