

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
BOARD OF REGISTRATION OF
HAZARDOUS WASTE SITE CLEANUP PROFESSIONALS

In the Matter of:)
)
)

James J. Decoulos,)
Respondent)
)
)

Docket No.: LSP-10AP-01

AFFIDAVIT OF JOHN FITZGERALD

I, John Fitzgerald, under the pains and penalties of perjury, state that I am the John Fitzgerald whose prepared direct testimony is attached to this affidavit. I further state that, if asked the questions contained in the text of such testimony, I would give the answers that are set forth in the text of such testimony. I adopt the aforesaid answers as my direct testimony in this proceeding.

Signed under the pains and penalties of perjury this 25th day of August, 2010.

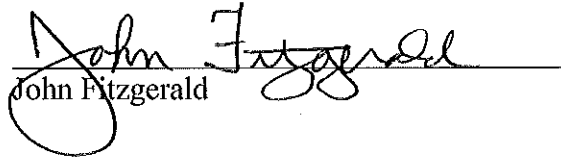

John Fitzgerald

Exhibit B-8

**COMMONWEALTH OF MASSACHUSETTS
BOARD OF REGISTRATION OF HAZARDOUS WASTE SITE
CLEANUP PROFESSIONALS
before the
OFFICE OF APPEALS AND DISPUTE RESOLUTION**

In the Matter of James J. Decoulos

Docket No. 10 AP 01

**Prepared Direct Testimony of
John Fitzgerald
Witness in support of the Initial Determination of the
Board of Registration of Hazardous Waste Site Cleanup Professionals**

1 **Q. Please state your name and business address.**

2 A. My name is John Fitzgerald and my business address is the Department of
3 Environmental Protection, Northeast Regional Office, 205B Lowell Street, Wilmington,
4 MA 01887.

5

6 **Q. By whom are you employed?**

7 A. I am employed by the Massachusetts Department of Environmental
8 Protection (“DEP”) as an Environmental Engineer. I have been in my current position
9 since 2006. I have worked at DEP since 1980, and have focused on the assessment and
10 cleanup of contaminated sites since 1981. In that time period, I have been involved in the
11 development and/or review of most regulatory and technical work products issued by the
12 agency in the area of waste site cleanup. I am a co-author of the Massachusetts
13 Contingency Plan (MCP; 310 CMR 40.0000), and the author of a number of DEP
14 technical guidance documents. In my career, I have also reviewed assessment and
15 remediation reports for well over 1000 sites.

1

2 **Q. Are you sponsoring any exhibits in addition to your direct testimony?**

3

4 A. Yes. I am sponsoring Exhibits B-9 through B-12.

5

6 **Q. Please describe your educational and professional background prior**
7 **to your current position at DEP.**

8 A. I received a BS degree in Civil Engineering from the University of
9 Massachusetts Lowell in 1979, and an MS degree in Civil Engineering from the
10 University of Massachusetts Lowell in 1987. As part of my graduate studies, I completed
11 a research project and thesis on the testing of petroleum contaminated soils using a jar
12 headspace technique and Photoionization Detector ("PID"). This research has been
13 referenced and used by a number of regulatory agencies in the United States and Canada,
14 and was the basis of the DEP Jar Headspace Procedure, which I developed in the late
15 1980s.

16 Please see my attached resume, Exhibit B-9, for additional details regarding my
17 educational and professional background.

18

19 **Q. Please describe your job duties in your position as an Environmental**
20 **Engineer in the Northeast Regional Office.**

21 A. Reporting directly to the Regional Director, I work on complex cases and
22 projects, on both a regional and state-wide scale. For the last several years, I have
23 devoted a significant amount of time and effort to develop and lead the department's
24 "Field Assessment and Support Team" (FAST), a multi-disciplinary group of agency

1 scientists and engineers that respond 24/7 to major oil/chemical spills and/or pollution
2 events.

3 Distinct from my operational role and experience is my work on Bureau of Waste
4 Site Cleanup (“BWSC”) technical initiatives and guidance documents, which started in
5 1991 with my authorship of *Policy for the Investigation, Assessment, and Remediation of*
6 *Petroleum Releases* (DEP Publication #WSC-401-91). In 1995, I co-authored two draft
7 publications: *Method for the Determination of Volatile Petroleum Hydrocarbons* and
8 *Method for the Determination of Extractable Petroleum Hydrocarbons*, which were later
9 revised and issued as final methods in January 1998. In 1996, I was the co-author of *An*
10 *Evaluation of Vapor Intrusion into Buildings Through the Study of Field Data*, which has
11 been cited nationally, and significantly influenced subsequent agency regulations and
12 publications relating to the vapor intrusion pathway, including the 2002 Final Policy
13 document, *Characterizing Risks Posed by Petroleum Contaminated Sites:*
14 *Implementation of the MADEP VPH/EPH Approach* (“2002 Final VPH/EPH Policy”).

15
16 **Q. Please describe the 2001 draft document entitled “Characterizing**
17 **Risks posed by Petroleum Contaminated Sites: Implementation of MADEP**
18 **VPH/EPH Approach, Final Draft, June 2001,” also known as the “2001 Final Draft**
19 **VPH/EPH Policy.”**

20 A. This document, which was issued in June 2001, was an update of a draft
21 document issued in 1997, and precursor to the “Final Policy” issued on October 31, 2002.
22 A copy of the 2001 Final Draft VPH/EPH Policy is attached as Exhibit B-10. This policy
23 provides guidance on how to use and apply a new approach and set of cleanup standards
24 developed by DEP to characterize risks posed by releases of petroleum products to the

1 environment. This approach is based upon the evaluation of collective ranges of aliphatic
2 and aromatic hydrocarbons, using analytical methods developed by DEP that quantitate
3 Volatile Petroleum Hydrocarbons (“VPH”) and Extractable Petroleum Hydrocarbons
4 (“EPH”).

5 The Policy provides a comprehensive overview of the theory and application of
6 the DEP approach, which has subsequently been used, in whole or part, by a number of
7 other states, EPA Regional offices, as well as internationally. In addition to providing
8 guidance on the unique toxicological and analytical concepts embodied in the DEP
9 approach, the document also provides significant guidance and “Rules of Thumb” on site
10 assessment procedures, including the investigation and assessment of vapor intrusion
11 pathways.

12
13 **Q. What was your role in developing the 2001 Final Draft VPH/EPH**
14 **Policy?**

15 A. I developed and authored the 2001 Final Draft VPH/EPH Policy.
16

17 **Q. Is Exhibit B-11 an accurate copy of MCP sections 310 CMR 40.0191,**
18 **40.0904, 40.0926, 40.0973, 40.0982-40.0983, 40.0986 and 40.1003 that were in effect**
19 **from 10/29/1999 until 6/27/2003, during which Mr. Decoulos submitted his June 14,**
20 **2002 RAO opinion on behalf of Speedy Lube, Inc.?**

21 A. Yes.
22

1 **Q. What, if any documents have you reviewed in developing your**
2 **testimony?**

3 A. I have reviewed “Response Action Outcome, Prepared for: Speedy Lube,
4 Inc., 633 North Main Street, Randolph, MA, Prepared by: Decoulos & Company, Date:
5 June 14, 2002,” Exhibit B-55, and the document by the same name dated June 18, 2004,
6 Exhibit B-58, and associated documentation.

7
8 **Q. What was your overall opinion on the scope and conclusions of the**
9 **2002 RAO report?**

10 A. Insufficient assessment was conducted to adequately determine the nature
11 and extent of groundwater and soil gas contamination. The limited data that were
12 obtained were unclearly and improperly evaluated, in a manner contrary to the
13 requirements of the MCP, and in a manner inconsistent with cited DEP guidance
14 documents.

15 Insufficient detail was provided in the RAO report, which preferably should be a
16 “stand alone” document, but must at least provide specific references from previous or
17 other reports if needed to support conclusions and opinions.

18 Finally, insufficient discussion and justification was provided on important
19 assessment components and conclusions. Misstatements and inappropriate actions
20 suggest a lack of understanding of important scientific principles and regulatory
21 provisions, and/or lack of sufficient diligence.

22

1 **Q. Do you believe that potential source areas of contamination were**
2 **properly indentified and evaluated?**

3 A. No. There is inadequate discussion and consideration of potential
4 petroleum release sources in the RAO Report. Mention is made of three underground
5 storage tanks that were removed from the site in 1997, which triggered a release reporting
6 obligation under the MCP. However, there is no information on where these tanks were
7 located, or the nature or apparent extent of encountered contamination. As such, it is not
8 possible to ascertain whether the number and placement of groundwater wells and soil
9 gas monitoring probes is adequate. However, it is noted that there is no groundwater
10 quality data directly north of the current 12,000 gallon underground storage tank (UST),
11 between the UST and the nearby on-site building, even though the report concludes that
12 groundwater flow is to the north. Moreover, there is no groundwater data east of the
13 UST, toward residential buildings, even though there is a possibility that groundwater
14 flow is in this direction.

15
16 **Q. Do you believe that groundwater flow direction was adequately**
17 **established?**

18 A. No. The RAO concluded that groundwater flow was towards the
19 north/northwest, based upon measurements of groundwater elevation in four wells
20 (DMW-1 through DMW-4). Even though these wells were sampled on a number of
21 occasions by Decoulos and Company, groundwater elevation measurements were made
22 only one time, on 5/10/02.

1 These four wells are not located in optimal locations to make conclusions on flow
2 direction (i.e., they are not in a triangular pattern). Given the head measurements
3 provided, it is possible to draw groundwater table contours that show a flow direction to
4 the northeast – toward Orchard Street and residential structures. On the basis of regional
5 topography, the site appears to be on a surface water divide, with flow potentially
6 towards the west, north, or east. This suggests that groundwater flow in any of these
7 directions would not be unexpected. Moreover, and as noted in the RAO document(s),
8 “local groundwater flow direction will likely be influenced by surface and subsurface
9 structures and utilities in and adjacent to the site”.

10 Given such site and topographical complexities, along with limitations in spatial
11 and temporal head measurements, insufficient documentation is provided in the RAO
12 report to determine the groundwater flow direction. Ambiguities in this regard are
13 particularly problematic at this site, given the lack of any groundwater quality data
14 easterly/northeasterly of two possible sources of gasoline releases at the site (i.e., the
15 12,000 gallon underground storage tank and pump island).

16 Figures in the reports identify additional monitoring wells (e.g., MW-1 through
17 MW-4), that were presumably installed in the past by another LSP. Perhaps data from
18 these wells could help provide clarification in this matter. However, no such data were
19 presented or discussed.

20
21 **Q. In your opinion, was the possible presence of Light Non-Aqueous**
22 **Phase Liquids (LNAPL) adequately evaluated?**

23 A. No. The presence of subsurface LNAPL at petroleum sites is a major

1 concern, with respect to the mass of hydrocarbons present in the environment, as a source
2 of groundwater contamination, and as a source of subsurface hydrocarbon vapors. Such
3 concerns are presented and discussed in the 2001 Final Draft VPH/EPH Policy.
4 However, on the basis of what is provided in the RAO reports, *it is not clear that LNAPL*
5 *was ever looked for or evaluated by the LSP at this site.*

6 It appears that the only time the wells were gauged by the LSP was on 5/10/02,
7 when an “Environmental Instruments groundwater interface probe” was used to measure
8 the depth to groundwater. There is no indication that this probe could detect LNAPL, nor
9 was any mention made of other identification techniques, such as the use of a bailer.

10 There are notations of a “slight sheen” on the water sampled from DMW-2 (on
11 5/10/02). However, it appears that all of the wells were sampled by use of a peristaltic
12 pump and polyethylene tubing. There is no mention made of where the tubing was
13 placed in the well/saturated zone, but it presumably was placed below the water table
14 elevation. As such, it would not necessarily withdraw LNAPL even if it was present in
15 the well. For each subsequent round of sampling, it appears that the polyethylene tubing
16 in each well was sampled in a similar manner.

17
18 **Q. Based upon your review of the 2002 RAO report, do you have any**
19 **other concerns about the adequacy of site characterization data?**

20 **A.** Yes. The RAO reports indicate that groundwater samples from the
21 monitoring wells (DMW-1 through DMW-4; MW-3R) were filtered with a 0.45 micron
22 filter. This was done because of the turbid nature of the groundwater samples; a problem
23 generally attributable to poor well installation, development, and/or sampling procedures.

1 Data from samples obtained in such a manner may be biased low, and result in an under-
2 quantification of risks. This concern is specifically addressed (in bold font) in the 2001
3 Final Draft VPH/EPH Policy, at the end of Section 5.1.3: **“Because of the potential to**
4 **produce a false-negative/bias, all site investigations that rely upon data obtained**
5 **from filtered groundwater samples must include an adequate discussion and**
6 **justification for using such techniques.”** No such discussion was provided in the RAO
7 documents.

8
9 **Q. Based on your review of Mr. Decoulos’s 2002 RAO for the Randolph**
10 **Site, did Mr. Decoulos rely upon the MassDEP guidance document, 2001 Final Draft**
11 **VPH/EPH Policy relative to the risk characterization?**

12 A. Statements were made in the report referencing use of the Final Draft,
13 though in a number of cases the Policy was misapplied.

14
15 **Q. Please Explain:**

16 A. In addition to the previous discussion on LNAPL gauging and
17 groundwater filtering, a major deviation from the policy is evident in the approach used
18 to conduct the risk characterization. On page 15 of the 2002 RAO report, under “6.0
19 Risk Characterization”, notation is made that the Method 2 characterization conducted for
20 the site “included modification of selected Method 1 Standards according to procedures
21 outlined in MADEP, Characterizing Risks posed by Petroleum Contaminated Sites:
22 Implementation of MADEP VPH/EPH Approach, Final Draft, June, 2001.” This

1 assertion was repeated in Section 6.8, though footnotes in Tables 4 and 5 referenced the
2 earlier 1997 draft of this policy.

3 While the calculation of a modified GW-2 standard is allowed by the MCP, it is
4 not addressed in any version of the VPH/EPH Policy. Specifically, per the MCP at
5 40.0982(3)(c) (Exhibit B-11): *“Site-specific information may be used to either modify the*
6 *MCP Method 1 GW-2 Standards, which model potential volatilization of oil and/or*
7 *hazardous material to indoor air, or to demonstrate that such vapor infiltration will not*
8 *occur. The incorporation of such site-specific information will result in MCP Method 2*
9 *GW-2 Standards or a determination that one or more Method 1 GW-2 standard is not*
10 *applicable at this site. These site-specific modifications are described in 310 CMR*
11 *40.0986.”* The approach taken in the VPH/EPH policy concerns the latter of the two
12 methodologies cited above, i.e., a demonstration that vapor infiltration will not occur.

13
14 **Q. Are parties required to use and conform to DEP policies, such as the**
15 **VPH/EPH policy?**

16 **A.** No. Parties are not required to comply with any policy or technical
17 guidance document issued by the agency. The MCP, which governs the cleanup of
18 contaminated sites in Massachusetts, is a performance-based regulation. While the MCP
19 sets standards for what must be done (e.g., evaluate all contaminant transport pathways
20 and exposures), it doesn’t “micro-manage” how to achieve the standard. Nevertheless, in
21 recognition of the complexities of the site assessment process, DEP publishes guidance
22 documents and policies that provide general education, as well as “one way” to achieve
23 compliance with the broad MCP performance standards. These documents are developed

1 in consultation with the regulated and LSP communities (e.g., via workgroups and/or
2 public comment processes), and as such typically receive wide acceptance and use.

3 While it is acceptable for an LSP to deviate from a recommended technique and
4 practice, per 310 CMR 40.0191(2)(a), Exhibit B-11, it is unacceptable for a practicing
5 LSP to be unaware of concepts and procedures presented in agency guidance documents.
6 It is also unacceptable to assert or infer use of a policy, and then not follow its provisions
7 as written.

8
9 **Q. Does the 2001 Final Draft VPH/EPH Policy discuss recommended soil**
10 **gas probe locations?**

11 A. Yes. In Section 4.2.1.1. of the 2001 Final Draft, a recommendation is
12 made to install at least one or two soil gas sampling probes beneath the building where
13 vapor intrusion is of concern, e.g., through the concrete floor slab.

14
15 **Q. Why are the locations of soil gas probes important to performing a**
16 **Method 2 Risk Characterization?**

17 A. The objective of such an assessment is to evaluate whether subsurface
18 vapors are discharging into an overlying structure. The most direct and accurate means
19 to evaluate such a concern is to determine the concentration of subsurface vapors
20 immediately beneath the footprint of the structure of interest. This is optimal not only
21 because of proximity, but also because negative pressure fields (which “pull” vapors into
22 buildings) are strongest nearest the structure, and because the concentration of subsurface
23 gases outside the footprint of the structure can be biased low, due to such factors as the

1 infiltration of rainfall and snowmelt, which can displace and re-solubilize volatile
2 hydrocarbons present in pore spaces.

3

4 **Q. Based on your review of Mr. Decoulos's 2002 RAO for the Randolph**
5 **Site, were the soil gas probe locations consistent with the 2001 Final Draft**
6 **VPH/EPH Policy or otherwise consistent with scientifically acceptable risk**
7 **assessment practices?**

8 A. No. At this site, the LSP chose to install soil gas probes outside of
9 the structure, with no reason given as to why they could not have been installed within
10 the building, and no discussion of potential negative biases.

11 Moreover, the 2001 Policy specified that "if probes cannot be installed within the
12 footprint of the structure, install soil gas sampling probes along the perimeter of the
13 building, as close as possible to the structure. Locations beneath pavement or other
14 impervious surfaces are preferred to obtain representative conditions." Even if one
15 assumes there was a valid reason why probes could not have been installed within the
16 footprint of the structure, and while it appears that these probes were installed in paved
17 areas, it is not clear why they were installed 5 to 10 feet from the building, rather than
18 immediately proximate to the structure.

19

20 **Q. Based on your review of Mr. Decoulos's 2002 RAO for the Randolph**
21 **Site, did Mr. Decoulos assess risk via indoor air exposures relative to MTBE and**
22 **benzene in a manner consistent with the MCP, the 2001 Final Draft VPH/EPH**
23 **Policy, or scientifically acceptable risk assessment practices?**

1 A. No.

2

3 **Q. Please Explain.**

4 A. As noted in the 2002 RAO report in Section 6.7.2, the Method 1 GW-2
5 standard for MtBE was exceeded in monitoring well DMW-4, and for Benzene in
6 monitoring wells DMW-1 and MW-3R. Exceeding a Method 1 GW-2 concentration
7 value indicates the potential for a vapor intrusion pathway, and mandates the use of a
8 Method 2 or Method 3 risk characterization process.

9 Although it is difficult to understand and follow the material and thought-process
10 presented in the Report, it appears that vapor intrusion concerns for these contaminants
11 were not adequately evaluated because of a misunderstanding of toxicological concepts
12 (MtBE) and MCP risk characterization procedures (Benzene).

13 With respect to MtBE, in Section 6.8.1 of the RAO report, a statement was made
14 that "Air data is not currently available for characterizing site specific risks of exposure
15 to MTBE using the Method 2 procedure. The risks associated with MTBE will be
16 evaluated assumed (sic) to be incorporated into the C9-C10 Aromatic analysis."

17 This is an incorrect statement and unscientific approach, as inhalation
18 toxicological data (e.g., Reference Concentration) was available for MtBE well before
19 2001. In fact, it was available in a document listed by Mr. Decoulos as a reference in the
20 RAO report and in footnote one in Table 4: "Background Documentation for the
21 Development of the MCP Numerical Standards", MADEP Bureau of Waste Site Cleanup
22 and Office of Research and Standards, April, 1994. It is possible that the LSP was
23 referring to the lack of indoor air "background" data for MtBE, which, at the time, was

1 true. However, this was (and remains) true of a number of indoor air contaminants, and
2 does not justify the decision to “incorporate” MtBE into the C9-C10 Aromatic
3 Hydrocarbon fraction. This suggests a lack of understanding and expertise in this area.

4 With respect to Benzene, it appears that a “site-wide” EPC value was calculated,
5 in which lower concentrations of benzene in wells DMW-2, DMW-3, and DMW-4 were
6 used to calculate an “average” concentration of 1877 µg/L, just below the 2000 µg/L
7 GW-2 standard. This inference is based upon the “Average GW Results” presented in
8 Table 4, and the lack of any other table or discussion that specifies groundwater EPCs.
9 Such an approach would be in violation of the MCP, which specifies that, when using
10 Method 1 or Method 2, EPCs must be developed for each individual monitoring well.
11 This position was also clearly articulated in a DEP “Question and Answer” publication
12 [Volume 1 Number 4, April-May 1994], attached as Exhibit B-12.

13 If in fact the LSP understood the EPC calculation rules, the omission of Benzene
14 in the Method 2 risk characterization would represent a serious lack of diligence for this
15 proven human carcinogen.

16
17 **Q. Based on your review of the manner in which Mr. Decoulos obtained**
18 **and used the soil gas data results in the Method 2 Risk Characterization, did he**
19 **appropriately determine that a condition of “no significant risk existed” relative to**
20 **possible indoor air exposure?**

21 A. No.

22
23 **Q. Please Explain:**

1 A. Beyond the serious problems previously discussed for MtBE and Benzene,
2 the evaluation conducted for C5-C8 Aliphatic and C9-C10 Aromatic Hydrocarbons is
3 inconsistent with the 2001 Final Draft VPH/EPH Policy (specifically referenced in
4 Section 6.8 of the RAO report to justify the evaluation) and a non-conservative/un-
5 protective oversimplification of a complex phenomenon.

6 As before, it is difficult to follow what was actually done by the LSP. The only
7 text in this regard is the two sentences contained in Section 6.8.1 of the RAO report:
8 “Using the ‘No Impact’ concentrations for soil gas, we back-calculated to Method 2 GW2
9 Standards. For the contaminants of concern, the calculated Method 2 GW2 Standards
10 were as follows.” A value of 2,331 µg/L was then indicated for C5-C8 Aliphatics, and
11 50,000 µg/L for C9-C10 Aromatics.

12 Table 4 of the 2002 RAO report provides some additional insights, in a few
13 tabulated “calculated” values and 3 footnotes. Apparently, two approaches were used to
14 calculate a site-specific modified GW-2 standard. In the first approach (footnote 2),
15 notation is made to “*Assume gas transport coefficient = average gw concentration*
16 *divided by average soil gas concentration. Multiply this coefficient by MADEP ‘no*
17 *impact’ soil gas value to calculate Method 2 GW2 Standard. Then default to 50,000 ppb*
18 *where calculated GW2 > 50,000 ppb*” This is a simple proportional analysis. Such an
19 approach, which is not contained in the 2001 Final Draft VPH/EPH policy, fails to
20 recognize the complexities and spatial/temporal variations and heterogeneities inherent in
21 the characterization of subsurface hydrocarbon vapors.

22 The second “Calculated Method 2 Standard” in Table 4 is explained in footnote 3,
23 referencing an equation from 310 CMR 40.0983(2)(C). Unfortunately, there is no

1 equation at 40.0983(2)(C); in fact, this section deals with GW-1 standards. It is surmised
2 that the intended reference was 40.0983(3)(C), which, in 2002, contained the following
3 equation: $[OHM]_{gw} = [OHM]_{air} / (\alpha * d * H * C)$. See Exhibit B-11.

4 Initially, it is noted that this equation, and 40.0983, concern the development of
5 Method 2 Standards for chemicals that do not already have a Method 1 standard. That is
6 not the case here, so, from a regulatory point of view, this approach is not valid. From a
7 technical perspective, no details or justifications are provided on the inputted values for
8 α , d, H, or C, so it is not possible to evaluate the correctness of the provided values.
9 Based upon the range of values that should have been inputted, however, this calculated
10 value appears to be inappropriate.

11 In summary, this section is difficult to follow, with a number of mis-statements and
12 errors, and does not justify the conclusion that 50,000 $\mu\text{g/L}$ of C5-C8 Aliphatics and
13 50,000 $\mu\text{g/L}$ of C9-C10 Aromatic Hydrocarbons constitute a condition of No Significant
14 Risk at this site.

15
16 **Q. Based on your review of the 2002 RAO for the Randolph Site, did Mr.**
17 **Decoulos correctly calculate the concentrations of groundwater contaminants at the**
18 **discharge point to surface water and the site specific Method 2 GW-3 standards?**

19 A. No. Insufficient detail is provided. There are tabulated “calculated
20 conc.” values in this regard in Table 5, with a reference to Figure 4-1 of the 1997
21 VPH/EPH draft policy. It is assumed the correct reference is Figure 4-2 of the 2001 Final
22 Draft VPH/EPH policy. The table columns reference a travel distance of 900 feet, while
23 an underlying statement references 1000 feet. Using either distance, it is unclear how the

1 “calculated conc.” value was derived. In any event, the use of Figure 4-2 may be
2 inappropriate, given the statement in Section 6.8.2 of the RAO report that suggested that
3 the LSP evaluated groundwater transport to surface water “assuming that the
4 groundwater is being ‘short circuited’ along a 15 inch reinforced concrete drain pipe”.
5 This is contrary to applicability criteria in Section 4.2.2 of the 2001 Final Draft
6 VPH/EPH policy (page 31) that limited use of Figure 4-2 is to sites where “there is no
7 ‘short circuiting’ of groundwater contaminants along preferred flow paths.”

8
9 **Q. Based on your review of the 2002 RAO for the Randolph Site, did Mr.**
10 **Decoulos correctly determine that a condition of No Significant Risk existed relative**
11 **to surface water exposure?**

12 A. No, because of the lack of clarity and substantiation in the calculation of
13 down-gradient groundwater concentration values, discussed above.

14
15 **Q. Two rounds of groundwater samples were collected within four weeks**
16 **of one another, the data for which had shown increasing levels of petroleum**
17 **hydrocarbons and associated compounds. Does this data reveal the possibility that**
18 **a source of contamination was yet to be eliminated or controlled?**

19 A. Yes. Significant variability can occur in groundwater concentration
20 data due to a variety of factors, including the presence of unmitigated source areas.

21
22 **Q. Do you believe sufficient information existed to reasonably determine**
23 **that the source of increasing contamination had been eliminated or controlled?**

1 A. No. Recommendations were provided in the 2001 VPH/EPH policy on
2 the degree of temporal groundwater monitoring in Table 4-14. For sites with gasoline
3 contamination in a GW-2 area, a minimum of 2 to 3 quarterly (i.e., every 3 months)
4 rounds of data are suggested, to adequately address such issues as source mitigation.

5

6 **Q: Based on your review of Mr. Decoulos's 2002 RAO for the Randolph**
7 **Site and your above stated testimony, do you believe Mr. Decoulos met the MCP**
8 **requirements for a Response Action Outcome and Risk Characterization?**

9 A. No, for all of the reasons discussed in my testimony.

10

11 **Q. In his Answer to the LSP Board's Order to Show Cause (OTSC),**
12 **relative to OTSC Paragraphs 98 and 99 and Paragraph 14 of Affirmative Defenses**
13 **within the Response, Mr. Decoulos stated that his 2002 RAO Opinion was affirmed**
14 **via the additional work done thereafter, further demonstrating that his conclusions**
15 **in 2002 were appropriate and protective of public health, safety, welfare and the**
16 **environment. You reviewed Mr. Decoulos's follow-up 2004 RAO, which included a**
17 **description of Mr. Decoulos's additional work. Do you agree with his statement?**

18 A. No. The additional data did not address most of the deficiencies discussed
19 above in my Testimony. In the 2004 RAO, groundwater sampling results for several
20 petroleum contaminants were decreasing but continued to exceed Method 1 GW-2
21 standards. The 2004 RAO repeated the errors described above in applying Method 2 risk
22 characterization.

23

1 **Q. Do you believe that either the 2002 or the follow-up 2004 RAO**
2 **submitted by Mr. Decoulos followed the requirements and procedures set forth in**
3 **applicable provisions of 310 CMR 40.0000 in such a manner as to show, “No**
4 **Significant Risk?”**

5 A. No, for the reasons discussed in my testimony.

6

7 **Q. Does this conclude your testimony?**


8 A. Yes

CERTIFICATE OF SERVICE

I hereby certify that on this date a true copy of the Direct Testimony of John Fitzgerald was served upon each party in this action by electronic mail, to the following address: jamesj@decoulos.com, and that by agreement, the Exhibits in this matter were served upon each party in this action by overnight mail for delivery to the following address:

James J. Decoulos, LSP
Decoulos & Company
185 Alewife Brook Parkway
Cambridge, MA 02138

8/25/10
Date


Lynn Peterson Read