



## Drilling - Environmental

Environmental drilling covers a broad range of environmental and geotechnical drilling services, including groundwater and vapor well installation, direct push sampling and groundwater monitoring. It can be used to collect soil or groundwater samples to test for contamination or when monitoring or remediation wells are required for the treatment of groundwater. Environmental exposure at a job site can include the spread, collection and disposal of preexisting contamination and striking underground utilities or unknown hazards. Materials such as drilling fluids or grout and cement can contain hazardous materials, and their use or mishandling could result in the migration of contaminants. Improper containment and disposal of cutting wastes and decontamination waste water could lead to environmental cleanup liability.

## Environmental Exposures May Include

- Environmental drilling may be conducted through pre-existing contamination, whether known or unknown and spread contamination to previously uncontaminated soil and groundwater. Contamination can be introduced into a deeper aquifer by drilling through a perched contaminated aquifer or by improper well installation between these zones. Pre-existing contaminants in soil can be spread from the source area to new locations in subsurface soil or be brought up to the surface and placed onsite. Contaminated soils may also be transported and hauled to a disposal site.
- Decontamination procedures are used to remove or neutralize contaminants that have accumulated on personnel, tools and equipment. Decontamination generates wastewater that contains cleaners, detergents and the removed contaminants. Containment breaches, decontamination pad leaks or a release during pumping of wastewater can allow runoff to leach into the soil or migrate off site and impact adjacent properties, storm water drains and nearby surface waters. Insufficient decontamination of tools and equipment could also cause inadvertent cross-contamination between drilling locations.
- Drilling fluids may contain various additives to help cool and lubricate drills, aide in the flotation of drill cuttings, seal porous layers of the drilling area and more. These compounds can be toxic, especially to aquatic systems and other natural resources. Drilling fluids could contaminate and/or cross-contaminate ground water and aquifer materials. A containment breach or spill could also occur during storage and transportation of additives, base fluids and premixed fluids. Releases can migrate, or be carried offsite by storm water runoff, and impact adjacent properties, storm water drains and nearby surface waters. Disposal of spent drilling fluids could result in a migration of liquid waste from the disposal site.
- Waste cuttings may contain contaminated materials such as heavy metals, hydrocarbons, chlorinated solvents, nitrates and traces of radioactive elements. Improper containment, labeling, testing and disposal of the waste can result in environmental liability.
- Underground utilities, like gas lines, water and sewage pipes, and unknown hazards, such as abandoned storage tanks and septic tanks, can be impacted. A puncture can release fuel oil, chemicals, toxic gases or sewage that can contaminate soil and groundwater and release hazardous air emissions, resulting in clean-up costs, bodily injury and third-party property damage claims.
- Heavy equipment and mobile refueling tanks may be brought to and stored on the job site. Release of fuels, lubricant oils and chemicals resulting from accidental spills, leaks or vandalism can discharge pollutants into the soil and groundwater, or collect in storm water runoff and discharge into water systems.
- Most earthwork activities in construction require silt and erosion control. Silt and sediment are fine grained soil particles that are readily carried in surface runoff. Improper erosion control or handling of sediment-laden water can lead to surface runoff that can impair the functionality of storm water drainage systems and catch basins, severely damage water quality and can threaten aquatic systems and drinking water sources.
- Cement and grouts may be used in well drilling or decommissioning processes. Improper application of grout and cement in the well can impact the seal layer. A faulty or leaky seal layer can allow grout and cement to enter the gravel pack or permit the migration of other contaminants. Working with concrete, cement and numerous types of clay can also create an exposure to disease-causing respirable crystalline silica. Releases may occur through transport, handling and mixing of dry materials or through grinding, cutting or blasting. Any dry emissions generate potential inhalation exposures and may migrate offsite with wind currents.
- Concrete washout water contains toxic materials and is caustic and corrosive. Improper concrete washouts from cleaning pumps, hoses and drill rods can leach into soil and groundwater or can run offsite and into storm drains that discharge to surface waters and result in significant damage to natural resources and aquatic life.

## Contractors Pollution Liability Can Provide Coverage For

- Contracting operations done “by or on behalf of” the insured
- Contracting operations performed at a job site
- Third-party claims for bodily injury and property damage
- Third-party claims for cleanup
- Defense of third-party claims
- First-party emergency response costs
- Sudden and accidental coverage for owned/leased locations
- Mold, legionella, bacteria and fungi
- First and third-party transportation pollution liability
- Loading and unloading
- Natural resource damage
- Crisis/publicity management
- Silt and sedimentation
- Lead and asbestos
- Non-owned disposal sites

# Claims Scenarios & Examples

- A subsurface drilling contractor caused the release of raw sewage into both the soil and groundwater after failing to identify a sewer line before drilling. The clean-up included the excavation of several tons of impacted soil and caused a number of nearby businesses to be shut down for a few days after their basements filled with sewage. Substantial claims for business interruption and clean-up costs were filed.
- A contractor was transferring drilling fluid/mud into a tank when a spill occurred that breached the containment area. The property owner tendered a cleanup claim to the contractor who initiated a claim with their general liability insurer. The insurer denied the claim referring to the policy's pollution exclusion.
- An environmental lawsuit was filed against a driller by a handful of residents whose wells and drinking water were allegedly contaminated, affecting the health and the value of their properties. They sought an environmental cleanup, medical monitoring and coverage for damages.
- The gasket on a steel pipe (hard line) failed as drilling fluids were being sent to the on-site processing facility. After 85 barrels (or 3,570 gallons) of drilling mud, brine and diesel fuel were spilled, the driller was issued a regulatory order for clean up.
- Workers from a drilling contractor experienced an inadvertent return of horizontal directional drilling fluid. A leak sprung and spilled nearly 2 million gallons of drilling fluid into a wetland next to a river. The state's Environmental Protection Agency (EPA) investigated the spill and claimed to find the presence of diesel fuel in the spilled mud. They alleged that the contractor was adding diesel fuel to the drilling mud in lubricating the bit. Cleanup and fines settlements were negotiated in excess of \$1 million.
- A property owner purchased a gasoline station, and as part of the due diligence process, he hired a drilling contractor to identify potential contamination on the site. Twenty-four borings were drilled on the site. A product line was hit while advancing one of the borings between the dispenser islands and the underground storage tanks, causing a release of fuel.
- A drilling contractor was conducting environmental borings at a development and contaminated the drinking wells of 19 nearby residences. The Department of Environmental Protection (DEP) suspected the contamination pathway occurred when the drilling company hit an aquifer. The Centers for Disease Control (CDC) issued a report concluding that the residential wells contained dangerous levels of chemicals, including arsenic, lithium and 4-chlorophenyl phenyl. The homeowners filed a \$4 million lawsuit.
- A drilling company using a directional borer punctured a 12-inch water main. After hitting the main, the drilling crew proceeded to bore through an elbow on the main. Water dislodged a concrete reinforcement block on the elbow, leading to a geyser in front of several retail stores who sued for economic damage. The city sued the contractor for environmental damages as the mud and sediment flowed into the city sanitary water system.
- The owners of two suburban homes launched a class action against a drilling contractor for negligent drilling by destabilizing underlying geology in the area and for jeopardizing the integrity of an existing gas pipeline.
- A drilling contractor failed to follow an engineer's instruction and drilled beyond the required depth, hitting and damaging a large sewer pipe. Emergency remediation costs were incurred from the sewage overflow and contamination to natural resources.

## Final Consideration

As a contractor you can be faced with the cost to defend yourself against allegations or legal action from pollution related events, regardless if you are at fault or not. Having the proper insurance coverage in place will help fund the expenses incurred to investigate or defend against a claim or suit and provide you with environmental claims handling expertise.

*This environmental risk overview has been developed by Environmental Risk Professionals on behalf of J. Loos & Associates. It is intended to provide the reader with a broad range of potential risks they may encounter and may not reflect all risks associated with their business. To verify available insurance coverage, please consult your insurance representative.*

*© 2020 Environmental Risk Professionals*



J. LOOS & ASSOCIATES  
Daniel Loos  
919-256-6860  
daniel.loos@jloosins.com  
www.jloosins.com