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 CYNTHIA A. BARAN

I, Cynthia A. Baran, under the pains and penalties of perjury, state that I am the Cynthia A. Baran 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.

Cynthia A. Baran

Exhibit B-1

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
Cynthia A. Baran,
Witness in support of the Initial Determination of the
Board of Registration of Hazardous Waste Site Cleanup Professionals

Q1. Please state your name and business address.

A. My name is Cynthia A. Baran and my business address is the Massachusetts Department of Environmental Protection, Southeast Regional Office, 20 Riverside Drive, Lakeville, MA 02347.

Q. Please describe your educational and professional background.

A. I earned a Master's Degree in Epidemiology from the University of Massachusetts and a Bachelor's Degree in Biology from the College of the Holy Cross. I have also completed Master's level coursework in environmental engineering at the University of Massachusetts. While employed by MassDEP, I have also attended numerous technical training courses. In addition to my educational background, I have over 23 years experience in the fields of public and environmental health: approximately 17 years of that experience is as an environmental scientist in the field of waste-site cleanup. Additional details regarding my educational and professional background are provided in my attached resume, Exhibit B-2.

Q. How are you employed?

A. I am currently employed by the Massachusetts Department of Environmental Protection (the "Department" or "MassDEP") at the Southeast Regional Office ("SERO") located at 20 Riverside Drive, Lakeville, Massachusetts 02347. My current title is Environmental Analyst V in the Department's Bureau of Waste Site Cleanup ("BWSC"). I have held that title since January 2003. From January 2003 to December 2005, I worked in the BWSC Compliance and Enforcement Section. In December 2005 the Risk Reduction Section was created within BWSC in the Southeast Region and I was made Section Chief. I have been continuously employed by the Department of Environmental Protection since 1993.

Q. What are your duties and responsibilities in your position as Environmental Analyst V and as Section Chief of the BWSC Risk Reduction Section in the Southeast Regional office of DEP?

A. My duties and responsibilities as Environmental Analyst V in BWSC include technical review of submittals by LSPs for preliminary response actions such as Immediate Response Actions ("IRA") and Release Abatement Measures ("RAM"), as well as Response Action Outcome ("RAO") Statements at unclassified disposal sites, to ensure they comply with the cleanup regulations in the Massachusetts Contingency Plan ("MCP"), and also to ensure that the technical scientific aspects of the submittals are adequate. I also identify releases that pose the greatest risks and expedite the approval and implementation of response actions at sites that pose risk but where response actions are not being conducted or are not adequate. In addition, I monitor whether MCP

deadlines are met for IRA and RAM submittals in the Southeast Region, and conduct any enforcement necessary to ensure that required actions are performed. This entails recommending Sites for enforcement action; developing the case; preparing enforcement documents such as notices of non-compliance, administrative consent orders, unilateral administrative orders, and penalty assessment notices.

When I became Chief of the Southeast Region's BWSC Risk Reduction Section in 2005, my duties expanded to include development and implementation of the program plan for the Section. The purpose of the Risk Reduction Section is to identify and promote risk reduction opportunities at releases as soon as feasible upon discovery. My duties also include oversight of staff, prioritizing high-risk releases and approving response actions, supervising enforcement, and serving as the Department's lead negotiator in Risk Reduction enforcement conferences.

Q. What, if any, documents did you review to prepare your testimony?

A. I reviewed the Complaint filed with the Board by Najib Badaoui, Mr. Decoulos's Answers dated January 20, 2006, and August 31, 2007; the Board's Order to Show Cause and Proposed Order; Mr. Decoulos's Answer to the Order to Show Cause; and the Department's file for the Eagle Gas site. I also reviewed the Department's file for the Speedy Lube site in Randolph, Massachusetts.

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

A. Yes, I am sponsoring Exhibits B-2 through B-3, and Exhibits B-13 through B-59.

Q. Is Exhibit B-3 an accurate copy of the sections of the MCP governing Immediate Response Actions that were in effect from January 2003 through September 2005 when Mr. Decoulos submitted his IRA opinions on behalf of Eagle Gas, Inc.?

A. Yes.

Q. Are the following Exhibits accurate and complete copies of the documents in the MassDEP file related to the Eagle Gas hazardous waste release site at 131 Main Street, Carver?

Exhibit B-13. January 21, 2003 MassDEP Release Log Form
Exhibit B-14. January 27, 2003 Release Log Form Attachment
Exhibit B-15. February 12, 2003 Notice of Responsibility
Exhibit B-16. March 17, 2003 Immediate Response Action (IRA) Plan
Exhibit B-17. May 16, 2003 Release Log Form
Exhibit B-18. May 16, 2003 Release Log Form Attachment
Exhibit B-19. May 16, 2003 Field Notice of Responsibility
Exhibit B-20. June 13, 2003 Notice of Responsibility
Exhibit B-21. July 3, 2003 IRA Status Report
Exhibit B-22. November 26, 2003 Notice of Noncompliance
Exhibit B-23. December 18, 2003 Release Notification Form
Exhibit B-24. January 21, 2004 IRA Plan
Exhibit B-25. March 11, 2004 Photographs taken by MassDEP
Exhibit B-26. March 11, 2004 Release Log Attachment recording site visit by MassDEP
Exhibit B-27. March 19, 2004 Notice of Noncompliance
Exhibit B-28. April 5, 2004 Request for IRA Plan Modification
Exhibit B-29. April 21, 2004 IRA Modification Plan
Exhibit B-30. April 30, 2004 Phase I and Tier Classification
Exhibit B-31. May 20, 2004 E-mail from Cynthia Baran to James J. Decoulos
Exhibit B-32. May 26, 2004 IRA Plan Modification
Exhibit B-33. June 15, 2004 IRA Status Report and Plan Modification
Exhibit B-34. July 1, 2004 E-mail from C. Baran to Mr. Decoulos
Exhibit B-35. July 7, 2004 MassDEP's Denial of IRA Plan Modification
Exhibit B-36. October 20, 2004 Letter from Attorney D. Nagle to MassDEP
Exhibit B-37. November 5, 2004 IRA Status Report and Plan Modification No. 2
Exhibit B-38. November 24, 2004 Letter from Mr. Decoulos to J. Hobill, MassDEP

Exhibit B-39. November 26, 2004 MassDEP's Denial of IRA Plan Modification
Exhibit B-40. December 6, 2004 E-mail from Mr. Decoulos to C. Baran
Exhibit B-41. December 15, 2004 E-mail between Mr. Decoulos, C. Baran, and J. Hobill
Exhibit B-42. December 22, 2004 IRA Status Report and Plan Modification No. 3
Exhibit B-43. January 14, 2005 E-mail from C. Baran to Mr. Decoulos
Exhibit B-44. January 18, 2005 IRA Plan Modification No. 4
Exhibit B-45. January 19, 2005 E-mail from C. Baran to Mr. Decoulos
Exhibit B-46. January 19, 2005 letter from Mr. Decoulos to J. Hobill
Exhibit B-47. February 22, 2005 IRA Completion Report
Exhibit B-48. March 8, 2005 Retraction of IRA Completion Report
Exhibit B-49. May 6, 2005 IRA Status Report
Exhibit B-50. July 8, 2005 IRA Plan Modification
Exhibit B-51. August 5, 2005 Letter from ECS to MassDEP
Exhibit B-52. September 16 2005 Letter from Mr. Decoulos to J. Hobill, MassDEP
Exhibit B-53. November 10, 2006 Phase II Comprehensive Site Assessment by ECS (voluminous Appendices not included)
Exhibit B-54. April 19, 2007Administrative Consent Order with Penalty ACOP-SE-07-3R-003

A. Yes, except that for Exhibit B-53, the November 10, 2006 Phase II Comprehensive Site Assessment by ECS, voluminous Appendices have not been included in the Exhibit because the Exhibit is offered for a limited purpose to which the Appendices are not directly relevant. Should the Hearing Officer or the parties wish to receive a complete copy of the Appendices to Exhibit B-53, they will be provided promptly.

Q. Are the following Exhibits accurate and complete copies of the documents in the MassDEP file related to the Speedy Lube hazardous waste release site at 633 North Main Street, Randolph?

Exhibit B-55. June 14, 2002 Response Action Outcome Statement by James J. Decoulos
Exhibit B-56. August 21, 2002 Memo from Mr. Decoulos to DEP BWSC
Exhibit B-57. November 6, 2003 Notice of Audit Findings, Notice of Noncompliance
Exhibit B-58. June 18, 2004 Response Action Outcome Statement
Exhibit B-59. June 22, 2004 letter from Mr. Decoulos to DEP Bureau of Waste Site Cleanup

A. Yes.

Q. How and when did you become involved in the Eagle Gas site at 131 Main Street in Carver, Massachusetts?

A. In late 2003, the Department conducted a review of open sites that had not yet been Tier Classified and were not in compliance with Immediate Response Action ("IRA") submittal requirements under the MCP. At the time of the review, the Eagle Gas site had two open Immediate Response Actions and was not in compliance with IRA submittal requirements for the release associated with Release Tracking Number (RTN) 4-17825. After Eagle Gas had begun an IRA for a subsurface release of diesel fuel at the gas station (RTN: 4-17582), a release of petroleum was discovered in May 2003 on South Meadow Brook located nearby. MassDEP issued a Notice of Responsibility informing Eagle Gas of its obligation to file a formal Release Notification and an Immediate Response Action Plan for the second release condition within 60 days. However, by November 2003, Eagle Gas had not made either of those submittals and therefore I drafted a Notice of Noncompliance that the Department issued on November 26, 2003, Exhibit B-22. The Notice required Eagle Gas to file the Release Notification Form (RNF) and the IRA Plan within 30 days of receipt of the Notice.

Q. What was the initial release at the Eagle Gas site and when was it reported?

A. There had been two historical releases of gasoline at the Eagle Gas site for which Mr. Decoulos was not performing LSP services. These releases were reported on

February 14, 1997 and September 8, 1997, respectively, and the previous owner of the gasoline station was performing response actions related to these releases. The initial release in which Mr. Decoulos was involved included the report of approximately ten inches of liquid petroleum product or light non-aqueous phase liquid ("LNAPL") that was detected in a monitoring well by the LSP who was performing response actions for the previous owner. Mr. Decoulos reported the release to MassDEP on January 21, 2003, on behalf of the current owner, Eagle Gas, Inc. The LNAPL was later reported to be diesel fuel that had been released from a leaking remote-fill line that ran from a port in the concrete pad of the gas station to the underground storage tank for the diesel fuel.

Q. What, if any, actions were required by MassDEP to address the initial LNAPL release?

A. At the time Mr. Decoulos reported the release on January 21, 2003, he did not propose any IRA activities. See MassDEP Release Log Form, Exhibit B-13. On January 27, 2003, Mr. Decoulos orally proposed an IRA Plan that the Department conditionally approved which included a proposal to install a 12-inch recovery well, sample nearby private water supply wells, conduct air monitoring for vapors of oil or hazardous materials ("OHM") in all buildings and utility manways, inspect the stormwater system adjacent to the Eagle Gas frontage for potential impacts, and conduct tightness testing of the underground storage tanks. See MassDEP Release Log Form Attachment, January 27, 2003, Exhibit B-14. MassDEP issued a Notice of Responsibility (NOR) and Request for IRA Plan with Interim Deadline dated February 12, 2003 (Exhibit B-15) that required Eagle Gas to submit an IRA Plan within 30 days to include, among

other tasks, an active remediation system to address historical and/or recurring accumulation of LNAPL, a proposal to conduct indoor air monitoring for OHM vapors in all buildings and utility manways, and inspection of the stormwater drain system for potential impacts. The fact that MassDEP issued a Request for an IRA with an Interim Deadline to shorten the timeline required to submit a written IRA Plan (from 60 to 30 days) and added requirements to the oral approval and subsequent NOR, including inspection of the stormwater drainage system and implementation of active LNAPL recovery, indicate that, from the beginning, the Department had significant concerns about the existing site conditions and potential migration of vapors and/or product into the storm drain system and/or nearby buildings and residences.

Q. What is an IRA condition, and in what way were the conditions at the Eagle Gas site IRA conditions?

A. An IRA condition is a release of oil or hazardous materials ("OHM") that requires notification to MassDEP within two or 72 hours and immediate action because time-critical release conditions are present such as a sudden release of OHM or an Imminent Hazard to human health or the environment. IRAs are required to be conducted at sites that meet the two hour and 72 hour notification provisions in the MCP as well as at sites where an Imminent Hazard condition exists or at any other site where MassDEP determines that immediate or accelerated response actions are necessary to prevent, eliminate, or minimize damage to health, safety, public welfare or the environment. See 310 CMR 40.0411, Exhibit B-3. The initial diesel release at the Eagle Gas station and the resultant release to the storm drainage system and South Meadow

Brook met or potentially met several MCP criteria for IRA conditions, including the following two-hour reporting conditions: a sudden, continuous or intermittent release to the environment of any quantity of oil that results in the appearance of a sheen on surface water and any release of OHM in any quantity or concentration that poses or could pose an Imminent Hazard. It also met the following 72-hour reporting conditions: a release to the environment indicated by the presence of greater than one-half inch of LNAPL in the subsurface; a release to the environment indicated by the measurement of OHM in groundwater at concentrations greater than a Category RCGW-1 Reportable Concentration within 500 feet of a private water supply well; and a release which constitutes a Condition of Substantial Release Migration where such condition is associated with a release for which notification is required.

Q. What are Immediate Response Actions?

A. Immediate Response Actions are assessment and/or remedial actions that are required to be conducted in an expeditious manner to address sudden releases, Imminent Hazards, and other time-critical release or site conditions. IRAs are required to be taken whenever and wherever timely actions are required to assess, eliminate, abate, or mitigate adverse or unacceptable releases, threats of release or site conditions. Immediate Response Actions are conducted to assess, contain, isolate, remove, or secure a release or threat of release of oil and/or hazardous materials in order to abate, prevent, or eliminate an Imminent Hazard to health, safety, public welfare or the environment and/or to respond to time-critical releases, threats of release and/or site conditions. Any person who performs an IRA is required to do so in accordance with all applicable requirements

and specifications prescribed in the MCP. At a minimum, Immediate Response Actions must involve assessment of the release, and this assessment must be commensurate with the type and amount of oil or hazardous material released, the complexity of the site, and the sensitivity of site and surrounding receptors, both human and environmental. The assessment must be adequate to determine the degree of hazard posed by the release and whether remedial actions are required. The assessment must also be adequate to determine the nature, extent, and timing of removal or containment actions.

Immediate Response Actions are presumed to require the actual implementation of containment or removal actions, and they must be submitted by an LSP to MassDEP for approval. Except as provided in 310 CMR 40.0421, approval from the Department is required prior to the implementation of an IRA or significant modification to an IRA that involves remedial actions. No Immediate Response Action may be taken unless and until MassDEP approval has been given, or after 21 days have passed, at which point the plan is presumptively approved. See 310 CMR 40.0410-40.0420, Exhibit B-3.

Q. Did Mr. Decoulos comply with the Department's IRA requirements for the initial release of diesel fuel?

A. No. Although MassDEP had required a proposal for an active remediation system to address the LNAPL, and although Mr. Decoulos submitted an IRA Plan dated March 17, 2003 that proposed an active remediation system, Exhibit B-16, his first Status Report for that release claimed that active remediation would not be productive or cost effective because the types of soil were low yielding, and he proposed instead to continue hand bailing the one monitoring well where LNAPL had been identified. See the July 3,

2003 IRA Status Report for the diesel fuel release (RTN 4-17582), Exhibit B-21. Mr. Decoulos did not provide sufficient technical justification or a cost benefit analysis to support his assertion that active remediation would not be productive or cost effective. Mr. Decoulos also did not conduct air monitoring of the adjacent residences or sampling of the on-site private well as required in the Notice of Responsibility. Mr. Decoulos did not inspect the storm drainage system as required in both the oral IRA approval and the NOR until MassDEP personnel responded and provided assistance in response to the discovery of the sheen on South Meadow Brook. Mr. Decoulos did not install a well 20 feet downgradient of monitoring well BP-5RR and did not sample all site-related monitoring wells as required. Mr. Decoulos also did not include a site plan indicating where OHM was used or stored onsite.

Q. What is an active remedial system, and why did the Department require active remediation for the initial release of diesel fuel?

A. An active remedial system is a remedial action that relies upon the continual or periodic use of an on-site or in-situ mechanical and/or electro-mechanical system or device to remove and/or remediate contamination. Hand bailing is a passive recovery system. The Department required active remediation of the LNAPL in well number BP5-RR, where the LNAPL was detected, because there was a risk that LNAPL was in contact with the adjacent storm drain pipe and could release vapors and/or product into the storm drainage system. There were also many human and environmental sensitive receptors in the immediate vicinity of the release and the extent of the LNAPL contamination as well as potential exposure pathways was not delineated. Monitoring

well BP5-RR was one inch in diameter, and a passive skimmer inserted into it could fill to its capacity and then would not recover more LNAPL until it was emptied. An active system is automated to maximize the removal of LNAPL and/or contaminated groundwater from the recovery well and, properly sited, may help to provide hydraulic control at the site.

Q. Why was the second Release Tracking Number, RTN 4-17825, issued to Eagle Gas, Inc. for the release to the brook?

A. The second Release Tracking Number, RTN 4-17825, was issued to Eagle Gas because the petroleum sheen on South Meadow Brook was a new reportable condition that triggered a new requirement to conduct an IRA. The second RTN and the Notice of Responsibility were issued to Eagle Gas because onsite observations and field screening conducted by MassDEP personnel indicated that the source of the contamination was emanating from the Eagle Gas Site. MassDEP determined that the potential source of the sheen on the brook was the diesel release infiltrating the stormwater collection pipe and flowing out the outfall to the surface water of the brook. This release also constituted a condition of Substantial Release Migration. An IRA is required at disposal sites where a condition of Substantial Release Migration (see 310 CMR 40.0412(2), Exhibit B-3) has been identified.

Q. What is a condition of Substantial Release Migration?

A. By statute, a Condition of Substantial Release Migration (“SRM”) is defined as, "a release of oil or hazardous material that is likely to be transported

through environmental media where the mechanism, route or extent of transport has resulted in or, if not promptly addressed, has the potential to result in: (a) health damage, safety hazards or environmental harm; or (b) a substantial increase in the extent or magnitude of the release, the degree or complexity of future response actions, or the amount of response costs." GL c. 21E, §2.

Substantial Release Migration is triggered by the rate of movement of OHM through environmental media. The MCP further defines SRM and lists six types of SRM conditions, including: (1) releases that result in the discharge of separate-phase oil to surface waters or underground utilities; (2) releases to the ground surface that if not promptly removed is likely to significantly contaminate groundwater; (3) releases to groundwater that have migrated or within one year are likely to migrate more than 200 feet per year; (4) releases to groundwater that have been or within one year are likely to be detected in a public or private drinking water supply well; (5) releases to the groundwater that have been or within one year are likely to be detected in a surface water body or wetland; or (6) releases to the groundwater or vadose zone that have resulted or within one year are likely to result in the discharge of vapors into schools or occupied residences. The diesel release at the Eagle Gas station met or potentially met all the six possible conditions of SRM. If migrating OHM is likely to impact any of the above mentioned receptors (including surface water, indoor air and drinking water supply wells) within one year, regardless of the receptors impacted or the degree of impact, this migration triggers notification and requires an IRA to address this condition (310 CMR and 40.0413(2), Exhibit B-3). At a minimum the IRA must

assess the release or threat of release and/or site conditions to determine whether time-critical remediation actions are needed. (310 CMR 40.0414(1), Exhibit B-3).

Q. Why did MassDEP believe the release at the brook was related to the Eagle Gas site?

A. The original diesel fuel release was observed in monitoring well number BP5-RR, which was adjacent to the storm drain pipe under Main Street. Due to the significant amount (approximately 10 inches) of LNAPL measured and proximity to the storm drain pipe, MassDEP identified the potential for the LNAPL to come into contact with the stormwater drain pipe. Thus the Notice of Responsibility for the initial diesel release required active collection of the LNAPL and inspection of the storm drain system for impacts from NAPL. Mr. Decoulos was conducting part of that inspection when he discovered the sheen on the brook. See Release Log Form, Exhibit B-17. Mark Jablonski, an Environmental Engineer working in the Emergency Response Section, responded to the release notification, performed a site inspection, and recorded his observations in a Release Form Log Attachment, Exhibit B-18. Mr. Jablonski determined that oil was emanating from a storm drain that discharges to the brook and that the storm drain system was connected to catch basins located within Main Street. His report stated that an oil sheen and diesel fuel odor was present in the manholes adjacent to (in the vicinity of BP-5RR) and downgradient of the gas station and that the catch basin upgradient of the gas station did not exhibit an oil sheen or diesel fuel odor. With Mr. Decoulos present, Mr. Jablonski also took field measurements of air samples using a photoionization detector (PID) to screen for total volatile organic compounds

(VOCs) in the manholes and catch basins. The PID screening results provided useful real-time data to make field decisions regarding the release. These observations and field screening measurements of the catch basins and manholes upgradient, adjacent to and downgradient of the gas station, together with the fact that there were no other obvious sources of contamination in the area, led Mr. Jablonski to record his conclusion that a release of diesel fuel was occurring from the gas station and was impacting South Meadow Brook, in the Release Log Form Attachment, Exhibit B-18, and in the Field Notice of Responsibility issued to Eagle Gas, Exhibit B-19.

Q. What, if any, actions were required to be taken to address the release to the brook (the second RTN)?

A. The release to the brook constituted an Immediate Response Action (IRA) condition that required a plan to mitigate the on-going migration of the diesel release into the storm drain system and subsequently impacting the brook. The release to the brook was a separate IRA condition, because it was oil sheen on surface water, a release of oil indirectly to the environment via a stormwater drainage system, and there was a threat of acute impacts to fish and other wetland flora and fauna.

MassDEP issued a Field Notice of Responsibility ("NOR") on May 16, 2003, Exhibit B-19, and a formal NOR dated June 13, 2003, Exhibit B-20, which required Eagle Gas to submit an IRA Plan to eliminate the source of diesel from the leaking underground tank equipment, initiate active collection of LNAPL from the affected monitoring well, and construct a remedial system as necessary to stop the diesel fuel discharge to the storm drain. Eagle Gas was also required to take actions to prevent

additional impacts at the outfall, such as installation and maintenance of dikes and absorbent booms at the outfall that would contain and partially absorb the oil on the surface of the water at the outfall to mitigate ongoing impacts to the brook.

Q. Was an IRA Plan filed to address the release to the brook? If so, did the Department believe it was sufficient?

A. An IRA Plan was not submitted within 60 days after MassDEP issued the Notice of Responsibility as required by the MCP, which was why the site came to my attention in November 2003. Thus I drafted and MassDEP issued the Notice of Noncompliance, Exhibit B-22. In Response to the Notice of Noncompliance, on January 28, 2004 Mr. Decoulos submitted a Release Notification, Exhibit B-23, and an IRA Plan for the release to the brook, Exhibit B-24.

The IRA Plan asserted that the source of the contamination at the outfall area was not the LNAPL detected in the monitoring well, but was rainwater runoff from the surface of the gas station flowing into the catch basins. To address that source, the IRA Plan proposed to reconstruct the concrete pad over the underground fuel storage tanks, install an overhead canopy, and divert the runoff into an oil-water separator that would collect the oil and discharge the water back to the storm drain pipe. These are commonly known as "Best Management Practices," which are recommended by regulators for compliance with the Clean Water Act and do not relate directly to releases subject to the MCP. The IRA Plan also proposed to investigate methods for cleaning the storm drain system with help from the Town and to seek state and federal funding. The plan proposed to develop a plan to "clean" the storm drainage system but did not address first

eliminating or mitigating the continuing source of LNAPL infiltrating into the storm drainage system. The IRA Plan also did not contain a proposal to initiate active LNAPL recovery from the impacted monitoring well or to construct a remedial system to stop diesel fuel migration into the storm drainage system as was required by MassDEP in the Notice of Responsibility. The Plan also did not address any remedial measures at the stormwater outfall to contain, eliminate or mitigate continuing discharge of diesel oil to the brook. The Department believed that the information Mr. Decoulos relied on to support his IRA Plan did not adequately support his position that the source of the contamination at the outfall was surface runoff. Further, Mr. Decoulos did not provide any technical justification to support the IRA Plan's significant deviation from and lack of compliance with the MassDEP requirements for the Immediate Response Actions listed in the Notice of Responsibility.

Q. If an LSP disagrees with the Department's requirements for an IRA condition, what, if any, recourse does the LSP have?

A. An LSP who disagrees with the Department's requirements for an IRA condition may propose alternative Immediate Response Actions that are supported with adequate technical justification. Technical justification may include, but is not limited to, hydrogeologic investigation results, engineering design, or other site-specific information and/or credible, scientifically defensible evidence to support why the LSP disagrees with DEP's requirements and why the LSP's alternative better addresses site conditions. If the LSP is still dissatisfied with MassDEP staff's requirements, the LSP may appeal to staff's direct supervisor and/or the BWSC Deputy Regional Director.

Q. Why did the Department take issue with Mr. Decoulos's position that the release at the outfall was due to surface runoff rather than the diesel release?

A. Mr. Decoulos's position that the release at the outfall was due to surface runoff and not the diesel release was not supported with adequate site specific data and information. If Mr. Decoulos believed that the contamination discharged at the outfall was not related to the diesel release at the gas station, he had to provide technical justification for that position, and he did not provide it. The available site information indicated to MassDEP that the source of the contamination at the outfall was primarily the diesel release at the gas station. This information included significant LNAPL thickness measured in monitoring well BP-5RR adjacent to the storm drainage pipe, the absence of a sheen, petroleum odor or measurable PID readings in the catch basin upgradient of the gas station, the presence of a visible sheen, diesel fuel odor and the detection of VOCs via PID screening in catch basins adjacent to and downgradient of the gas station, and the absence of other probable sources in the area. Initially, the Department's IRA requirements were based on that information.

In addition, Mr. Decoulos obtained laboratory analysis of surface water at the outfall in which concentrations of petroleum compounds associated with diesel fuel were extremely high: total Extractable Petroleum Hydrocarbons ("EPH") exceeded 3,000,000 parts per billion. These concentrations were another strong indication that the diesel fuel release at the gas station was the source of the contamination at the outfall. Mr. Decoulos had included the EPH data in a table to his first Status Report for the diesel release dated July 3, 2003, Exhibit B-21, and in his IRA Plan dated January 21, 2004, Exhibit B-24, for

the release at the outfall, Exhibit B-24, but he did not discuss these results, or the significance of these results in the text of either of those IRA submittals. Rather, the statement that was included in the text of the report implied the opposite. The text stated that: "The analytical data show that the diesel delivery line failure has not migrated along a potentially preferred pathway outside the stormwater piping in Main Street."

Mr. Decoulos did not present adequate technical justification to contradict the indications that the diesel release was entering the storm drain pipe and support his opinion that the release at the outfall was due to surface runoff at the gas station. His IRA Plan stated that the low concentrations of contaminants in the groundwater at monitoring wells DCW-1 and DCW-2 showed that the diesel fuel had not migrated along a potentially preferred pathway outside the stormwater pipe. He also cited observations of stormwater flow patterns to support his assertion that rainwater runoff was the source of the contamination at the outfall. However, the data from DCW-1 and DCW-2 and the observable rainwater flow patterns were not adequate to outweigh the evidence upon which MassDEP was relying. The results from DCW-1 and DCW-2 were not adequate to delineate the horizontal or vertical extent of the LNAPL plume and therefore were not adequate to show that the diesel fuel was not entering the storm pipe at some other location. The observations of stormwater flow patterns did not adequately support his assertion that rainwater runoff was the source of the contamination at the outfall because he had not provided information about any rainfall that might have caused runoff on the dates of his surface water sampling in June 2003.

The easiest way for Mr. Decoulos to support his position that stormwater runoff was the source of the release at the outfall would have been to measure invert elevations

of the components of the storm drainage system and correlate these elevations with seasonal high groundwater gauged in adjacent monitoring wells (e.g., provide cross-sections indicating surveyed invert elevations of the storm drainage system and seasonal high groundwater elevations in monitoring wells adjacent to the storm drainage piping to demonstrate whether or not measured seasonal high groundwater had the potential to interface with any components of the stormwater drainage system). If the potential for infiltration was shown to exist, he could then have performed a video survey of the inside of the storm pipe. A video survey would give a 360° view of the joints in the pipe, any cracks or holes, any spraying or leaking into the pipe, or staining that would indicate any infiltration of petroleum into the pipe. Despite the fact that MassDEP repeatedly requested this information, Mr. Decoulos did not submit a cross section plan of the stormwater drainage system relative to groundwater elevations until January 13, 2005, when he submitted the IRA Plan Modification dated December 22, 2004, Exhibit B-42. This plan did not include current groundwater data but rather presented groundwater data previously measured in June 2003. Mr. Decoulos did not initially propose to do a video survey, and although he later made that proposal after discussion with the Department, he never implemented it.

When I read the IRA Plan for the release to the brook, I became concerned because Mr. Decoulos did not appear to understand the complexity of the site or the potential risk the release posed to human and environmental receptors. The nature and extent of the proposed response actions were not commensurate with the type and amount of OHM released the site complexity, and the sensitivity of site and surrounding human and environmental receptors.

In light of the data MassDEP was relying upon for its position that the diesel fuel release was a source of the contamination at the outfall, Mr. Decoulos's IRA Plan to reconstruct the concrete surface and install a canopy exhibited a lack of response to the June 13, 2003 Notice of Responsibility, Exhibit B-20, which specifically required active collection of LNAPL and a remedial system to stop the diesel fuel from discharging to the storm drain pipe.

Therefore, I called a meeting and scheduled a site visit with Mr. Decoulos and Mr. Najib Badaoui, the owner of Eagle Gas Station for March 11, 2004 to review site conditions and the required response actions at the Site.

Q. What did you observe during your site visit? Did you document the visit?

A. I was astounded by the amount of contamination I observed at the outfall during my site visit. While the IRA Plan described the contamination as sheen on the brook, I observed thick petroleum emulsion and brown oil floating on the surface water at the outfall. New white booms had been placed in outfall channel before my inspection, and large amounts of the emulsion and oil were inside the booms. The banks of the outfall and the low wetlands were stained black. When I walked on the bank and wetland areas surrounding the outfall, black oil oozed out of the soil and coated my boots. The odor of petroleum was so strong at the outfall that it was difficult to remain there to discuss the conditions. The amount of petroleum product at the outfall did not comport with Mr. Decoulos's theory that the source of the release was surface runoff as described in the January 2004 IRA Plan.

My associate Lori Williamson, an Environmental Analyst working in the Emergency Response Section, took photographs during our March 11, 2004 visit, Exhibit B-25, and she prepared a Release Log Attachment, Exhibit B-26.

Q. What, if anything, did the Department do in response to your observations during the site visit?

A. MassDEP issued a Notice of Noncompliance for the diesel release (RTN 4-17582) on March 19, 2004, Exhibit B-27, due to the lack of progress in performing appropriate and necessary response actions and failure to identify and address the Condition of Substantial Release Migration posed by the release. I discussed issuing a second NON to Eagle Gas for the release to the stream (RTN 4-17825) with my supervisor, Jonathan Hobill, BWSC Regional Engineer (at that time). However, since a previous NON had been issued for this release and an IRA Plan was submitted in response to the NON, although it did not meet the requirements for the IRA contained in the NON, we determined that a Request for IRA Modification with an Interim Deadline would be appropriate to obtain the necessary information for the required IRA. On April 5, 2004, MassDEP issued a Request for IRA Plan Modification with an Interim Deadline, Exhibit B-28. I had concluded from my visit that the IRA Plans Mr. Decoulos had submitted did not sufficiently address site conditions or the scope and complexity of the site. The IRA Plan for management of storm runoff from the gas station was not sufficient in scope to be commensurate with the apparent degree of risk associated with the release conditions I observed at the outfall. As proposed, Mr. Decoulos's IRA Plan would not adequately prevent adverse impacts to health, safety, public welfare or the

environment. The absorbent booms that had been placed across the water at the outfall before it entered the brook had not completely stopped the petroleum from migrating into the brook, nor did the IRA Plan contain a proposal or schedule for maintenance or replacement of spent absorbent booms and pads. Mr. Decoulos had not proposed or implemented the Immediate Response Actions that MassDEP had required for the release to the brook, e.g., active collection of LNAPL and construction of a remedial system as necessary to stop diesel fuel discharge to the storm drain system, and hand bailing of the LNAPL was intermittent and not an effective treatment system for the diesel release. Mr. Decoulos had not provided adequate technical justification to support the response actions he had proposed.

The conditions I observed at the site simply did not support Mr. Decoulos's theory that runoff was the cause of the contamination at the outfall. Therefore, the Department's April 2004 Request for IRA Plan Modification, Exhibit B-28, sought substantial additional site data on an expedited schedule, including surface water and sediment sampling in the stormwater drainage system, and soil sampling and analysis in the wetlands, as well as information sufficient to determine all sources of oil contamination affecting the storm drainage system, such as additional soil borings and groundwater monitoring wells at the gas station, and investigation to determine how these sources were entering the stormwater drainage system.

Q. What was the purpose in requesting this additional information?

A. The purpose of requesting the additional information was to expedite implementation of the required IRAs. It was necessary to obtain sufficient information to

establish source control, to quantify the impacts to affected media, identify sensitive receptors, and to identify and eliminate or mitigate exposure pathways where feasible. This information was needed to further delineate the nature and extent of LNAPL contamination to confirm the source and magnitude of the release to South Meadow Brook. Additional data was also required to design the required active remedial system.

Due to Mr. Decoulos' contention that the diesel release was not infiltrating the storm drainage system, the Department also specifically requested information to evaluate this pathway. The requested sediment sampling would indicate the extent of diesel fuel or other contaminants in the storm drain pipe. The Department's requirement to provide information sufficient to determine all sources of oil contamination affecting the storm drainage system was intended to prompt Mr. Decoulos to measure the elevations of the LNAPL, the groundwater, and the stormwater drain pipe, and correlate them with each other, to determine whether the LNAPL was in contact with the storm drain pipe. I believed that most environmental professionals would understand that these measurements and this correlation would be needed in order to evaluate this migration pathway, and I discussed the need for these measurements and this correlation with Mr. Decoulos. The Department also requested a video survey of the storm drainage system to confirm diesel fuel infiltration.

Q. Did the LSP collect this additional information MassDEP was seeking?

A. No. Mr. Decoulos submitted an IRA Modification on May 6, 2004, Exhibit B-29, which stated this information would be provided, but he never reported the

results of any sampling of the sediment from the catch basins. He also did not provide sufficient groundwater elevations or any cross section with the stormwater drain pipe until he submitted another IRA Plan Modification approximately eight months later, on January 13, 2005, Exhibit B-42 (dated by Mr. Decoulos 12/22/04). Mr. Decoulos never conducted a video inspection of the storm drain pipe. He also did not submit any proposals to better control to migration of diesel fuel from the outfall area into South Meadow Brook.

Q. On June 15, 2004, Mr. Decoulos submitted an IRA Status Report and Modification, Exhibit B-33. Did MassDEP approve this Modification Plan?

A. No. This submittal was made after LNAPL was discovered in a second groundwater monitoring well, DCW-1, also located adjacent to the stormwater drainage pipe. This finding made it even more important to MassDEP that active recovery begin at the Eagle Gas station. MassDEP did not approve the IRA Status Report and Modification submitted on June 15, 2004, because although it proposed to accelerate the LNAPL collection by constructing a trench in the area between the gas station frontage on Main Street and the stormwater collection pipe, he proposed again to use a passive skimmer in the trench to recover NAPL, rather than the active system MassDEP had always required since the diesel release was first reported in January 2003. The skimmer Mr. Decoulos proposed had a capacity of only one half-gallon. The Department also believed his proposal was not adequately supported because Mr. Decoulos had not investigated other underground utilities that were likely to be present in the area and he provided no technical specifications for the treatment system such as the frequency and

how the passive skimmer would be emptied and how the LNAPL would be remediated; thus he did not provide technical justification for the efficacy of the passive collection system. He had not determined the extent of contamination, and although it was not necessary to have the LNAPL plume or the groundwater contaminant plume completed delineated, he had not attempted to show the areas of greatest LNAPL thickness or highest VOC concentrations to support the proposed location of the trench. He also provided no information on hydraulic conductivity or diesel fuel mobility in the subsurface to justify the size and location of the proposed trench. Even though this was a preliminary response action, he needed a better understanding of where the LNAPL was located and how it was migrating in the subsurface to recover it effectively. Although he had installed two monitoring wells near the stormwater pipe, he had not located any monitoring wells near the underground remote fill line that he reported was the source of contamination or downgradient of the stormwater pipe. Therefore, additional assessment of the LNAPL and site conditions was required before designing a recovery system. Additional assessment was also important considering that sensitive receptors such as residences served by private drinking water supply wells, indoor air, the brook, wetlands, and cranberry bogs are so close to the site. I communicated these issues to Mr. Decoulos in an email of July 1, 2004, Exhibit B-34, which was formalized as MassDEP's Denial dated July 7, 2004, Exhibit B-35.

Q. After the denial was issued, did Mr. Decoulos install an active system?

A. No. Mr. Decoulos never installed an active LNAPL recovery system at the Eagle Gas site.

Q. Did Mr. Decoulos propose any other actions at the site to address the IRA conditions at the Eagle Gas site?

A. On November 8, 2004, Mr. Decoulos submitted an IRA Status Report and IRA Plan "Modification No. 2," attached as Exhibit B-37, which stated that in August 2004 he had supervised the installation of four four-inch diameter wells and five one-inch monitoring wells. He proposed to use one of the four-inch wells as a recovery well and install a passive skimmer in a second recovery well, which had not been proposed in June. This seemed to be Mr. Decoulos's *modus operandi*, to take an action such as installing four four-inch recovery wells, without seeking DEP's approval, and later state his plan for how to utilize them. Mr. Decoulos also proposed injection of remedial additives (hydrogen peroxide or persulfate) through a proposed infiltration trench located on a residential property served by a private well. This proposed injection location was also located within an Interim Wellhead Protection Area for a Public Water Supply Well. (Due to the significant potential for adverse impacts to sensitive receptors, 310 CMR40.0046(3) specifically prohibits injection of remedial additives within 100 feet of a private water supply well, within 800 feet of a public water supply well or 50 feet of a surface water body without specific approval in writing from the Department.)

Notably, the Status Report included information that almost 7 feet (6.99 feet reported) of LNAPL was measured in a new monitoring well (DCW-7) installed adjacent to the gas station/residence on October 7, 2004. A subsequent indoor air sample collected from the residence on the second floor indicated measurable concentrations of benzene, ethyl benzene, toluene and xylenes, which constituted a Critical Exposure

Pathway. IRAs are presumed to require the elimination and/or mitigation of CEPs, where feasible. Mr. Decoulos did not address the CEP related to the indoor air at the residence above the gas station. NAPL was also measured at a thickness of 0.6 feet in ERW-1, 3.28 feet in ERW-2 1.88 feet in ERW-4 and 3.83 feet in BP-5RR. The information regarding the LNAPL measurements was contained in Table 2 in the report, but was not discussed in the text of the report. How the significant change in information regarding current site conditions was incorporated into the design of the proposed groundwater recovery and treatment system was also not presented.

Q. Did MassDEP support the November 2004 proposal to install a recovery trench?

A. No. Although this IRA Modification included one active recovery well and one recovery well fitted with a passive skimmer, connected by a trench, MassDEP did not approve it because Mr. Decoulos had not provided sufficient technical justification to support the viability or efficacy of the proposed treatment system. The IRA Plan Modification did not specify which of the four wells would be fitted with the active and passive systems. It also did not provide sufficient technical information to demonstrate that the either the proposed active recovery well or the passive collection system was properly located or had the sufficient capacity to contain and remove the LNAPL present at the Site. Geologic and stratigraphic conditions had not been adequately characterized and the extent of LNAPL was not fully delineated. Additional information was necessary to demonstrate that either of the already installed recovery wells for the groundwater recovery and treatment system would provide sufficient

hydraulic control to mitigate the Condition of Substantial Release Migration at the Site. The recovery wells with the proposed pumps had been located and installed near the stormwater drain system without MassDEP's approval. In that location, the recovery pumps could pull petroleum product from across the site to within feet of the stormwater drainage system that was a preferential pathway for contaminants to impact South Meadow Brook. Also, there was no proposal to install an impervious barrier on the downgradient side of the trench, so we had significant concerns that the trench could exacerbate the migration of contaminants from the gas station under the street. There was no construction or design detail such as the capacity of the treatment units, and Mr. Decoulos had not conducted hydraulic conductivity tests (tests of the rate at which groundwater flows through the subsurface), which would indicate how much the pumps would pump and discharge and therefore what the design capacity of the treatment system should be. This was all information that would normally have been submitted for a LNAPL recovery and treatment in an Immediate Response Action Plan. Therefore, for these and additional reasons enumerated in the denial letter, MassDEP issued an IRA Modification Plan Denial and Request for IRA Plan Modification with Interim Deadline on November 27, 2004 (Exhibit B-39).

Q. Did the Department take any other action regarding the proposed IRA actions at this site after the Denial of the 11/04 IRA Modification?

A. Due to the deficiencies in the IRA Plan Modification submitted on November 8 2004, together with the fact the IRA Plan Modification did not address the nine requirements specifically outlined in the Department's Denial letter dated July 7,

2004 of the previously submitted IRA Plan Modification, my supervisor, Jonathan Hobill and I met with Mr. Decoulos and his client on December 2, 2004. At the meeting, we reviewed Mr. Decoulos' IRA proposal, the identified deficiencies with the proposed IRA, and the required IRA actions necessary at the site. On December 6, 2004, Mr. Decoulos sent me an e-mail based on the meeting (Exhibit B-40), listing 14 identified tasks to address "deficiencies and action steps…that require immediate attention," including, but not limited to, delineating the extent of LNAPL to the northeast (under Main Street right of way) and to the southeast; controlling the contamination at the stormwater outfall by placing booms properly; properly storing and disposing of remediation waste (recovered LNAPL, contaminated soil and spent booms) that were stored under an awning at the gas station; and preparing an Imminent Hazard Evaluation, but he did not submit an IRA Plan Modification.

Q. Did Mr. Decoulos take any additional action to respond to the Department's Denial of the 11/04 IRA Modification?

On December 10, 2004, Mr. Decoulos installed eight soil borings in the Main Street right of way to attempt to assess the extent of LNAPL migration under the roadway. Mr. Decoulos also planned to identify the extent of LNAPL contamination to the south and southwest, but was unable to complete the investigation due to equipment failure of related to the track mounted Geoprobe.

On December 15, 2004, at 8:47 a.m., I received an e-mail from Mr. Decoulos stating that he planned to construct a trench in the Main Street right of way. The e-mail attached a Site Plan and two cross-sections depicting the location of the proposed trench,

and said that a written plan, including a narrative, would be sent shortly. Mr. Decoulos sent additional e-mails providing some information piecemeal over the course of the day. This information included boring logs, a license agreement with the Town of Carver, a Health and Safety Plan, but no narrative or written proposal to perform the proposed response actions. Several e-mails are in Exhibit B-41.

Jonathan Hobill and I were very surprised to receive this proposal on short notice via e-mail, without a formal written plan submitted as required and without the 21-day approval period for IRA Plans. Mr. Decoulos had not yet conducted hydraulic conductivity tests to determine the rate of groundwater flow through the subsurface to determine the capture zone or what the design capacity of the treatment system should be. He had not provided any construction detail for the trench or the design of the treatment system for the recovered LNAPL and groundwater, which DEP needed to evaluate whether the proposal was likely to be an effective remedial system.

I informed Mr. Decoulos of our concerns and denied the proposal, and then had several extensive calls with him on December 15, 2004. By late afternoon, Mr. Decoulos still did not submit a written plan or a construction protocol for the trench installation that he proposed to install the next day. Therefore, after significant discussion, at about 4:30, Mr. Hobill sent an e-mail to Mr. Decoulos denying the proposal as submitted. See Exhibit B-41. Mr. Decoulos sent an e-mail at 4:47 P.M. with some written description of the proposed trench construction. See Exhibit B-41. During a phone conversation, between Mr. Decoulos, Jonathan Hobill and I at approximately 6:00 p.m. that evening, Mr. Decoulos informed us that he had already ordered everything to dig the trench the next day at 7:30 a.m., including an excavator, asphalt, and a police detail. He also stated

that Department denial of the trench would unduly delay the remedial efforts at the site due to the fact that the asphalt batching plants would be closing shortly due to the cold weather conditions and therefore construction would be delayed until Spring. Mr. Decoulos also indicated that the denial would cause the Eagle Gas Station owner significant expense because the equipment and police detail was already ordered for the next morning and it was too late to cancel. After further discussion, Mr. Hobill and I orally approved the plan for construction of the trench only with conditions at about 6:30 p.m. The plan was approved with the understanding that Mr. Decoulos would enumerate the additional conditions in an e-mail for our review prior to initiating any field work the next morning and that he would submit a formal written IRA Plan Modification with all required information and design specifications for the proposed remedial system as soon as possible and prior to conducting any additional response actions at the Site. Mr. Decoulos sent an e-mail at 6:05 am on Thursday, December 16, 2004 listing the conditions of approval as discussed the previous evening.

I observed the construction the next morning. Several problems occurred. The trench began to cave in before the impermeable barrier was secured and before the entire perforated pipe had been placed that would collect groundwater and direct it to the recovery well at the midpoint of the trench. Thus there was potential for the trench to attract LNAPL and contaminated groundwater that could migrate across the trench and exacerbate the contamination, which had been one of MassDEP's major concerns.

Q. Did Mr. Decoulos submit an IRA Plan Modification as required after the construction of the trench?

A. Mr. Decoulos submitted another IRA Plan Modification on January 13, 2005 (Exhibit B-42). This submittal included Mr. Decoulos's Imminent Hazard Evaluation and described the construction of the trench. The Department had required an Imminent Hazard Evaluation since the April 5, 2004 Request for IRA Plan Modification, Exhibit B-28, and this was the first time Mr. Decoulos had submitted one.

The submitted Imminent Hazard Evaluation did not meet the requirements of the MCP: the report did not provide a quantitative Imminent Hazard Evaluation and did not meet the Response Action Performance Standard (RAPS) as required in 310 CMR 40.0950. Mr. Decoulos' text listed the types of releases that could be deemed to pose or potentially pose an Imminent Hazard as outlined in 310 CMR 40.0321. However, in many places Mr. Decoulos' statements were not based on any data or evaluation. For instance, in discussing on page 7 potential conditions of Substantial Release Migration beginning with oil vapors in underground utilities above explosive standards, Mr. Decoulos stated that vapors had not been measured against those standards, and in evaluating the SRM of adverse impacts to fish, he simply reproduced text about the May 2003 discovery of the sheen, which he had used in many submittals and made no mention of fish. On page 10, he repeated his assertion that site data showed that infiltration of the storm drain pipe had not developed as a pathway of contamination of South Meadow Brook but the available data did not support this conclusion, because he had collected insufficient data to determine whether contamination had infiltrated the storm drain pipe; he had not videotaped the interior of the storm pipe, and conditions at the outfall that I had observed in a site visit on November 30, 2004 continued to indicate that LNAPL was infiltrating the pipe. I also strongly disagreed with his conclusion at page 5 that a

Condition of Substantial Release Migration only potentially existed at the Site and that only small amounts of petroleum migrate into the brook during rain events, when MassDEP had observed gross amounts of contamination at the outfall.

This IRA Modification in the January 2005 submittal proposed pump tests of the wells in the trench, but the tests had already been performed, again violating the requirement to obtain prior DEP approval before taking IRA actions. Mr. Decoulos made an oral proposal to test the recovery rates of the pumps in the trench, but, due to insufficient information provided to support the proposal, the past noncompliance issues and the significant problems with the last orally approved response actions (the construction of the interceptor trench) I denied the oral proposal in an e-mail of January 14, 2005 (Exhibit B-43), so Mr. Decoulos submitted a second written proposal for the test (Exhibit B-44) that was eventually approved after he provided more specific information (Exhibit B-45).

In May 2005, Mr. Decoulos submitted an IRA Status Report (Exhibit B-49) that discussed the results of testing the hydraulic conductivity of the trench by vacuum pumping stored groundwater from the trench, and the results of LNAPL recovery by vacuum truck from the trench and monitoring wells.

Q. What was the Department's evaluation of the discussion of the Impact to the Storm Drain System in section 6.0 of the May 2005 IRA Status Report?

A. This submittal acknowledged for the first time that the contaminant levels within the drain pipe may be affected by groundwater elevation. A sheen had been observed on the water in the manhole located in front of the gas station, and analyses of

the water detected low concentrations of gasoline and diesel compounds. The report stated this was "a likely indication of underground gasoline migration contaminating the storm drain system in addition to the known diesel contamination," and it acknowledged that "contaminant levels within the drain pipe may be affected by groundwater elevation."

However, I believed there were problems with Mr. Decoulos's effort to determine when the groundwater would affect the storm drain pipe. Mr. Decoulos cited data from the nearest United States Geological Survey (USGS) monitoring well located in Lakeville, two towns away from Carver, on the two dates in April when he observed conditions within the storm drain pipe. On this basis he "estimated" that the storm drain system would only be impacted by contaminated groundwater when the depth to groundwater at the USGS station reached approximately 10.6 feet below ground surface. I did not understand why Mr. Decoulos used Lakeville data to estimate site groundwater elevations on the site when there were 11 monitoring wells on site at which he could have measured those elevations. An LSP opinion might refer to USGS groundwater elevation data if there was no access to groundwater on-site to measure its elevation, but Mr. Decoulos used the USGS data because he had not measured groundwater elevations at the site to compare them to the elevations of the storm drain pipe on dates when large amounts of contamination were present at the outfall. Data from the USGS monitoring well in Lakeville may have been an indication of regional conditions, but it may not reflect local, site-specific conditions on the site.

Q. In July 2005, Mr. Decoulos submitted another IRA Modification (Exhibit B-50). Did MassDEP identify any problems with this submittal?

A. The Department believed there were several problems with this submittal. The Imminent Hazard Evaluation again did not meet the MCP requirements for conducting Imminent Hazard Evaluations that I outlined above. The Imminent Hazard Evaluation concluded that the risk of harm to public health and safety from the diesel release was low, and that all available data demonstrated no possibility of human soil exposure, and no threat to drinking water sources. There was no sufficient data to make such strong statements**.** In fact the site data contraindicates these statements. Water testing of the on-site drinking water supply well and the Holmes drinking water supply well (located across Main Street) indicated that both wells were impacted by site-related VOCs. These detections constituted both a Condition of Substantial Release Migration and A Critical Exposure Pathway. There were no access controls to prevent public exposure to contaminated soils, sediments and surface water at the stormwater outfall. Mr. Decoulos also stated in section 3.4 that there was "no evidence of stressed biota" when vegetation on the stained banks was dead and oil saturated the soil. The next section 3.5 contradicts the statement of no stressed biota by stating that petroleum migrates into the brook and these discharges "result in direct impacts to wetland resources." The report concluded that more assessment was necessary to know whether an imminent hazard existed, and this was two and a half years after the diesel release was detected.

The Department also did not believe Mr. Decoulos had supported his July 2005 proposal for a combination of passive and active LNAPL recovery wells. On page 23-24,

he proposed to fit three wells with passive skimmers and to actively pump one well located in the interceptor trench, stating that recent revelations in LNAPL science did not support the Department's requirement for active recovery. Mr. Hobill and I believed the proposed placement of passive recovery in wells nearest the source, with pumping of the trench in the street, would tend to draw LNAPL from the site toward the storm pipe.

The Department also took issue with the fact that section 5.0 of the July 2005 IRA Modification stated that the impacts to the brook appear to have been caused by surface water runoff. This statement was unsupported and was contradicted by section 3.3, which stated that underground petroleum contamination was likely migrating into the storm drain and the storm drain pipe was a migration pathway when groundwater reached specified elevations.

Q. Did MassDEP receive any other submittals from Mr. Decoulos about the Eagle Gas site?

A. Yes. On October 5, 2005, MassDEP received a letter from Mr. Decoulos, Exhibit B-52, stating that his engagement as the LSP of Record for the Eagle Gas site had been terminated and he would not release his most recent assessment information until after Eagle Gas compensated him for accrued services and expenses.

Q. Did the site owner engage another LSP at the site?

A. Yes. On August 5, 2005, MassDEP had received a letter from ECS, Exhibit B-51, providing notice that Daniel Felten of ECS would be the LSP of Record for the release of diesel fuel at Eagle Gas. ECS proposed a schedule of activities to address

the required actions at the site. Mr. Felten was succeeded as LSP of Record by Charles Klingler, also of ECS.

Q. Did the new LSP collect the information and perform Immediate Response Actions that MassDEP had sought to address the release condition at the outfall?

A. Yes. From August 22 through 26, 2005, only a few weeks after Mr. Felten had taken over as LSP of Record, ECS directed the installation of several liquid-extraction wells and conducted a comprehensive groundwater sampling event. Within three months, three rounds of Enhanced Fluid Recovery from the wells had been completed. Within one year, ECS had supervised the extraction of thousands of gallons of diesel fuel NAPL and groundwater from the Eagle Gas site. See November 2006 Phase II Comprehensive site Assessment by ECS (Exhibit B-53), pp. 10-11, 15. In March, 2006, ECS performed a video screening of 170 feet of the interior of the storm drain pipe and found indications of water intrusion into the pipe through joints and cracks, as indicated by wetness around these areas, drops of water seeping from the seams, and staining of the concrete pipe that was especially prevalent at the location where the LNAPL had apparently been in contact with the outer portion of the pipe. ECS also compared the elevations of LNAPL and groundwater to the corresponding drain pipe invert locations, and found that LNAPL had been present at elevations above the drain pipe invert elevation during the periods for which ECS had collected the data in 2005 and 2006. See the ECS Phase II, p. 19.

Q. Did the Department take enforcement action against Mr. Decoulos's client related to the IRA? Why?

A. Yes, in April 2007 the Department entered into an Administrative Consent Order with Penalty with Mr. Decoulos's former client (Exhibit B-54) for violations related to the Response Actions at the site, including failure to conduct necessary Immediate Response Actions. The ACOP described the submittals by Mr. Decoulos that were the basis for the ACOP. I identified the violations and drafted the ACOP. Pursuant to MassDEP procedures for issuance of ACOPs, Kevin Kiernan, BWSC Regional Counsel, and Jonathan Hobill participated in the Enforcement Conferences with me to negotiate the ACOP, and they reviewed and approved the ACOP.

Q. Does this conclude your testimony?

A. Yes.

CERTIFICATE OF SERVICE

I hereby certify that on this date a true copy of the Direct Testimony of Cynthia A. Baran 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
Lynn Peterson Read