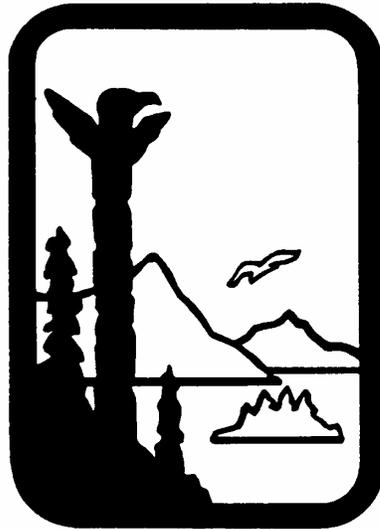


DEPARTMENT OF ENVIRONMENTAL CONSERVATION



STREAMLINED CLEANUP PROGRAM GUIDANCE

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Introduction

The Alaska Department of Environmental Conservation (DEC) encourages the use of the Streamlined Cleanup Program (SCP) to clean up low-risk petroleum contaminated sites. The SCP replaces the former Voluntary Cleanup Program (VCP). As with the VCP it relies on self-reporting and reduced government oversight. The goal is to accelerate the cleanup of these sites while continuing to protect human health and the environment. The program can be used for sites regulated under the 18 Alaska Administrative Code (AAC) 75, Oil and Other Hazardous Substances Pollution Control regulations, and the 18 AAC 78, Underground Storage Tanks (USTs) regulations. Each set of regulations uses slightly different terminology; however, the term “contaminated site” is a generic term referring to both regulated UST and non-UST contamination.

Many cleanup actions are initiated by landowners concerned about protecting both their property values and the environment. DEC encourages these efforts. By cleaning up a site under the SCP, the interested party (Applicant) will ensure that the contamination at the site has been properly cleaned up. This guidance references various DEC regulations and other guidance documents. These are available on the DEC Contaminated Sites Program web page at <http://www.state.ak.us/dec/dspar/csites/home.htm>.

For a contaminated site regulated under 18 AAC 75, the DEC site cleanup rules (18 AAC 75.325 – .390) require the submittal of various reports for approval. With approval to enter the SCP, DEC is granting a waiver as defined by 18 AAC 75.390 for the following regulations:

1. 18 AAC 75.330(c) Interim removal action approval;
2. 18 AAC 75.335(b) Site characterization workplan approval;
3. 18 AAC 75.355(a) Sampling and analysis workplan approval;
4. 18 AAC 75.335(c) Site characterization report approval;
5. 18 AAC 75.360(a) Cleanup operation workplan approval; and
6. 18 AAC 75.360(b) Soil disposal in an approved workplan.

For a UST regulated under 18 AAC 78, DEC is granting a waiver as defined by 18 AAC 78.930 for the following regulations:

1. 18 AAC 78.200(a) Time requirements;
2. 18 AAC 78.235(g) Time requirements;
3. 18 AAC 78.240(c)(1) Interim cleanup action report submittal;
4. 18 AAC 78.250 Corrective action plan approval;
5. 18 AAC 75.260(e) Corrective action plan approval; and
6. 18 AAC 78.270 Corrective action plan revision approval.

The Applicant is required to comply with these regulations, but DEC approval of workplans is not required. Compliance will be evaluated during the review of the final report. If the site transfers from SCP to regular DEC oversight, these waivers will be revoked and the Applicant will be required to comply with all of 18 AAC 75, Article 3, or 18 AAC 78, as applicable.

Chapter 1 -PROGRAM DESCRIPTION

Purpose

The goal of the SCP is to provide an efficient and cost-effective site cleanup process for low risk sites that ensures the protection of human health and the environment. The SCP has three main objectives:

1. Initiate the cleanup of low risk sites that may not otherwise be addressed because of limited DEC staff resources;
2. Simplify regulatory requirements for low risk sites; and
3. Quickly place low risk contaminated properties back into economic re-use.

Overview

The Applicant must submit a SCP Application (Appendix A) and receive written approval from DEC in order to participate.

Eligibility

A site owner or operator, prospective owner or operator, financier, or other person(s) who is interested in cleaning up a site that meets the following criteria may apply for participation in the SCP. The site must:

1. Present a low risk to human health and the environment; and
2. Be limited to petroleum hydrocarbon contamination.

SCP is **not** appropriate if:

1. Free product is present in groundwater;
2. Surface water is known to be contaminated or has a high potential of being contaminated;
3. Alternative cleanup levels are proposed;
4. Contaminants other than petroleum are present;
5. Contamination has migrated across the property line; or
6. Formal institutional controls are proposed.

SCP **may not** be appropriate if:

1. Contamination has a high potential to impact an environmentally sensitive area;
2. Groundwater contamination is present;
3. Proposed cleanup technologies are untested, novel or require in-situ treatment;
4. A non-domestic wastewater plan review is needed for the construction, alteration, installation, modification, or operation of a non-domestic wastewater treatment works or disposal system, or wastewater needs to be discharged from the site under the DEC general permit, for example from a bermed tank farm; or

5. The DEC project manager determines that SCP is inappropriate due to other site-specific variables.

If, at any time, information is discovered showing the site no longer meets the SCP eligibility criteria, the Applicant should contact DEC as soon as possible. Unless DEC determines otherwise, the site is no longer eligible for the SCP and will be referred to the appropriate DEC program for review.

SCP Application

The Applicant must submit to DEC a completed SCP Application and workplan, which is included as Appendix A. DEC will determine if the site meets the eligibility criteria and, if so, will approve the site for admission into the SCP. If the site is a “clean tank closure” with a UST site assessment report, include a completed copy of the application in conjunction with the UST Site Assessment Report. Review of the SCP Application will occur in conjunction with the review of the report.

The collection and interpretation of field data must be conducted or supervised by a qualified, impartial third party.¹ DEC is able to waive this requirement as long as the work will be conducted or supervised by a qualified person. This waiver must be applied for as part of the SCP Application. Specific details regarding this requirement and information needed to grant a waiver can be found at 18 AAC 75.355(b), 18 AAC 78.090(e), and .235(b).

Site Characterization

A thorough delineation of the contamination is essential to clean up a site effectively. Different terms are used for UST and non-UST components, however the general process and tools are similar.

For non-UST sites regulated under 18 AAC 75, a single site characterization phase is typically conducted. For UST sites, however, the term “site characterization” applies only to the initial step in the overall investigation process. If no contamination is thought to be present the second step is to submit an UST Site Assessment Report to DEC. If contamination is present an UST Release Investigation is conducted. The technical requirements of the UST investigations are similar to non-UST investigations. More detailed information can be found in DEC’s *Guidance for Cleanup of Petroleum Contaminated Sites* and the *Underground Storage Tank Procedures Manual*.

¹ A list of qualified persons and laboratories is available at <http://www.state.ak.us/dec/dspar/csites/home.htm>

Cleanup Levels ²

An Applicant has two different options for establishing soil cleanup levels. Petroleum contaminated soil must be cleaned up to: 1) method one: the appropriate matrix level of 18 AAC 75.341, Tables A1 and A2, or 2) method two: the most stringent cleanup level for the appropriate climate zone in 18 AAC 75.341, Table B2. Contaminated groundwater must be cleaned up to the levels of 18 AAC 75.345, Table C.

The Applicant must propose site cleanup levels in the workplan. DEC will approve the cleanup levels with acceptance into the SCP. However, if in the course of the site characterization or cleanup, the Applicant wishes to propose a different cleanup level, the assigned project manager must be notified to discuss the reasons for modification. The site will be removed from SCP if an alternative cleanup level is accepted.

Cleanup

If contamination levels at the site exceed the approved cleanup levels, the Applicant will determine the most appropriate cleanup method. The Applicant shall propose the cleanup method in the workplan (submitted with the SCP Application). Site characterization findings may lead to modifications to the cleanup approach. The assigned DEC project manager must be notified immediately if modifications are required. The Applicant must obtain all necessary federal, state, and local permits required for this action. Confirmation sampling must show that cleanup levels have been met. The Applicant shall obtain DEC approval before transporting or disposing of contaminated soil or groundwater off-site.

Final Report

The purpose of this report is to state the findings of the site characterization, compare those findings to the cleanup levels, explain the rationale for the chosen cleanup method, document the cleanup activities, and demonstrate through the confirmation samples that the cleanup levels have been met. Specific reporting requirements are included in 18 AAC 75.380 and 18 AAC 78.

DEC will review the report, and if the report is approved, DEC will provide the Applicant with a site closure letter. If the report is not approved, DEC will notify the Applicant of its findings and recommendations as to what additional information and/or action is needed.

Termination

The Applicant has the right at any time to terminate participation in this program by notifying DEC. Termination from the SCP does not relieve any potentially liable person from cleanup under state law.

If, at any time, a site fails to meet the eligibility criteria, the site may be terminated from the SCP.

If DEC determines that either the Applicant or his/her contractor has falsified information, the site may be terminated from the SCP and further inclusion in the SCP may not be possible. The State of Alaska may initiate appropriate action under Title 46 of Alaska Statute against any person who knowingly, or unknowingly, falsifies information or fails to submit all relevant information.

² 18 AAC 75.340-345, and as adopted by reference in 18 AAC 78.610-620.

The final report must be submitted within two years of the date of acceptance into the SCP, as determined by the date of the SCP approval letter issued by DEC. Non-compliance with this deadline may result in termination from the SCP.

The site shall be terminated if the Applicant fails to use permanent remedies, to the maximum extent possible, and minimize the spread of contamination into an uncontaminated area³.

Appeals

A person(s) aggrieved by a DEC decision may request an adjudicatory hearing under 18 AAC 15.200 – .920.

Cost Recovery

Alaska Statute requires the recovery of costs spent from the Oil and Hazardous Substance Response Fund, which includes staff time and direct costs. Sites in the SCP will be covered by the same cost recovery procedures as other contaminated sites.

³ 18 AAC 75.325(f).

Chapter 2 - SITE CHARACTERIZATION

The objective of a site characterization is to provide information to:

1. Determine if a release has occurred;
2. Identify nature and extent of contamination;
3. Identify site characteristics and conditions that could result in continued contaminant migration;
4. Evaluate potential threat to human health and the environment; and
5. Identify the need for an interim removal action.

Phase I - Preliminary Site Characterization

A Phase I characterization is used to gather background information, confirm the presence or absence of contamination, and provide adequate information to determine if further action is warranted. The ASTM Standard E 1527-00, Phase I Environmental Site Assessments guidance may be a helpful reference.

Records Search

A records search should provide information as to what substances have been used at the site. The site may not look at all like it did in the past. A records search can help establish the nature of past activities, indicate where certain activities took place, and narrow the number and type of contaminants that may be present at the site.

The Applicant may find information about ownership and operation history of the property at the local recorder's office. If there is an operating business at the site they may have helpful documentation, i.e. accounts payable files, and operating logs. DEC and/or the U.S. Environmental Protection Agency (EPA) may have information on past regulatory activities such as applications for permits for wastewater discharge and notification of hazardous waste activity or spills. Also, municipal planning departments or various agencies may have aerial photographs showing the site's historical use.

Interviews

One of the most useful ways to learn how a site was used is to talk to the people who used it, such as past and current owners, operators, employees, and neighboring property owners. Persons who may be particularly helpful are those who manage raw materials or wastes, such as facility managers or maintenance staff.

Site Visit

The purpose of a site visit is to gather additional information and determine if observations at the site correspond with records and interviews, and document inconsistencies for further research. Because it is important to recognize and record as many potential environmental conditions as possible, the property should be viewed from within its boundaries and from adjacent properties. Photographs can be valuable for referencing later and for use in the development of a workplan.

The site setting is an important factor for identifying what on-site and off-site activities might be affecting the site and what receptors might be affected by the contamination. Using a map of the property as a base, identify the current use of the site and the surrounding properties as specifically as possible. Note the location of streams, ponds, wetlands, drainage pathways, springs, dams, public or private drinking

water wells, fences and roads within a quarter mile of the property. Note the locations of human-made features to identify areas where earth-disturbance activities may have changed the appearance of the site.

Evidence of on-site waste management practices or contamination may be readily noticeable. Document on the base map all containment or conveyance devices such as tanks, containers, waste piles, septic systems, sumps, pipelines, sewers, storm water drains, floor drains, and oil/water separators. Underground tanks may be located by looking for an aboveground vent pipe or fill pipe.

Water pollution source indicators include sheens on standing water, odor, discolored or stained soils or sediments, and dead or stressed vegetation or aquatic life. If there are groundwater wells on the property used for drinking water, or springs discharging groundwater, check the water for unusual appearance. The presence of these indicators does not mean that contamination is definitely present, some indicators may be caused by other factors. For instance, some wetlands have a natural sheen on the water from decaying organic matter, or have vegetation that shows signs of stress during dry seasons. Thus, these indicators are not conclusive, but are useful to identify follow-up sampling needs.

Field Sampling

The Applicant may decide to perform limited sampling as part of the preliminary assessment/UST Site Assessment to confirm the presence and type of contamination. Preliminary sampling should focus on information gaps and locations where records and site visit information indicate there are reasons to expect contamination. A qualified, impartial third-party sampler is required for sample collection.⁴

Analyzing Preliminary Information

If a hazardous substance release has been confirmed and levels of contamination exist that warrant further action, information gathered during the preliminary phase will help develop the scope for complete site characterization.

If the records search or site visit confirms a hazardous substance release that warrants emergency action due to a threat to human health or the environment, immediate steps should be taken to address the problem and DEC should be notified immediately. During normal business hours, contact the nearest DEC office: Anchorage - 269-7500, Fairbanks - 451-2121, or Juneau - 465-5340; outside of normal business hours, contact (800) 478-9300. Reporting requirements for hazardous substance discharges are in 18 AAC 75.300-.305.

UST-Specific Requirements⁵

In accordance with 18 AAC 78, the site investigation begins with an UST site characterization, and if no contamination is found an UST site assessment is conducted. If contamination is found, the Applicant must conduct an UST release investigation.

An UST site assessment must be conducted and submitted to DEC within 60 days of an UST closure or change-in-service.⁶ If no contamination is found submit only the report. If contamination is found submit the report and a completed application. Refer to 18 AAC 78 for specific requirements related to

⁴ - 18 AAC 75.355(b), 18 AAC 78.090(e), and 18 AAC 78.235(b).

⁵ - Home heating oil underground storage tanks are NOT regulated under 18 AAC 78.

⁶ 18 AAC 78.090.(d)(5).

the UST site assessment.

Phase II: Non-UST Site Characterization and UST Release Investigation

The objectives of the non-UST site characterization and UST release investigation are to:

1. Locate sources of known site contamination, including a description of potential ongoing releases into soil, sediment, groundwater, or surface water;
2. Evaluate the size of the contaminated area, including the concentrations and extent of soil, sediment, groundwater, or surface water contamination;
3. Identify the vertical depth to groundwater and the horizontal distance to nearby wells, surface water, and water supply intakes;
4. Evaluate the potential for surface water runoff from the site and the potential for surface water or sediment contamination; and
5. Identify the soil type and determine if the soil is a continuing source for groundwater contamination.

Workplan

Site activities should follow the workplan that is submitted with the SCP Application. Suggested components of a combined site characterization and cleanup workplan are outlined in Appendix A. DEC may ask for additional information depending on the complexity of the site.

Field Sampling

Sampling should focus on the areas of contamination to determine the source and define the horizontal and vertical extents of contamination and the physical properties of the contaminated media to be addressed during a cleanup. A review of scientific literature for chemical-specific properties such as water solubility, density and vapor pressure can help in understanding the fate and transport of contaminants through the environment.

If contaminants are found in concentrations where remediation is necessary to meet the cleanup levels, additional site characterization may be needed to fill in data gaps or to provide more complete information. Additional site characterization should focus on locations that are suspected of being contaminated. Laboratory analysis may be limited primarily to those contaminants known to be present and as indicated in the recommended soil and groundwater analytical methods table in the *Guidance for Cleanup of Petroleum Contaminated Sites*, and Table 2a of the *Underground Storage Tank Procedures Manual*.

Groundwater Contamination

Groundwater samples should be collected if soil contamination has migrated to the depth of the seasonal high water table, or if petroleum sheen or other visible or olfactory signs of groundwater contamination are present. If soil contamination exists at seasonal high groundwater, a sufficient number of groundwater samples should be collected to determine if the groundwater is contaminated. Various techniques exist for installing temporary monitoring wells. Permanent monitoring wells should be installed, developed, and decommissioned in accordance with the department's *Recommended Practices for Monitoring Well Design, Installation, and Decommissioning*, dated April 1992. Other helpful references may be EPA's *Groundwater*, dated 1990, and 1991, and *Resource Conservation and Recovery Act (RCRA) Ground-water Monitoring*, dated 1992. Groundwater samples are typically unfiltered. If

filtered samples are collected, unfiltered samples must also be collected for comparison purposes. The DEC project manager should be consulted prior to using filtered samples.

The Applicant should inform DEC immediately if groundwater contamination is found at any point in the process. DEC may request the following information:

1. Geographical reach of the contaminated groundwater, including the proximity to the site boundary;
2. Distance to an existing or reasonably anticipated future drinking water supply well or surface water body;
3. If groundwater is a current or reasonably expected future source of drinking water (18 AAC 75.350);
4. The physical and chemical characteristics of each contaminant;
5. The hydrogeological characteristics of the site;
6. The presence of discontinuities in the contaminated aquifers at the site;
7. Local climate;
8. The degree of confidence in predictive modeling performed; and
9. Other relevant information.

The site will be removed from the SCP if contaminated groundwater at the site is directly connected to surface water.

Circumstances That Require Mandatory DEC Notification

If one or more of the following circumstances are found to be present at the site, the Applicant must notify DEC in writing within 48 hours of discovery.

1. Measurable free product is found to exist in the groundwater;
2. A petroleum sheen is noticed in on-site or downgradient surface water;
3. Groundwater contaminants other than petroleum hydrocarbons are found at levels above those in 18 AAC 75.345, Table C;
4. Detectable contamination is found in a public or private drinking water well;
5. Plants or animals are found dead or stressed due to site contamination; or
6. Contamination is present in an environmentally sensitive environment, i.e. an area of unique, scarce, fragile, or vulnerable natural habitat; an area of high natural productivity or essential habitat for living organisms; an area of unique geologic or topographic significance that is susceptible to a discharge; an area needed to protect, maintain, or replenish land or resources, including floodplains, aquifer recharge areas, beaches, and offshore sand deposits; a state or federal critical habitat, refuge, park, wilderness area, or other designated park, refuge, or preserve; and an area that merits special attention as defined at 6 AAC 80.170.

Chapter 3 - CLEANUP LEVELS

A release of a hazardous substance shall be cleaned up to a degree that protects human health, safety, welfare and the environment. Under the SCP, contaminated soil may be cleaned up to: 1) method one – the appropriate matrix level, or 2) method two - the most stringent level of the appropriate climate zone of 18 AAC 75.341, Tables B1 and B2. Contaminated groundwater must be cleaned up to the levels in 18 AAC 75.345, Table C.

The Applicant shall propose cleanup levels in the SCP Application. The DEC project manager must be notified if the Applicant requests to modify the cleanup level.

Method One – 18 AAC 75.341, Tables A1 and A2

This method determines conservative cleanup levels for gasoline-, diesel- and residual range-organics petroleum fractions (GRO, DRO, RRO) using a simple “matrix” scoring model based on several factors. Benzene, toluene, ethylbenzene and xylene (BTEX) and polycyclic aromatic hydrocarbons must meet the cleanup levels in 18 AAC 75.341, Table B1 (see Table B1, footnote 15) for the appropriate climate zone.

Method Two – 18 AAC 75.341, Tables B1 and B2

The method two soil cleanup levels are based upon the protection of human health from exposure to contaminated soil and protection of underlying groundwater used as a drinking water source. Direct human exposure to contaminants in soil differs depending on the amount of time an individual is exposed to soil that is not covered by snow. Human exposure to contaminants in groundwater is dependent upon the soil contamination acting as a continuing source for the leaching of contaminants into the groundwater. The presence of permafrost in the northern part of the state acts as a barrier to the migration of contaminants from soil into groundwater. Thus, DEC has set forth three sets of soil cleanup levels based upon the climatological differences within the state:

1. Arctic Zone (defined as an area of continuous permafrost);
2. Under 40-Inch Rainfall Zone; and
3. Over 40-Inch Rainfall Zone.

The climate zone where the site is located can be determined by contacting the nearest appropriate weather station to find out the mean average annual precipitation, available on the web at <http://www.arh.noaa.gov/wxoffices.php>.

The second determination that must be made is the appropriate exposure pathway to use. The applicable cleanup level for each hazardous substance in soil is the most stringent of the following cleanup levels:

1. Ingestion;
2. Inhalation; or
3. Migration to Groundwater.

The migration to groundwater pathway must be considered for all sites.

Arctic Zone

Method one is the only option for a cleanup level for sites in the Arctic Zone, unless the Applicant can demonstrate that migration to surface water is not a pathway of concern due to site-specific reasons. The Applicant must contact the DEC project manager prior to eliminating this pathway from consideration.

Groundwater Cleanup Levels – 18 AAC 75.345, Table C

The groundwater cleanup levels in 18 AAC 75.345, Table C are protective of groundwater used as a drinking water source under a residential use scenario. All groundwater at SCP sites must meet these cleanup levels throughout the site from each point extending vertically from the uppermost level of the saturated zone to the lowest possible depth that could potentially be affected by the release.

Chapter 4 -CLEANUP ACTION

Cleanup Technologies

There are many different types of cleanup technologies for petroleum hydrocarbon contaminated soil. Actual cleanup through treatment or removal is expected rather than a remedy that simply confines the contamination and restricts access. The remedy selection process should give preference to permanent actions that reduce toxicity, volume, and mobility of contaminants. DEC will not approve the remedy selection prior to its implementation. The Applicant must choose an appropriate cleanup technology based upon compliance with the cleanup levels discussed in Chapter 3, and handling, treatment, and storage of contaminated media left in place or being transported off-site. In evaluating whether remedies are acceptable, it is important that the technology being reviewed will function properly under the identified site-specific conditions.

Various cleanup technologies are discussed in DEC's *Guidance for Cleanup of Petroleum Contaminated Sites* and *Underground Storage Tank Procedures Manual*.

Interim Actions

Interim measures limit any active release and control the spread of contamination. Interim measures could include containing the migration of contaminants, removing contaminated soil, or over packing leaking drums. To the extent practicable, interim measures should be selected using the same criteria as those used to select final remedies.

Stockpiling

Stockpiling contaminated soil on-site or off-site is acceptable as an interim cleanup action. Contaminated soil shall be stockpiled in a manner that protects human health, safety, welfare, and the environment. All stockpiled soil must be consistent with these general requirements.

Stockpile coverings shall be secured to prevent soil from becoming exposed to wind or water. Excavated contaminated material should be segregated into piles based on type and concentration of contamination, and intended cleanup action alternative. Segregation should be based on field screening techniques augmented by knowledge of historical activities, visual observations, and knowledge of the type of product contamination present. The stockpile cannot be placed within 100 feet of surface water, a Class C public water system, a private water well, or other fresh water supply system using groundwater as designated in 18 AAC 70.020(a)(1)(A) and 18 AAC 70.050(a)(2); or within 200 feet from a water source serving a Class A or Class B public water system, as defined in 18 AAC 80.990. Appropriate steps must be taken to minimize public access. Additional protective measures may be necessary depending upon site conditions. Further requirements depend upon the duration the contaminated soil will be stockpiled.

The Applicant shall obtain DEC approval before stockpiling petroleum contaminated soil off-site. For an off-site stockpile to be approved, the Applicant must provide a letter from the landowner stating that it is acceptable to him/her that contaminated soil is stockpiled on his/her property. Stockpiles placed off-site must comply with the requirements for long term storage, even if the duration is less than 180 days.

Short-term Stockpiling

Short-term stockpiling is the stockpiling of petroleum contaminated soil for periods up to 180 days. The

Applicant must adhere to the following requirements as well as the general requirements and document it in the final report.

1. *Design considerations:* Preparation of an appropriate base to prevent puncturing the liner; placement of a bermed petroleum-resistant bottom liner of sufficient thickness to prevent puncturing or tearing during soil stockpiling activities; placement of a layer of clean sand between the liner and contaminated materials; stockpile soil in a manner which is designed to shed water; placement of a top cover with manufacturer or field sealed edges; and a method for ensuring that the top cover will be secured for the life of the facility. The top cover should be lapped over the bottom liner to prevent water boom from leaching through the contaminated soils.
2. *Bottom liner:* Minimum standards for bottom liners include: a) all bottom liner material must be warranted by the manufacturer for its intended use; b) all bottom liner installation and liner seaming will be done in accordance with the liner manufacturer's requirements; c) bottom liner material must be impermeable to the extent that it will prevent soil and groundwater beneath the liner from becoming contaminated; and d) bottom liners must meet the minimum specifications shown below:

SPECIFICATION	COATED FABRIC	EXTRUDED FABRIC
Cold crack (ASTM D2136-94)	-60 F	-60 F
Black carbon content (ASTM D1603-94)	2% or greater	2% or greater
Carbon dispersion (ASTM D3015-95)	A-2 range	A-2 range
Tensile strength (ASTM D751A-95E1)	125 lbs. (warp)	
Mullen burst (ASTM D751A-95E1)	250 psi	
One inch tensile strength (ASTM D882-97)		25 lbs. (warp)
One inch elongation MD (machine direction)		550%
Nominal thickness	10 mil	10 mil
Oil resistance (ASTM D471-96)	No signs of deterioration and more than 80% retention of tensile and seam strength after immersion for 30 days at 73 F.	No signs of deterioration and more than 80% retention of tensile and seam strength after immersion for 30 days at 73 F.

Long-term Stockpiling

Long-term stockpiling is the stockpiling of petroleum contaminated soil for periods between 180 days and two years. Adherence to the following requirements must be documented in the final report. Storage for periods longer than two years will require DEC approval prior to the creation of the stockpile.

1. *Design considerations:* Preparation of a sand base or similar material to prevent puncturing the liner; placement of a bermed, petroleum-resistant bottom liner of sufficient thickness to prevent puncturing or tearing during soil stockpiling activities; placement of a layer of clean sand between the liner and contaminated materials; stockpile soil in a manner which is designed to shed water; placement of a top cover with manufacturer or field sealed edges; and a method for ensuring that the top cover will be secured for the life of the facility. The 6-mil top cover should be lapped over the bottom liner to prevent water boom from leaching through the contaminated soils.
2. *Bottom liner:* Minimum standards for bottom liners include: a) all bottom liner material must be

warranted by the manufacturer for its intended use; b) all bottom liner installation and seaming will be done in accordance with the liner manufacturer's requirements; c) bottom liner material must be impermeable to the extent that it will prevent underlying soil and groundwater from becoming contaminated; and d) bottom liners meet the following minimum specifications:

SPECIFICATIONS	COATED FABRIC	EXTRUDED FABRIC
Cold crack (ASTM D2136-94)	-60 F	-60 F
Black carbon content (ASTM D1603-94)	2% or greater	2% or greater
Carbon dispersion (ASTM D3015-95)	A-2 range	A-2 range
Tensile strength (ASTM D751A95E1)	300 lbs. (warp)	
Mullen burst (ASTM D751A-95E1)	500 psi	
One inch tensile strength (ASTM D882-97)		45 lbs. (warp)
One inch elongation MD (machine direction)		625%
Nominal thickness	20 mil	20 mil
Oil resistance (ASTM D471-96)	No signs of deterioration and more than 80% retention of tensile and seam strength after immersion for 30 days at 73 F.	No signs of deterioration and more than 80% retention of tensile and seam strength after immersion for 30 days at 73 F.

Approval to Transport Contaminated Soil

DEC approval must be obtained before transporting contaminated soil off-site.⁷ Transport methods must minimize the possibility of a loss of materials during transport. Soil must be transported as a covered load in compliance with 18 AAC 50.050(f) and 18 AAC 60.015. Note that disposal of soil as a solid waste must comply with 18 AAC 60.

Disposal of Remediated Material

Soil with petroleum concentrations that do not exceed the most stringent method two cleanup levels may be placed in a non-wetlands or non-environmentally sensitive area.

⁷ 18 AAC 75.370(b), 18 AAC 274(b).

Chapter 5 -CLEANUP ACTION

Objective

The objective of the cleanup action is to effectively and efficiently treat all soil and/or groundwater with contamination above the cleanup level.

Cleanup Plan

Site activities should follow the workplan that is submitted with the SCP Application. The components of a combined site characterization and cleanup workplan are outlined in Appendix A. The extent of detail necessary depends on the complexity of the site.

Regulatory Permits and Approvals

Participation in the SCP does not supersede the need for obtaining the appropriate federal, state or local permits when necessary. Permits governing handling and transport of hazardous waste, wastewater disposal, air releases, solid waste disposal and transport, and operation of a thermal treatment facility are required. Nothing in the SCP obviates the need to comply with the Hazardous Material Transportation Act, Coastal Zone Management Act, Clean Water Act, Resource Conservation and Recovery Act, or other federal or state regulations. The Applicant is responsible for identifying and obtaining the applicable permits and approvals.

If an anadromous fish bearing stream or lake or a legislatively designated special area is affected by the discharge, release or planned cleanup, these activities are subject to coordination with the Alaska Department of Fish and Game under AS 16.05.870 or AS 16.20.

The Applicant must submit copies of permits in the final report. If a permit or approval is necessary and not obtained, DEC is required to notify the appropriate state or federal agency or program.

Groundwater Monitoring

Monitored natural attenuation is an appropriate cleanup alternative for many sites with low levels of groundwater contamination. For this alternative to be used, the dissolved plume must be steady or shrinking and concentrations of the contaminant must be decreasing. This can be proven by the collection of a series of groundwater samples over a period of time. Typically, monitoring consists of quarterly samples collected for at least a one-year period. DEC then evaluates the need for additional monitoring, either prior to or following the submittal of the final report.

Chapter 6 -SITE CLOSURE

The Applicant shall demonstrate that the cleanup protects human health, safety, and welfare and the environment; meets applicable cleanup levels; and incorporates adequate monitoring, if required.

If all sampled areas have concentrations less than or equal to the required cleanup level, and the excavated soil has been disposed of in a DEC-approved manner, a final report can be submitted. For those sites with groundwater contamination, the groundwater must meet the required cleanup levels. For sites where groundwater is being monitored, the dissolved plume must be steady or shrinking and petroleum concentrations must be decreasing. Monitoring results must be submitted to DEC after each monitoring event.

The final report must be submitted within two years from the date of acceptance into the SCP. This deadline may be extended at the discretion of the project manager. If this deadline is missed, the Applicant must notify DEC of progress made to date and give a projected date of completion.

Final Report

In order to expedite DEC's review time, the final report should include all of the components listed in Appendix B, although exact report format may vary. Note that depending on site specific conditions the information presented in the report may vary.

Final Report Approval

The final report should be submitted electronically in Adobe Acrobat .pdf format on a compact disk or by electronic mail and in hard copy to the DEC project manager. If all cleanup requirements are met, DEC will issue a site closure letter. If DEC does not approve the cleanup the Applicant may be required to: 1) submit additional information, 2) perform further investigation, 3) develop and implement a plan for further cleanup, or 4) perform limited groundwater monitoring. Once the additional information is provided and/or cleanup actions taken, the Applicant shall submit a revised report, and, upon approval, will receive a closure letter.

DEC will not review a final report unless the Applicant has submitted an application for the site and been given an acceptance letter from DEC prior to work being performed.

Appendix A -STREAMLINED CLEANUP PROGRAM APPLICATION AND WORKPLAN

1. Applicant		2. Property Owner	
Name		Name	
Mailing Address		Mailing Address	
City, State, Zip Code		City, State, Zip Code	
Telephone Number/ Fax Number	Email Address	Telephone Number/Fax Number	Email Address
3. Environmental Consultant		4. Applicant's Interest in Property	
Firm Name/Contact Person		<input type="checkbox"/> Owns <input type="checkbox"/> Operating <input type="checkbox"/> Renting/Leasing <input type="checkbox"/> Considering Purchasing <input type="checkbox"/> Other:	
Mailing Address			
City, State, Zip Code			
Telephone Number/Fax Number	Email Address		
5. Site Location		6. Site Operator	
Facility Name		Company Name	
Mailing Address		Contact Person	
Physical Location	Latitude/Longitude	Mailing Address	
City, State, Zip Code		City, State, Zip Code	
Telephone Number/Fax Number	Email Address	Telephone Number/Fax Number	Email Address
<p>The information submitted herein, including the attached workplan, is to the best of my knowledge true, accurate and complete. I hereby agree to comply with the terms and conditions of the Streamlined Cleanup Program and applicable or appropriate DEC guidance documents and regulations.</p> <p>Applicant Signature _____ Date _____</p>			

Workplan

Background and Site Description

Include a brief operations history and previous investigations. Describe the events that led up to the investigation, including a history of any releases. Provide an overview of site conditions. Describe pertinent features, the environmental setting, proximity to other businesses or residences, and description of present site conditions, including evidence of a release (stained soils, dead vegetation, dead birds, etc.).

Indicate the human population density within one mile of the site. The “site” means the area that is contaminated regardless of the property boundary.

A topographic map may be used to show the general site location. Other maps or diagrams may be used as appropriate to identify:

1. Public and private water supplies within one-fourth mile;
2. Surface water bodies within ¼ mile;
3. Utility lines;
4. Occupied buildings within 500’;
5. On-site constructed features such as landfills, rock pits, dumps etc.;
6. On-site wells, septic systems, floor drains, tanks, piping and other infrastructure; and
7. Sensitive areas, habitats, parks, archeological sites, refuges, wetlands etc. within one mile

Latitude and Longitude (specify the method used to determine)

Legal Description

Contaminant Sources and Contaminant Types

Describe source area(s) and approximate spill volumes and/or surface area extent. Indicate the type of petroleum product (gasoline, diesel, etc.)

Cleanup Levels

Indicate the proposed cleanup levels for each expected petroleum constituent.

Sampling and Analysis

This section is designed to evaluate and interpret the physical and chemical characteristics of the site. Site characterization procedures and analytical requirements should be consistent with DEC regulations and guidance, including the *Guidance for Cleanup of Petroleum Contaminated Sites* and the *Underground Storage Tank Procedures Manual*. This section should include:

1. Scaled diagram(s) showing, as appropriate for the site, proposed locations for soil and groundwater sampling, site features, potentiometric surfaces, hydraulic gradient, groundwater flow direction, etc.;
2. Proposed characterization of soil and groundwater samples including field screening equipment and procedures, sample location rationale and sample collection procedures, and laboratory analytical methods; and
3. Construction details for permanent or temporary groundwater monitoring wells

A table similar to the following may be used to summarize sample collection information.

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	AK 101 GRO/BTEX	AK 102 DRO	AK 103 RRO	8270 PAHs
Area				
Residential Oil Tank	0	6	0	0
Shop Area	6	6	1	1

Quality Assurance/Quality Control

For both site characterization and confirmation sampling, describe steps to ensure data accuracy, precision and comparability. Include types of QA samples, standard field sampling and decontamination procedures, and chain of custody procedures.

Laboratory Name

Investigative Derived Waste

Describe how investigative derived waste will be managed.

Cleanup Specifications

Describe the in-situ or ex-situ cleanup technology(ies) that will be used.⁸ Include information on any in-situ additives, location and method for the disposal of contaminated soil and whether on-site disposal of wastewater is required.

Stockpiling

If short-term or long-term soil stockpiling is necessary, describe how this will be done in accordance with the requirements in Chapter 4 and to ensure contaminants do not migrate.

Confirmation Sampling

Confirmation samples are taken when soil is excavated to ensure contaminated soil above cleanup levels has been removed. Describe field screening equipment and procedures that will be used to determine how and where confirmation analytical samples will be collected.

Containment Measures

Describe provisions for minimizing contaminant migration to previously unaffected areas during cleanup, containing leachate, and assuring that contaminated soil does not mix with uncontaminated soil.

Site Control

Describe site control measures, if necessary, including engineering measures, such as the installation of caps or liners, and provisions for restricting access, such as the use of fences, signs, or other barriers.

Schedule of Activities

Photographs

Attach photos (with labels) that show pre-investigation conditions.

⁸ For a regulated UST cleanup reference 18 AAC 78.250 for detailed requirements.

Appendix B -FINAL REPORT

Site/Facility Name

Additional Background Information (not submitted with workplan)

Site Characterization/Release Investigation Findings

1. Hydrogeological data including soil profile, depth to groundwater, flow direction, presence of confining layers, aquifer transmissivity, and presence of perched water
2. Include in narrative, table, chart, and/or map format, as appropriate:
 - a. Source(s) and extent of release(s);
 - b. Soil and groundwater sampling locations, sample depths, and contaminant concentrations;
 - c. Horizontal and vertical extent of all contaminated media;
 - d. All existing and potential migration pathways and potential impacts to all receptors;
 - e. Estimated volume of contaminated soil (with calculations); and
 - f. Results of any treatability, bench or pilot scale studies, or data collected to support the cleanup action.

Cleanup Action Summary

1. A brief summary of the project specifically addressing major activities undertaken, nature and extent of wastes generated during the cleanup including final disposition, and time required to achieve full remediation. Demonstrate compliance with the requirements of 18 AAC 75.360, 18 AAC 78.250, and 18 AAC 78.271;
2. Overall effectiveness of the remediation noting significant problems, how they were addressed, and if they could impair the long-term effectiveness of the cleanup;
3. Deviations from the cleanup workplan and the reasons why the deviations were necessary. Explanation of how the waste was stored, treated/disposed of in an acceptable manner;
4. Confirmation that hazardous waste generated was stored, treated, or disposed of in compliance with 42 U.S.C. 6901-6992k (Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act), as amended through October 1, 1998; and
5. Estimate of the volume of remaining soil with contaminant level above the cleanup levels.

Cleanup Confirmation Sampling

1. Number, locations, and analytical results of confirmation samples; and
2. Description of sample collection procedures.

Site Diagram

1. Pertinent site features;
2. Confirmation sampling locations; and
3. Limits of excavation.

Appendices

1. Any relevant materials, including but not limited to:
 - a. Copies of all applicable permits;
 - b. Photograph log;
 - c. Project timeline; and
 - d. Laboratory reports.