



THE STATE  
of **ALASKA**  
GOVERNOR SEAN PARNELL

Department of  
**Environmental Conservation**

DIVISION OF SPILL PREVENTION & RESPONSE  
Contaminated Sites Program

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File No: 2435.38.005

June 6, 2014

Mary C. Matthias, Mayor  
City of Nightmute  
P.O. Box 90010  
Nightmute, AK 99690

Re: Decision Document: Nightmute Catholic Church  
Cleanup Complete Determination

Dear Ms. Matthias;

The Alaska Department of Environmental Conservation (ADEC) has reviewed the environmental records for the Nightmute Catholic Church site. This decision letter memorializes the site history, cleanup actions, and standard conditions for long-term site management. No further remedial action is required.

**Site Name and Location:**  
Nightmute Catholic Church  
Latitude: 60.478564  
Longitude: -164.724348

**Name and Mailing Address of Contact Party:**  
Mary Matthias, Mayor  
City of Nightmute  
P.O. Box 90010  
Nightmute, Alaska 99690

**DEC Site Identifiers:**  
File No: 2435.38.005  
Hazard ID: 25382

**Regulatory Authority for Determination:**  
18 AAC 75

**Site Description, Background, and Cleanup Actions**

A *Village of Nightmute Site Assessment Project Report*, dated April 9, 2002 was received by the ADEC and consisted of six environmental site assessments (ESAs) performed at six bulk fuel storage facilities in Nightmute, Alaska. The Nightmute Catholic Church Tank Farm consisted of two horizontal above ground storage tanks (ASTs); one with a 500 gallon capacity and the other with a 1,000 gallon capacity. Both of the ASTs were utilized for the storage of heating oil. The tanks were reportedly welded steel construction and were placed atop timbers directly on the ground.

During the assessment, staining was identified surrounding the western portion of the 500-gallon AST. Three soil samples were collected from two locations within the stained area [two from 0.5 foot below ground surface (bgs) and one from 1.5 foot bgs]. One soil sample was also collected from the southern end of the 1,000-gallon AST at 1 foot bgs. All of the soil samples were analyzed by an ADEC approved laboratory for diesel range organics (DRO), residual range organics (RRO), and polynuclear aromatic hydrocarbons (PAHs). See Attachment 1 for a site diagram, sampling locations, and results.

Concentrations of DRO, up to 2,860 milligrams per kilogram (mg/kg), were present in the near surface soil samples collected from the stained area. However, the sample collected from 1.5 feet bgs in the stained area did not exhibit any analyte concentrations that exceeded the ADEC cleanup criteria. Similarly, the soil sample collected near the 1,000 gallon AST did not exhibit any analyte concentrations that exceeded the ADEC cleanup criteria.

### Contaminants of Concern

Concentrations of DRO were identified above the ADEC approved cleanup levels during the course of the site investigations summarized in the "Site Description and Background" section of this decision letter.

### Cleanup Levels

Concentrations of DRO were detected in soil above the migration to groundwater (MTG) cleanup levels established in 18 AAC 75.341 (d), Table B2.

**Table 1 – Approved Cleanup Levels**

Contaminant	Soil – Direct Contact/ Ingestion (mg/kg)	Soil – Inhalation (mg/kg)	Soil – Migration to Groundwater (mg/kg)
DRO	10,250	12,500	250

mg/kg = milligrams per kilogram

### 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.

Based on a review of the environmental record, ADEC has determined that residual contaminant concentrations do not pose a cumulative human health risk.

### 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	De-Minimis Exposure	Contamination remains in the surface soil, but is below ingestion cleanup levels.
Sub-Surface Soil Contact	De-Minimis Exposure	Contamination remains in the sub-surface soil, but is below MTG cleanup levels.
Inhalation – Outdoor Air	De-Minimis Exposure	Contamination remains in the sub-surface, but is below MTG cleanup levels.
Inhalation – Indoor Air (vapor intrusion)	De-Minimis Exposure	DRO is the main contaminant of concern and is not considered volatile. Additionally, Nightmute is a boardwalk community and all buildings are elevated off the ground.
Groundwater Ingestion	De-Minimis Exposure	A drinking water sample collected from a well located over 300 feet east of the church did not exhibit COCs above ADEC cleanup levels; therefore risk via this pathway is insignificant.
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	Contaminants of concern do not have the potential to bioaccumulate in plants or animals.
Exposure to Ecological Receptors	Pathway Incomplete	The Toksook River, where Arctic Char, Whitefish, Chum, Coho, King, and Pink Salmon are present, is over 100 feet southwest of the source area.

**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 administrative mechanism in place limiting land or groundwater use, or a physical barrier in place that deters contact with residual contamination.

### ADEC Decision

Remaining petroleum contamination in soil is below approved cleanup levels in most areas. Contamination remains in one area above the approved cleanup levels but does not appear to be migrating and is considered de-minimis. This site will receive a “Closed” designation on the Contaminated Sites Database, subject to the following standard conditions.

### Standard Conditions

1. Any proposal to transport soil or groundwater off-site requires ADEC approval in accordance with 18 AAC 75.325. 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. (See attached site figure.)
2. Movement or use of contaminated material in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited.

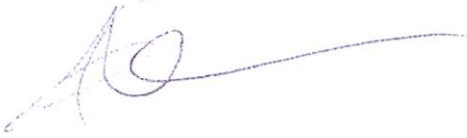
This determination is in accordance with 18 AAC 75.380 and does not preclude ADEC from requiring additional assessment and/or cleanup action if future information indicates that this site may pose an unacceptable risk to human health or the environment.

**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, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99801, 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, Juneau, Alaska 99801, 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) 269-7691.

Sincerely,

A handwritten signature in blue ink, appearing to read 'J. Barsis', with a long horizontal flourish extending to the right.

Joshua Barsis  
Environmental Program Specialist III