

Q3. Are there different closure parameters/protocols/levels for different programs (e.g., exploration & production (E&P) sites, underground storage tank (UST) sites, voluntary remediation, brownfields, AST, pipeline etc.)?

| State | State Agency Name | Program | Specifics for YES response |
|-----------------------|---|---|--|
| Alabama | Department of Environmental Management | Underground Storage Tanks | I do not have specifics, but the use of TPH in decision making likely varies with different programs. |
| Arkansas | Arkansas Department of Environmental Quality | Regulated Waste Operations | The UST/AST program uses "overprotective" clean-up levels compared to, say, the Hazardous Waste Division because our program is not staffed with epidemiologists and thus cannot develop site specific targets. |
| Arkansas | Arkansas Department of Environmental Quality | UST | UST has a protocol—they completed this survey independently, voluntary, brownfield, corrective action remediation use a risk-based approach and use the EPA regional screening levels as a starting point. |
| Harmonized California | CA Water Board | | The Underground Storage Tank Cleanup Program has well established polices and procedures to address petroleum where some of the other programs (AST and Site Cleanup) do not. Nine Regional Water Boards have their own basin plans and screening criteria. |
| Colorado | Colorado Department of Public Health and Environment, Hazardous Materials and Waste Management Division | Hazardous Materials and Waste Management Division | I'm not sure if there are different parameters, I can only respond on behalf of the CDPHE HMWMD, which includes voluntary remediation and brownfields. E&P sites are regulated by the Colorado Oil & Gas Commission, while UST sites are regulated by the Department of Oil and Public Safety. |
| Colorado | Colorado Oil & Gas Conservation Commission | East Half of Colorado | In Colorado different programs have different closure criteria. For COGCC and regulation of E&P waste, there is Table 910-1 cleanup levels for various contaminants of concern. COGCC does not use a risk-based approach at this time. Other programs, such as for UST sites use a risk-based approach or combination of published standards and risk. |
| Connecticut | Connecticut Department of Energy and Environmental Protection | Storage Tank Section | Closeout protocols/procedures may differ between programs but all use common cleanup standard regulation that includes risk management flexibility. |
| Delaware | DNREC-Site Investigation and Restoration Section | Remediation | UST and AST sites are evaluated based on the contents of the tanks. Regulatory closure is based on the tank and the release from the tank. Brownfields and voluntary remediation sites fall under a different set of regulations and standards. A broad set of contaminants are assumed to be potentially released throughout the history of the site. UST and AST cleanup levels are based on a 1E-05 and HI of 1 per contaminant, assuming pathways are not complete. The other sites must reach a cumulative risk of 1E-05 and HI of 1 based on hypothetical use of the property. A risk over assumed residential will require some action. |
| District of Columbia | Department of Energy and Environment | State | LUST Program from Risk Based Closure whereas other program follows EPA RSL 3 standards or drinking water standards etc. |
| Georgia | DNR - Environmental Protection Division | Waste Management | The UST Program has different closure parameters/protocols/levels than our RCRA, HSRA & Solid Waste Programs. |
| Kentucky | Division of Waste Management | Storage Tank Section | UST levels are based on specific studies while Superfund and hazardous waste use the Regional Screening Values. |
| Louisiana | Louisiana Dept. of Environmental Quality | All | LDEQ regulations apply to UST, remediation, solid waste, haz waste and inactive and abandoned sites. This is where LDEQ's Risk Evaluation/Corrective Action Program (RECAP) applies. LA Dept. of Nat'l Resources have reg authority over E&P sites. The LDNR reg is known as 29B. |
| Mississippi | Mississippi Department Of Environmental Quality | Petroleum Remediation Program | UST has different standards than the non-UST section of the Groundwater Assessment and Remediation Division (GARD). I've asked UST division to fill out this survey as well. For non-UST section of GARD we use a Tier approach beginning with Tier 1 at a 10^-6 and a target quotient of 1 for screening levels. Tier 2 allows for other options such as site specific variables, fractionation of TPH, background, and several more. Tier 3 is a full site specific risk assessment. |

Q3. Are there different closure parameters/protocols/levels for different programs (e.g., exploration & production (E&P) sites, underground storage tank (UST) sites, voluntary remediation, brownfields, AST, pipeline etc.)?

| State | State Agency Name | Program | Specifics for YES response |
|----------------|--|--|--|
| Mississippi | Mississippi Department of Environmental Quality | Groundwater Assessment Remediation Division (non-UST) | The UST Program has different cleanup standards, risk-based standards, and guidelines than the other programs. The other programs mentioned have consistent standards. |
| Missouri | Department of Natural Resources | UST Program | Requirements under our Tanks Section sometimes differ from those of our Brownfield Voluntary Cleanup Program. The Tanks Section requirements, being regulatory in nature, tend to be more prescriptive than those of the BVCP, which is a voluntary, non-regulatory program. |
| Nebraska | Department of Environmental Quality | Petroleum Tank Cleanup Section | Our Petroleum section uses TEH, while our VCP uses individual PAH compounds. If a VCP site samples for TEH the VCP site would utilize Petroleum's numbers. |
| Nebraska | Department of Environmental Quality | Voluntary Cleanup and Superfund | I assume so but don't know for sure. |
| North Dakota | North Dakota Dept. of Health | UST | Many programs use basic cleanup closure guidelines, but a lot is also based on site conditions and who is in charge of overseeing the cleanup. |
| Ohio | Ohio EPA | Groundwater Division | In order for a site to be eligible under the Voluntary Action Program, a UST has to be cleared through our Bureau of Underground Storage Tank Remediation (BUSTR). The cleanup levels are comparable, but there are two different agencies involved. |
| Oklahoma | Department of Environmental Quality | Voluntary Action Program | Oklahoma Corporation Commission handles UST, AST, E&P waste and pipelines. DEQ handles voluntary remediation, brownfields, and RCRA. Each agency has own standards. |
| Puerto Rico | Puerto Rico Environmental Quality Board | State CERCLA and LUST | UST set the standard for all other programs dealing with TPH, but RCRA is not delegated therefore, EPA set protocols somehow different. |
| South Carolina | South Carolina Department of Health and Environmental Control | Waste Management | It is based on the regulatory requirements of the program. |
| Tennessee | TN Department of Environment and Conservation | UST Management Division | UST have set rules and guidance and other divisions/program areas have their set rules and guidance. |
| Texas | Texas Commission on Environmental Quality (TCEQ) | Site Remediation Section | 1) Non-UST = Risk Evaluation 2) UST = TPH as Indicator for PAHs 3) E&P = 10,000 ppm non-sensitive areas; perform risk evaluation otherwise (Texas Railroad Commission) |
| Utah | Department of Environmental Quality - Division of Environmental Response and Remediation | Technical Program Support - Remediation Division | We deal with all of these issues in our Division. |
| Utah | DEQ, Division of Waste Management & Radiation Control | Leaking Underground Storage Tanks | UST Program at DEQ uses different standards. For the RCRA Corrective Action Program, TPH fractions are not required. Individual components of fractions or individual chemical information is sufficient to evaluate risk at a site. If fractions are analyzed, fractions are based on EPA PPRTV fractions and risk assessment approach for TPH. |
| Virginia | Virginia Department of Environmental Quality | Petroleum | The Storage Tank Program and the Voluntary Remediation Program have different approaches to assessing risks at sites. |
| West Virginia | WV Department of Environmental Protection | Toxics Cleanup Program | (UST) tank sites, voluntary remediation, tank sites risk based assessment |
| Wyoming | Wyoming Department of Environmental Quality | Office of Environmental Remediation | Wyoming Oil & Gas Conservation Commission has different closure parameters from WDEQ, soils E&P sites exempt from WDEQ regulation and are cleaned up under the WOGCC. However, groundwater must meet WDEQ cleanup levels (MCLs). |
| Wyoming | Oil and Gas Conservation Commission | Voluntary Remediation Program/Hazardous Waste Permitting and Corrective Action | E&P sites may use different standards. |

Q4. Are the contaminant-specific screening levels/cleanup levels/standards used by your program based on levels published by another agency, e.g., EPA's Regional Screening Levels, etc. ?

| State | State Agency Name | Program | Additional Specific Information |
|----------------|---|---|--|
| Alaska | Department of Environmental Conservation | Contaminated sites | We use the equations in the EPA's Regional Screening Levels calculator, but have modified the parameters to be more representative of our state. |
| Arizona | Department of Environmental Quality | UST-LUST Section | EPA RSLs |
| Arkansas | Arkansas Department of Environmental Quality | Regulated Waste Operations | We use EPA screening levels where available. The Arkansas Department of Health developed a cleanup level for us pertaining to dermal exposure to benzo(a)pyrene. |
| Arkansas | Arkansas Department of Environmental Quality | UST | For Regulated Waste remedial programs the EPA regional screening levels are used. The Office of Water Quality references the Arkansas Water Pollution Control Act and the Clean Water Act in issuing NPDES General Permit ARG790000. |
| Colorado | Colorado Department of Public Health and Environment, Hazardous Materials and Waste Management Division | Hazardous Materials and Waste Management Division | We use the EPA's RSLs for individual constituents (i.e., PAHs), but don't use their TPH values. |
| Delaware | DNREC-Site Investigation and Restoration Section | Remediation | EPA screening levels unless a sufficiently hazardous substance is also naturally occurring than state background levels have been developed. |
| Georgia | DNR - Environmental Protection Division | Waste Management | Cleanup levels determined using RAGS equations using both default (established by EPA) and site-specific exposure assumptions. State regulations establish the methodology for determining the cleanup criteria. Federally promulgated MCLs are used for default groundwater cleanup criteria. |
| Indiana | Department of Environmental Management | Voluntary, State Lead and LUST cleanups | EPA screening levels |
| Kentucky | Division of Waste Management | Storage Tank Section | State specific |
| Louisiana | Louisiana Dept. of Environmental Quality | All | The exception to state-derived RECAP Standards is when MCLs or other EPA guideline or standard might apply. |
| Mississippi | Mississippi Department Of Environmental Quality | Petroleum Remediation Program | References doses for screening level calculations for Tier 1 are all pulled from various agencies. GARD does accept EPA screening levels as an alternative Tier 1 or Tier 2 on a site by site and requested basis. Developed Tier 1 screening levels are very comparable to EPAs. |
| Missouri | Department of Natural Resources | UST Program | Partially based on EPA; the methods/equations used to develop TPH target levels are, in large part, from EPA, though some of the equation inputs are state-specific. MO uses a different risk level for carcinogens than does EPA (1x10E-05 vs. 1x10E-06 for EPA). As a result of these differences, the MO target levels are not the same as EPA's. |
| Montana | Department of Environmental Quality | Hazardous Waste Program | Montana uses the EPA RSLs for non-petroleum compounds with the exception of 1- and 2-methylnaphthane tapwater RSLs. |
| New Hampshire | Department of Environmental Services | Petroleum Remediation (LUST) | NH Ambient Groundwater Quality Standards (RSA 485-C:6) are based on federal maximum contaminant levels or health advisories promulgated under the Federal Safe Drinking Water Act. Standards based upon cancer risks are equivalent to a lifetime exposure risk of one cancer in 1,000,000. Where no federal standard has been issued, the NHDES Commissioner may adopt standards on a basis which provides for an adequate margin of safety to protect human health and safety. |
| North Dakota | North Dakota Dept. of Health | UST | EPA |
| Ohio | Ohio EPA | Groundwater Division | EPAs RSLs |
| South Carolina | South Carolina Department of Health and Environmental Control | Waste Management | We use the EPA MCLs and we will consult with EPA's regional screening levels for which we do not have established values. We also have program derived values for some contaminates. |
| Texas | Railroad Commission | Underground Storage Tanks | Texas Commission of Environmental Quality |
| Utah | DEQ, Division of Waste Management & Radiation Control | Leaking Underground Storage Tanks | EPA RSL Screening Values |
| Vermont | Dept. Environmental Conservation | Brownfields | EPA RSLs |
| Virginia | Virginia Department of Environmental Quality | Petroleum | Virginia's Storage Tank Program has some program-specific screening/reporting/cleanup levels, but also utilizes or considers values published by other entities such as EPA Region III. |
| Wisconsin | Wisconsin Dept. of Natural Resources | Remediation and Redevelopment Program | The preferred recommended method in our rule for setting soil standards is based on the EPA RSLs. Other methods may be used if approved. |

Q5. Why does your state or program NOT USE fractionated hydrocarbon analysis for environmental investigation/remediation of TPH? Please select all that apply.

| State | State Agency Name | Program Area | Other (please specify) |
|----------------|---|--|--|
| Alabama | Department of Environmental Management | Underground Storage Tanks | The use of fractionated hydrocarbon analysis may be used in corrective action decisions on a site-by-site basis |
| Alaska | Alabama Department of Environmental Management | Contaminated Sites | We have lookup tables for GRO, DRO, and RRO. RPs can also calculate site specific GRO, DRO, and RRO cleanup levels. We have a 4-phase partitioning model we have used, but so far it is only used by some federal agencies. Analysis of EPH/VPH fractions is too expensive for most parties. |
| California | Water Board | | Fractionated hydrocarbon analysis is used when appropriate |
| Colorado | Colorado Oil & Gas Conservation Commission | East Half of Colorado | COGCC uses 500 mg/kg standard for TPH but also evaluates for BTEX and PAHs. |
| Colorado | Oil & Public Safety (Tanks) | Storage Tank Section | 500 mg/kg standard for TPH but also evaluates for BTEX and PAHs. |
| Connecticut | Connecticut Department of Energy and Environmental Protection | Remediation | flexible regulatory framework can allow either fractionated or total results for compliance, along with target aromatics and PAH. |
| Delaware | DNREC-Site Investigation and Restoration Section | State | TPH results are rarely submitted to DNREC-SIRS. Typically we receive full TCL lists with a library search. However, if a high concentration of TICs are reported we are looking at using fractionated hydrocarbon analysis for clarification. |
| Hawaii | Department of Health | Hazard Evaluation and Emergency Response | State publishes fraction-weighted screening levels for TPH but allows development of fraction-specific screening levels on a site-specific basis. |
| Indiana | Department of Environmental Management | Science Service | No analytical method specific to petroleum hydrocarbon and cannot accurately quantify. No specific toxicity data. Tendency of fractionation approaches to treat all of a fraction as one of the most toxic chemicals within the fraction. |
| Louisiana | Louisiana Dept. of Environmental Quality | Remediation/UST | LDEQ RECAP allows fractionation. The department encourages use of PHC fractionation whenever possible and prefers it over TPH-ranges. But both methods are still allowed. |
| Minnesota | Minnesota Pollution Control Agency | Petroleum Remediation Program | Working with state health department to develop fractionated method for drinking water. |
| Mississippi | Mississippi Department Of Environmental Quality | Groundwater Assessment Remediation Division (non-UST) | We use fractionated hydrocarbons as a secondary or Tier 2 approach when site contaminants are limited to TPH. |
| Mississippi | Mississippi Department of Environmental Quality | UST Program | The UST Program uses PAH constituents as an indicator of diesel/waste oil contamination and BTEX constituents for gasoline contamination. |
| Missouri | Department of Natural Resources | Hazardous Waste Program | MO's risk-based processes allow TPH to be evaluated using a fractionated analysis, including the development of site-specific targets for the fractions. However, this option is very rarely used in either the Tanks Section or the BVCP. |
| Nebraska | Department of Environmental Quality | Voluntary Cleanup and Superfund | Our VCP remediation goals don't have a TPH value. |
| North Carolina | North Carolina | UST | If TPH is above a certain level then more analytical is required for individual contaminates. |
| North Dakota | North Dakota Dept. of Health | Groundwater Division | It's dependent on which program is overseeing the cleanup and a lot is based on a site-by-site basis. |
| Puerto Rico | Puerto Rico Environmental Quality Board | Regional Office | Sometimes the fractionated hydrocarbon analysis is used. |
| Tennessee | TN Department of Environment and Conservation | Underground Storage Tanks | Individual chemicals are currently being utilized. Additionally, laboratories within the state have advised that the current methods for fractionated hydrocarbons analysis are not adequate. |
| Texas | Railroad Commission | Site Remediation Section | Total TPH is adequate for SWR 91 cleanup. |
| Virginia | Virginia Department of Environmental Quality | Petroleum | We do not believe fractionated hydrocarbon analysis is needed at most sites. A fractionated analysis needs to be adopted by EPA, ASTM, other(s) and then receive NELAC accreditation in order for it to be used in Virginia. |
| Wisconsin | Wisconsin Dept. of Natural Resources | Remediation and Redevelopment Program | Our rule allows DRO/GRO to be used only for screening sites for the presence of contamination. |
| West Virginia | WV Department of Environmental Protection | Office of Environmental Remediation | We use TPH-GRO, DRO, ORO in tank program and PAHs, BTEX, MTBE, TBA In risk based program we do not use TPH, instead use PAHs, and VOCs, and SVOCs. |
| Wyoming | Wyoming Department of Environmental Quality | Voluntary Remediation Program/Hazardous Waste Permitting and Corrective Action | For the Voluntary Remediation Program (VRP/WDEQ): fractionation is not always necessary, sites may not understand value, program is moving to allow fractionation. Storage Tank Program (STP of WDEQ): (the third box is accurate). |

Q7. Does your state have specific guidance with regards to the discharge of TPH-impacted groundwater to surface water?

| State | State Agency Name | Program Area | Specifics for YES response |
|----------------------|--|--|---|
| Alaska | Alabama Department of Environmental Management | Contaminated Sites | We have surface water quality standards. |
| Arkansas | Arkansas Department of Environmental Quality | Regulated Waste Operations | Arkansas Water Pollution Control Act (Ark. Code Ann 8-4-10 et seq.) and the Clean Water Act (33U.S.C. 1251 et seq.) to issue a NPDES General Permit ARG790000 (4/1/2016). |
| Colorado | Colorado Department of Public Health and Environment | Hazardous Waste Corrective Action Unit | Discharge of TPH-impacted groundwater would be regulated by the State of Colorado's Water Quality Control Division, not my Division. |
| Colorado | Colorado Oil & Gas Conservation Commission | East Half of Colorado | An oil & gas operator would have to comply with the Water Quality Control Act and would need to have a discharge permit. |
| Colorado | Oil & Public Safety (Tanks) | Storage Tank Section | CDPHE/NPDES discharge permitting |
| Connecticut | Connecticut Department of Energy and Environmental Protection | Remediation | Groundwater must comply with regulatory surface water protection criteria developed to address this pathway. |
| District of Columbia | Department of Energy and Environment | LUST Program | Water Quality Division have specific standards for discharge to surface water...The standards are similar to groundwater standard. |
| Hawaii | Department of Health | Hazard Evaluation and Emergency Response | Groundwater must meet TPH screening levels for aquatic toxicity at point of discharge into a surface water body, unless otherwise approved by the agency. |
| Indiana | Department of Environmental Management | Science Service | Within emergency response to react to a sheen on the water. No published screening levels for TPH. |
| Louisiana | Louisiana Dept. of Environmental Quality | Remediation/UST | Discharge of impacted groundwater to surface water is not allowed in LA. (under various programs and regulations) |
| Maine | Maine Department of Environmental Protection | Technical Services Petroleum Program | No sheen or free product |
| Massachusetts | Department of Environmental Protection | Waste Site Cleanup | Generic standards (GW-3) based on potential surface water effects. |
| Mississippi | Mississippi Department of Environmental Quality | UST Program | We have both UST General Permit Discharge Standards as well as the National Water Quality Standards depending on what type of discharge it is. |
| Missouri | Department of Natural Resources | Hazardous Waste Program | However, guidance is not specific to TPH. It stipulates that contaminants (including TPH) in any discharge of GW to SW meet applicable target levels. |
| Montana | Department of Environmental Quality | Petroleum Tank Cleanup Section | Yes, this requires a permit with standards that must be met. |
| Nebraska | Department of Environmental Quality | Petroleum Remediation (LUST) | An NPDES permit is needed. |
| New Hampshire | Department of Environmental Services | Oil Remediation and Compliance | NHDES reviews and certifies submitted Notices of Intent for remediation activity discharges under the Federal NPDES Remediation General Permit (RGP Appendix VI) issued by USEPA to NH. Discharged water must meet a standard 5 mg/L for TPH. |
| Oklahoma | Department of Environmental Quality | Land Protection | Handled by separate division. |
| Oregon | Department of Environmental Quality | State CERCLA and LUST | We have a 1 ppm total TPH standard to address ecological concerns. Preliminarily, we have developed risk-based concentrations for TPH as it relates to aquatic risk. |
| Utah | Department of Environmental Quality - Division of Environmental Response and Remediation | Leaking Underground Storage Tanks | The Division of Water Quality uses TPH values for, UPDES permits, AST releases and other small fuel spills. |
| Virginia | Virginia Department of Environmental Quality | Petroleum | 15 mg/l TPH provided that there is no sheen on surface water. |
| Washington | Department of Ecology | Toxics Cleanup Program | Considered an ARAR |
| West Virginia | WV Department of Environmental Protection | Office of Environmental Remediation | Please see Item 5. above. Groundwater impacts to surface water and sediments are considered in all programs. |
| Wyoming | Wyoming Department of Environmental Quality | Voluntary Remediation Program/Hazardous Waste Permitting and Corrective Action | If groundwater is above a cleanup level then consider it to be unacceptable impact to surface water. |

Q10. Does your program have a specific protocol or field methods to require odor, visual or other field methods for characterizing TPH impacts? Select all that apply and provide any thresholds (quantitative or qualitative) associated with the method.

| State | State Agency Name | Program Area | Do not use field methods for characterizing TPH | Visual | Odor | PID/FID | Dye test (e.g. Oil-In-Soil) | Immunoassays (e.g. Hach) | LIF | Headspace testing for soil | Other (e.g. unique/specific to your program. Where applicable, provide quantitative or qualitative thresholds used with associated method) |
|----------------------|---|--|---|--------|------|---------|-----------------------------|--------------------------|-----|----------------------------|---|
| Alabama | Department of Environmental Management | Underground Storage Tanks | ✓ | | | | | | | | |
| Alaska | Alaska Department of Environmental Management | Contaminated Sites | ✓ | | | | | | | | |
| Arizona | Department of Environmental Quality | UST-LUST Section | ✓ | | | | | | | | |
| Arkansas | Arkansas Department of Environmental Quality | Regulated Waste Operations | ✓ | | | | | | | | Field methods are not used for characterization, but can assist in determining where to collect samples. |
| Arkansas | Arkansas Department of Environmental Quality | UST | ✓ | | | | | | | | |
| California | Water Board | | | | | | | | | | |
| Colorado | Colorado Department of Public Health and Environment | Hazardous Waste Corrective Action Unit | | ✓ | ✓ | ✓ | | | | | |
| Colorado | Colorado Oil & Gas Conservation Commission | East Half of Colorado | ✓ | | | | | | | | Almost all soil characterization work includes some type of field screening; however, COGCC does not have specific protocol for field screening and only uses analytical data from representative samples from a qualified lab to base regulatory decisions on. |
| Colorado | Oil & Public Safety (Tanks) | Storage Tank Section | | | | ✓ | ✓ | | ✓ | ✓ | |
| Connecticut | Connecticut Department of Energy and Environmental Protection | Remediation | ✓ | | | | | | | | only usable as supplemental line of evidence and as indicator to improve characterization of extent; cleanup determination based on analytical samples |
| Delaware | DNREC-Site Investigation and Restoration Section | State | | ✓ | ✓ | ✓ | | | | | These are noted on boring logs and used to bias the samples. |
| District of Columbia | Department of Energy and Environment | LUST Program | | ✓ | ✓ | ✓ | | | | | |
| Florida | Florida Department of Environmental Protection | Waste Management | | | | ✓ | | | | ✓ | Above used for screening purposes only. Samples must undergo fixed lab analysis. |
| Georgia | DNR - Environmental Protection Division | Response & Remediation Program | ✓ | | | | | | | | |
| Hawaii | Department of Health | Hazard Evaluation and Emergency Response | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | |
| Illinois | Illinois Environmental Protection Agency | Voluntary, State Lead and LUST cleanups | ✓ | | | | | | | | |
| Indiana | Department of Environmental Management | Science Service | ✓ | | | | | | | | |
| Iowa | Department of Natural Resources | Water Quality | ✓ | | | | | | | | |
| Kansas | Kansas Department of Health & Environment | Storage Tank Section | | ✓ | ✓ | ✓ | | | ✓ | ✓ | |
| Kentucky | Division of Waste Management | All | | | | ✓ | | | | | All the above may be used, but we do not have specific protocols. |
| Louisiana | Louisiana Dept. of Environmental Quality | Remediation/UST | ✓ | | | | | | | | The only time visual and PID field readings come into play are identifying the depth horizons from a sample boring to send to the lab for analysis. |

Q10. Does your program have a specific protocol or field methods to require odor, visual or other field methods for characterizing TPH impacts? Select all that apply and provide any thresholds (quantitative or qualitative) associated with the method.

| State | State Agency Name | Program Area | Do not use field methods for characterizing TPH | Visual | Odor | PID/FID | Dye test (e.g. Oil-In-Soil) | Immunoassays (e.g. Hach) | LIF | Headspace testing for soil | Other (e.g. unique/specific to your program. Where applicable, provide quantitative or qualitative thresholds used with associated method) |
|----------------|--|---|---|--------|------|---------|-----------------------------|--------------------------|-----|----------------------------|--|
| Maine | Maine Department of Environmental Protection | Technical Services Petroleum Program | | | ✓ | ✓ | ✓ | | | ✓ | Water shake test to determine oil saturated soil or free product |
| Massachusetts | Department of Environmental Protection | Waste Site Cleanup | | ✓ | ✓ | ✓ | | | | ✓ | |
| Michigan | Department of Environmental Quality - Remediation and Redevelopment Division | Part 201/Part 213 | | | | | | | ✓ | | |
| Minnesota | Minnesota Pollution Control Agency | Petroleum Remediation Program | | ✓ | | ✓ | | | | ✓ | PID/headspace thresholds: 40 ppmv for gasoline, Avgas, and ethanol blends; 10 ppmv for all other fuels/products |
| Mississippi | Mississippi Department Of Environmental Quality | Groundwater Assessment Remediation Division (non-UST) | | ✓ | ✓ | ✓ | | | | | GARD is open to any characterization method upon review and approval. |
| Mississippi | Mississippi Department of Environmental Quality | UST Program | | ✓ | ✓ | ✓ | | | | ✓ | For drilling or other assessment of soils, headspace readings with a PID/FID are taken. Typically, odor is documented and visual contamination (Free product, soil staining, etc.) is noted. |
| Missouri | Department of Natural Resources | Hazardous Waste Program | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | MO does not require field methods be used and does not have guidance specific to screening for TPH. A responsible party may use any of the above methods as part of their investigative approach, but all of those listed here would be used only qualitatively; confirmation and quantification using sampling and laboratory analysis is required both with regard to characterization and for risk assessment purposes. |
| Montana | Department of Environmental Quality | Petroleum Tank Cleanup Section | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | Any or all of these methods could be used but are not specifically required. |
| Nebraska | Department of Environmental Quality | Voluntary Cleanup and Superfund | ✓ | | | | | | | | |
| Nebraska | Department of Environmental Quality | Petroleum Remediation (LUST) | | ✓ | ✓ | ✓ | | | | ✓ | Any level or type of detection is to be reported. |
| Nevada | Nevada Division of Environmental Protection | Bureau of Corrective Actions | | ✓ | ✓ | ✓ | | | | | |
| New Hampshire | Department of Environmental Services | Oil Remediation and Compliance | | ✓ | ✓ | ✓ | | | | ✓ | Soil sample headspace PID/FID screening for total organic vapors less than 50 ppm for gasoline and 100 ppm for diesel/#2 fuel oil. These levels are regarded as surrogates for established soil remediation standards. |
| New Jersey | New Jersey Department of Environmental Protection | Site Remediation | ✓ | | | | | | | | NJ requirements for product both LNAPL and DNAPL is to treat or remove the material. If treatment or removal is not practicable than containment is necessary. NJ has guidance for LNAPL http://www.nj.gov/dep/srp/guidance/srra/lnapl_guidance.pdf |
| North Carolina | North Carolina | UST | | | | ✓ | | | ✓ | | |
| North Dakota | North Dakota Dept. of Health | Groundwater Division | | ✓ | ✓ | ✓ | | | | | |

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| State | State Agency Name | Program Area | Do not use field methods for characterizing TPH | Visual | Odor | PID/FID | Dye test (e.g. Oil-In-Soil) | Immunoassays (e.g. Hach) | LIF | Headspace testing for soil | Other (e.g. unique/specific to your program. Where applicable, provide quantitative or qualitative thresholds used with associated method) |
|----------------|--|--|---|--------|------|---------|-----------------------------|--------------------------|-----|----------------------------|---|
| Ohio | Ohio EPA | Voluntary Action Program | ✓ | | | | | | | | Require sampling of ground water and soil. |
| Oklahoma | Department of Environmental Quality | Land Protection | | ✓ | ✓ | | | | | ✓ | Visual is not acceptable for confirmation of "clean". |
| Oregon | Department of Environmental Quality | State CERCLA and LUST | | ✓ | ✓ | | | | | | shen testing. There isn't a specific protocol specified, however, if there is visual or olfactory evidence of contamination it is reportable condition/release. |
| Puerto Rico | Puerto Rico Environmental Quality Board | Regional Office | | ✓ | ✓ | ✓ | | | | ✓ | |
| Rhode Island | Department of Environmental Management | Waste Management | | ✓ | ✓ | ✓ | | ✓ | | ✓ | |
| South Carolina | South Carolina Department of Health and Environmental Control | UST Management Division | ✓ | | | | | | | | |
| Tennessee | TN Department of Environment and Conservation | Underground Storage Tanks | ✓ | | | | | | | | |
| Texas | Railroad Commission | Site Remediation Section | | ✓ | ✓ | ✓ | | | | ✓ | |
| Texas | Texas Commission on Environmental Quality (TCEQ) | Technical Program Support - Remediation Division | ✓ | | | | | | | | |
| Utah | Department of Environmental Quality - Division of Environmental Response and Remediation | Leaking Underground Storage Tanks | ✓ | | | | | | | | |
| Utah | DEQ, Division of Waste Management & Radiation Control | RCRA Correction Action Section | ✓ | | | | | | | | |
| Vermont | Dept. Environmental Conservation | Brownfields | | ✓ | ✓ | ✓ | | ✓ | | ✓ | |
| Virginia | Virginia Department of Environmental Quality | Petroleum | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | Persons characterizing a petroleum release often note observable conditions or utilize various screening tools. Virginia does not have specific protocols. |
| Washington | Department of Ecology | Toxics Cleanup Program | | ✓ | ✓ | ✓ | | | | | These are not required, but vast majority discuss in reports. |
| Wisconsin | Wisconsin Dept. of Natural Resources | Remediation and Redevelopment Program | | ✓ | ✓ | ✓ | | | | ✓ | In guidance only for field sampling. |
| West Virginia | WV Department of Environmental Protection | Office of Environmental Remediation | | | | ✓ | | | | | There is a protocol to leave half of the sample in a cooler; and remaining half is tested using a PID in a Ziploc bag |
| Wyoming | Wyoming Department of Environmental Quality | Voluntary Remediation Program/Hazardous Waste Permitting and Corrective Action | ✓ | | | | | | | | VRP: Not specifically required but many are implemented at every site. Storage Tank Program: Indicated field methods not used to characterize TPH. |
| Wyoming | Oil and Gas Conservation Commission | Supervisor | ✓ | | | | | | | | |

Q11. Which analytical parameters does your state or program use for regulatory compliance or evaluating soil or groundwater contaminated with TPH products? (Please check all that apply).

| State | State Agency Name | Program Area | Total TPH | | | | | | GRO or TPH-G | | | | | | DRO or TPH-D | | | | | | | |
|----------------------|---|--|--|----------|--------------------|----------------|-------------|--------------------------|--------------|--|----------|--------------------|----------------|-------------|--------------------------|-----------|--|----------|--------------------|----------------|-------------|--------------------------|
| | | | Requirements Not Based on Product Type | Gasoline | Diesel/#2 Fuel Oil | Heavy Fuel Oil | Mineral Oil | Waste Oil or Unknown Oil | Crude Oil | Requirements Not Based on Product Type | Gasoline | Diesel/#2 Fuel Oil | Heavy Fuel Oil | Mineral Oil | Waste Oil or Unknown Oil | Crude Oil | Requirements Not Based on Product Type | Gasoline | Diesel/#2 Fuel Oil | Heavy Fuel Oil | Mineral Oil | Waste Oil or Unknown Oil |
| Alabama | Department of Environmental Management | Underground Storage Tanks | | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Alaska | Alabama Department of Environmental Management | Contaminated Sites | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Arizona | Department of Environmental Quality | UST-LUST Section | | | | | | | | | | | | | | | | | | | | |
| Arkansas | Arkansas Department of Environmental Quality | Regulated Waste Operations | | ✓ | | | | | | | ✓ | | | | | | | ✓ | ✓ | | | |
| Arkansas | Arkansas Department of Environmental Quality | UST | ✓ | | | | | | | | ✓ | | | | | | | ✓ | ✓ | ✓ | | |
| California | Water Board | | | | | | | ✓ | | ✓ | | | | | | | | ✓ | | | | |
| Colorado | Colorado Department of Public Health and Environment | Hazardous Waste Corrective Action Unit | | | | ✓ | ✓ | ✓ | ✓ | | | | | | | | | ✓ | | | | |
| Colorado | Colorado Oil & Gas Conservation Commission | East Half of Colorado | | ✓ | ✓ | ✓ | | ✓ | ✓ | | ✓ | | ✓ | ✓ | | | | ✓ | ✓ | | ✓ | ✓ |
| Colorado | Oil & Public Safety (Tanks) | Storage Tank Section | | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | | | | | | | |
| Connecticut | Connecticut Department of Energy and Environmental Protection | Remediation | ✓ | | | | | | | | | | | | | | | | | | | |
| Delaware | DNREC-Site Investigation and Restoration Section | State | | | | | | | | | | | | | | | | | | | | |
| District of Columbia | Department of Energy and Environment | LUST Program | | ✓ | ✓ | ✓ | | ✓ | | | ✓ | | | ✓ | | | | ✓ | | | ✓ | |
| Florida | Florida Department of Environmental Protection | Waste Management | ✓ | | | | | | | ✓ | | | | | | | ✓ | | | | | |
| Georgia | DNR - Environmental Protection Division | Response & Remediation Program | | | | | | | | | | | | | | | | | | | | |
| Hawaii | Department of Health | Hazard Evaluation and Emergency Response | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | | ✓ | ✓ | | | ✓ | | ✓ | ✓ | ✓ |
| Illinois | Illinois Environmental Protection Agency | Voluntary, State Lead and LUST cleanups | ✓ | | | | | | | | ✓ | | | | | | | ✓ | ✓ | | ✓ | |
| Indiana | Department of Environmental Management | Science Service | | | | | | | | | | | | | | | | | | | | |
| Iowa | Department of Natural Resources | Water Quality | | | | | | | | | | | | | | | | | | | | |
| Kansas | Kansas Department of Health & Environment | Storage Tank Section | | | | | | | | | | | | | | | | | | | | |

Q11. Which analytical parameters does your state or program use for regulatory compliance or evaluating soil or groundwater contaminated with TPH products? (Please check all that apply).

| State | State Agency Name | Program Area | RRO/ORO or TPH-O | | | | | | Hydrocarbon fraction (e.g., VPH, EPH) | | | | | | |
|----------------------|---|--|--|----------|--------------------|----------------|-------------|--------------------------|---------------------------------------|--|--|--------------------|----------------|-------------|--------------------------|
| | | | Requirements Not Based on Product Type | Gasoline | Diesel/#2 Fuel Oil | Heavy Fuel Oil | Mineral Oil | Waste Oil or Unknown Oil | Crude Oil | Requirements Not Based on Product Type | Hydrocarbon fraction (e.g., VPH, EPH) - Gasoline | Diesel/#2 Fuel Oil | Heavy Fuel Oil | Mineral Oil | Waste Oil or Unknown Oil |
| Alabama | Department of Environmental Management | Underground Storage Tanks | | | | | | | | | | | | | |
| Alaska | Alabama Department of Environmental Management | Contaminated Sites | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | |
| Arizona | Department of Environmental Quality | UST-LUST Section | | | | | | | | | | | | | |
| Arkansas | Arkansas Department of Environmental Quality | Regulated Waste Operations | | | | | | | | | | | | | |
| Arkansas | Arkansas Department of Environmental Quality | UST | | | | | | ✓ | | | | | | | |
| California | Water Board | | | | | ✓ | ✓ | ✓ | | | | | | | |
| Colorado | Colorado Department of Public Health and Environment | Hazardous Waste Corrective Action Unit | | | | | | | | | | | | | |
| Colorado | Colorado Oil & Gas Conservation Commission | East Half of Colorado | | | | ✓ | | ✓ | ✓ | | | | | | |
| Colorado | Oil & Public Safety (Tanks) | Storage Tank Section | | | | | | | | | | | | | |
| Connecticut | Connecticut Department of Energy and Environmental Protection | Remediation | | | | | | | ✓ | | | | | | |
| Delaware | DNREC-Site Investigation and Restoration Section | State | | | | | | | | | | | | | |
| District of Columbia | Department of Energy and Environment | LUST Program | | | ✓ | ✓ | | ✓ | | | | | | | |
| Florida | Florida Department of Environmental Protection | Waste Management | ✓ | | | | | | ✓ | | | | | | |
| Georgia | DNR - Environmental Protection Division | Response & Remediation Program | | | | | | | | | | | | | |
| Hawaii | Department of Health | Hazard Evaluation and Emergency Response | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Illinois | Illinois Environmental Protection Agency | Voluntary, State Lead and LUST cleanups | ✓ | | | | | | ✓ | | | | | | |
| Indiana | Department of Environmental Management | Science Service | | | | | | | | | | | | | |
| Iowa | Department of Natural Resources | Water Quality | | | | | | | | | | | | | |
| Kansas | Kansas Department of Health & Environment | Storage Tank Section | | | | | | | ✓ | | | | | | |

Q11. Which analytical parameters does your state or program use for regulatory compliance or evaluating soil or groundwater contaminated with TPH products? (Please check all that apply).

| State | State Agency Name | Program Area | BTEX | | | | | | | PAHs | | | | | | Napthalene / 2methynapthalene | | | | | | |
|----------------------|---|--|--|----------|--------------------|----------------|-------------|--------------------------|-----------|--|----------|--------------------|----------------|-------------|--------------------------|-------------------------------|--|----------|--------------------|----------------|-------------|--------------------------|
| | | | Requirements Not Based on Product Type | Gasoline | Diesel/#2 Fuel Oil | Heavy Fuel Oil | Mineral Oil | Waste Oil or Unknown Oil | Crude Oil | Requirements Not Based on Product Type | Gasoline | Diesel/#2 Fuel Oil | Heavy Fuel Oil | Mineral Oil | Waste Oil or Unknown Oil | Crude Oil | Requirements Not Based on Product Type | Gasoline | Diesel/#2 Fuel Oil | Heavy Fuel Oil | Mineral Oil | Waste Oil or Unknown Oil |
| Alabama | Department of Environmental Management | Underground Storage Tanks | | ✓ | ✓ | | | ✓ | | | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Alaska | Alabama Department of Environmental Management | Contaminated Sites | | ✓ | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | | ✓ | | | ✓ | ✓ | ✓ | | ✓ | |
| Arizona | Department of Environmental Quality | UST-LUST Section | | ✓ | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | | ✓ | | | ✓ | ✓ | ✓ | | ✓ | |
| Arkansas | Arkansas Department of Environmental Quality | Regulated Waste Operations | | ✓ | ✓ | | | ✓ | | ✓ | ✓ | | | ✓ | | | ✓ | | | | | |
| Arkansas | Arkansas Department of Environmental Quality | UST | | ✓ | ✓ | | | | | | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | |
| California | Water Board | | | ✓ | ✓ | | | ✓ | | | | ✓ | | ✓ | ✓ | | ✓ | ✓ | | | ✓ | |
| Colorado | Colorado Department of Public Health and Environment | Hazardous Waste Corrective Action Unit | | ✓ | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | ✓ | ✓ | | ✓ | ✓ | | ✓ | ✓ |
| Colorado | Colorado Oil & Gas Conservation Commission | East Half of Colorado | | ✓ | ✓ | ✓ | | ✓ | ✓ | | ✓ | ✓ | ✓ | | ✓ | | | ✓ | ✓ | | ✓ | ✓ |
| Colorado | Oil & Public Safety (Tanks) | Storage Tank Section | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | | | | | | | |
| Connecticut | Connecticut Department of Energy and Environmental Protection | Remediation | ✓ | | | | | | | ✓ | | | | | | | ✓ | | | | | |
| Delaware | DNREC-Site Investigation and Restoration Section | State | ✓ | | | | | | | ✓ | | | | | | | ✓ | | | | | |
| District of Columbia | Department of Energy and Environment | LUST Program | | ✓ | | | | | | | | ✓ | ✓ | | ✓ | | | | | | ✓ | |
| Florida | Florida Department of Environmental Protection | Waste Management | ✓ | | | | | | | ✓ | | | | | | | ✓ | | | | | |
| Georgia | DNR - Environmental Protection Division | Response & Remediation Program | ✓ | | | | | | | ✓ | | | | | | | ✓ | | | | | |
| Hawaii | Department of Health | Hazard Evaluation and Emergency Response | | ✓ | ✓ | | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Illinois | Illinois Environmental Protection Agency | Voluntary, State Lead and LUST cleanups | | ✓ | | | | | | | | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | | ✓ | |
| Indiana | Department of Environmental Management | Science Service | | ✓ | ✓ | | | ✓ | | | | ✓ | ✓ | | ✓ | | ✓ | | | | ✓ | |
| Iowa | Department of Natural Resources | Water Quality | | ✓ | | | | | | | | | | | | | | | | | | |
| Kansas | Kansas Department of Health & Environment | Storage Tank Section | ✓ | | | | | | | ✓ | | | | | | | ✓ | | | | | |

Q11. Which analytical parameters does your state or program use for regulatory compliance or evaluating soil or groundwater contaminated with TPH products? (Please check all that apply).

| State | State Agency Name | Program Area | SVOCs | | | | | | TICs | | | | | | Additives (e.g. MTBE, EDB, lead) | | | | | | | | |
|----------------------|---|--|--|----------|--------------------|----------------|-------------|--------------------------|-----------|--|----------|--------------------|----------------|-------------|----------------------------------|-----------|--|----------|--------------------|----------------|-------------|--------------------------|-----------|
| | | | Requirements Not Based on Product Type | Gasoline | Diesel/#2 Fuel Oil | Heavy Fuel Oil | Mineral Oil | Waste Oil or Unknown Oil | Crude Oil | Requirements Not Based on Product Type | Gasoline | Diesel/#2 Fuel Oil | Heavy Fuel Oil | Mineral Oil | Waste Oil or Unknown Oil | Crude Oil | Requirements Not Based on Product Type | Gasoline | Diesel/#2 Fuel Oil | Heavy Fuel Oil | Mineral Oil | Waste Oil or Unknown Oil | Crude Oil |
| Alabama | Department of Environmental Management | Underground Storage Tanks | | | | | | ✓ | | | | | | | | | ✓ | | | | | ✓ | |
| Alaska | Alabama Department of Environmental Management | Contaminated Sites | | ✓ | ✓ | | | ✓ | | | | | | | | | ✓ | | | | | ✓ | |
| Arizona | Department of Environmental Quality | UST-LUST Section | | ✓ | ✓ | ✓ | | ✓ | | ✓ | ✓ | | | | | | ✓ | ✓ | | | | | |
| Arkansas | Arkansas Department of Environmental Quality | Regulated Waste Operations | | | | | | ✓ | | | | | | | | | ✓ | | | | | | |
| Arkansas | Arkansas Department of Environmental Quality | UST | | ✓ | ✓ | | | | | | | | | | | | ✓ | | | | | | |
| California | Water Board | | | | | | | ✓ | | | | | | | | | ✓ | ✓ | | | | ✓ | |
| Colorado | Colorado Department of Public Health and Environment | Hazardous Waste Corrective Action Unit | | | ✓ | | | ✓ | ✓ | | | | | | | | ✓ | | | | | | |
| Colorado | Colorado Oil & Gas Conservation Commission | East Half of Colorado | | ✓ | ✓ | ✓ | | ✓ | ✓ | | | | | | | | ✓ | | | | | | |
| Colorado | Oil & Public Safety (Tanks) | Storage Tank Section | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | ✓ | ✓ | | | | | | |
| Connecticut | Connecticut Department of Energy and Environmental Protection | Remediation | ✓ | | | | | | | | | | | | | ✓ | | | | | | | |
| Delaware | DNREC-Site Investigation and Restoration Section | State | ✓ | | | | | | | ✓ | | | | | | ✓ | | | | | | | |
| District of Columbia | Department of Energy and Environment | LUST Program | | | ✓ | ✓ | | ✓ | | | | | | | | | ✓ | | | | | ✓ | |
| Florida | Florida Department of Environmental Protection | Waste Management | ✓ | | | | | | | | | | | | | ✓ | | | | | | | |
| Georgia | DNR - Environmental Protection Division | Response & Remediation Program | ✓ | | | | | | | | | | | | | ✓ | | | | | | | |
| Hawaii | Department of Health | Hazard Evaluation and Emergency Response | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | ✓ | | | | | ✓ | |
| Illinois | Illinois Environmental Protection Agency | Voluntary, State Lead and LUST cleanups | | | ✓ | ✓ | | ✓ | | ✓ | | | | | | | ✓ | | | | | | |
| Indiana | Department of Environmental Management | Science Service | | | | | | | | | | | | | | | ✓ | | | | | ✓ | |
| Iowa | Department of Natural Resources | Water Quality | | | | | | | | | | | | | | | ✓ | | | | | | |
| Kansas | Kansas Department of Health & Environment | Storage Tank Section | ✓ | | | | | | | | | | | | | ✓ | | | | | | | |

Q11. Which analytical parameters does your state or program use for regulatory compliance or evaluating soil or groundwater contaminated with TPH products? (Please check all that apply).

| State | State Agency Name | Program Area | Total TPH | | | | | | GRO or TPH-G | | | | | | DRO or TPH-D | | | | | | | | |
|----------------|--|---|--|----------|--------------------|----------------|-------------|--------------------------|--------------|--|----------|--------------------|----------------|-------------|--------------------------|-----------|--|----------|--------------------|----------------|-------------|--------------------------|-----------|
| | | | Requirements Not Based on Product Type | Gasoline | Diesel/#2 Fuel Oil | Heavy Fuel Oil | Mineral Oil | Waste Oil or Unknown Oil | Crude Oil | Requirements Not Based on Product Type | Gasoline | Diesel/#2 Fuel Oil | Heavy Fuel Oil | Mineral Oil | Waste Oil or Unknown Oil | Crude Oil | Requirements Not Based on Product Type | Gasoline | Diesel/#2 Fuel Oil | Heavy Fuel Oil | Mineral Oil | Waste Oil or Unknown Oil | Crude Oil |
| Kentucky | Division of Waste Management | All | | | | | | | | ✓ | | | | | | | | ✓ | | | | | |
| Louisiana | Louisiana Dept of Environmental Quality | Remediation/UST | ✓ | | | | ✓ | | | ✓ | | | | ✓ | ✓ | | | ✓ | ✓ | | ✓ | ✓ | |
| Maine | Maine Department of Environmental Protection | Technical Services Petroleum Program | | | ✓ | | | | | | | | | | | | | | | | | | |
| Massachusetts | Department of Environmental Protection | Waste Site Cleanup | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | | | | | | | | |
| Michigan | Department of Environmental Quality - Remediation and Redevelopment Division | Part 201/Part 213 | | | | | | | | ✓ | | | | ✓ | | | | ✓ | | ✓ | ✓ | | |
| Minnesota | Minnesota Pollution Control Agency | Petroleum Remediation Program | | | | | | | | ✓ | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Mississippi | Mississippi Department Of Environmental Quality | Groundwater Assessment Remediation Division (non-UST) | ✓ | | | | | | | ✓ | | | | | | ✓ | | | | | | | |
| Mississippi | Mississippi Department of Environmental Quality | UST Program | | | | | | | | | | | | | | | | | | | | | |
| Missouri | Department of Natural Resources | Hazardous Waste Program | | | | | | | | ✓ | | | | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Montana | Department of Environmental Quality | Petroleum Tank Cleanup Section | | | | | | | | | | | | | | | | | | | | | |
| Nebraska | Department of Environmental Quality | Voluntary Cleanup and Superfund | | | | | | | | | | | | | | | | | | | | | |
| Nebraska | Department of Environmental Quality | Petroleum Remediation (LUST) | | | | | | | | | | | | | | | | ✓ | ✓ | | ✓ | ✓ | |
| Nevada | Nevada Division of Environmental Protection | Bureau of Corrective Actions | ✓ | | | | | | | ✓ | | | | | | | | ✓ | | | | | |
| New Hampshire | Department of Environmental Services | Oil Remediation and Compliance | | | | ✓ | ✓ | ✓ | | ✓ | | | | | | | | ✓ | | | | | |
| New Jersey | New Jersey Department of Environmental Protection | Site Remediation | | | | | | | | | | | | | | | | | | | | | |
| North Carolina | North Carolina | UST | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | ✓ | ✓ | ✓ | ✓ | ✓ | |
| North Dakota | North Dakota Dept. of Health | Groundwater Division | ✓ | | | | | | | ✓ | | | | | | ✓ | | | | | | | |
| Ohio | Ohio EPA | Voluntary Action Program | ✓ | | | | | | | ✓ | | | | | | ✓ | | | | | | | |
| Oklahoma | Department of Environmental Quality | Land Protection | ✓ | | | | | | | ✓ | | | | | | ✓ | | | | | | | |
| Oregon | Department of Environmental Quality | State CERCLA and LUST | | | | | | | | ✓ | | | | ✓ | ✓ | ✓ | | | | ✓ | ✓ | ✓ | |

Q11. Which analytical parameters does your state or program use for regulatory compliance or evaluating soil or groundwater contaminated with TPH products? (Please check all that apply).

| State | State Agency Name | Program Area | RRO/ORO or TPH-O | | | | | | Hydrocarbon fraction (e.g., VPH, EPH) | | | | | | |
|----------------|--|---|--|----------|--------------------|----------------|-------------|--------------------------|---------------------------------------|--|--|--------------------|----------------|-------------|--------------------------|
| | | | Requirements Not Based on Product Type | Gasoline | Diesel/#2 Fuel Oil | Heavy Fuel Oil | Mineral Oil | Waste Oil or Unknown Oil | Crude Oil | Requirements Not Based on Product Type | Hydrocarbon fraction (e.g., VPH, EPH) - Gasoline | Diesel/#2 Fuel Oil | Heavy Fuel Oil | Mineral Oil | Waste Oil or Unknown Oil |
| Kentucky | Division of Waste Management | All | | | | | | | | | | | | | |
| Louisiana | Louisiana Dept of Environmental Quality | Remediation/UST | | | | ✓ | | ✓ | ✓ | | ✓ | ✓ | ✓ | | ✓ |
| Maine | Maine Department of Environmental Protection | Technical Services Petroleum Program | | | | | | | | ✓ | ✓ | | | ✓ | |
| Massachusetts | Department of Environmental Protection | Waste Site Cleanup | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Michigan | Department of Environmental Quality - Remediation and Redevelopment Division | Part 201/Part 213 | | | | ✓ | | ✓ | ✓ | | | | | | |
| Minnesota | Minnesota Pollution Control Agency | Petroleum Remediation Program | | | | | | | | | | | | | |
| Mississippi | Mississippi Department Of Environmental Quality | Groundwater Assessment Remediation Division (non-UST) | ✓ | | | | | | ✓ | | | | | | |
| Mississippi | Mississippi Department of Environmental Quality | UST Program | | | | | | | | | | | | | |
| Missouri | Department of Natural Resources | Hazardous Waste Program | | | | ✓ | ✓ | ✓ | ✓ | | | | | | |
| Montana | Department of Environmental Quality | Petroleum Tank Cleanup Section | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Nebraska | Department of Environmental Quality | Voluntary Cleanup and Superfund | | | | | | | | | | | | | |
| Nebraska | Department of Environmental Quality | Petroleum Remediation (LUST) | | | | | | | | | | | | | |
| Nevada | Nevada Division of Environmental Protection | Bureau of Corrective Actions | | | | | | ✓ | ✓ | | | | | | |
| New Hampshire | Department of Environmental Services | Oil Remediation and Compliance | | | | | | | | | | | | | |
| New Jersey | New Jersey Department of Environmental Protection | Site Remediation | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ |
| North Carolina | North Carolina | UST | | | | | | | | ✓ | ✓ | ✓ | | ✓ | |
| North Dakota | North Dakota Dept. of Health | Groundwater Division | ✓ | | | | | | ✓ | | | | | | |
| Ohio | Ohio EPA | Voluntary Action Program | ✓ | | | | | | | | | | | | |
| Oklahoma | Department of Environmental Quality | Land Protection | ✓ | | | | | | ✓ | | | | | | |
| Oregon | Department of Environmental Quality | State CERCLA and LUST | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

Q11. Which analytical parameters does your state or program use for regulatory compliance or evaluating soil or groundwater contaminated with TPH products? (Please check all that apply).

| State | State Agency Name | Program Area | BTEX | | | | | | | PAHs | | | | | | Naphthalene / 2methynaphthalene | | | | | | | |
|----------------|--|---|--|----------|--------------------|----------------|-------------|--------------------------|-----------|--|----------|--------------------|----------------|-------------|--------------------------|---------------------------------|--|----------|--------------------|----------------|-------------|--------------------------|-----------|
| | | | Requirements Not Based on Product Type | Gasoline | Diesel/#2 Fuel Oil | Heavy Fuel Oil | Mineral Oil | Waste Oil or Unknown Oil | Crude Oil | Requirements Not Based on Product Type | Gasoline | Diesel/#2 Fuel Oil | Heavy Fuel Oil | Mineral Oil | Waste Oil or Unknown Oil | Crude Oil | Requirements Not Based on Product Type | Gasoline | Diesel/#2 Fuel Oil | Heavy Fuel Oil | Mineral Oil | Waste Oil or Unknown Oil | Crude Oil |
| Kentucky | Division of Waste Management | All | | ✓ | | | | | | | | | | | | | | | | | | | |
| Louisiana | Louisiana Dept of Environmental Quality | Remediation/UST | | ✓ | | | | ✓ | | | | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | ✓ | ✓ |
| Maine | Maine Department of Environmental Protection | Technical Services Petroleum Program | | ✓ | | | | | | | | ✓ | | | | | | | ✓ | | | | |
| Massachusetts | Department of Environmental Protection | Waste Site Cleanup | | ✓ | ✓ | | | ✓ | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ |
| Michigan | Department of Environmental Quality - Remediation and Redevelopment Division | Part 201/Part 213 | | ✓ | ✓ | | | ✓ | | | | ✓ | | ✓ | | | ✓ | ✓ | | | ✓ | | |
| Minnesota | Minnesota Pollution Control Agency | Petroleum Remediation Program | ✓ | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ |
| Mississippi | Mississippi Department Of Environmental Quality | Groundwater Assessment Remediation Division (non-UST) | ✓ | | | | | | | ✓ | | | | | | | ✓ | | | | | | |
| Mississippi | Mississippi Department of Environmental Quality | UST Program | | ✓ | | | | | | | | ✓ | ✓ | | ✓ | | | | ✓ | ✓ | | ✓ | |
| Missouri | Department of Natural Resources | Hazardous Waste Program | | ✓ | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | | ✓ | ✓ |
| Montana | Department of Environmental Quality | Petroleum Tank Cleanup Section | | ✓ | ✓ | | | ✓ | ✓ | | | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | ✓ | ✓ |
| Nebraska | Department of Environmental Quality | Voluntary Cleanup and Superfund | ✓ | | | | | | | ✓ | | | | | | | ✓ | | | | | | |
| Nebraska | Department of Environmental Quality | Petroleum Remediation (LUST) | | ✓ | ✓ | | | ✓ | ✓ | | | | | | | | | | ✓ | ✓ | | ✓ | ✓ |
| Nevada | Nevada Division of Environmental Protection | Bureau of Corrective Actions | | ✓ | | | | | | | ✓ | ✓ | | | | | | | ✓ | | | | |
| New Hampshire | Department of Environmental Services | Oil Remediation and Compliance | | ✓ | | | | | | | | ✓ | | | | | ✓ | ✓ | | | | | |
| New Jersey | New Jersey Department of Environmental Protection | Site Remediation | | | | | | | | | | | | | | | | | | | | | |
| North Carolina | North Carolina | UST | | | | | | | | | | | | | | | | | | | | | |
| North Dakota | North Dakota Dept. of Health | Groundwater Division | ✓ | | | | | | | ✓ | | | | | | | ✓ | | | | | | |
| Ohio | Ohio EPA | Voluntary Action Program | ✓ | | | | | | | ✓ | | | | | | | | | | | | | |
| Oklahoma | Department of Environmental Quality | Land Protection | | ✓ | | | ✓ | ✓ | ✓ | | | | | ✓ | | | | | | | | ✓ | |
| Oregon | Department of Environmental Quality | State CERCLA and LUST | | ✓ | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | ✓ | ✓ | | | | | | | |

Q11. Which analytical parameters does your state or program use for regulatory compliance or evaluating soil or groundwater contaminated with TPH products? (Please check all that apply).

| State | State Agency Name | Program Area | SVOCs | | | | | | TICs | | | | | | Additives (e.g. MTBE, EDB, lead) | | | | | | | | |
|----------------|--|---|--|----------|--------------------|----------------|-------------|--------------------------|-----------|--|----------|--------------------|----------------|-------------|----------------------------------|-----------|--|----------|--------------------|----------------|-------------|--------------------------|-----------|
| | | | Requirements Not Based on Product Type | Gasoline | Diesel/#2 Fuel Oil | Heavy Fuel Oil | Mineral Oil | Waste Oil or Unknown Oil | Crude Oil | Requirements Not Based on Product Type | Gasoline | Diesel/#2 Fuel Oil | Heavy Fuel Oil | Mineral Oil | Waste Oil or Unknown Oil | Crude Oil | Requirements Not Based on Product Type | Gasoline | Diesel/#2 Fuel Oil | Heavy Fuel Oil | Mineral Oil | Waste Oil or Unknown Oil | Crude Oil |
| Kentucky | Division of Waste Management | All | | | ✓ | | | | | | | | | | | | | | | | | | |
| Louisiana | Louisiana Dept of Environmental Quality | Remediation/UST | | | | | | | | | | | | | | | ✓ | | | | | ✓ | |
| Maine | Maine Department of Environmental Protection | Technical Services Petroleum Program | | | ✓ | | | | | | | | | | | | ✓ | | | | | | |
| Massachusetts | Department of Environmental Protection | Waste Site Cleanup | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | | | | ✓ | |
| Michigan | Department of Environmental Quality - Remediation and Redevelopment Division | Part 201/Part 213 | | | ✓ | ✓ | | ✓ | ✓ | | | | | | | | ✓ | | | | | | |
| Minnesota | Minnesota Pollution Control Agency | Petroleum Remediation Program | | | | | | | | | | | | | | ✓ | | | | | | | |
| Mississippi | Mississippi Department Of Environmental Quality | Groundwater Assessment Remediation Division (non-UST) | ✓ | | | | | | | ✓ | | | | | | ✓ | | | | | | | |
| Mississippi | Mississippi Department of Environmental Quality | UST Program | | | | | | | | | | | | | | | ✓ | | | | | | |
| Missouri | Department of Natural Resources | Hazardous Waste Program | | | | | | | | | | | | | | | ✓ | ✓ | | | | | |
| Montana | Department of Environmental Quality | Petroleum Tank Cleanup Section | | | | | | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Nebraska | Department of Environmental Quality | Voluntary Cleanup and Superfund | ✓ | | | | | | | | | | | | | | | | | | | | |
| Nebraska | Department of Environmental Quality | Petroleum Remediation (LUST) | | | | | | | | | | | | | | | ✓ | | | | | | |
| Nevada | Nevada Division of Environmental Protection | Bureau of Corrective Actions | | ✓ | | | | | | ✓ | | | | | | ✓ | | | | | | | |
| New Hampshire | Department of Environmental Services | Oil Remediation and Compliance | | | | | | | | | | | | | | | | | | | | | |
| New Jersey | New Jersey Department of Environmental Protection | Site Remediation | | | | | | | | | | | | | | | | | | | | | |
| North Carolina | North Carolina | UST | | ✓ | ✓ | ✓ | | ✓ | | | | | | | | | ✓ | ✓ | ✓ | | | ✓ | |
| North Dakota | North Dakota Dept. of Health | Groundwater Division | ✓ | | | | | | | ✓ | | | | | | ✓ | | | | | | | |
| Ohio | Ohio EPA | Voluntary Action Program | ✓ | | | | | | | | | | | | | ✓ | | | | | | | |
| Oklahoma | Department of Environmental Quality | Land Protection | | | | | | ✓ | | | | | | | | | | | | | | | |
| Oregon | Department of Environmental Quality | State CERCLA and LUST | | | | | | | | | | | | | | | ✓ | | | | | ✓ | |

Q11. Which analytical parameters does your state or program use for regulatory compliance or evaluating soil or groundwater contaminated with TPH products? (Please check all that apply).

| State | State Agency Name | Program Area | Total TPH | | | | | | | GRO or TPH-G | | | | | | DRO or TPH-D | | | | | | | |
|----------------|--|--|--|----------|--------------------|----------------|-------------|--------------------------|-----------|--|----------|--------------------|----------------|-------------|--------------------------|--------------|--|----------|--------------------|----------------|-------------|--------------------------|-----------|
| | | | Requirements Not Based on Product Type | Gasoline | Diesel/#2 Fuel Oil | Heavy Fuel Oil | Mineral Oil | Waste Oil or Unknown Oil | Crude Oil | Requirements Not Based on Product Type | Gasoline | Diesel/#2 Fuel Oil | Heavy Fuel Oil | Mineral Oil | Waste Oil or Unknown Oil | Crude Oil | Requirements Not Based on Product Type | Gasoline | Diesel/#2 Fuel Oil | Heavy Fuel Oil | Mineral Oil | Waste Oil or Unknown Oil | Crude Oil |
| Puerto Rico | Puerto Rico Environmental Quality Board | Regional Office | ✓ | | | | | | | ✓ | | | | | | | | ✓ | | | | | |
| Rhode Island | Department of Environmental Management | Waste Management | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | ✓ | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| South Carolina | South Carolina Department of Health and Environmental Control | UST Management Division | | | | ✓ | ✓ | ✓ | ✓ | | | | ✓ | ✓ | | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ |
| Tennessee | TN Department of Environment and Conservation | Underground Storage Tanks | | | | | | | | | | | | | | | | | | | | | |
| Texas | Railroad Commission | Site Remediation Section | | | | | | | ✓ | | | | | | | ✓ | | | | | | | ✓ |
| Texas | Texas Commission on Environmental Quality (TCEQ) | Technical Program Support - Remediation Division | ✓ | | | | ✓ | ✓ | | | | | | | | | | | | | | | |
| Utah | Department of Environmental Quality - Division of Environmental Response and Remediation | Leaking Underground Storage Tanks | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | ✓ | | | | | |
| Utah | DEQ, Division of Waste Management & Radiation Control | RCRA Correction Action Section | | | | | | | | | | | | | | | | | | | | | |
| Vermont | Dept. Environmental Conservation | Brownfields | ✓ | | | | | | ✓ | ✓ | ✓ | | | | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Virginia | Virginia Department of Environmental Quality | Petroleum | | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Washington | Department of Ecology | Toxics Cleanup Program | | ✓ | | | | ✓ | | ✓ | | | | ✓ | | | | ✓ | | | | ✓ | |
| Wisconsin | Wisconsin Dept. of Natural Resources | Remediation and Redevelopment Program | | | | | | | | | | | | | | | | | | | | | |
| West Virginia | WV Department of Environmental Protection | Office of Environmental Remediation | | | | | | | | ✓ | | | | | | | | ✓ | ✓ | ✓ | | | ✓ |
| Wyoming | Wyoming Department of Environmental Quality | Voluntary Remediation Program/Hazardous Waste Permitting and Corrective Action | | | | | | | | ✓ | | | | ✓ | | | | ✓ | ✓ | | | ✓ | |
| Wyoming | Oil and Gas Conservation Commission | Supervisor | | | | | | | ✓ | | | | | | ✓ | | | | | | | | ✓ |

Q11. Which analytical parameters does your state or program use for regulatory compliance or evaluating soil or groundwater contaminated with TPH products? (Please check all that apply).

| State | State Agency Name | Program Area | RRO/ORO or TPH-O | | | | | | Hydrocarbon fraction (e.g., VPH, EPH) | | | | | | |
|----------------|--|--|--|----------|--------------------|----------------|-------------|--------------------------|---------------------------------------|--|--|--------------------|----------------|-------------|--------------------------|
| | | | Requirements Not Based on Product Type | Gasoline | Diesel/#2 Fuel Oil | Heavy Fuel Oil | Mineral Oil | Waste Oil or Unknown Oil | Crude Oil | Requirements Not Based on Product Type | Hydrocarbon fraction (e.g., VPH, EPH) - Gasoline | Diesel/#2 Fuel Oil | Heavy Fuel Oil | Mineral Oil | Waste Oil or Unknown Oil |
| Puerto Rico | Puerto Rico Environmental Quality Board | Regional Office | | | | | | | | | | | | | |
| Rhode Island | Department of Environmental Management | Waste Management | | | | | | | | | | | | | |
| South Carolina | South Carolina Department of Health and Environmental Control | UST Management Division | ✓ | | | | | | | | | ✓ | | ✓ | |
| Tennessee | TN Department of Environment and Conservation | Underground Storage Tanks | | | | | | | | | | | | | |
| Texas | Railroad Commission | Site Remediation Section | | | | | | | | | | | | | |
| Texas | Texas Commission on Environmental Quality (TCEQ) | Technical Program Support - Remediation Division | | | | | | | | | | | | | |
| Utah | Department of Environmental Quality - Division of Environmental Response and Remediation | Leaking Underground Storage Tanks | | | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | | ✓ | |
| Utah | DEQ, Division of Waste Management & Radiation Control | RCRA Correction Action Section | | | | | | | | | | | | | |
| Vermont | Dept. Environmental Conservation | Brownfields | | | | | | | | | | | | | |
| Virginia | Virginia Department of Environmental Quality | Petroleum | | | ✓ | ✓ | ✓ | ✓ | | | | | | | |
| Washington | Department of Ecology | Toxics Cleanup Program | | | | | | | | ✓ | | | | | |
| Wisconsin | Wisconsin Dept. of Natural Resources | Remediation and Redevelopment Program | | | | | | | | | | | | | |
| West Virginia | WV Department of Environmental Protection | Office of Environmental Remediation | | | | | ✓ | ✓ | ✓ | | | | | | |
| Wyoming | Wyoming Department of Environmental Quality | Voluntary Remediation Program/Hazardous Waste Permitting and Corrective Action | | | | | | | | | | | | | |
| Wyoming | Oil and Gas Conservation Commission | Supervisor | | | | | | | ✓ | | | | | | |

Q11. Which analytical parameters does your state or program use for regulatory compliance or evaluating soil or groundwater contaminated with TPH products? (Please check all that apply).

| State | State Agency Name | Program Area | BTEX | | | | | | | PAHs | | | | | | Naphthalene / 2methynapthalene | | | | | | | |
|----------------|--|--|--|----------|--------------------|----------------|-------------|--------------------------|-----------|--|----------|--------------------|----------------|-------------|--------------------------|--------------------------------|--|----------|--------------------|----------------|-------------|--------------------------|-----------|
| | | | Requirements Not Based on Product Type | Gasoline | Diesel/#2 Fuel Oil | Heavy Fuel Oil | Mineral Oil | Waste Oil or Unknown Oil | Crude Oil | Requirements Not Based on Product Type | Gasoline | Diesel/#2 Fuel Oil | Heavy Fuel Oil | Mineral Oil | Waste Oil or Unknown Oil | Crude Oil | Requirements Not Based on Product Type | Gasoline | Diesel/#2 Fuel Oil | Heavy Fuel Oil | Mineral Oil | Waste Oil or Unknown Oil | Crude Oil |
| Puerto Rico | Puerto Rico Environmental Quality Board | Regional Office | ✓ | | | | | | | ✓ | | | | | | | ✓ | | | | | | |
| Rhode Island | Department of Environmental Management | Waste Management | | ✓ | | | | | ✓ | | | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| South Carolina | South Carolina Department of Health and Environmental Control | UST Management Division | | ✓ | ✓ | | | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | |
| Tennessee | TN Department of Environment and Conservation | Underground Storage Tanks | | ✓ | ✓ | | | | | | | ✓ | | | | | ✓ | ✓ | | | | | |
| Texas | Railroad Commission | Site Remediation Section | | | | | | | ✓ | | | | | | | ✓ | | | | | | | ✓ |
| Texas | Texas Commission on Environmental Quality (TCEQ) | Technical Program Support - Remediation Division | | ✓ | | | | ✓ | | | ✓ | ✓ | ✓ | | ✓ | | | | | | | | |
| Utah | Department of Environmental Quality - Division of Environmental Response and Remediation | Leaking Underground Storage Tanks | | | ✓ | | | ✓ | | | | ✓ | | ✓ | | | ✓ | ✓ | | | | | |
| Utah | DEQ, Division of Waste Management & Radiation Control | RCRA Correction Action Section | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Vermont | Dept. Environmental Conservation | Brownfields | ✓ | ✓ | ✓ | | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | | |
| Virginia | Virginia Department of Environmental Quality | Petroleum | | ✓ | | | | | | | | ✓ | ✓ | | ✓ | | | | | | | | |
| Washington | Department of Ecology | Toxics Cleanup Program | | ✓ | | | | | | | | | | | | | | | | | | | |
| Wisconsin | Wisconsin Dept. of Natural Resources | Remediation and Redevelopment Program | ✓ | | | | | | | | | ✓ | ✓ | | ✓ | ✓ | | ✓ | ✓ | | ✓ | ✓ | |
| West Virginia | WV Department of Environmental Protection | Office of Environmental Remediation | | ✓ | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | |
| Wyoming | Wyoming Department of Environmental Quality | Voluntary Remediation Program/Hazardous Waste Permitting and Corrective Action | | ✓ | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | ✓ | ✓ | | ✓ | ✓ | | ✓ | ✓ | |
| Wyoming | Oil and Gas Conservation Commission | Supervisor | | | | | | | ✓ | | | | | | | | | | | | | | |

Q11. Which analytical parameters does your state or program use for regulatory compliance or evaluating soil or groundwater contaminated with TPH products? (Please check all that apply).

| State | State Agency Name | Program Area | SVOCs | | | | | | TICs | | | | | | Additives (e.g. MTBE, EDB, lead) | | | | | | | | |
|----------------|--|--|--|----------|--------------------|----------------|-------------|--------------------------|-----------|--|----------|--------------------|----------------|-------------|----------------------------------|-----------|--|----------|--------------------|----------------|-------------|--------------------------|-----------|
| | | | Requirements Not Based on Product Type | Gasoline | Diesel/#2 Fuel Oil | Heavy Fuel Oil | Mineral Oil | Waste Oil or Unknown Oil | Crude Oil | Requirements Not Based on Product Type | Gasoline | Diesel/#2 Fuel Oil | Heavy Fuel Oil | Mineral Oil | Waste Oil or Unknown Oil | Crude Oil | Requirements Not Based on Product Type | Gasoline | Diesel/#2 Fuel Oil | Heavy Fuel Oil | Mineral Oil | Waste Oil or Unknown Oil | Crude Oil |
| Puerto Rico | Puerto Rico Environmental Quality Board | Regional Office | ✓ | | | | | | | | | | | | | ✓ | | | | | | | |
| Rhode Island | Department of Environmental Management | Waste Management | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | ✓ | | | | | ✓ | |
| South Carolina | South Carolina Department of Health and Environmental Control | UST Management Division | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | ✓ | | ✓ | ✓ | | | | ✓ | ✓ |
| Tennessee | TN Department of Environment and Conservation | Underground Storage Tanks | | | | | | | | | | | | | | | ✓ | ✓ | | | | | |
| Texas | Railroad Commission | Site Remediation Section | | | | | | | ✓ | | | | | | | | | | | | | | |
| Texas | Texas Commission on Environmental Quality (TCEQ) | Technical Program Support - Remediation Division | | | | | | ✓ | | | | | | | | | ✓ | | | | | | |
| Utah | Department of Environmental Quality - Division of Environmental Response and Remediation | Leaking Underground Storage Tanks | | | ✓ | | | ✓ | | | | | | | | | ✓ | | | | | ✓ | |
| Utah | DEQ, Division of Waste Management & Radiation Control | RCRA Correction Action Section | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Vermont | Dept. Environmental Conservation | Brownfields | ✓ | | | | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | |
| Virginia | Virginia Department of Environmental Quality | Petroleum | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | | ✓ | | | | | | |
| Washington | Department of Ecology | Toxics Cleanup Program | | | | | | ✓ | | | | | | | | | | | | | | ✓ | |
| Wisconsin | Wisconsin Dept. of Natural Resources | Remediation and Redevelopment Program | | | ✓ | ✓ | | ✓ | ✓ | | | | | | | | ✓ | | | | | | |
| West Virginia | WV Department of Environmental Protection | Office of Environmental Remediation | | | ✓ | ✓ | | | | | | | | | | | ✓ | ✓ | | | | ✓ | ✓ |
| Wyoming | Wyoming Department of Environmental Quality | Voluntary Remediation Program/Hazardous Waste Permitting and Corrective Action | | | | | | | | | | | | | | | ✓ | ✓ | ✓ | | | ✓ | |
| Wyoming | Oil and Gas Conservation Commission | Supervisor | | | | | | | | | | | | | | | | | | | | | |

Q12. How are measurements of screening levels, cleanup levels, or standards of total or fractionated hydrocarbons used within your program (select all that apply):

| State | State Agency Name | Program Area | Screening level (e.g., to screen out sites with no significant petroleum impact) | Cleanup level (i.e., a remedial goal) | Qualitative purposes only, not used to determine remediation or long-term management plans. | Indicator of LNAPL presence | Indicator of LNAPL mobility |
|----------------------|---|--|--|---------------------------------------|---|-----------------------------|-----------------------------|
| Alabama | Department of Environmental Management | Underground Storage Tanks | ✓ | | | | |
| Alaska | Department of Environmental Conservation | Contaminated Sites | | ✓ | | | |
| Arizona | Department of Environmental Quality | UST-LUST Section | | | | | |
| Arkansas | Arkansas Department of Environmental Quality | Regulated Waste Operations | ✓ | ✓ | | | |
| Arkansas | Arkansas Department of Environmental Quality | UST | ✓ | ✓ | | ✓ | |
| California | Water Board | | ✓ | ✓ | | ✓ | |
| Colorado | Colorado Department of Public Health and Environment | Hazardous Waste Corrective Action Unit | | | | | |
| Colorado | Colorado Oil & Gas Conservation Commission | East Half of Colorado | ✓ | ✓ | | | |
| Colorado | Oil & Public Safety (Tanks) | Storage Tank Section | | ✓ | | ✓ | |
| Connecticut | Connecticut Department of Energy and Environmental Protection | Remediation | | ✓ | | ✓ | |
| Delaware | DNREC-Site Investigation and Restoration Section | State | ✓ | | | | |
| District of Columbia | Department of Energy and Environment | LUST Program | | | | | |
| Florida | Florida Department of Environmental Protection | Waste Management | ✓ | ✓ | | ✓ | |
| Georgia | DNR - Environmental Protection Division | Response & Remediation Program | | | | | |
| Hawaii | Department of Health | Hazard Evaluation and Emergency Response | ✓ | ✓ | | ✓ | ✓ |
| Illinois | Illinois Environmental Protection Agency | Voluntary, State Lead and LUST cleanups | ✓ | | | ✓ | ✓ |
| Indiana | Department of Environmental Management | Science Service | | | | | |
| Iowa | Department of Natural Resources | Water Quality | ✓ | ✓ | | | |
| Kansas | Kansas Department of Health & Environment | Storage Tank Section | ✓ | ✓ | | ✓ | |

Q12. How are measurements of screening levels, cleanup levels, or standards of total or fractionated hydrocarbons used within your program (select all that apply):

| State | State Agency Name | Program Area | Contaminant mass estimation (e.g., estimation of spill volume or evaluation of remedial technologies). | Evaluation of Natural Source Zone Depletion (NSZD) | Not Applicable | Other (please specify) |
|----------------------|---|--|--|--|----------------|--|
| Alabama | Department of Environmental Management | Underground Storage Tanks | ✓ | | | Soil disposal characterization |
| Alaska | Department of Environmental Conservation | Contaminated Sites | | | | |
| Arizona | Department of Environmental Quality | UST-LUST Section | | | ✓ | |
| Arkansas | Arkansas Department of Environmental Quality | Regulated Waste Operations | | | | |
| Arkansas | Arkansas Department of Environmental Quality | UST | | | | |
| California | Water Board | | | | | |
| Colorado | Colorado Department of Public Health and Environment | Hazardous Waste Corrective Action Unit | | | ✓ | |
| Colorado | Colorado Oil & Gas Conservation Commission | East Half of Colorado | ✓ | | | |
| Colorado | Oil & Public Safety (Tanks) | Storage Tank Section | ✓ | | | |
| Connecticut | Connecticut Department of Energy and Environmental Protection | Remediation | | | | any detection obligates characterization to determine compliance with remediation standard regulation. |
| Delaware | DNREC-Site Investigation and Restoration Section | State | | | | The DNREC-SIRS typically does not receive TPH results. The items selected in number 11 are typically included and screening levels are used to determine if that compound needs to be evaluated further in the risk assessment process. TPH results are used to determine the potential source of the release. |
| District of Columbia | Department of Energy and Environment | LUST Program | | | ✓ | |
| Florida | Florida Department of Environmental Protection | Waste Management | | | | |
| Georgia | DNR - Environmental Protection Division | Response & Remediation Program | | | ✓ | |
| Hawaii | Department of Health | Hazard Evaluation and Emergency Response | ✓ | | | |
| Illinois | Illinois Environmental Protection Agency | Voluntary, State Lead and LUST cleanups | | | | |
| Indiana | Department of Environmental Management | Science Service | | | | We do not publish TPH levels |
| Iowa | Department of Natural Resources | Water Quality | | | | |
| Kansas | Kansas Department of Health & Environment | Storage Tank Section | ✓ | ✓ | | |

Q12. How are measurements of screening levels, cleanup levels, or standards of total or fractionated hydrocarbons used within your program (select all that apply):

| State | State Agency Name | Program Area | Screening level (e.g., to screen out sites with no significant petroleum impact) | Cleanup level (i.e., a remedial goal) | Qualitative purposes only, not used to determine remediation or long-term management plans. | Indicator of LNAPL presence | Indicator of LNAPL mobility |
|----------------|--|---|--|---------------------------------------|---|-----------------------------|-----------------------------|
| Kentucky | Division of Waste Management | All | ✓ | | | | |
| Louisiana | Louisiana Dept. of Environmental Quality | Remediation/UST | ✓ | ✓ | | | |
| Maine | Maine Department of Environmental Protection | Technical Services Petroleum Program | ✓ | ✓ | | | |
| Massachusetts | Department of Environmental Protection | Waste Site Cleanup | ✓ | ✓ | ✓ | ✓ | ✓ |
| Michigan | Department of Environmental Quality - Remediation and Redevelopment Division | Part 201/Part 213 | ✓ | | ✓ | ✓ | |
| Minnesota | Minnesota Pollution Control Agency | Petroleum Remediation Program | ✓ | ✓ | ✓ | ✓ | |
| Mississippi | Mississippi Department Of Environmental Quality | Groundwater Assessment Remediation Division (non-UST) | ✓ | ✓ | | ✓ | ✓ |
| Mississippi | Mississippi Department of Environmental Quality | UST Program | | ✓ | | | |
| Missouri | Department of Natural Resources | Hazardous Waste Program | ✓ | ✓ | | ✓ | |
| Montana | Department of Environmental Quality | Petroleum Tank Cleanup Section | ✓ | ✓ | | ✓ | |
| Nebraska | Department of Environmental Quality | Voluntary Cleanup and Superfund | | | | | |
| Nebraska | Department of Environmental Quality | Petroleum Remediation (LUST) | ✓ | ✓ | | | |
| Nevada | Nevada Division of Environmental Protection | Bureau of Corrective Actions | ✓ | ✓ | | ✓ | ✓ |
| New Hampshire | Department of Environmental Services | Oil Remediation and Compliance | ✓ | ✓ | | ✓ | |
| New Jersey | New Jersey Department of Environmental Protection | Site Remediation | | ✓ | | ✓ | |
| North Carolina | North Carolina | UST | ✓ | | | | |
| North Dakota | North Dakota Dept. of Health | Groundwater Division | ✓ | ✓ | | ✓ | |
| Ohio | Ohio EPA | Voluntary Action Program | ✓ | ✓ | | | |

Q12. How are measurements of screening levels, cleanup levels, or standards of total or fractionated hydrocarbons used within your program (select all that apply):

| State | State Agency Name | Program Area | Contaminant mass estimation (e.g., estimation of spill volume or evaluation of remedial technologies). | Evaluation of Natural Source Zone Depletion (NSZD) | Not Applicable | Other (please specify) |
|----------------|--|---|--|--|----------------|---|
| Kentucky | Division of Waste Management | All | | | | |
| Louisiana | Louisiana Dept. of Environmental Quality | Remediation/UST | | | | |
| Maine | Maine Department of Environmental Protection | Technical Services Petroleum Program | | | | |
| Massachusetts | Department of Environmental Protection | Waste Site Cleanup | ✓ | ✓ | | |
| Michigan | Department of Environmental Quality - Remediation and Redevelopment Division | Part 201/Part 213 | | ✓ | | |
| Minnesota | Minnesota Pollution Control Agency | Petroleum Remediation Program | | | | |
| Mississippi | Mississippi Department Of Environmental Quality | Groundwater Assessment Remediation Division (non-UST) | ✓ | ✓ | | |
| Mississippi | Mississippi Department of Environmental Quality | UST Program | | | | |
| Missouri | Department of Natural Resources | Hazardous Waste Program | | | | To characterize degree and extent of contamination in the environment. |
| Montana | Department of Environmental Quality | Petroleum Tank Cleanup Section | | ✓ | | |
| Nebraska | Department of Environmental Quality | Voluntary Cleanup and Superfund | | | ✓ | |
| Nebraska | Department of Environmental Quality | Petroleum Remediation (LUST) | | | | |
| Nevada | Nevada Division of Environmental Protection | Bureau of Corrective Actions | ✓ | | | |
| New Hampshire | Department of Environmental Services | Oil Remediation and Compliance | | | | See "other" response for question 23. |
| New Jersey | New Jersey Department of Environmental Protection | Site Remediation | | | | EPH guidance http://www.nj.gov/dep/srp/guidance/srra/eph_protocol.pdf |
| North Carolina | North Carolina | UST | ✓ | | | |
| North Dakota | North Dakota Dept. of Health | Groundwater Division | | | | |
| Ohio | Ohio EPA | Voluntary Action Program | | | | |

Q12. How are measurements of screening levels, cleanup levels, or standards of total or fractionated hydrocarbons used within your program (select all that apply):

| State | State Agency Name | Program Area | Screening level (e.g., to screen out sites with no significant petroleum impact) | Cleanup level (i.e., a remedial goal) | Qualitative purposes only, not used to determine remediation or long-term management plans. | Indicator of LNAPL presence | Indicator of LNAPL mobility |
|----------------|--|--|--|---------------------------------------|---|-----------------------------|-----------------------------|
| Oklahoma | Department of Environmental Quality | Land Protection | ✓ | ✓ | | ✓ | |
| Oregon | Department of Environmental Quality | State CERCLA and LUST | ✓ | ✓ | | | ✓ |
| Puerto Rico | Puerto Rico Environmental Quality Board | Regional Office | ✓ | ✓ | | | |
| Rhode Island | Department of Environmental Management | Waste Management | | ✓ | | | |
| South Carolina | South Carolina Department of Health and Environmental Control | UST Management Division | ✓ | | ✓ | | |
| Tennessee | TN Department of Environment and Conservation | Underground Storage Tanks | | | | | |
| Texas | Railroad Commission | Site Remediation Section | ✓ | ✓ | | ✓ | ✓ |
| Texas | Texas Commission on Environmental Quality (TCEQ) | Technical Program Support - Remediation Division | ✓ | ✓ | ✓ | | |
| Utah | Department of Environmental Quality - Division of Environmental Response and Remediation | Leaking Underground Storage Tanks | ✓ | ✓ | | | |
| Utah | DEQ, Division of Waste Management & Radiation Control | RCRA Correction Action Section | | | | | |
| Vermont | Dept. Environmental Conservation | Brownfields | ✓ | | ✓ | | |
| Virginia | Virginia Department of Environmental Quality | Petroleum | ✓ | ✓ | ✓ | | |
| Washington | Department of Ecology | Toxics Cleanup Program | | ✓ | | | |
| Wisconsin | Wisconsin Dept. of Natural Resources | Remediation and Redevelopment Program | ✓ | ✓ | | ✓ | |
| West Virginia | WV Department of Environmental Protection | Office of Environmental Remediation | | | | ✓ | |
| Wyoming | Wyoming Department of Environmental Quality | Voluntary Remediation Program/Hazardous Waste Permitting and Corrective Action | | ✓ | | | |
| Wyoming | Oil and Gas Conservation Commission | Supervisor | | ✓ | | | |

Q12. How are measurements of screening levels, cleanup levels, or standards of total or fractionated hydrocarbons used within your program (select all that apply):

| State | State Agency Name | Program Area | Contaminant mass estimation (e.g., estimation of spill volume or evaluation of remedial technologies). | Evaluation of Natural Source Zone Depletion (NSZD) | Not Applicable | Other (please specify) |
|----------------|--|--|--|--|----------------|---|
| Oklahoma | Department of Environmental Quality | Land Protection | | | | |
| Oregon | Department of Environmental Quality | State CERCLA and LUST | | | | |
| Puerto Rico | Puerto Rico Environmental Quality Board | Regional Office | ✓ | ✓ | | |
| Rhode Island | Department of Environmental Management | Waste Management | | | | |
| South Carolina | South Carolina Department of Health and Environmental Control | UST Management Division | | | | |
| Tennessee | TN Department of Environment and Conservation | Underground Storage Tanks | | | ✓ | |
| Texas | Railroad Commission | Site Remediation Section | ✓ | ✓ | | |
| Texas | Texas Commission on Environmental Quality (TCEQ) | Technical Program Support - Remediation Division | | | | |
| Utah | Department of Environmental Quality - Division of Environmental Response and Remediation | Leaking Underground Storage Tanks | | | | |
| Utah | DEQ, Division of Waste Management & Radiation Control | RCRA Correction Action Section | | | ✓ | |
| Vermont | Dept. Environmental Conservation | Brownfields | | | | |
| Virginia | Virginia Department of Environmental Quality | Petroleum | ✓ | ✓ | | |
| Washington | Department of Ecology | Toxics Cleanup Program | | | | |
| Wisconsin | Wisconsin Dept. of Natural Resources | Remediation and Redevelopment Program | ✓ | ✓ | | |
| West Virginia | WV Department of Environmental Protection | Office of Environmental Remediation | | | | Specific standards for each program |
| Wyoming | Wyoming Department of Environmental Quality | Voluntary Remediation Program/Hazardous Waste Permitting and Corrective Action | | | | Cleanup levels are in VRP guidance. Alternative cleanup levels may be considered on site specific basis, but not in guidance. STP uses screening levels and cleanup levels. |
| Wyoming | Oil and Gas Conservation Commission | Supervisor | | | | |

Q13. Does your state have requirements/guidance on performing aquatic community surveys/monitoring, terrestrial wildlife species assessments, tissue sampling, bioassays, or habitat assessments following an oil spill/cleanup?

| State | State Agency Name | Program | Specifics for YES response |
|-----------------------|---|---|--|
| Alaska | Department of Environmental Conservation | Contaminated sites | Ecoscoping |
| Harmonized California | Water Board | | California Department of Fish and Wildlife is lead |
| Colorado | Colorado Department of Public Health and Environment, Hazardous Materials and Waste Management Division | Hazardous Materials and Waste Management Division | Depends upon what's spilled, volume, where, etc. |
| Connecticut | Connecticut Department of Energy and Environmental Protection | Storage Tank Section | If in remediation program or under order commissioner may require eco-risk evaluation |
| District of Columbia | Department of Energy and Environment | State | LUST, WQD, AQD, and Cleanup Program (other than petroleum COCs) |
| Florida | Florida Department of Environmental Protection | LUST Program | Eco-risk guidance document exists |
| Georgia | DNR - Environmental Protection Division | Waste Management | UST Program, RCRA, HSRA (contact the State Risk Assessment Group within EPD) |
| Hawaii | Department of Health | Response & Remediation Program | Guidance in preparation |
| Kansas | Kansas Department of Health & Environment | Water Quality | Ecological risk assessment must sometimes be performed in the State Cooperative and Voluntary Cleanup Programs. |
| Louisiana | Louisiana Dept. of Environmental Quality | All | The responsible party is required under RECAP to complete an Ecological checklist. Further investigation and work depends on the answers to the Eco Checklist and outcome of that. Any Ecological Assessments are done per EPA guidance. Oil Spill cleanups are not necessarily LDEQ's purview. The specifics of the site dictate if its LDNR (within an E&P lease) or LDEQ (outside the boundaries of the lease, or affects sediments) or if the Gov's Oil Spill Response Office is involved. |
| Massachusetts | Department of Environmental Protection | Technical Services Petroleum Program | Releases to surface water must conduct a site specific risk assessment including eco risk |
| Mississippi | Mississippi Department Of Environmental Quality | Petroleum Remediation Program | An Ecological Risk Assessment can be triggered on a site by site basis, especially in an Emergency Response situation. |
| Mississippi | Mississippi Department of Environmental Quality | Groundwater Assessment Remediation Division (non-UST) | Deepwater Horizon Recovery Program and Surface Water Division |
| Nebraska | Department of Environmental Quality | Voluntary Cleanup and Superfund | Surface Water Unit |
| New Hampshire | Department of Environmental Services | Petroleum Remediation (LUST) | NH does not have specific ecological survey or monitoring requirements. However, the designated State Resource Trustees (NHDES and NH Fish & Game) would partner with Federal Agencies (NOAA and US Fish & Wildlife) in completing a Natural Resource Damage Assessment (NRDA) following an oil spill/cleanup. The responsible party for the spill pays for this assessment, the cleanup, as well as any agreed-upon post-cleanup monitoring. |
| New Jersey | NJDEP | Bureau of Corrective Actions | http://www.nj.gov/dep/srp/guidance/srra/ecological_evaluation.pdf |
| North Dakota | North Dakota Dept. of Health | UST | Watershed Management |
| Ohio | Ohio EPA | Groundwater Division | Not necessarily after an oil spill, but if contaminants are found above a certain level in surface water, we usually require a bioassay survey. |
| Oklahoma | Department of Environmental Quality | Voluntary Action Program | Site specific within LPD. Also handled within other divisions. |
| Oregon | Department of Environmental Quality | Land Protection | We have published screening levels to evaluate aquatic risk, although we have allowed RPs to conduct bioassay testing. |
| Rhode Island | Department of Environmental Management | Regional Office | Site specific requirement if deemed necessary. No State guidance. |
| Texas | Railroad Commission | Underground Storage Tanks | Refer to Texas Commission on Environmental Quality |
| Utah | Department of Environmental Quality - Division of Environmental Response and Remediation | Technical Program Support - Remediation Division | We may look at ecological risk for VCP and Brownfields programs. Also, Division of Water Quality may have requirements. |
| Utah | DEQ, Division of Waste Management & Radiation Control | Leaking Underground Storage Tanks | Water quality Program, RCRA Program |
| Washington | Department of Ecology | RCRA Correction Action Section | See table 7.5 in petroleum guidance |
| Wisconsin | Wisconsin Dept. of Natural Resources | Remediation and Redevelopment Program | The Watershed Management Program has guidance. |

Q14. Does your state require remediation of TPH contamination based only on ecological risk, if human health risks are not a concern?

| State | State Agency Name | Program | Additional Information for YES Response |
|----------------|---|--|---|
| Alaska | Department of Environmental Conservation | Contaminated sites | Depends on the area. We do ecoscoping to determine if an eco cleanup level is appropriate. |
| Arkansas | Arkansas Department of Environmental Quality | UST | Regulated Waste Operations |
| California | Water Board | | Required by statute, Porter Cologne Water Code |
| Colorado | Colorado Department of Public Health and Environment, Hazardous Materials and Waste Management Division | Hazardous Materials and Waste Management Division | It's rare but we would |
| Connecticut | Connecticut Department of Energy and Environmental Protection | Storage Tank Section | Commissioner may require remediation to address eco-risk |
| Delaware | DNREC-Site Investigation and Restoration Section | Remediation | We have ecological standards and TPH contamination remediation has been required when there is no human risk. |
| Florida | Florida Department of Environmental Protection | LUST Program | Our CTLs are protective of both human health and eco-risk |
| Hawaii | Department of Health | Response & Remediation Program | Impacts must not pose an unacceptable risk to ecological habitats, even if the risk to humans is insignificant. |
| Indiana | Department of Environmental Management | Voluntary, State Lead and LUST cleanups | Emergency Response |
| Kentucky | Division of Waste Management | Storage Tank Section | It is possible depending on impact |
| Louisiana | Louisiana Dept. of Environmental Quality | All | Human Health would be the primary factor (evaluated using RECAP). The ecological would be evaluated with the eco checklist and then the appropriate EPA guidances and possibly NRDA depending on severity and damage. |
| Massachusetts | Department of Environmental Protection | Technical Services Petroleum Program | Releases to surface water must conduct a site specific risk assessment including eco risk |
| Mississippi | Mississippi Department Of Environmental Quality | Petroleum Remediation Program | Site by site basis pending assessment. |
| Missouri | Department of Natural Resources | UST Program | Both our Tanks Section and BVCP require an assessment of ecological risk for every project; it is possible that TPH could require cleanup based solely on ecological risk. |
| Montana | Department of Environmental Quality | Hazardous Waste Program | State Superfund |
| New Jersey | NJDEP | Bureau of Corrective Actions | http://www.nj.gov/dep/srp/guidance/srra/ecological_evaluation.pdf |
| North Dakota | North Dakota Dept. of Health | UST | Spills, Watershed Management |
| Ohio | Ohio EPA | Groundwater Division | In our Voluntary Action Program, we require a separate ecological risk assessment. |
| Oregon | Department of Environmental Quality | Land Protection | State CERCLA and LUST Programs |
| Rhode Island | Department of Environmental Management | Regional Office | On a site specific basis in the Waste Management Program. |
| South Carolina | South Carolina Department of Health and Environmental Control | Waste Management | Depends on specific program area regulations. |
| Utah | Department of Environmental Quality - Division of Environmental Response and Remediation | Technical Program Support - Remediation Division | Possibly under the VCP and Brownfields programs. |
| Utah | DEQ, Division of Waste Management & Radiation Control | Leaking Underground Storage Tanks | Ecological Risk or Human Health Risk or both are basis for remediation depending on the outcome of the assessment. |
| Washington | Department of Ecology | RCRA Correction Action Section | eco/human are together |
| Wyoming | Oil and Gas Conservation Commission | Voluntary Remediation Program/Hazardous Waste Permitting and Corrective Action | Scoring system used that partially considers human health and partly a basic ecological risk |

Q15. With respect to TPH, does your specific program follow a publicly available, written guidance for conducting an ecological risk assessment (ERA)?

| State | State Agency Name | Program | Guidance Description/Citation/Reference for YES Response |
|-----------------------|--|--|---|
| Alaska | Department of Environmental Conservation | Contaminated sites | Guidelines for Ecological Risk Assessment (USEPA, 1998) EPA Region 10 Supplemental Ecological Risk Assessment Guidance for Superfund (USEPA, 1997b) ADEC resources include: Ecoscoping Guidance (ADEC, 2014) User's Guide for Selection and Application of Default Assessment Endpoints and Indicator Species in Alaskan Ecoregions (ADEC, 1999a) Technical Background Document for Selection and Application of Default Assessment Endpoints and Indicator Species in Alaskan Ecoregions with figures and tables updated in September of 2008 (ADEC, 1999b). |
| Arkansas | Arkansas Department of Environmental Quality | UST | EPA Ecological RAGs, EPA RAGs, EPA Guidelines for Ecological Risk Assessments |
| Harmonized California | Water Board | | Depends on program and site type, often USEPA guidance. |
| Hawaii | Department of Health | Response & Remediation Program | HDOH. 2016. Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater – Tropical Pacific Edition (Summer 2016 and updates): http://eha-web.doh.hawaii.gov/eha-cma/Leaders/HEER/ehe-guidance---pacific-basin-edition HDOH, 2016, Technical Guidance Manual: Hawai'i Department of Health, Office of Hazard Evaluation and Emergency Response, http://www.hawaiidoh.org/ |
| Kansas | Kansas Department of Health & Environment | Water Quality | EPA Risk Assessment Guidance |
| Louisiana | Louisiana Dept. of Environmental Quality | All | current EPA Eco guidance |
| Massachusetts | Department of Environmental Protection | Technical Services Petroleum Program | http://www.mass.gov/eea/agencies/massdep/toxics/sources/riskasmt-htm.html#3 |
| Mississippi | Mississippi Department Of Environmental Quality | Petroleum Remediation Program | We have a guidance on what triggers an Eco Risk assessment for GARD. GARD will accept any publicly available and qualified guidance for eco risk, pending a review. |
| Missouri | Department of Natural Resources | UST Program | Our risk-based corrective action guidance documents (one specific to petroleum, the other applicable to all sites that are not regulated petroleum sites) provide guidance for conducting an initial, qualitative ecological screening evaluation. If the initial evaluation indicates unacceptable ecological risk is likely, a quantitative ecological risk assessment is required. MO does not have guidance for such quantitative assessments; instead, the guidance recommends using EPA assessment methods or others as approved by the department. |
| Montana | Department of Environmental Quality | Hazardous Waste Program | Montana uses EPA Eco risk guidance and available studies on TPH toxicity |
| New Jersey | NJDEP | Bureau of Corrective Actions | http://www.nj.gov/dep/srp/guidance/srra/ecological_evaluation.pdf |
| North Carolina | NORTH CAROLINA | Site Remediation | Our guidance document is down for review right now |
| Ohio | Ohio EPA | Groundwater Division | We have a technical guidance compendium. |
| Oregon | Department of Environmental Quality | Land Protection | Guidance on Conducting Ecological Risk Assessments, DEQ, 1998. Screening values for TPH constituents are listed, however, no values for Total TPH are included. |
| Texas | Railroad Commission | Underground Storage Tanks | TCEQ |
| Utah | Department of Environmental Quality - Division of Environmental Response and Remediation | Technical Program Support - Remediation Division | EPA ECO Risk Assessment program |
| Utah | DEQ, Division of Waste Management & Radiation Control | Leaking Underground Storage Tanks | Cleanup Action and Risk-Based Closure Standards Rule. Utah Administrative Code R315-101 |

Q16. What approach does the state or program follow for addressing ecological impacts of TPH?

| State | State Agency Name | Program | Specific Information for "OTHERS" Response |
|-----------------------|---|--|---|
| Alabama | Department of Environmental Management | Underground Storage Tanks | If there was a potential for ecological risk, specific chemicals of concern would be evaluated |
| Harmonized California | Water Board | | All three above, Depends on program and site type |
| Colorado | Colorado Oil & Gas Conservation Commission | East Half of Colorado | Speaking for COGCC the cleanup goals are the published standards regardless of the type of impact. |
| Hawaii | Department of Health | Response & Remediation Program | Tiered approach, starting with screening levels for aquatic toxicity (no eco screening levels for soil) with an option for baseline risk assessment, including toxicity testing on a site-specific basis as desired by the RP or required by the agency. |
| Kentucky | Division of Waste Management | Storage Tank Section | Manager and impact specific |
| Louisiana | Louisiana Dept. of Environmental Quality | All | current EPA Eco guidance |
| Massachusetts | Department of Environmental Protection | Technical Services Petroleum Program | http://www.mass.gov/eea/agencies/massdep/toxics/sources/riskasmt-htm.html#3 |
| Mississippi | Mississippi Department Of Environmental Quality | Petroleum Remediation Program | In GARD, all of the above may be considered. With MDEQ's Emergency Response program, they likely follow EPA response guidelines, i.e. SCAT/NRDA etc. where appropriate. |
| Missouri | Department of Natural Resources | UST Program | Ours is essentially a tiered approach, beginning with a qualitative ecological assessment. If the initial assessment indicates unacceptable ecological risk is likely, a quantitative assessment is required. The quantitative assessment will include identifying appropriate screening/target levels for the ecological species of concern (MO guidance does not include target levels for ecological receptors; these must be identified in the literature). |
| Rhode Island | Department of Environmental Management | Regional Office | Variety of approaches have been employed, all site specific. |
| Wyoming | Wyoming Department of Environmental Quality | Office of Environmental Remediation | Tiered approach: we use screening levels, baseline risk, and option of toxicity testing, but this applies to individual constituents, not TPH as a whole. |
| Wyoming | Oil and Gas Conservation Commission | Voluntary Remediation Program/Hazardous Waste Permitting and Corrective Action | scoring system which reduces cleanup level based on basic ecological risk factors |

| State | State Agency Name | Program Area | Q23. What analytical methods or combination of methods are required by your program for TPH? Select all that apply. | | | | | Q24. Does your program allow for comparison of TPH data collected using different analytical methods, e.g., to facilitate comparison of historical data with more current data (e.g., DRO vs. EPH)? | |
|----------------------|---|---|---|--------------|------------------|---------|---------|---|---|
| | | | TPHCWG | MADEP-EPH-04 | EPA Method 8015B | TX 1005 | TX 1006 | Other (please specify) | Additional Information for YES Response |
| Alabama | Alabama Department of Environmental Management | Underground Storage Tanks | | | ✓ | | | fuel type specific: EPA 418.1; EPA 9071; Standard Method 5520 | When appropriate on a site by site basis. |
| Alaska | Department of Environmental Conservation | Contaminated Sites | | | | | | AK101 - GRO AK102 - DRO AK103 - RRO | Sometimes historic data can be used in addition to eph/vph data |
| Arizona | Department of Environmental Quality | UST-LUST Section | | | | | | | |
| Arkansas | Arkansas Department of Environmental Quality | Regulated Waste Operations | | | ✓ | ✓ | ✓ | | |
| Arkansas | Arkansas Department of Environmental Quality | UST | | | | | | | |
| California | Water Board | | | | ✓ | | | EPA 8260 | On an as needed basis |
| Colorado | Colorado Department of Public Health and Environment | Hazardous Materials and Waste Management Division | | | | | | | |
| Colorado | Colorado Oil & Gas Conservation Commission | East Half of Colorado | | | ✓ | | | | We would consider it, but don't know that it has ever come up. |
| Colorado | Oil & Public Safety (Tanks) | Storage Tank Section | | | ✓ | | | | |
| Connecticut | Connecticut Department of Energy and Environmental Protection | Remediation | | | | | | CT ETPH | legacy 418.1 data must be considered in conceptual site model, also all other analytical data. Selection of only one method's data for demonstrating compliance, rather than all available data, requires commissioner written approval. |
| Delaware | DNREC-Site Investigation and Restoration Section | State | | | | | | DNREC-SIRS does not require TPH analysis | |
| District of Columbia | Department of Energy and Environment | LUST Program | | | ✓ | | | | |
| Florida | Florida Department of Environmental Protection | Waste Management | | | ✓ | | | May be other methods utilized | |
| Georgia | DNR - Environmental Protection Division | Response & Remediation Program | | | | | | | |
| Hawaii | Department of Health | Hazard Evaluation and Emergency Response | | ✓ | ✓ | | | Varies for soil vapor, but TO-15 and TO-17 are most common, with MADEP methods for carbon range fractions used when needed. | Default is normally 8015M and TO-15. Comparison of methods must involve collection and subsampling of Multi Increment samples, due to inability of discrete samples to adequately represent small-scale variability (i.e., concentration of TPH in two co-located samples or two aliquots of soil from the same jar could be dramatically different, negating direct comparison of analytical methods). |
| Illinois | Illinois Environmental Protection Agency | Voluntary, State Lead and LUST cleanups | | | ✓ | | | | |

| State | State Agency Name | Program Area | Q23. What analytical methods or combination of methods are required by your program for TPH? Select all that apply. | | | | | | Q24. Does your program allow for comparison of TPH data collected using different analytical methods, e.g., to facilitate comparison of historical data with more current data (e.g., DRO vs. EPH)? |
|----------------|---|---|---|--------------|------------------|---------|---------|--|---|
| | | | TPHCWG | MADEP-EPH-04 | EPA Method 8015B | TX 1005 | TX 1006 | Other (please specify) | Additional Information for YES Response |
| Indiana | Department of Environmental Management | Science Service | | | | | | | |
| Iowa | Department of Natural Resources | Water Quality | | | | | | | |
| Kansas | Kansas Department of Health & Environment | Storage Tank Section | | | | | | | |
| Kentucky | Division of Waste Management | All | | | | | | | |
| Louisiana | Louisiana Dept. of Environmental Quality | Remediation/UST | ✓ | ✓ | ✓ | ✓ | ✓ | | If TPH range data is available and indicates exceedance of an appropriate TPH range standard, fractionation data can be used if sampled from the same location to supersede the range data. Or fractionation data can be used from the initial stages of investigation. |
| Maine | Maine Department of Environmental Protection | Technical Services Petroleum Program | | ✓ | | | | | We have a written policy for comparing DRO data to EPH data. |
| Minnesota | Minnesota Pollution Control Agency | Petroleum Remediation Program | | | | | | WI DNR Modified GRO/DRO | |
| Mississippi | Mississippi Department Of Environmental Quality | Groundwater Assessment Remediation Division (non-UST) | | ✓ | ✓ | | | Any EPA approved method can be suggested on a site by site basis. We typically do not see TX 1005 or 1006. | We typically request that TPH is initially still sampled for whenever a Tier 2 fractionation sampling is conducted so that a comparison can be evaluated to some extent. |
| Missouri | Department of Natural Resources | Hazardous Waste Program | | | | | | 8260 (GRO) and 8270 (DRO and ORO) for soil and groundwater; we do not specify methods for indoor air or soil gas, but would recommend TO-15 and TO-17. | |
| Nebraska | Department of Environmental Quality | Voluntary Cleanup and Superfund | | | ✓ | | | | |
| Nebraska | Department of Environmental Quality | Petroleum Remediation (LUST) | | | ✓ | | | Iowa Hygienics Laboratory Method OA-2 | |
| Nevada | Nevada Division of Environmental Protection | Bureau of Corrective Actions | | | ✓ | | | | We allow TNRCC Method 1005. |
| New Hampshire | Department of Environmental Services | Oil Remediation and Compliance | | | ✓ | | | | |
| North Carolina | North Carolina | UST | | | ✓ | | | | |
| North Dakota | North Dakota Dept. of Health | Groundwater Division | | | ✓ | | | | |
| Ohio | Ohio EPA | Voluntary Action Program | | | ✓ | | | | |
| Oklahoma | Department of Environmental Quality | Land Protection | | | ✓ | ✓ | ✓ | Oklahoma GRO DRO | |

| State | State Agency Name | Program Area | Q23. What analytical methods or combination of methods are required by your program for TPH? Select all that apply. | | | | | | Q24. Does your program allow for comparison of TPH data collected using different analytical methods, e.g., to facilitate comparison of historical data with more current data (e.g., DRO vs. EPH)? |
|--------------|--|--|---|--------------|------------------|---------|---------|--|---|
| | | | TPHCWG | MADEP-EPH-04 | EPA Method 8015B | TX 1005 | TX 1006 | Other (please specify) | Additional Information for YES Response |
| Oregon | Department of Environmental Quality | State CERCLA and LUST | | | | | | Hydrocarbon Identification Method (HCID) NWTPH-Gx NWTPH-Dx | |
| Puerto Rico | Puerto Rico Environmental Quality Board | Regional Office | | | ✓ | | | | |
| Rhode Island | Department of Environmental Management | Waste Management | | | | | ✓ | | On a site specific basis. |
| Texas | Railroad Commission | Site Remediation Section | | | | ✓ | ✓ | | Case by Case basis |
| Texas | Texas Commission on Environmental Quality (TCEQ) | Technical Program Support - Remediation Division | | | | ✓ | ✓ | | |
| Utah | Department of Environmental Quality - Division of Environmental Response and Remediation | Leaking Underground Storage Tanks | | | ✓ | | | | |
| Virginia | Virginia Department of Environmental Quality | Petroleum | | | ✓ | | | | |
| Washington | Department of Ecology | Toxics Cleanup Program | | | ✓ | | | | see petroleum guidance |
| Wyoming | Wyoming Department of Environmental Quality | Voluntary Remediation Program/Hazardous Waste Permitting and Corrective Action | | | | | | VRP doesn't specify method, but most are EPA 8015B. Allow the fractionation approaches with appropriate QA/QC. STP: EPA Method 8015B; other: EPA 8260B | VRP: Yes, but handled on site specific basis. STP: No |
| Wyoming | Oil and Gas Conservation Commission | Supervisor | | | ✓ | | | | |

Q27. For which media does your state screen or evaluate TPH levels? Select all that apply.

| State | State Agency Name | Program Area | Soil | Groundwater | Gas/Vapor | Air | Not applicable; state does not screen or evaluate TPH levels. | Other (please specify) |
|----------------------|--|---|------|-------------|-----------|-----|---|--|
| Alabama | Department of Environmental Management | Underground Storage Tanks | ✓ | | | | | |
| Alaska | Department of Environmental Conservation | Contaminated Sites | ✓ | ✓ | ✓ | ✓ | | I assume "air": also includes vapor intrusion |
| Arizona | Department of Environmental Quality | UST-LUST Section | | | | | | |
| Arkansas | Arkansas Department of Environmental Quality | Regulated Waste Operations | ✓ | ✓ | | | | |
| Arkansas | Arkansas Department of Environmental Quality | UST | | | | | | |
| California | Water Board | | ✓ | ✓ | ✓ | ✓ | | |
| Colorado | Colorado Department of Public Health and Environment | Hazardous Waste Corrective Action Unit | | | | | | |
| Colorado | Colorado Oil & Gas Conservation Commission | East Half of Colorado | ✓ | | | | | |
| Colorado | Oil & Public Safety (Tanks) | Storage Tank Section | ✓ | | | | | |
| Connecticut | Connecticut Department of Energy and Environmental Protection | Remediation | ✓ | ✓ | ✓ | | | state also has target indoor air concentration for fractionated TPH |
| Delaware | DNREC-Site Investigation and Restoration Section | State | | | | | ✓ | |
| District of Columbia | Department of Energy and Environment | LUST Program | ✓ | ✓ | ✓ | | | |
| Florida | Florida Department of Environmental Protection | Waste Management | ✓ | ✓ | | | | |
| Georgia | DNR - Environmental Protection Division | Response & Remediation Program | | | | | | |
| Hawaii | Department of Health | Hazard Evaluation and Emergency Response | ✓ | ✓ | ✓ | ✓ | | |
| Illinois | Illinois Environmental Protection Agency | Voluntary, State Lead and LUST cleanups | ✓ | | | | | |
| Indiana | Department of Environmental Management | Science Service | | | | | | |
| Iowa | Department of Natural Resources | Water Quality | | | | | | |
| Kansas | Kansas Department of Health & Environment | Storage Tank Section | | | | | | |
| Kentucky | Division of Waste Management | All | | | | | | |
| Louisiana | Louisiana Dept. of Environmental Quality | Remediation/UST | ✓ | ✓ | ✓ | | | |
| Maine | Maine Department of Environmental Protection | Technical Services Petroleum Program | | ✓ | | | | |
| Massachusetts | Department of Environmental Protection | Waste Site Cleanup | | | | | | |
| Michigan | Department of Environmental Quality - Remediation and Redevelopment Division | Part 201/Part 213 | | | | | | |
| Minnesota | Minnesota Pollution Control Agency | Petroleum Remediation Program | ✓ | | | | | |
| Mississippi | Mississippi Department Of Environmental Quality | Groundwater Assessment Remediation Division (non-UST) | ✓ | ✓ | ✓ | | | Possibly surface water where surface water is impacted, groundwater screening levels are usually the default comparison as a Tier 1. Gas/vapor are probably more related to individual chemicals like benzene at this point. |
| Mississippi | Mississippi Department of Environmental Quality | UST Program | | | | | | |

Q27. For which media does your state screen or evaluate TPH levels? Select all that apply.

| State | State Agency Name | Program Area | Soil | Groundwater | Gas/Vapor | Air | Not applicable; state does not screen or evaluate TPH levels. | Other (please specify) |
|----------------|--|--|------|-------------|-----------|-----|---|--|
| Missouri | Department of Natural Resources | Hazardous Waste Program | ✓ | ✓ | ✓ | ✓ | | Also surface water and sediments as appropriate based on site characteristics (target levels for surface water and sediments would be determined on a site-specific basis; we do not have generic screening/target levels for either). |
| Montana | Department of Environmental Quality | Petroleum Tank Cleanup Section | | | | | | |
| Nebraska | Department of Environmental Quality | Voluntary Cleanup and Superfund | ✓ | ✓ | | | | |
| Nebraska | Department of Environmental Quality | Petroleum Remediation (LUST) | ✓ | ✓ | | | | |
| Nevada | Nevada Division of Environmental Protection | Bureau of Corrective Actions | ✓ | ✓ | | | | |
| New Hampshire | Department of Environmental Services | Oil Remediation and Compliance | ✓ | | | | | |
| New Jersey | New Jersey Department of Environmental Protection | Site Remediation | | | | | | |
| North Carolina | North Carolina | UST | ✓ | | | | | |
| North Dakota | North Dakota Dept. of Health | Groundwater Division | ✓ | ✓ | ✓ | | | |
| Ohio | Ohio EPA | Voluntary Action Program | ✓ | ✓ | | | | |
| Oklahoma | Department of Environmental Quality | Land Protection | ✓ | ✓ | ✓ | | | |
| Oregon | Department of Environmental Quality | State CERCLA and LUST | ✓ | ✓ | ✓ | ✓ | | |
| Puerto Rico | Puerto Rico Environmental Quality Board | Regional Office | ✓ | ✓ | | | | |
| Rhode Island | Department of Environmental Management | Waste Management | ✓ | ✓ | ✓ | | | |
| South Carolina | South Carolina Department of Health and Environmental Control | UST Management Division | | | | | | |
| Tennessee | TN Department of Environment and Conservation | Underground Storage Tanks | | | | | | |
| Texas | Railroad Commission | Site Remediation Section | ✓ | ✓ | | | | |
| Texas | Texas Commission on Environmental Quality (TCEQ) | Technical Program Support - Remediation Division | ✓ | ✓ | ✓ | | | |
| Utah | Department of Environmental Quality - Division of Environmental Response and Remediation | Leaking Underground Storage Tanks | ✓ | ✓ | ✓ | ✓ | | |
| Utah | DEQ, Division of Waste Management & Radiation Control | RCRA Correction Action Section | | | | | | |
| Vermont | Dept. Environmental Conservation | Brownfields | | | | | | |
| Virginia | Virginia Department of Environmental Quality | Petroleum | ✓ | ✓ | | | | surface water |
| Washington | Department of Ecology | Toxics Cleanup Program | ✓ | ✓ | ✓ | ✓ | | |
| Wisconsin | Wisconsin Dept. of Natural Resources | Remediation and Redevelopment Program | | | | | | |
| West Virginia | WV Department of Environmental Protection | Office of Environmental Remediation | | | | | | |
| Wyoming | Wyoming Department of Environmental Quality | Voluntary Remediation Program/Hazardous Waste Permitting and Corrective Action | ✓ | ✓ | | | | Other media evaluated on site specific basis. |
| Wyoming | Oil and Gas Conservation Commission | Supervisor | ✓ | | | | | |

Q29. Check all applicable environmental concerns considered in development of state risk-based Air/Soil Vapor screening levels for carbon range fractions and/or TPH.

| State | State Agency Name | Program Area | Direct Exposure (inhalation toxicity) | Partitioning to groundwater | Odors/Nuisance | Not applicable | Other (please specify) |
|----------------------|---|---|---------------------------------------|-----------------------------|----------------|----------------|--|
| Alabama | Department of Environmental Management | Underground Storage Tanks | | | | ✓ | |
| Alaska | Department of Environmental Conservation | Contaminated Sites | ✓ | ✓ | ✓ | | |
| Arizona | Department of Environmental Quality | UST-LUST Section | | | | | |
| Arkansas | Arkansas Department of Environmental Quality | Regulated Waste Operations | ✓ | | | | |
| California | Water Board | | ✓ | ✓ | ✓ | | |
| Colorado | Colorado Oil & Gas Conservation Commission | East Half of Colorado | | | | ✓ | COGCC does not use risk based. |
| Colorado | Oil & Public Safety (Tanks) | Storage Tank Section | | | | ✓ | |
| Connecticut | Connecticut Department of Energy and Environmental Protection | Remediation | ✓ | | ✓ | | may be adjusted for statewide reference conditions |
| Delaware | DNREC-Site Investigation and Restoration Section | State | | | | ✓ | |
| District of Columbia | Department of Energy and Environment | LUST Program | ✓ | | ✓ | | |
| Florida | Florida Department of Environmental Protection | Waste Management | | | | ✓ | |
| Hawaii | Department of Health | Hazard Evaluation and Emergency Response | ✓ | ✓ | ✓ | | Soil vapor screening levels available for assessment of VOCs in leachate and potential leaching threats to groundwater, as an alternative to soil leaching models. |
| Illinois | Illinois Environmental Protection Agency | Voluntary, State Lead and LUST cleanups | ✓ | ✓ | | | |
| Louisiana | Louisiana Dept. of Environmental Quality | Remediation/UST | ✓ | | | | |
| Maine | Maine Department of Environmental Protection | Technical Services Petroleum Program | ✓ | ✓ | ✓ | | |
| Minnesota | Minnesota Pollution Control Agency | Petroleum Remediation Program | | | | ✓ | |
| Mississippi | Mississippi Department Of Environmental Quality | Groundwater Assessment Remediation Division (non-UST) | ✓ | ✓ | ✓ | | |
| Missouri | Department of Natural Resources | Hazardous Waste Program | ✓ | | | | Not sure "direct exposure" pertains to soil vapor, as the assumption is that the vapors migrate through soil and into a building before exposure occurs. Also, not sure if "partitioning to groundwater" means vapors partitioning - if so we do not consider that. We do however have targets for vapors partitioning from groundwater to soil and then indoor air. |
| Nebraska | Department of Environmental Quality | Voluntary Cleanup and Superfund | ✓ | ✓ | | | |
| Nebraska | Department of Environmental Quality | Petroleum Remediation (LUST) | ✓ | | | | |
| Nevada | Nevada Division of Environmental Protection | Bureau of Corrective Actions | ✓ | ✓ | | | |

Q29. Check all applicable environmental concerns considered in development of state risk-based Air/Soil Vapor screening levels for carbon range fractions and/or TPH.

| State | State Agency Name | Program Area | Direct Exposure (inhalation toxicity) | Partitioning to groundwater | Odors/Nuisance | Not applicable | Other (please specify) |
|----------------|--|--|---------------------------------------|-----------------------------|----------------|----------------|--|
| New Hampshire | Department of Environmental Services | Oil Remediation and Compliance | ✓ | ✓ | | | |
| North Carolina | North Carolina | UST | | | | ✓ | |
| North Dakota | North Dakota Dept. of Health | Groundwater Division | | | | ✓ | |
| Ohio | Ohio EPA | Voluntary Action Program | | | | ✓ | |
| Oklahoma | Department of Environmental Quality | Land Protection | | ✓ | | | Possible for direct exposure |
| Oregon | Department of Environmental Quality | State CERCLA and LUST | ✓ | | | | |
| Puerto Rico | Puerto Rico Environmental Quality Board | Regional Office | | | | ✓ | |
| Rhode Island | Department of Environmental Management | Waste Management | ✓ | ✓ | ✓ | | |
| Texas | Railroad Commission | Site Remediation Section | ✓ | ✓ | ✓ | | |
| Texas | Texas Commission on Environmental Quality (TCEQ) | Technical Program Support - Remediation Division | ✓ | ✓ | ✓ | | |
| Utah | Department of Environmental Quality - Division of Environmental Response and Remediation | Leaking Underground Storage Tanks | ✓ | ✓ | ✓ | | |
| Virginia | Virginia Department of Environmental Quality | Petroleum | | | | ✓ | Virginia's Petroleum Program does not yet have vapor-phase screening levels. |
| Washington | Department of Ecology | Toxics Cleanup Program | ✓ | ✓ | ✓ | | |
| Wyoming | Wyoming Department of Environmental Quality | Voluntary Remediation Program/Hazardous Waste Permitting and Corrective Action | | | | ✓ | |
| Wyoming | Oil and Gas Conservation Commission | Supervisor | | | | | Not within scope of work at WOGCC. |

Q30. Check all applicable environmental concerns considered in development of state risk-based Soil/Sediments screening levels for carbon range fractions and/or TPH.

| State | State Agency Name | Program Area | Direct Exposure | Ecological Toxicity | Vapor Intrusion | Leaching | Gross Contamination | Not applicable | Other (please specify) |
|----------------------|---|---|-----------------|---------------------|-----------------|----------|---------------------|----------------|--|
| Alabama | Department of Environmental Management | Underground Storage Tanks | | | | | | ✓ | |
| Alaska | Department of Environmental Conservation | Contaminated Sites | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| Arkansas | Arkansas Department of Environmental Quality | Regulated Waste Operations | | | | | | ✓ | |
| California | Water Board | | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| Colorado | Colorado Oil & Gas Conservation Commission | East Half of Colorado | | | | | | ✓ | COGCC does not use risk based. |
| Colorado | Oil & Public Safety (Tanks) | Storage Tank Section | | | | | | ✓ | |
| Connecticut | Connecticut Department of Energy and Environmental Protection | Remediation | ✓ | | | ✓ | ✓ | | may be adjusted for analytical method detection limitations |
| Delaware | DNREC-Site Investigation and Restoration Section | State | | | | | | ✓ | |
| District of Columbia | Department of Energy and Environment | LUST Program | ✓ | | ✓ | ✓ | | | |
| Florida | Florida Department of Environmental Protection | Waste Management | ✓ | ✓ | | ✓ | | | |
| Hawaii | Department of Health | Hazard Evaluation and Emergency Response | ✓ | | ✓ | ✓ | ✓ | | TPH screening levels for terrestrial and benthic ecotoxicity compiled or developed on a site-specific basis as needed. |
| Illinois | Illinois Environmental Protection Agency | Voluntary, State Lead and LUST cleanups | ✓ | | ✓ | ✓ | ✓ | | |
| Louisiana | Louisiana Dept. of Environmental Quality | Remediation/UST | ✓ | | ✓ | ✓ | | | |
| Maine | Maine Department of Environmental Protection | Technical Services Petroleum Program | ✓ | | | ✓ | ✓ | | |
| Minnesota | Minnesota Pollution Control Agency | Petroleum Remediation Program | ✓ | | | | ✓ | | surface runoff |
| Mississippi | Mississippi Department Of Environmental Quality | Groundwater Assessment Remediation Division (non-UST) | ✓ | ✓ | | ✓ | ✓ | | Our risk based Tier 1 default to worst case exposure routes from available toxicity data. Ingestion/Inhalation are likely primary drivers. |

Q30. Check all applicable environmental concerns considered in development of state risk-based Soil/Sediments screening levels for carbon range fractions and/or TPH.

| State | State Agency Name | Program Area | Direct Exposure | Ecological Toxicity | Vapor Intrusion | Leaching | Gross Contamination | Not applicable | Other (please specify) |
|----------------|--|--|-----------------|---------------------|-----------------|----------|---------------------|----------------|--|
| Missouri | Department of Natural Resources | Hazardous Waste Program | ✓ | | ✓ | ✓ | | | Direct exposure includes ingestion, dermal contact with, and release of vapors from soil. Screening levels based on ecological toxicity might be needed on a site-specific basis; where they are needed, the responsible party is responsible for identifying appropriate standards from the literature. |
| Nebraska | Department of Environmental Quality | Voluntary Cleanup and Superfund | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| Nebraska | Department of Environmental Quality | Petroleum Remediation (LUST) | ✓ | | ✓ | ✓ | | | |
| Nevada | Nevada Division of Environmental Protection | Bureau of Corrective Actions | ✓ | | ✓ | ✓ | | | |
| New Hampshire | Department of Environmental Services | Oil Remediation and Compliance | ✓ | | ✓ | ✓ | ✓ | | |
| North Carolina | North Carolina | UST | ✓ | | | ✓ | ✓ | | |
| North Dakota | North Dakota Dept. of Health | Groundwater Division | ✓ | ✓ | ✓ | ✓ | | | |
| Ohio | Ohio EPA | Voluntary Action Program | ✓ | ✓ | ✓ | ✓ | | | |
| Oklahoma | Department of Environmental Quality | Land Protection | ✓ | | | ✓ | ✓ | | Potentially vapor intrusion |
| Oregon | Department of Environmental Quality | State CERCLA and LUST | ✓ | ✓ | ✓ | ✓ | | | |
| Puerto Rico | Puerto Rico Environmental Quality Board | Regional Office | | | | | | ✓ | |
| Rhode Island | Department of Environmental Management | Waste Management | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| Texas | Railroad Commission | Site Remediation Section | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| Texas | Texas Commission on Environmental Quality (TCEQ) | Technical Program Support - Remediation Division | ✓ | | | ✓ | ✓ | | |
| Utah | Department of Environmental Quality - Division of Environmental Response and Remediation | Leaking Underground Storage Tanks | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| Virginia | Virginia Department of Environmental Quality | Petroleum | | | | | ✓ | | |

Q30. Check all applicable environmental concerns considered in development of state risk-based Soil/Sediments screening levels for carbon range fractions and/or TPH.

| State | State Agency Name | Program Area | Direct Exposure | Ecological Toxicity | Vapor Intrusion | Leaching | Gross Contamination | Not applicable | Other (please specify) |
|------------|---|--|-----------------|---------------------|-----------------|----------|---------------------|----------------|---|
| Washington | Department of Ecology | Toxics Cleanup Program | ✓ | ✓ | ✓ | ✓ | | | |
| Wyoming | Wyoming Department of Environmental Quality | Voluntary Remediation Program/Hazardous Waste Permitting and Corrective Action | ✓ | | | ✓ | ✓ | | Gross contamination may be considered but no "screening levels" for it. |
| Wyoming | Oil and Gas Conservation Commission | Supervisor | ✓ | ✓ | | ✓ | ✓ | | |

Q31. Check all applicable environmental concerns considered in development of state risk-based Groundwater/Surface Water screening levels for carbon range fractions and/or TPH.

| State | State Agency Name | Program Area | Direct Exposure (drinking water toxicity) | Vapor Intrusion | Aquatic Toxicity | Gross Contamination (e.g., taste and/or odors) | Not applicable | Other (please specify) |
|----------------------|---|---|---|-----------------|------------------|--|----------------|--|
| Alabama | Department of Environmental Management | Underground Storage Tanks | | | | | ✓ | |
| Alaska | Department of Environmental Conservation | Contaminated Sites | ✓ | ✓ | ✓ | ✓ | | |
| Arkansas | Arkansas Department of Environmental Quality | Regulated Waste Operations | ✓ | | | | | |
| California | Water Board | | ✓ | ✓ | ✓ | ✓ | | |
| Colorado | Colorado Oil & Gas Conservation Commission | East Half of Colorado | | | | | ✓ | |
| Connecticut | Connecticut Department of Energy and Environmental Protection | Remediation | ✓ | ✓ | ✓ | ✓ | | may be adjusted for analytical method detection limitations |
| Delaware | DNREC-Site Investigation and Restoration Section | State | | | | | ✓ | |
| District of Columbia | Department of Energy and Environment | LUST Program | ✓ | ✓ | | | | |
| Florida | Florida Department of Environmental Protection | Waste Management | ✓ | | ✓ | | | |
| Hawaii | Department of Health | Hazard Evaluation and Emergency Response | ✓ | ✓ | ✓ | ✓ | | Gross contamination screening levels also used to identify potential presence of free product in/on groundwater. |
| Illinois | Illinois Environmental Protection Agency | Voluntary, State Lead and LUST cleanups | ✓ | | | ✓ | | |
| Louisiana | Louisiana Dept. of Environmental Quality | Remediation/UST | | | | | | Direct Exposure, vapor intrusion, protection of downgradient surface water body (for GW 3/non-drinking water source aquifer). RECAP does not have surface water standards. Those are found in the department's water quality regulations. |
| Maine | Maine Department of Environmental Protection | Technical Services Petroleum Program | ✓ | | | ✓ | | |
| Minnesota | Minnesota Pollution Control Agency | Petroleum Remediation Program | | | ✓ | | | |
| Mississippi | Mississippi Department Of Environmental Quality | Groundwater Assessment Remediation Division (non-UST) | ✓ | | ✓ | ✓ | | Same as above. |
| Missouri | Department of Natural Resources | Hazardous Waste Program | ✓ | ✓ | | | | Aquatic toxicity might need to be considered on a site-specific basis; where needed, responsible party must identify appropriate standards from the literature. This would usually be applicable to surface water, but could also pertain to GW. One literature source could be state water quality standards. |
| Nebraska | Department of Environmental Quality | Voluntary Cleanup and Superfund | ✓ | ✓ | | ✓ | | |
| Nebraska | Department of Environmental Quality | Petroleum Remediation (LUST) | ✓ | ✓ | | | | |
| Nevada | Nevada Division of Environmental Protection | Bureau of Corrective Actions | ✓ | ✓ | | | | |
| New Hampshire | Department of Environmental Services | Oil Remediation and Compliance | ✓ | ✓ | | ✓ | | |

Q31. Check all applicable environmental concerns considered in development of state risk-based Groundwater/Surface Water screening levels for carbon range fractions and/or TPH.

| State | State Agency Name | Program Area | Direct Exposure (drinking water toxicity) | Vapor Intrusion | Aquatic Toxicity | Gross Contamination (e.g., taste and/or odors) | Not applicable | Other (please specify) |
|----------------|--|--|---|-----------------|------------------|--|----------------|---|
| North Carolina | North Carolina | UST | | | | | ✓ | |
| North Dakota | North Dakota Dept. of Health | Groundwater Division | ✓ | ✓ | ✓ | ✓ | | |
| Ohio | Ohio EPA | Voluntary Action Program | ✓ | ✓ | ✓ | | | |
| Oklahoma | Department of Environmental Quality | Land Protection | ✓ | ✓ | | ✓ | | |
| Oregon | Department of Environmental Quality | State CERCLA and LUST | | | ✓ | | | |
| Puerto Rico | Puerto Rico Environmental Quality Board | Regional Office | | | | | ✓ | |
| Rhode Island | Department of Environmental Management | Waste Management | | | | | ✓ | |
| Texas | Railroad Commission | Site Remediation Section | ✓ | ✓ | ✓ | ✓ | | |
| Texas | Texas Commission on Environmental Quality (TCEQ) | Technical Program Support - Remediation Division | ✓ | | | ✓ | | |
| Utah | Department of Environmental Quality - Division of Environmental Response and Remediation | Leaking Underground Storage Tanks | ✓ | ✓ | ✓ | ✓ | | |
| Virginia | Virginia Department of Environmental Quality | Petroleum | | | | ✓ | | |
| Washington | Department of Ecology | Toxics Cleanup Program | ✓ | ✓ | ✓ | | | |
| Wyoming | Wyoming Department of Environmental Quality | Voluntary Remediation Program/Hazardous Waste Permitting and Corrective Action | ✓ | | | ✓ | | Gross contamination may be considered but no "screening levels" for it. |
| Wyoming | Oil and Gas Conservation Commission | Supervisor | | | | | | Groundwater not regulated by WOGCC. |