

## 10.0 SITE CLOSURE REQUIREMENTS

Closure is the final step in the assessment, cleanup and monitoring process. It provides a mechanism where the department can allow assessment, cleanup, and monitoring to stop if certain conditions are met. There are three categories: clean closures, standard closures in which ground water standards are met and petroleum contaminated soil rules are complied with, and a no further action designation for impacted non-aquifers and qualifying aquifer sites.

### 10.1 Clean Closure Requirements

A site can receive clean closure status if the tank owner/land owner can show that a release did not occur from the tank system, or other potential sources of contamination on the property. This is done by collecting the appropriate number of analytical samples from the source areas of the site. The results of the analytical tests performed must be non-detect for all parameters tested.

### 10.2 Standard Closure Requirements

A site can receive closure status when the site has been assessed and the department has determined no completed exposure pathways are present. If ground water has been impacted the contaminant levels must meet ground water quality standards.

A closure letter will state that the site has been evaluated using a risk-based approach. The letter will also state that all contamination has been removed to state standards and requirements and does not pose a risk to human health or the environment. The closure letter will also state that if future problems arise from any remaining contamination, the department may require that the responsible party perform additional assessment or remediation.

### 10.3 No Further Action Requirements

A site may receive no further action status if ground water contamination remains above state standards, but the site meets the criteria detailed below. The department may return a site to “active” or “monitoring” status if a problem arises from contamination left on the site. **Note:** The department is still developing this section and additional information will be provided.

#### 10.3.1 Aquifer Sites

The following agreement between the department and the PRCF describes which aquifer sites may be eligible for no further action.

##### **Agreement between PRCF and DANR**

*The purpose of this agreement is to base cleanup and monitoring requirements on risk, cut cleanup costs, and improve working efficiencies between DANR and PRCF.*

*Rather than applying ground water quality standards for benzene, total hydrocarbons, and other petroleum components to the source of the spill or leak, DANR will establish a point of compliance down-gradient. That point of compliance must protect current and future beneficial uses of the ground water. Risk-based information, calculations, and computer modeling will determine cleanup goals, and establish the amount of contamination to be cleaned up to protect ground water quality at the compliance point.*

*To reduce disagreements between DANR and PRCF about the need to protect for potential future beneficial uses, existing criteria from the DANR ground water discharge permit program (i.e. ARSD 74:54:02:17) will be used to establish compliance points.*

*Modifying that criteria from ARSD 74:54:02:17, the compliance point(s) cannot be:*

- (1) More than one-quarter mile down-gradient from the source of contamination;*
- (2) Beyond the property boundaries of the facility unless consent from the adjacent landowner(s) is obtained in writing and submitted to DANR;*
- (3) Within the following areas surrounding public and private wells:
  - (a) delineated wellhead protection areas,*
  - (b) the ground water portion of delineated source water protection areas, and*
  - (c) the cone of depression or the zone of influence of pumping; and**
- (4) Within the boundaries of future use water right permits.*

*Verification of no further risk in these cases will consist in part of ground water monitoring for two years (quarterly samples the first year to document seasonal fluctuations; semi-annual or annual the second year) to document that hydrocarbon contamination is either stable or decreasing, and there is no significant increase or movement of the hydrocarbons towards the compliance point.*

The following additional criteria must also be met for obtaining a No Further Action designation at aquifer sites:

- Free product is not present. The site cannot be considered for NFA if free product is present at the time of consideration. If free product was present, but removed and further monitoring indicates decreasing contamination levels, as stated above, the site could be considered for no further action.
- There are no impacts to structures or underground utilities as determined by the site assessment and agreed to by the department. This means that vapors are not present in buildings and petroleum is not infiltrating into underground utilities.
- The department will require the responsible party to either properly close or maintain monitoring wells. If the responsible party chooses to maintain the wells, the department will require, at a minimum, the wells be opened and developed at least yearly to ensure the wells are not plugged.

### **10.3.2 Non-Aquifer Sites**

The department has developed the following criteria for obtaining a No Further Action designation at non-aquifer sites.

Soil remediation must have been performed to the extent specified in ARSD 74:56:05 and ground water treatment is not technically practical and it has been shown that no completed exposure pathways exist or no longer exist.

At least two years of periodic monitoring has been performed. A typical monitoring requirement for this two-year period would be quarterly for the first year and semi-annually for the second year.

Contaminant levels in the monitoring wells, some of which must be at or near the edge of the contaminant plume, have not been increasing but have remained steady or are decreasing. Down gradient wells have not been impacted.

The permeability of soils at the site must be determined to the satisfaction of the department. Accurate soil boring and monitoring wells logs that describe soil types will be sufficient in most cases. Additional testing, such as slug tests, may be required at sites where the existing assessment and monitoring information is not sufficient to document site hydrogeologic conditions.

Free product is not present. The site cannot be considered for NFA if free product is present at the time of consideration. If free product was present, but removed and further monitoring indicates decreasing contamination levels, as stated above, the site could be considered for no further action.

There are no impacts to structures or underground utilities as determined by the site assessment and agreed to by the department. This means that vapors are not present in buildings and petroleum is not infiltrating into underground utilities.

The department will require the responsible party to either properly close or maintain monitoring wells. If the responsible party chooses to maintain the wells, the department will require, at a minimum, the wells be opened and developed at least yearly to ensure the wells are not plugged.