THE STATE of ALASKA
GOVERNOR BILL WALKER

Department of Environmental Conservation

Division of Spill Prevention and Response
Contaminated Sites Program

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File No: 630.38.004

March 21, 2016

Aemon Wetmore
FAA Alaska Region
222 West 7th Ave., #14
Anchorage, AK 99513-7587

Re: ADEC Approval- Work Plan Addendum, Decommissioning Infrastructure and Investigating/Remediating Contaminated Soil, FAA Unalakleet Station, Alaska

Dear Mr. Wetmore:

The Alaska Department of Environmental Conservation (DEC) completed review of the Draft Work Plan Addendum, Decommissioning Infrastructure and Investigating/Remediating Contaminated Soil, FAA Unalakleet Station, Alaska, on March 14, 2016. A response to comments (RTC) was received on March 17, 2016.

This work plan addendum reports findings of Phase 1 work that affect the execution of the second and third phases of work (Phase 2 and Phase 3) and describes the associated work. Phase 2 is scheduled to begin in late March 2016 and Phase 3 in June 2016. The purpose of the proposed work is to decommission and remove FAA infrastructure in the vicinity of Unalakleet that is no longer in use and to investigate/remediate contamination resulting from operations at the sites. Work was fully completed at the Direction Finder (DF), two ceilometers at the airport, and the Very High Frequency Omnidirectional Range Collocated Tactical Air Navigation (VORTAC) Drum Storage Area during Phase 1. Work remains to be conducted at four sites, including the Range Site (also referred to as the SBRAZ Site), Communication Transmitter (CT) Site, Visual Approach Slope Indicator (VASI), and Localizer (LOC).

Phase 2 work includes 1) the removal of unused and associated debris from the Range Site and CT Site; 2) The excavation of petroleum-contaminated soil that exceeds DEC Method 2 Human Health cleanup levels from the Range Site; and 3) testing transformer oils for PCBs at the VASI and LOC locations.

Phase 3 includes 1) Field screening and sampling for lead at the site of two fallen towers at the CT Site; 2) Sampling soil for presence of PCBs at the VASI and LOC locations if the transformer oil is positive for PCBs in Phase 2; 3) Excavation of PCB-contaminated soil at the CT site; 4) Monitoring of the tundra disturbance and surface water quality at the Range Site following the Phase 2 excavation and backfill.

Cleanup Levels at the Range Site

A portion of the Phase 1 work included a permafrost investigation at the Range Site. This permafrost investigation was conducted to determine if the subsurface at the Range Site was underlain by continuous permafrost, and therefore if the *ADEC Policy for Establishing Cleanup Levels for Sites in the Arctic Zone In Accordance With 18 AAC 75, Article 3 Tech Memo, SPAR 99-3* (Arctic Zone TM, 1999) is applicable for determining site cleanup levels. The permafrost investigation consisted of a permafrost soil probe investigation and document research, to determine the presence and depth to permafrost at the site, and the approximate depth of permafrost in the area. The Phase 1 permafrost probe investigation indicated that permafrost was present continuously across the Range Site, with depths to permafrost ranging from 2-6 feet. The document search determined that Permafrost depth information for the area was scarce, though several sources indicated that permafrost was present in the area up to 50 feet thick.

The Arctic Zone TM states that the Department has made a general determination that the presence of continuous permafrost in the Arctic zone acts as a barrier for soil contaminant migration to a groundwater zone of saturation. Therefore, the migration to groundwater pathway does not naturally exist for sites located in the Arctic zone (or those subarctic zones with continuous permafrost). Seasonally however, groundwater exists beneath the surface of the soil in the Arctic zone, and it can act as a transport medium for soil contaminants. This transport pathway must be evaluated in developing a soil cleanup level under methods two, three or four, as required by 18 AAC 75.340(c).

The Range Site area has multiple standing surface water bodies nearby. Therefore, the provisions of the "Groundwater Hydrologically Connected to a Surface Water Body" section of the Arctic Zone TM applies at this site, and the soil cleanup levels must be protective of surface water quality standards. During the Phase 1 investigation, the nearby surface water bodies at the site were sampled and it was indicated that surface water quality standards have been met. However, the area will be disturbed during the Phase 2 excavation activities and additional surface water monitoring will be required to determine that the proposed Method 2 Human Health cleanup levels are protective. Therefore, the proposed application of Method Two Human Health cleanup levels for contaminated soil at the Range Site are approved as applicable cleanup levels pending additional surface water monitoring to be completed in Summer 2016 or 2017, following the stabilization of the disturbed area. In addition to surface water monitoring, tundra regrowth at the site should also be monitored in accordance with the ADEC Tundra Treatment Guidelines. The surface water monitoring requirement and approval of human health cleanup levels will be recorded in the contaminated sites program database, site 630.38.004, Hazard ID 4234, "FAA-Unalakleet – SBRAZ".

Following a review of the RTC, DEC has no further issues with the addendum workplan. Therefore, The Work Plan Addendum, Decommissioning Infrastructure and Investigating/Remediating Contaminated Soil, FAA Unalakleet Station, Alaska, is approved. If you have any questions, please do not hesitate to contact me at (907) 451-2131, or by email at monte.garroutte@alaska.gov.

Sincerely,

Recommended By

Monte Garroutte
Environmental Program Specialist

Approved By

John Carnahan
Environmental Program Specialist

Enclosure: DEC_RTCResponse_2015FAAUnkWP_Addendum.docx

DEC Comments on
Draft
Work Plan Addendum
Decommissioning Infrastructure and
Investigating/Remediating Contaminated Soil
FAA Unalakleet Station, Alaska
March 21, 2016

Reviewer: Alaska Department of Environmental Conservation
Recommended By: Monte Garroutte
Reponses By: Joe Thomas

Comment No.	Page	Section	Comment / Recommendation	Response	DEC Accept/ Disagree
1.	General		Please note that the updated ADEC Field Sampling Guidance (March 2016) has been released: https://dec.alaska.gov/spar/csp/guidance_forms/docs/Field%20Sampling%20Guidance%20-%20%20Final%2003%2014%2016.pdf	Noted. The updated guidance will be followed and references to the draft document will be changed to the current document.	**Accept.**
2.	17	3.1.2.2	While the contamination appears to have a large polar fraction that is removed by silica gel, please provide an analysis of the sample chromatograms to provide an additional line of evidence that the fractions are biogenic.	Sample chromatograms and a basic analysis of them will be provided in post cleanup report.	**Accept.**
3.	17	3.1.2.2	"The high concentrations of DRO are likely a function of the light-weight soil at the site and not a function of excessive residual fuel." Please clarify "light-weight," with references as necessary.	This statement should have identified the surface area rather than the weight of the matrix as the factor influencing the concentration. It will be omitted.	**Accept.**

4.	33	4.0	It has been well-demonstrated that permafrost is continuous across the site and will not migrate to the groundwater aquifer, therefore the primary concern at the site will be direct contact exceedances and surface water violations. There appears to be a large amount of standing surface water in the area. If the area of direct contact exceedances are removed without proper backfilling and tundra restoration, then the excavation area will likely become a surface water body with water quality violations. It is recommended that direct contact exceedances be removed as proposed, and that the area be backfilled to avoid creating a new water body. As there are no calculated surface water target numbers from the soil concentrations, this action should be followed up with monitoring of the tundra regrowth and additional surface water sampling. Please see the Tundra Treatment Guidelines for additional guidance on tundra restoration: http://dec.alaska.gov/spar/ppr/r_d/ttman/web/Tundra%20Treatment%20Guidelines%203rd%20Ed.%202010.pdf	To prevent the excavation from becoming a surface water body which may then fail surface water quality standards the excavation will be backfilled. The excavation will be left slightly mounded to allow for future settling. Tundra regrowth will be monitored and if current surface water bodies are impacted during the excavation additional surface water samples will be collected.	**Accept with comment.** One surface water monitoring event will be required, with additional monitoring as necessary pending results.
5.	33	Table 4-1	Please revise benzene to .025 mg/kg in the VORTAC drum storage area column, and to 11 mg/kg in the Range site AOC column.	Concur.	**Accept.**
6.		Appendix A	In the report, please provide photographs of the area once the debris and the pilings have been cut down/ removed, and once backfilling has been completed.	Concur.	**Accept.**