



THE STATE  
of **ALASKA**  
GOVERNOR BILL WALKER

**Department of  
Environmental Conservation**

DIVISION OF SPILL PREVENTION AND RESPONSE  
Contaminated Sites Program

555 Cordova Street  
Anchorage, AK 99501  
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www.dec.alaska.gov

File: 2106.38.010

December 5, 2017

Mr. Kurt Steinert  
Municipality of Anchorage (MOA) Public Works  
4700 Elmore Road  
Anchorage, AK 99507

Re: **Decision Document: Birchwood Trespass Shooting Area  
Cleanup Complete Determination – Institutional Controls**

Dear Mr. Steinert:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (ADEC) has completed a review of the environmental records associated with the Birchwood Trespass Shooting Range located in Birchwood, Alaska. Based on the information provided to date, it has been determined that the contaminant concentrations remaining on site do not pose an unacceptable risk to human health or the environment and no further remedial action will be required as long as the institutional controls are maintained and effective and no new information becomes available that indicates residual contamination poses an unacceptable risk.

This Cleanup Complete with Institutional Controls (ICs) determination is based on the administrative record for the Site Name which is located in the offices of the ADEC in Anchorage, Alaska. This decision letter summarizes the site history, cleanup actions, regulatory decisions, and specific conditions required to effectively manage remaining contamination at this site.

**Site Name and Location:**

Birchwood Trespass Shooting Area  
Birchwood Street  
Chugiak, AK 99567

**Name and Mailing Address of Contact Party:**

Kurt Steinert  
MOA Public Works  
4700 Elmore Road  
Anchorage, AK 99507

**DEC Site Identifiers:**

File No.: 2106.38.010  
Hazard ID.: 25757

**Regulatory Authority for Determination:**

18 AAC 75

**Site Description and Background**

Lead contamination in soil was documented at the property in 2011 as the property was being considered for the location of a formal shooting range to be operated by the Municipality of Anchorage for law

enforcement personnel. The presence of lead was attributed to unauthorized shooting activities by trespassers at the site.

### Contaminants of Concern

During the site investigation and cleanup activities at this site, soil samples were analyzed for lead, diesel range organics (DRO), residual range organics (RRO), volatile organic compounds (VOCs), metals, and semi-volatile organic compounds (SVOCs). Based on these analyses, the following contaminants are considered Contaminants of Concern at this site:

- Lead
- Benzo(a)pyrene

### Cleanup Levels

Applicable cleanup levels for contaminants in soil are found in 18 AAC 75.345 Table B1 as shown below in Table 1. 18 AAC 75.345 includes cleanup levels for lead for both residential and commercial/industrial scenarios. While the immediate future use of the property will be for commercial/industrial purposes, the residential cleanup level is applicable to account for potential future use.

**Table 1 – Approved Cleanup Levels**

Contaminant	Soil (mg/kg)
Lead	400
Benzo(a)pyrene	0.17

mg/kg = milligrams per kilogram  
NA-not applicable

### Characterization and Cleanup Activities

Soil samples were first collected at the site in 2011 in an effort to evaluate lead concentrations at the various shooting areas. Composite samples were collected from various depth intervals at nine sampling locations spread across the site. Lead was detected above 400 mg/kg at 4 surface sampling locations with a maximum detected concentration of 17,000 mg/kg. Lead was detected above the practical quantitation limit in surface samples only.

A second investigation was conducted in 2012 to more thoroughly delineate the extent of lead impacts at four known shooting areas and also investigate the theoretical shot-fall zones potentially impacted by skeet or trap shooting. The shot-fall zone was investigated by walking transects with a metal detector and looking for any evidence of concentrated shooting activities. Soil samples were collected from areas of debris that may have been used for target practice and other spatially representative areas throughout the shot-fall zone. One area of concentrated lead contamination was identified within the shot-fall zone and labeled as SA5. SA1-4 were investigated by collecting samples at areas of apparent contamination, then working outward to delineate the extent of contamination. Lead was detected above 400 mg/kg in at least one sample from each of the five SAs, and samples from 4 of the 5 SAs contained lead exceeding the toxicity characteristic leaching procedure (TCLP) limit, indicating that this soil would be considered hazardous waste for disposal purposes under the Resource Conservation and Recovery Act (RCRA). Due to the presence of other

potential contaminant source areas, select samples were also analyzed for semi volatile organic compounds (SVOCs). The SVOC benzo(a)pyrene was detected in one sample from SA2 above the cleanup level. Contaminants were not detected above cleanup levels in other samples from the shot-fall zone. In addition to the analyses for lead and SVOCs, soil was also submitted for laboratory analysis for pH to evaluate leaching potential and also for bench scale testing for particle size separation using sieves. The bench scale test was conducted to evaluate if lead shot could be separated from soil at the site for recycling. The pH analyses indicated a slightly acidic soil that would result in a greater likelihood of lead to leach into the soil. Bench scale testing indicated lead shot could not effectively be separated using sieves.

Site remediation was conducted in 2016 and included the removal of solid waste from the site, stabilization of lead-contaminated soil using phosphate, confirmation sampling, and soil disposal. Solid waste removed from the site included two dumpsters of metal that was recycled and two dumpsters of household waste. Vehicle batteries, tanks, and drums were also removed as part of this effort. At these locations, a visual inspection was conducted to evaluate for potential releases and where broken vehicle batteries were present, approximately 1 cubic yard (cy) of soil was also removed, and then confirmation samples were collected. Confirmation samples contained lead above the TCLP limit at two locations, so additional soil was removed. Confirmation samples from all waste removal areas were below ADEC cleanup levels following the removal of additional soil. Batteries were placed into drums and disposed of as RCRA waste at a permitted facility in Idaho.

Lead contaminated soil was removed from the five shooting areas and from one additional area identified in 2011 at LS14. Prior to excavation, rock phosphate was applied to the six areas at a rate of 20 pounds per 1,000 square feet to stabilize the lead and allow the soil to be disposed of as non-hazardous waste. After it was determined that the phosphate addition was successful, approximately 190 cubic yards of soil was removed from the six areas and disposed of at Anchorage Regional Landfill. Confirmation sampling was conducted using an incremental sampling approach. Each SA also included a 10-foot buffer zone that comprised a second decision unit (DU) for a total of 12 DUs. Confirmation samples contained lead above the cleanup level, but below the TCLP limit at two of the buffer zone DUs at SA2 and SA4, with lead detected up to 1,520 mg/kg. All other confirmation samples met cleanup levels. An additional 35 cy of soil were removed from the SA2 buffer zone and 12 cy of soil were removed from the SA4 buffer zone. Field screening was conducted over the excavated areas and discrete confirmation samples were collected from the areas of the highest field screening results. Lead was not detected above the cleanup level in final confirmation samples. Because the soil contained lead above the cleanup level, but below the TCLP limit, this soil was staged for beneficial re-use in the backstops for the law enforcement range.

One location that was sampled in 2011, LS-11, contained lead at 8,700 mg/kg. A concerted effort was made over several field seasons to find this sampling location however the location was not found. Based on the preliminary design for the law enforcement range, the LS-11 sampling location will be covered by a soil backstop at the 300-yard firing range.

Following the removal of lead contaminated soil at SA2, a confirmation sample was collected and analyzed for SVOCs to evaluate the presence of benzo(a)pyrene at the location where it had been detected in 2012. The confirmation sample did not contain detectable concentrations of benzo(a) pyrene.

The Southcentral Law Enforcement Range is currently under construction. Lead shot and soil that becomes contaminated through use of the facility will be managed in accordance with an Environmental Stewardship

Plan that includes the removal and recycling of lead fragments, addition of rock phosphate to stabilize leachable lead, and storm water controls to reduce runoff from the site.

### Cumulative Risk Evaluation

Pursuant to 18 AAC 75.325(g), when detectable contamination remains on-site following a cleanup, a cumulative risk determination must be made that the risk from hazardous substances does not exceed a cumulative carcinogenic risk standard of 1 in 100,000 across all exposure pathways and does not exceed a cumulative noncarcinogenic risk standard at a hazard index of one across all exposure pathways.

Lead is the only contaminant of concern remaining at this site, therefore cumulative risk is not applicable. The maximum known concentration of lead remaining at the site is 8,700 mg/kg at sampling location LS-11. This location will be underneath a future backstop at the Southcentral Law Enforcement Range currently under development at the site. In consideration of the future use of the property as a firing range and the institutional controls in place at the site, DEC has determined there is no unacceptable risk from the remaining contamination at the site.

### Exposure Pathway Evaluation

Following investigation and cleanup at the site, exposure to the remaining contaminants was evaluated using ADEC's Exposure Tracking Model (ETM). Exposure pathways are the conduits by which contamination may reach human or ecological receptors. ETM results show all pathways to be one of the following: De-Minimis Exposure, Exposure Controlled, or Pathway Incomplete. A summary of this pathway evaluation is included in Table 2.

**Table 2 – Exposure Pathway Evaluation**

Pathway	Result	Explanation
Surface Soil Contact	Exposure Controlled	Lead contamination remains in surface soil however institutional controls have been placed on the property noting the presence of contamination and requiring proper management.
Sub-Surface Soil Contact	Pathway Incomplete	Lead contamination is not known to exist in subsurface soil.
Inhalation – Outdoor Air	Pathway Incomplete	Lead is not a volatile compound and fugitive dust is not a concern at the site
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	Lead is not a volatile contaminant capable of causing risk via this pathway
Groundwater Ingestion	Pathway Incomplete	Groundwater is not known to be impacted
Surface Water Ingestion	Pathway Incomplete	Surface water is not used as a drinking water source in the vicinity of the site.
Wild and Farmed Foods Ingestion	Pathway Incomplete	Wild and farmed foods are not collected in the immediate vicinity of the former shooting area.
Exposure to Ecological Receptors	Pathway Incomplete	Ecological receptors are not present at the site.



**Notes to Table 2:** “De-Minimis Exposure” means that in ADEC’s judgment receptors are unlikely to be affected by the minimal volume or concentration of remaining contamination. “Pathway Incomplete” means that in ADEC’s judgment contamination has no potential to contact receptors. “Exposure Controlled” means there is an institutional control in place limiting land or groundwater use and there may be a physical barrier in place that prevents contact with residual contamination.

### **ADEC Decision**

Lead contamination remains in surface soil at discrete locations; however ADEC has approved the use of institutional controls to limit potential future exposure and risk to human health or the environment. A Notice of Environmental Contamination and Institutional Controls (NEC-IC) has been recorded in the land records maintained by the Alaska Department of Natural Resources and a copy is attached to this letter.

Institutional controls necessary to support this closure determination include:

1. The Landowner agrees to notify ADEC prior to any sale or transfer of the property and shall report to ADEC every 5 years to document the status of compliance with the institutional controls described in this notice. Such notice and the reports should be sent to the ADEC at:  
Alaska Department of Environmental Conservation  
Division of Spill Prevention and Response  
Contaminated Sites Program  
Attention: IC Unit  
P.O. Box 111800  
Juneau, AK 99811-1800  
or be submitted electronically to [CS.Submittals@alaska.gov](mailto:CS.Submittals@alaska.gov).
2. Once the Southcentral Law Enforcement Range becomes active, lead in soil must be managed in accordance with the *Revised Environmental Stewardship Plan for Southcentral Law Enforcement Shooting Range* dated September 26, 2016.
3. Soil containing lead may be subject to the Resource Conservation and Recovery Act (RCRA) if proposed for excavation and/or disposal. If excavation and/or soil disposal is necessary, coordination with ADEC and EPA is required.
4. A Notice of Environmental Contamination (NEC) has been recorded in the records for this property maintained by the Alaska Department of Natural Resources. The NEC outlines these ICs and also the standard conditions noted below.

Standard site closure conditions that apply to all sites include:

1. ADEC approval is required prior to moving any soil or groundwater off any site that is, or has been, subject to the site cleanup rules (see 18 AAC 75.325(i)). A “site” as defined by 18 AAC 75.990 (115) means an area that is contaminated, including areas contaminated by the migration of hazardous substances from a source area, regardless of property ownership. In the future, if soil will be excavated it must be characterized and managed following regulations applicable at that time and ADEC approval must be obtained before moving the soil off the property.
2. Movement or use of contaminated material in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited.

3. Groundwater throughout Alaska is protected for use as a water supply for drinking, culinary and food processing, agriculture including irrigation and stock watering, aquaculture, and industrial use. Contaminated site cleanup complete determinations are based on groundwater being considered a potential drinking water source. In the event that groundwater from this site is to be used for other purposes in the future, such as aquaculture, additional characterization and treatment may be required to ensure the water is suitable for its intended use.

ADEC has determined the cleanup is complete as long as the institutional controls are properly implemented and no new information becomes available that indicates residual contamination may pose an unacceptable risk.

The ADEC Contaminated Sites Database will be updated to reflect the change in site status to "Cleanup Complete with Institutional Controls" and will include a description of the contamination remaining at the site.

The institutional controls will be removed in the future if documentation is provided that shows concentrations of all residual hazardous substances remaining at the site are below the levels that allow for unrestricted exposure to, and use of, the contaminated media and that the site does not pose a potential unacceptable risk to human health, safety or welfare, or to the environment. Standard conditions 9-11 above will remain in effect after ICs are removed.

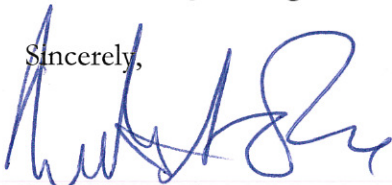
This determination is in accordance with 18 AAC 75.380 and does not preclude ADEC from requiring additional assessment and/or cleanup action if the institutional controls are determined to be ineffective or if new information indicates that contaminants at this site may pose an unacceptable risk to human health or the environment.

### **Appeal**

Any person who disagrees with this decision may request an adjudicatory hearing in accordance with 18 AAC 15.195 – 18 AAC 15.340 or an informal review by the Division Director in accordance with 18 AAC 15.185. Informal review requests must be delivered to the Division Director, 555 Cordova Street, Anchorage, Alaska 99501-2617, within 15 days after receiving the department's decision reviewable under this section. Adjudicatory hearing requests must be delivered to the Commissioner of the Department of Environmental Conservation, 410 Willoughby Avenue, Suite 303, P.O. Box 111800, Juneau, Alaska 99811-1800, within 30 days after the date of issuance of this letter, or within 30 days after the department issues a final decision under 18 AAC 15.185. If a hearing is not requested within 30 days, the right to appeal is waived.

If you have questions about this closure decision, please feel free to contact me at (907) 444-1262 or email at [bill.oconnell@alaska.gov](mailto:bill.oconnell@alaska.gov).

Sincerely,



Bill O'Connell  
Environmental Program Manager

Mr. Kurt Steinert  
Municipality of Anchorage (MOA) Public Works

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December 5, 2017

Enclosures: Recorded NEC-IC Agreement which includes site figure(s) showing the extent of residual soil contamination, and boundaries of areas covered by ICs.

cc: Spill Prevention and Response, Cost Recovery Unit



## Notice of Environmental Contamination and Institutional Controls

**Grantor:** Birchwood Trespass Shooting Area  
Municipality of Anchorage

**Legal Description:** Southcentral Tactical Tract 1, Seward Meridian

**Recording District:** Anchorage

**Return to:** Bill O'Connell  
ADEC Contaminated Sites Program  
555 Cordova St.  
Anchorage, AK 99507

**State Business- No Charge**



## NOTICE OF ENVIRONMENTAL CONTAMINATION AND INSTITUTIONAL CONTROLS

As required by the Alaska Department of Environmental Conservation, pursuant to 18 AAC 75.375 the Municipality of Anchorage, the Landowner(s) of the subject property, hereby provides public notice that the property located at: 19905 Birchwood Spur Road, Chugiak Alaska, 99567 and more particularly described as follows:

Southcentral Tactical, Tract 1, Seward Meridian

has been subject to a discharge or release and subsequent cleanup of oil or other hazardous substances, regulated under 18 AAC 75, Article 3. This release and cleanup are documented in the Alaska Department of Environmental Conservation (ADEC) contaminated sites database at [http://www.dec.state.ak.us/spar/csp/db\\_search.htm](http://www.dec.state.ak.us/spar/csp/db_search.htm) under the site name Birchwood Trespass Shooting Area and Hazard ID number 25757.

By signing this notice, ADEC and the Landowner have agreed that the institutional controls described below are necessary and appropriate, and shall be maintained and be binding on the Landowner and its agents, successors and assigns. If the Landowner transfers, sells, assigns, leases or subleases the property or any portion of the property covered by the institutional controls, the Landowner shall incorporate a copy of this notice into the documents of transfer, sale, assignment, lease or sublease.

ADEC has reviewed and approved, subject to the institutional controls described below, the cleanup as protective of human health, safety, welfare, and the environment. No further cleanup is necessary at this site as long as the institutional controls remain in place and effective and no new information becomes available that indicates to ADEC that the site may pose an unacceptable risk to human health, safety, welfare, or the environment.

ADEC determined, in accordance with 18 AAC 75.325 – .390 site cleanup rules, that cleanup has been performed to the maximum extent practicable even though residual lead contamination remains in soil on-site.

The following institutional controls and standard conditions shall be maintained:

### Institutional Controls

1. The Landowner agrees to notify ADEC prior to any sale or transfer of the property and shall report to ADEC every 5 years to document the status of compliance with the institutional controls described in this notice. Such notice and the reports should be sent to the ADEC at:

Alaska Department of Environmental Conservation  
Division of Spill Prevention and Response  
Contaminated Sites Program  
Attention: IC Unit



P.O. Box 111800  
Juneau, AK 99811-1800

or be submitted electronically to [CS.Submittals@alaska.gov](mailto:CS.Submittals@alaska.gov).

2. Once the Southcentral Law Enforcement Range becomes active, lead in soil must be managed in accordance with the *Revised Environmental Stewardship Plan for Southcentral Law Enforcement Shooting Range* dated September 26, 2016
3. Soil containing lead may be subject to the Resource Conservation and Recovery Act (RCRA) if proposed for excavation and/or disposal. If excavation and/or soil disposal is necessary, coordination with ADEC and EPA may be required.

Standard site closure conditions that apply to all sites include:

1. ADEC approval is required prior to moving any soil or groundwater off any site that is, or has been, subject to the site cleanup rules (see 18 AAC 75.325(i)). A "site" as defined by 18 AAC 75.990 (115) means an area that is contaminated, including areas contaminated by the migration of hazardous substances from a source area, regardless of property ownership. In the future, if soil will be excavated it must be characterized and managed following regulations applicable at that time and ADEC approval must be obtained before moving the soil off the property.
2. Movement or use of contaminated material in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited.
3. Groundwater throughout Alaska is protected for use as a water supply for drinking, culinary and food processing, agriculture including irrigation and stock watering, aquaculture, and industrial use. Contaminated site cleanup complete determinations are based on groundwater being considered a potential drinking water source. In the event that groundwater from this site is to be used for other purposes in the future, such as aquaculture, additional characterization and treatment may be required to ensure the water is suitable for its intended use.

Attached is a site survey or diagram(s) drawn to scale that shows the property boundaries, the approximate location and extent of remaining soil contamination which is subject to the institutional controls described in this notice.

Failure to comply with the institutional controls described herein may result in ADEC reopening the site and requiring additional site characterization and cleanup.

In the event that new information becomes available which indicates that the site may pose an unacceptable risk to human health, safety, welfare or the environment, further site characterization and cleanup may be necessary under 18 AAC 75.325-.390.

This notice and the institutional controls remain in effect until a written determination from ADEC is recorded that documents contaminants remaining at the site have been shown to meet the residential use soil cleanup levels defined in 18 AAC 75.340 and groundwater cleanup levels in Table C within 18 AAC 75.345 and that off-site transportation of soil and/or groundwater are no longer a potential concern.



For more information on the contaminated site in this notice, please see ADEC Contaminated Sites Program file number 2106.38.010 for the site named Birchwood Trespass Shooting Area

Robin E Ward

Signature of Landowner

12/4/17  
Date

Director of the  
Real Estate Dept.

Robin E Ward  
Printed Name of Landowner

Municipality of Anchorage

[Signature]

Signature of Authorized ADEC Representative

12-4-17  
Date

William A. O'Connell

Printed Name of Authorized ADEC Representative



