



COMMONWEALTH OF MASSACHUSETTS
Board of Registration
of
Hazardous Waste Site Cleanup
Professionals

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SUMMARY OF INITIAL BOARD ACTIONS

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This page informs the public of those open disciplinary matters in which the Board has concluded preliminary investigations and initiated formal disciplinary proceedings against an LSP. The Board initiates these proceedings by issuing the LSP an Order To Show Cause. In each instance, this Order summarizes the results of the preliminary investigation and directs the LSP to show cause why sufficient factual grounds do not exist to impose discipline upon the LSP. Upon receipt of an Order, an LSP can request an adjudicatory hearing to contest whether sufficient factual grounds exist to impose discipline against him/her, or, alternatively, can opt not to contest this and can seek to address the Board regarding what, if any, form or level of discipline is appropriate.

As a result of a regulation change in January 2003, when the Board concludes a preliminary investigation, it no longer makes a tentative decision regarding the form or level of discipline to impose. The decision regarding the form or level of discipline is now made at a later stage in the disciplinary process after the Board has finally determined that sufficient factual grounds exist to impose discipline and has reached final conclusions regarding those facts.

- LSP Board Complaint [Number 05C-07](#)

LSP Board Complaint No 05C-07

On July 23, 2009, the Board voted to commence formal disciplinary proceedings against an LSP. In the Order to Show Cause served on the LSP, the Board described the findings of the Board's preliminary investigation and concluded that these findings constituted sufficient grounds to discipline the LSP. This action resulted from a complaint filed by a private party.

Summary of Findings

Based on the preliminary investigation, the Board determined that the LSP had violated the following Board Rules of Professional Conduct:

- I. The LSP failed to comply with the Board’s Rule of Professional Conduct at 309 CMR 4.02 (1) by failing to act with reasonable care and diligence in regard to the disposal sites outlined below. Examples of conduct that violated this regulation included, without limitation, the following:
 - i. In the case of Immediate Response Actions for a subsurface release of diesel fuel, and a release of petroleum to a brook via a storm drain pipe that was located immediately adjacent to the release of diesel fuel, failing to provide adequate support for the LSP’s opinion that the contamination of the brook was caused by surface water runoff entering the catch basins for the storm drain system and that the storm drain pipe was not acting as a migration pathway for the diesel release.
 - ii. In the case of an RAO Opinion for a release of petroleum at another site, failing to support his/her opinion that a level of No Significant Risk had been achieved, and failing to adequately characterize risks posed by that release.

- I. The LSP failed to comply with the Board’s Rule of Professional Conduct at 309 CMR 4.03(3)(b) by failing to follow the requirements and procedures set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000.

Background of Case

In its initial investigation, the Board determined that, based on the poor quality of the LSP’s work at the two sites, the LSP did not adhere to fundamental principles of site assessment or risk characterization.

Site A – Failure to Support Opinions Adequately and Comply with Orders of MassDEP

Site A is a gas station and auto repair business located on a .85-acre lot on a busy secondary highway (“Main Street”) in a rural residential area. The surrounding area includes residences and wetlands. A brook flows beneath Main Street approximately 800 feet south of the site. A two-bedroom apartment is located on the second floor of the on-site building, and the Site is served by a private well, but it was not used for drinking. The abutting residences also have private drinking water wells, and the boundary of a wellhead protection area for a public drinking water supply well intersects the Site property. Thus the groundwater at the Site is classified as GW-1 drinking water.

A diesel fuel tank is located under the north end of the concrete pad, but at the time the diesel release was reported, the fill port for the diesel tank was located above the gasoline tanks at the opposite, southern end of the concrete pad, and fuel was delivered to the diesel tank via a remote fill line.

An LSP for the prior owner was independently investigating a past gasoline release that remained the responsibility of the former owner. In 2003, the prior owner’s LSP found light

non-aqueous phase liquid (“LNAPL”) identified as diesel fuel in a monitoring well located between the gasoline pumps and Main Street. The current owner engaged the LSP to respond to the release of diesel fuel.

The LSP notified the Massachusetts Department of Environmental Protection (“MassDEP” or “DEP”) of the diesel fuel release and orally proposed an Immediate Response Action (“IRA”) to install a large recovery well, sample private wells, inspect the storm drains, and perform tightness tests on the underground storage tanks (“USTs”). MassDEP approved the LSP’s written IRA Plan to, among other things, evacuate LNAPL from the monitoring well, and, if it returned, to install a 12-inch recovery well and an active LNAPL recovery system.

The LSP performed the LNAPL evacuation. Although the LNAPL returned within a few days, the LSP did not install the 12-inch recovery well as proposed, but instead continued to hand bail LNAPL from the affected 1-inch micro well.

Five months after the discovery of LNAPL, the LSP discovered a sheen on the brook where it passes beneath Main Street. Representatives of the Town and MassDEP inspected the site with the LSP and traced the sheen upstream to the outfall of the storm water drainpipe that passes in front of the Site. DEP’s records state that DEP observed a sheen and a diesel odor in the catchbasin in front of the gas station.

MassDEP’s Field Notice of Responsibility stated that DEP believed there was a diesel fuel discharge to the storm drain system that the response actions must address, and instructed the property owner to eliminate the source from leaking diesel fuel UST and initiate active collection of LNAPL from the monitoring well.

MassDEP’s formal NOR also required the site owner to submit a written IRA Plan that must include the active collection of LNAPL and a remedial system to stop the diesel fuel discharge to the storm drain system.

The LSP sampled and tested soil, groundwater, and surface water in June 2003. Diesel-range petroleum hydrocarbons were detected in soil and groundwater at concentrations above Method 1 cleanup standards, and in surface water were detected at concentrations over 3,000,000 parts per billion (“ppb”).

The LSP’s first IRA Status Report asserted that the testing results showed that the release of diesel LNAPL did not cause the impact to the storm water system. This Status Report included a table of the laboratory test results, but the text of the report did not discuss the 3,000,000 ppb of hydrocarbons in surface water, or their significance.

MassDEP issued a Notice of Noncompliance (NON) to the site owner for failure to submit a release notification or an IRA Plan for the release to the brook.

The LSP subsequently submitted an IRA Plan for the release to the brook that asserted that there was an apparent lack of connection between the release at the outfall and the diesel release at the

gas station. It also asserted that groundwater test results showed that the diesel LNAPL had not migrated along a potentially preferred pathway outside the stormwater piping in Main Street.

The IRA Plan also stated that the outfall area was impacted with oil that was generated from stormwater surface flows from the gas station. The plan proposed to remodel the gas station's surface and clean the storm drain system, but did not identify any action to assess or mitigate the release of diesel LNAPL as a contributor to the release to the brook.

MassDEP representatives visited the Site with the LSP on March 11, 2004 and recorded "gross contamination of wetlands, banks of brook, and surface water at outfall" in their Release Log. DEP took photographs and issued a Request for IRA Plan Modification that described the contamination on the brook as "separate-phase oil, including oil/water emulsions."

MassDEP's Request for Modification stated that the LSP's previous IRA Plan did not provide sufficient information to support the assertion that the impact to the brook was caused solely by surface water runoff from the gasoline station and was not contributed to by an ongoing subsurface release at the site. DEP required further assessment to determine whether groundwater infiltration into the storm drainage system was a source of oil contamination at the outfall. The Request stated that the Plan did not adequately address conditions of Substantial Release Migration that existed at the Site.

In 2004 the LSP submitted six successive IRA Plans and Modifications, as well as a Phase I report. In these submittals, the LSP stated repeatedly that the impact to the brook was caused solely by surface water runoff and not by a subsurface release at the site, without sufficient technical support. The LSP took a round of groundwater samples in June 2003, and relied on the absence of LNAPL from any wells other than that in which it was originally detected. However, the LSP did not sample groundwater again until June 2004, when LNAPL was detected in a second monitoring well located immediately adjacent to the storm drain pipe. The LSP did not document any sampling or analysis of sediment from the catch basins of the storm drain system. Nor did the LSP obtain fingerprint analyses of the contamination of the brook or the sediment in the catch basins or compare them to the diesel fuel release.

MassDEP rejected the LSP's IRA Plans and issued Requests for IRA Modification stating that the IRA Plans did not provide sufficient information to support the assertions that the impact to the brook was caused solely by surface water runoff from the gasoline station, and was not contributed to by an ongoing subsurface release at the site.

After LNAPL was discovered in the second monitoring well in June 2004, the LSP proposed to accelerate the recovery of LNAPL using an interceptor trench adjacent to the storm pipe with a passive LNAPL skimmer. In November 2004, the LSP acknowledged that the LNAPL was migrating underneath the Main Street surface, i.e., beyond the storm drain pipe. However, the LSP continued to assert that the diesel release was not migrating along a preferential pathway in the trench of the storm drain pipe, even though the LSP had not yet measured the elevations of the storm pipe inverts or compared them to groundwater elevations. The LSP measured the invert elevations in December 2004, but did not compare them to groundwater elevations measured on site; in a May 2005 IRA Status Report, the LSP used high-water measurements

made at a USGS station two towns away to estimate that the groundwater may have been in contact with the storm drain pipe in April 2005.

The LSP also repeatedly failed to comply with DEP's requirements to provide an active system for the recovery of LNAPL and groundwater to control and mitigate a condition of Substantial Release Migration at the site. Active LNAPL recovery was part of the LSP's first approved IRA Plan for the diesel fuel release, but thereafter the LSP did not include active recovery in his/her IRA Plans. DEP repeatedly determined that the LSP had not supported his/her proposals for passive recovery of the LNAPL.

MassDEP also requested that the LSP's proposals for Immediate Response Actions should delineate the extent of the LNAPL and include an Imminent Hazard evaluation and a video survey of the storm drain system to address the condition of Substantial Release Migration. The LSP's submittals did not include an Imminent Hazard Evaluation until December 2004, and the LSP did not videotape the interior of the storm drain pipe.

In November 2004, the LSP proposed a 50-foot interceptor trench with a 12-inch recovery well fitted with a passive LNAPL skimmer. MassDEP denied this proposal because it did not demonstrate that the passive recovery system would be effective and the proposed trench might exacerbate the release conditions because it did not include either an impervious barrier on the downgradient side to prevent offsite migration or active pumping and recovery components to provide hydraulic control. After the LSP modified the proposal, MassDEP conditionally approved the construction of the trench. A partial collapse of the trench during construction in December 2004 resulted in incomplete installation of the impervious barrier and the piping that was to collect the groundwater.

In December 2004, the LSP conducted a pilot pump test and a percolation test for soil permeability and the recovery rates of the trench system, but the test did not provide enough data for these purposes. In another Modification to the IRA Plan, the LSP again proposed passive skimmers for three of the monitoring wells, and one pump to withdraw LNAPL and groundwater from the trench. MassDEP notified the LSP that due to past noncompliance, DEP would not approve an oral IRA Modification of the proposal for the pump test, and required the LSP to submit a written IRA Plan Modification for approval before the proposed response actions could be conducted. After the LSP submitted an additional IRA Status Report in May 2005, and another Modification in July 2005, the site owner notified MassDEP that another LSP would become LSP of record.

The Board concluded that the LSP did not act with reasonable care and diligence in assessing Site A, in violation of 309 CMR 4.02(1). The Board found that the standard of practice would be to provide sufficient technical information to rule out the potential connection between the recent diesel LNAPL release and the contamination at the outfall, but that the LSP did not perform assessment actions that would analyze the contamination in the storm pipe and at the outfall and compare it with the diesel release.

The Board also concluded that the LSP did not perform sufficient assessment activities to support his/her assertions that surface runoff, and not the diesel release, caused the contamination at the outfall. The Board also found that it was not reasonable for the LSP not to

compare the elevations of the storm drain pipe inverts to on-site groundwater elevations to determine whether the groundwater or the LNAPL was in contact with the storm drain pipe. The Board found the LSP also did not videotape the interior of the storm pipe, although s/he had proposed to do so and DEP required it.

The Board concluded that by not meeting the requirements for an Immediate Response Action, the LSP did not follow the requirements and procedures set forth in applicable provisions of G.L. c. 21E and 310 CMR 40.0000, in violation of 309 CMR 4.03(3)(b). The Board found that the LSP failed to implement MassDEP's repeated IRA requirements to delineate the extent of the LNAPL, conduct an Imminent Hazard Evaluation, and conduct active LNAPL recovery and a video survey of the storm drain system to address the condition of Substantial Release Migration. The Board also found that the LSP placed passive skimmers in monitoring wells as part of the IRA without MassDEP's approval.

Site B – Failure to Demonstrate No Significant Risk Achieved Before Filing Response Action Statement

Site B is a triangular lot bordered on two sides by roads, and has been a gasoline and service station since 1935.

In 1997, two releases of petroleum were discovered on site B during removal of three underground storage tanks ("USTs"). In a Phase I report filed in June 1998, a prior LSP concluded that soil and groundwater were contaminated with gasoline above MCP cleanup standards, and further investigation was needed to determine the extent of contamination.

The site owner retained the LSP to perform response actions in or around May 2002. The LSP submitted soil samples from four borings and groundwater from four wells for VPH analysis. Concentrations exceeded the Method 1 GW-2 cleanup standards in two of the groundwater samples.

The LSP collected a second round of groundwater samples less than four weeks after the first sampling. Some of the second round analytical results were 2 to 3 times greater than the first round results, and several contaminants exceeded the Method 1 GW-2 and GW-3 standards.

The LSP did not determine the downgradient extent of groundwater contamination or whether contaminated groundwater was migrating off the property.

Using the two rounds of groundwater data, soil data, and soil gas data the LSP had collected, s/he submitted a Class A-3 RAO in June 2002, approximately six weeks after s/he started performing response actions at the site. The LSP utilized a combined Method 1 and Method 2 Risk Characterization and concluded that a condition of No Significant Risk existed at the site.

In the Method 2 Risk Characterization, the LSP inappropriately averaged divergent high and low soil gas test results to calculate soil gas Exposure Point Concentrations (EPCs) for certain petroleum compounds. One of the concentrations was more than 140 times higher than the other with which it was averaged. Thus the LSP did not identify a conservative estimate of the

Exposure Point Concentration of those compounds to conclude that there was no risk of exposure via indoor air, in violation of 310 CMR 40.0926(3) and 40.1003(1).

The LSP failed to include MTBE in his/her risk calculations, although the concentrations of MTBE in groundwater exceeded the Method 1 cleanup standards for groundwater that might discharge contaminants to indoor air (GW-2) or surface water (GW-3). Thus the LSP did not assess potential risks of human exposure to MTBE via indoor air or environmental exposure via surface water.

The LSP did not assess the potential risk to indoor air from benzene, although benzene had a groundwater Exposure Point Concentration double the applicable Method 1 GW-2 standard.

The LSP used two methods to calculate Method 2 GW-2 standards, but it was unclear how s/he derived the standards because s/he did not adequately describe the methods used or include his/her calculations, and s/he did not follow available guidance published by MassDEP.

The Board found the LSP did not correctly calculate the concentration of groundwater contaminants at the discharge point to the surface water, and as a result, did not appropriately determine that a condition of 'no significant risk' existed at the site.

MassDEP issued a Notice of Noncompliance (NON) on November 6, 2003, stating that the LSP's RAO submittal was not valid. The NON stated that the RAO violated the MCP because sources of oil or hazardous materials had not been eliminated or controlled, in violation of 310 CMR 40.1003(5), and the LSP failed to define adequately the horizontal and vertical extent of contamination, in violation of 310 CMR 40.0904(2). The NON also stated that the RAO failed to identify conservative Exposure Point Concentrations because the LSP averaged two divergent sets of groundwater test data, in violation of 310 CMR 40.0926(3)(b)(1).

The NON also stated that the RAO violated the MCP and failed to demonstrate that the site had achieved a level of No Significant Risk, in violation of 310 CMR 40.0973(7), because the two rounds of groundwater data were collected within four weeks of each other and showed increasing levels of petroleum hydrocarbons and associated compounds, some of which increased significantly in the second sampling. The NON stated that the two rounds of sampling only four weeks apart did not provide sufficient information about seasonal fluctuations of the water table and contaminant concentrations.

In the NON, MassDEP found that the LSP's calculated Method 2 standards were inadequate to rule out vapor migration into buildings or discharge of contaminated groundwater to surface water. DEP required the site owner to resume response actions and perform additional site investigations.

The Board found that the LSP did not meet the standard of care because s/he did not demonstrate that a level of No Significant Risk existed or had been achieved, because the data showed increasing concentrations of petroleum contaminants on the site and in some cases was widely divergent, in violation of **309 CMR 4.02(1)**.

The Board concluded that by not meeting the MCP requirements for a Response Action Outcome and Risk Characterization, the LSP did not follow the requirements and procedures set forth in applicable provisions of G.L. c. 21E and 310 CMR 40.0000, in violation of **309 CMR 4.03(3)(b)**. The Board found that the LSP used incorrect calculations and failed to follow available guidance published by MassDEP and thus did not perform the Method 2 Risk Characterization for the site in a manner consistent with scientifically acceptable risk assessment practices, in violation of 310 CMR 40.0901(4).

The Board concluded that that the LSP did not adequately define the horizontal and vertical extent of contamination at Site B in violation of 310 CMR 40.0904(2). The Board also concluded that by averaging widely divergent analytical results, the LSP did not identify a conservative estimate of contaminant concentrations to which receptors may be exposed, in violation of 310 CMR 40.0926(3)(b)(1).

The Board concluded that the LSP filed the RAO without achieving a condition of No Significant Risk of harm to health, public welfare or the environment, in violation of 310 CMR 40.0973(7) and 310 CMR 40.1003(1). The Board concluded that submitting the RAO when data showed increasing concentrations of petroleum contaminants in groundwater, the LSP did not meet the general provisions of Response Action Outcomes by not showing that the source of contamination was eliminated or controlled, in violation of 310 CMR 40.1003(5).

Order to Show Cause

The LSP will now have an opportunity to request a formal adjudicatory hearing to show cause why sufficient grounds do not exist to impose discipline.