U.S. Army Corps of Engineers Alaska District

Proposed Plan
Test Well No. 9 Drainage Basin
UMIAT AIR FORCE STATION
Formerly Used Defense Site

Umiat, Alaska **October 2019**
FUDS Project No. F10AK0243-11

1.0 Introduction

The United States Army Corps of Engineers (USACE) requests your comments on this Proposed Plan for No Action at the Umiat Test Well No. 9 Drainage Basin, Formerly Used Defense Site (FUDS) located at the former Umiat Air Force Station (AFS) in Umiat, Alaska.

The Department of Defense (DoD) is authorized to carry out a program of environmental restoration at former military sites under the Defense Environmental Restoration Program (DERP), which includes clean-up efforts at FUDS. FUDS are real property that was under the jurisdiction of the DoD and owned by, leased to, or otherwise possessed by the United States that were transferred from DoD control prior to 17 October 1986. FUDS properties range from privately owned lands to state or Federal lands such as national parks as well as residential land, schools and industrial parks. The FUDS program includes former Army, Navy, Marine, Air Force, and other defense-used properties. Over 500 FUDS have been identified in Alaska.

The Proposed Plan is a component of the requirements of Section 117(a) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), also known as Superfund [42 U.S.C. § 9601 et seq.]. The Proposed Plan was prepared in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) and follows the requirements from Engineer Regulation 200-3-1, FUDS Program Policy (USACE 2004), and the United States Environmental Protection Agency (EPA) guidance provided in 'A Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Decision Documents' (EPA 1999). The site described in this Proposed Plan is a CERCLA site; however, it is not listed on the National Priority List. USACE is issuing this Proposed Plan as part of its public participation responsibilities under CERCLA.

CERCLA does not apply to petroleum hydrocarbon contamination, such as fuel releases. However, the DERP provides authority to cleanup petroleum, oil, and lubricants (POL) contamination when it may pose an imminent and substantial endangerment to public health, welfare or the environment. This Proposed Plan addresses both CERCLA and non-CERCLA contamination at the site.

The proposed decision for the site is No Action. The public is encouraged to review and comment on the decision presented in this Proposed Plan. After considering all public comments, USACE will prepare a Decision Document describing the selected decision. The Decision Document will include responses to all significant public comments in a section called the Responsiveness Summary. Changes to the proposed decision may be made through this comment review process and highlights the importance of community involvement.

Photo 1. View of Umiat Drainage Basin, looking north at upper end (August 2017).

This Proposed Plan summarizes the history, data, and previous action conducted at the Test Well No. 9

Drainage Basin site, located in Umiat, Alaska. The USACE encourages the public to review the Remedial Investigation (RI) Report and Risk Assessment Report (USACE, 2018) to gain a better understanding of the site and the environmental investigation activities that led to the identification of the No Action decision. These reports are available for review at the information repository located at the Native Village of Nuiqsut office. Information on how to participate in the decision-making process are discussed in Section 7.0 of this Proposed Plan and summarized below.

This Proposed Plan highlights the key information used to identify the No Action decision. A public comment period of no less than 30 days, as well as the opportunity to participate in a public meeting, are being provided to comply with CERCLA § 117(a) and NCP § 300.430(f)(3). New information or recommendations that the USACE Alaska District receives during the public comment period and/or public meeting may result in a modification of the recommendation for No Action.

Photo 2. View of Umiat Drainage channel.

2.0 Site Location and Background

The former Umiat Air Force Station (AFS) is located along the Colville River in the arctic foothills north of the Brooks Range, Alaska, approximately 120 miles southwest of Prudhoe Bay, 170 miles southeast of Barrow, and 65 miles southwest of Nuiqsut. The 23-million-acre Naval Petroleum Reserve-4 ((NPR-4) now NPR-A) was withdrawn from public domain in 1923, reserving the oil and gas resources within it for the exclusive use of the Navy. From 1945 to 1954, the U.S. Navy constructed facilities at Umiat for oil and gas exploration purposes. Improvements constructed at Umiat included living quarters, mess hall, latrines, shops, powerhouse, office, storage, and miscellaneous buildings, together with related utilities and a gravel runway. Starting in 1946, the Navy established eleven oil exploration wells in the Umiat vicinity, including Test Well No. 9.

In 1953, the Navy issued a Right-Of-Entry to the 8,000-acre Umiat facility to the U.S. Air Force (USAF) for use as the Umiat AFS. By letter dated 23 December 1954, the Navy transferred the Umiat improvements to the USAF. The USAF's plans to construct an Aircraft Control and Warning Station at the site never materialized, and the Umiat AFS was declared excess and transferred back to the Navy in January 1959. By Deed dated May 1966, the United States conveyed to the State of Alaska, a 1,450 acre tract of the Umiat AFS referred to as the Umiat Airport. In 1977, administration of NPR-4 was transferred to the U.S. Department of the Interior (DOI) as a result of Public Law 94-258, the Naval Petroleum Reserves Production Act of 1976.

The Umiat Airport tract of the former Umiat AFS is currently owned by the State of Alaska, Department of Transportation, and Public Facilities (ADOT/PF). The ADOT&PF grants leases for buildings and space to the Federal Aviation Administration (FAA), BLM, and private interests. The remainder of the former Umiat AFS is owned by the United States and remains under the jurisdiction of DOI, Bureau of Land Management.

As land manager, BLM was responsible for plugging and abandoning Test Well No. 9.

The Drainage Basin is adjacent to the former Test Well No. 9 site, which is located on the uplands to the north of the Colville River valley as shown on **Figure 1**. The upland areas consist of gently rolling hills covered by tundra vegetation. Permafrost is continuous in the area and summer depths of thaw are shallow. The surface water drainage system is ephemeral and flows south and east from the well, dissipating into the sloping terrain north of Umiat. The peak surface water flow is May to July during seasonal breakup (USACE, 2001). The closest seasonally used location to the site is Umiat, which is an extremely remote site not served by road or rail. The Umiat camp is approximately 1.5 miles from Test Well No. 9 and operated intermittently to serve as a fuel stop for aircraft and helicopters operating in the area. It can provide temporary lodging for those working on projects in the area. The closest year-round residents are located approximately 80 miles north of Umiat in the city of Nuiqsut.

3.0 Site Characteristics

3.1 Site History:

The Test Well No. 9 Drainage Basin site is adjacent to the former Test Well No. 9 site, which is one of 11 exploratory oil wells drilled in the Umiat area as part of the United States Navy NPR-4 exploration and drilling program conducted between 1945 and 1952. Test Well No. 9 was drilled using the rotary method with oil-based drilling muds containing a dissolved chemical tracer, made up in part by polychlorinated biphenyls (PCBs), which was soluble in oil, insoluble in water, and not affected by bacteria (Gates and Caraway, 1960).

Removal actions to remove and dispose of comingled PCB and petroleum, oil, and lubricant (POL)-contaminated soil were performed from 2009 to 2014 at the Test Well No. 9 site by USACE. A total of 9,264 tons of PCB- and/or POL-contaminated soil has been removed from the Umiat Test Well No. 9 site. The Test Well No. 9 project was declared closed in September 2015. The ADEC concurred with the project closeout in March 2016, noting that residual contamination in the downgradient drainage area would be addressed under a separate project. Once the source area was removed, potential impacts to the drainage basin could be investigated.

The main drainage channel begins in the northwest corner of the basin, downgradient of the former Test Well No. 9 project area, and splits into an eastern channel and a western channel before reconnecting into one pathway in the southwest corner of the site **Figure 1**.

Photo 3. Sampling activities at Umiat Drainage (2015).

3.2 Remedial Investigation Results:

For the remedial investigation (RI), the 54-acre Drainage Basin was separated into four soil Study Areas (A, B, C, & D) based on the former source area, known contaminant distribution, and physical characteristics. Each study area was divided into approximate 5-acre Decision units (DU) (a, b, & c), representing the exposure area of a recreational receptor. Within each DU, soil sampling units were defined by 100-foot x 100-foot grid cells. The investigation layout is shown on **Figure 2**. The DU was chosen as the smallest area of interest. One Study Area and one DU was used for both sediment and surface water.

During 2015 RI field activities, two drainage channels were observed at the site, the main channel, and an eastern channel. Historical imagery used for the figures also shows a former preferential pathway located on the eastern edge of the site flowing toward the pond in Study Area D. This channel was not observed during 2015 activities; however, the area was characterized through soil sample collection. In 2016, a data gap sampling event was conducted to further characterize the pond in the southeastern corner of the site and the potential transport of contaminants from up-gradient exceedances identified during the 2015 RI effort.

CERCLA Nature and Extent of Contamination:
During the RI a total of 150 primary composite soil samples and 46 primary discrete sediment samples were collected and analyzed for PCBs associated with historic drilling practices. Eight soil and five sediment samples were also analyzed for Resource Conservation and Recovery Act (RCRA) metals. Additional soil and sediment samples were collected outside of known contamination and analyzed for RCRA metals in order to establish background concentrations. Nine surface water samples were collected and analyzed for PCBs.

The results of the RI delineated the nature and extent of impacts and indicated that PCB as Aroclor 1254 mixture was measured in soil and sediment.

PCB concentrations in soil ranged from non-detect to 3.46 mg/kg with PCBs exceeding the project screening level of 1.0 mg/kg observed in six out of 150 composite samples collected. These six exceedances were found in six isolated grid cell locations shown on **Figure 3** with

the maximum concentration of 3.46 mg/kg found near the head of the drainage channel.

PCB concentrations in sediment exceeding the project screening level of 1.0 mg/kg were observed in 18 of the 46 samples and located as far as approximately 2,600 feet downstream of the source area in the eastern channel. The maximum concentration of 8.52 mg/kg was located close to the original source near the head of the drainage area. Contaminant distribution is defined by discrete sample results creating reaches of various lengths shown on **Figure 4**. Concentrations above screening levels are primarily found in the main channel downgradient of the former Test Well No. 9 site and extend to the eastern channel. PCB concentrations exceeding the project screening level were not observed in the western channel beyond the split of the main channel.

Vertical distribution in both soils and sediment is defined as the depth to permafrost, which was encountered at approximately 18 inches below ground surface (bgs) and 12 to 18 inches below sediment surface (bss). Permafrost acts as an impermeable layer; contamination is not anticipated to have migrated into or below the permafrost layer.

All surface water sample results for PCBs were non-detect. However, the level of detection (LOD) for Aroclor 1221 exceeded the screening level for all samples, which resulted in PCBs being reported above 0.5 micrograms per liter (µg/L) for all samples. This exceedance is due to laboratory constraints and not associated with contamination from previous site activities.

The nature and extent of Aroclor 1254 above screening levels in soil and sediment in the Drainage Basin has been defined as being in the drainage channels and within the six isolated grid locations summarized on **Figure 5**.

Petroleum-Oil-Lubricants (POL) Nature and Extent of Contamination under DERP Authority:
During the RI a total of 150 primary composite soil samples and 46 primary discrete sediment samples were collected and analyzed for fuel-related compounds (i.e., diesel-range organics [DRO], and residual-range organics [RRO]) from previous use of the area. Eight soil and five sediment samples were also analyzed for polycyclic aromatic hydrocarbons (PAHs). Additional soil and sediment samples were collected outside of known contamination and analyzed for total organic carbon (TOC) in order to establish background concentrations. Nine surface water samples were collected and analyzed for total aromatic hydrocarbons (TAH) and total aqueous hydrocarbons (TAqH).

Five soil samples collected in the Drainage Basin were analyzed for DRO and RRO using silica gel cleanup (SGCU) to determine whether there was an organic interference due to the naturally occurring peat in the tundra soil.

All soil sample results for DRO and RRO were below the project screening levels in the Drainage Basin. DRO and RRO screening levels are based on ADEC soil cleanup levels for POL in the Artic Zone.

Fourteen sediment sample results exceeded the project screening level for RRO (1,370 milligrams per kilogram [mg/kg]), which is based on $1/10^{th}$ the ADEC soil cleanup level for RRO in the Arctic Zone. No RRO results exceeded the ADEC cleanup level of 13,700 mg/kg in soil. The associated sediment samples were then analyzed for RRO with SGCU and results were below the project screening level. Using the lab produced chromatographs for these samples and the results of background soil analyzed for TOC, it was determined that the presence of organic chemicals (i.e., DRO and RRO) in soil and sediment is attributed to biogenic interference due to the high amount of peat or naturally occurring organic material present in the tundra, and is not indicative of contaminants resulting from site activities. Accordingly, the DRO and RRO present at the site is considered natural and unrelated to former military use.

The surface water sample results for TAH and TAqH were below surface water quality standards.

Photo 4. Surface water and sediment sampling at southeast pond (2016).

4.0 Scope and Role of Response Action

The Test Well No. 9 Drainage Basin is adjacent to the former Test Well No. 9 site which is considered the source area for PCB and POL contamination. Site closure of Test Well No. 9 was completed and filed in 2015. The RI was performed at the Drainage Basin to determine if potential migrating contamination from Test Well No. 9 posed a risk to human health or the environment.

The Umiat Test Well No. 9 Drainage Basin project is one of eleven FUDS projects in the Umiat area. Five of the projects have already achieved closure with the ADEC and include Umiat Drum Mound, Umiat Test Well No. 1, Umiat Test Well No. 9, Umiat Test Well No.3, and 350 Barrels and Transformers. One project, Umiat Lake, is currently pending closure with the ADEC.

Five projects remain open, including Test Well No. 9 Drainage. The Umiat Main Pad and Airfield has completed interim removal actions with closure to be addressed in the future. At Test Well No. 7 a feasibility study is under development to address lead contamination. The Umiat Landfill project has gone through the public review and comment process, and a Decision Document was approved in September 2019.

The selected remedy involves removal of the landfill contents from the Colville River floodplain, onsite treatment or offsite transportation and disposal of hazardous substances and contaminated soil/ sediment, and disposal of inert debris and treated soils in an inert waste monofill located on the property. The remaining project contains all other Umiat Test wells (#2, #4, #5, #6, #8, #10, and #11) and will be addressed in a future decision.

5.0 Summary of Site Risks

The summary of site risks describes the findings from the human health risk assessment (HHRA) and screening level ecological risk assessment (SLERA). The risk assessments were conducted in conjunction with the RI and evaluated whether contaminant concentrations in soil, sediment, and/or surface water bodies pose an unacceptable risk to human health or the environment. The HHRA and SLERA findings are summarized herein.

5.1 Human Health Risk

Recreational and subsistence ingestion of wild food is considered to be a potentially complete exposure route because foraging and hunting are known to occur in the Umiat area. Subsistence food resources include those that are relatively stationary (e.g., plants) and wide-ranging game that is common to the area (e.g., caribou and willow ptarmigan).

Potentially exposed human populations under current and future conditions at this FUDS consist of current/future site visitor/hunter, future short-term and long-term worker. A future subsistence resident was considered to evaluate exposure for future unrestricted use. The HHRA assessed risk to these receptors exposed to contaminants in soil, sediment, and surface water, through inadvertent ingestion of surface or subsurface soil and sediment; dermal contact with soil and sediment; inhalation of airborne, suspended particulates associated with soil; limited dermal contact and incidental ingestion with surface water in the intermittent drainage ways; and consumption of game and wild berries by individuals who visit the area for subsistence and sport hunting.

PCBs were identified as the CERCLA contaminants of potential concern (COPCs) in soil and sediment. COPCs are chemicals measured in environmental media that are site related and potentially present in sufficient quantity to possibly pose cancer or non-

cancer risk to human health. COPCs are evaluated further in a HHRA. Contaminants of concern (COC) are the COPCs determined to pose an unacceptable risk at the completion of the HHRA. Arsenic was measured at concentrations above risk-based screening levels in soil and sediment but below background levels; compounds that do not exceed background concentrations can be eliminated as COPCs.

The cumulative cancer risk estimates for all receptor groups fall below or within the 1-in-1,000,000 (10^{-6}) to 1-in-10,000 (10^{-4}) USEPA risk management range for adverse cancer effects.

The HHRA did not identify any human health COCs.

Photo 5. Sediment sampling at Umiat Drainage (2015).

5.2 Ecological Risk

No fish have been observed in the Drainage Basin and are unlikely to be present because the surface water flow is intermittent. No endangered, threatened, or rare species are known to occur at Umiat.

The SLERA assessed the potential for adverse effects to plant and invertebrate communities and wildlife populations exposed to contaminants in soil, sediment, and surface water, at the site. PCBs (Aroclor 1254), selenium, and cadmium were identified as CERCLA contaminants of potential ecological concern (COPECs) in soil and sediment. No COPECs were identified in surface water.

COPECs are chemicals measured in environmental media that are site related and potentially present in sufficient quantity to adversely impact the environment.

The receptor groups evaluated in the SLERA included plants and soil invertebrates and several birds and mammals selected to represent the primary feeding groups in the area including herbivores (moose, caribou, collared lemming and willow ptarmigan), insectivores (Artic shrew and Artic warbler), and carnivores (least weasel and snowy owl).

These receptor species were evaluated for direct contact with contaminated media and through dietary intake of potentially contaminated prey. No tissue samples were collected; rather, literature bioaccumulation factors (BAFs) were applied to soil and/or sediment concentrations in order to estimate concentrations in plants, invertebrates, and small mammals. Both the maximum site-wide concentration of a COPEC and the representative average concentration (i.e., 95% upper confidence limit [UCL] of the mean [95UCL]) was used as the exposure point concentration (EPC), which is the contaminant concentration at the point of contact (e.g., soil, sediment, plant, and prey tissue). The SLERA assessed risk associated with each DU, each Study Area, and site-wide in order to consider the spatial distribution of the data, as well as the home range of the ecological receptors.

The hazard quotient (HQ) method was used to characterize risk to ecological receptors, which compares a conservative dietary exposure estimate (dose) to the dose-based toxicity reference value (TRV), or a media concentration to an ecological benchmark for the same medium. If the HQ is greater than 1, the chemical is present at a level at which a potential for adverse ecological effects may occur. To provide a range of ecological hazard from COPEC exposure, HQs were calculated using both no effect and low effect TRVs. A no effect TRV is used in a SLERA because it is generally protective of wildlife populations and sensitive individuals. A low effect TRV generally represents the lowest dose at which an adverse population effect is expected.

5.3 Ecological Risk from Soil Exposure

Chemical concentrations measured in soil samples were compared to literature benchmarks to characterize the potential effects on plants and soil invertebrates. Concentrations of two CERCLA COPECs (selenium and mercury) exceeded the no effect benchmarks (HQ>1) for plants. Concentrations were below or numerically equal to the low effect

benchmarks for plants and soil invertebrates for all COPECs.

The HQ method indicates that higher level ecological receptors may be exposed to PCBs at levels capable of causing harm to small mammalian receptors (i.e., Artic shrew and collared lemming). The HQ method also indicates that ecological receptors may be exposed to PCBs at levels capable of causing harm to avian receptors.

However, as with any environmental assessment process, there are many uncertainties associated with estimating exposure and risks to ecological organisms. The risk from PCB (Aroclor 1254) is uncertain because of the large home range of the avian receptors (i.e., willow ptarmigan [about 600 acres] and snowy owl [about 900 acres]) in comparison to the site size (i.e., 54-acre site with 5-acre DUs) and because of the migratory habits of the avian receptors (i.e., Artic warbler). The site-wide risk estimates assume that contamination covers the entire 54 acres. However, an assumption made when considering area use is that the remaining areas used by the receptors are free of contamination. For example, as PCBs do not readily degrade and bioaccumulate within the environment, it is likely that other locations beyond the site may contribute to the risk. An assumption made when considering seasonal use is that migration habits occur over a year, though chronic toxicity data is typically based on laboratory studies conducted for less than six months.

Nevertheless, these assumptions are not expected to greatly underestimate exposure as no other sources of contamination are known to occur within the drainage basin, the site-wide exposure area is a relatively small area within a larger area with an abundance of alternate suitable habitat, and it is common for chronic laboratory studies to be of shorter timeframes than a year or the lifespan of the receptor.

Conducting a remedial action would incur significant long-lasting impacts to the fragile arctic tundra ecosystem, loss of wetland functionality, a substantial carbon footprint, and increase the risk of human exposure during removal and transport of contaminated material. Based on risk management considerations, the identified potential ecological risk from soil exposure does not pose an unacceptable risk to receptors at a population level.

5.4 Ecological Risk from Sediment Exposure

Benthic organisms are an important part of the food chain; they are the food source for upper trophic level organisms. While the 95UCL concentration of PCBs (2.045 mg/kg) exceeds a probable effect level of 0.277 mg/kg, this concentration does not exceed a minor adverse effect level of 2.5 mg/kg for protection of populations of benthic communities in sediments developed by the Washington Department of Ecology (WADEC, 2011). This benchmark was developed from a database of field-collected samples representative of the majority of freshwater sediment sites encountered in the northwest and is based on the lowest values from five acute and chronic growth and mortality tests.

The PCB concentration in 8 of 46 RI sediment sample locations exceeded this minor adverse effect level; elevated concentrations ranged from 2.83 mg/kg to 8.52 mg/kg. Thus, PCB in sediment may pose a minor risk to the benthic invertebrate community associated with approximately 17% of the tested sediment locations. The WADEC (2013) notes that they consider values up to the minor adverse effect level for site cleanup based on technical possibility (i.e., whether it is technically possible to achieve and maintain) and/or net adverse environmental impacts (i.e., whether achieving and maintaining the cleanup level will have a net adverse environmental impact on the aquatic environment). Based on the limited quantity and quality of aquatic habitat, and the abundance of alternate suitable habitat in the area for wildlife that forage on benthic invertebrates, any isolated impacts from elevated PCB concentrations on the benthic invertebrate community are not expected to significantly impact the broader ecological community of the site.

Since PCBs tend to bioaccumulate and biomagnify, the SLERA also evaluated potential adverse effects on upper trophic level organisms. PCB concentrations in sediment did not pose risk to semi-aquatic receptors (i.e., moose and ptarmigan).

Conducting a remedial action would incur significant long-lasting impacts to the fragile arctic tundra ecosystem, loss of wetland functionality, a substantial carbon footprint, and increase the risk of human exposure during removal and transport of contaminated material. Based on risk management considerations, the identified potential ecological risk from sediment exposure does not pose an unacceptable risk to receptors at a population level.

5.5 Petroleum-Oil-Lubricants (POL)

The POL contamination at the site was investigated under DERP to determine whether it poses an imminent and substantial endangerment to human health or the environment under DERP. Site concentrations of POL related compounds were compared to Alaska's Site Cleanup Rules (18 Alaska Administrative Code [AAC] 75 Article 3), which are indicative of whether an imminent and substantial endangerment exists.

Human Health: The maximum DRO and RRO concentrations in soil and sediment do not exceed the ADEC 18 AAC 75 Method Two residential direct contact cleanup levels for DRO and RRO. Carcinogenic polycyclic aromatic hydrocarbons (cPAH) were identified in surface water. At the maximum cPAH concentrations site-wide in soil, sediment, and surface water, the total cancer risk did not exceed ADEC's target risk level of 1×10^{-5}, even for the most conservative hypothetical exposure scenario (future subsistence resident).

Environment: POL contaminants (i.e., DRO and RRO) were also evaluated for potential impacts to ecological receptors. No POL contaminants were identified in surface water.

Concentrations of POL contaminants (DRO and RRO) exceeded the no effect benchmarks (HQ>1) for plants. Concentrations were below or numerically equal to the low effect benchmarks for plants and soil invertebrates for all constituents except RRO. Thus, POLs in soil are considered to pose a limited risk to terrestrial plant and soil invertebrate communities, primarily in two DUs.

The HQ method indicates that higher level ecological receptors may be exposed to DRO and RRO at levels capable of causing harm to small mammalian receptors (i.e., Artic shrew and collared lemming). The HQ method also indicates that ecological receptors may be exposed to DRO and RRO at levels capable of causing harm to avian receptors.

However, as with any environmental assessment process, there are many uncertainties associated with estimating exposure and risks to ecological organisms. The risk from DRO and RRO to insectivorous birds and small mammals is uncertain as a result of the uncertainty associated with the use of exposure and toxicity data for surrogate chemicals and because much of the DRO and RRO present at the site may be naturally-occurring and unrelated to fuel as evidenced by the silica gel analysis and elevated TOC in background.

While there is potential risk to insectivorous birds and insectivorous small mammals from RRO in soil, naturally occurring organic material (NOM) in soil may include naturally-occurring DRO and RRO that produces analytical interference. High peat soils and natural oil seeps occur throughout the Umiat area. The maximum RRO plus DRO concentration in soil (14,890 mg/kg) is less than the background TOC concentration (5.25% [52,500 mg/kg]). The silica gel cleanup analytical (SGCU) results indicate that there is a potential for biogenic interference and that analytical interference associated with non-target compounds is significant at the site. Thus, POL in soil does not pose an imminent and substantial endangerment to the environment.

The 95UCL concentration of DRO (263 mg/kg) does not exceed the benthos screening level of 340 mg/kg; thus, POL in sediment does not pose an imminent and substantial endangerment to the environment.

The concentrations of petroleum hydrocarbons do not pose an imminent and substantial endangerment to human health or the environment.

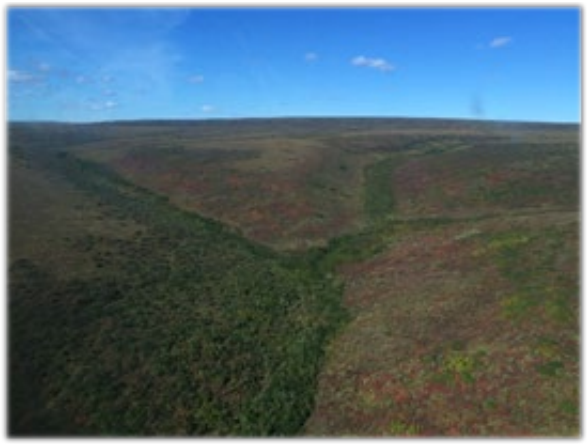

Photo 6. General overview of Umiat (2015).

6.0 Basis of No Action

The Test Well No. 9 Drainage Basin is adjacent to the former Test Well No. 9 site which is considered the source area for PCB and POL contamination. Site closure of Test Well No. 9 was completed and filed in 2015.

CERCLA Decision. The Risk Assessments completed for the Umiat Test Well No. 9 Drainage Basin identified no unacceptable human health risk and limited potential for ecological risk at the site. While PCBs in sediment may pose a minor risk to the benthic invertebrate community, any isolated impacts from elevated PCB concentrations on the benthic invertebrate community are not expected to significantly impact the broader ecological community of the site. PCB concentrations in soil and sediment did not pose risk to upper trophic level organisms. Therefore, based on the information currently available, no action is necessary to ensure protection of human health and the environment.

POL under DERP. Natural oil seeps occur throughout the Umiat area and the residual POL contamination does not pose an imminent and substantial endangerment to human health and the environment. Accordingly, under DERP, No Action is needed at this site.

7.0 Community Participation

Public input is important to the decision-making process. Interested parties are encouraged by the USACE to use the comment period to review the Proposed Plan for No Action and to provide their comments to the USACE.

As previously stated, and in accordance with CERCLA Section 117(a), a public comment period of no less than 30 days for this Proposed Plan for No Action has been provided, and a public meeting regarding the Proposed Plan for No Action has been scheduled to be held during the public comment period. A notice will also be published via local news media to announce the availability of this Proposed Plan for No Action for public review and comment. A final decision for this site will be made only after public comments are considered. Following the public comment period, the USACE will provide responses to all significant comments received in a Responsiveness Summary which will be part of the final Decision Document. The final Decision Document will provide a record of the official decision for the site.

The public comment period ends
15 December 2019

Comments can be submitted to USACE by any of the following methods:

Mail a written comment:

USACE, Alaska District
Attn: CEPOA-PM-ESP-FUDS (Rm 200)
Umiat TW #9 Drainage Proposed Plan
PO Box 6898
JBER, Alaska 99506

Email a comment:

POA-FUDS@usace.army.mil

Attend the public meeting:

6:30 – 8:30 PM on 13 November 2019
City Hall, Nuiqsut, Alaska

For additional information, please contact:

Guy Warren
USACE Project Manager
907-753-5744
guy.l.warren@usace.army.mil

Information Repository Location:

Additional detailed information that is not presented in this Proposed Plan (documents that detail previous investigations, remedial actions, and results) is available for your review in the Information Repository located at the Native Village of Nuiqsut office.

Electronic Copy:

An electronic copy of this Proposed Plan is available during the public comment period at:

https://www.poa.usace.army.mil/Library/Reports-and-Studies/

Glossary

Alaska Department of Environmental Conservation (ADEC): The state agency responsible for protecting public health and the environment within the state. The Spill Prevention and Response Division is charged with protecting public health and the environment from sites contaminated by oil or other hazardous substances.

Cancer Risk: Cancer risk is assessed by examining the likelihood of cancer resulting from exposure to contaminants at a site. Cancer risk is expressed as the incremental probability of an individual developing cancer over a lifetime as a result of exposure to carcinogens. For example, a 1 in 100,000 risk (usually written as "1 x 10^{-5}") means for every 100,000 people (receptors) exposed to site contaminants, one extra case of cancer may occur than normally would be expected from all other causes in the area. ADEC has established a target cumulative cancer risk standard of 1 in 100,000 ($1x10^{-5}$) per 18 Alaska Administrative Code (AAC) 75.325(g).

Hazard Index: Used for human health risk assessments, the hazard index is a summation of the risks of potential exposure to each chemical at the site representing the potential noncancer health risk. An HI value of 1 or less is considered an acceptable exposure level.

Hazard Quotient: Used for ecological risk assessment, the HQ is the ratio of dose to dose-based toxicity value, or a media concentration to an ecological benchmark for the same medium. If the HQ is greater than 1, ADEC (2015) interprets that to mean that the chemical is present at a level at which a potential for adverse ecological effects.

Human Health Risk Assessment (HHRA): An assessment that determines if human receptors are exposed to unacceptable risk.

No Action (NA): A recommendation given to a site that poses no unacceptable risk for a specific hazard.

Non-Carcinogenic Hazard: The measure used to describe the potential for non-cancer health effects to occur in an individual is expressed as a "hazard index". The hazard index is a comparison of the estimated exposure level (considering all contaminants present at the site and all potential pathways of exposure) to an exposure level that is considered to be without an appreciable risk of adverse effects (a "safe" level). If the hazard index (the ratio of the estimated exposure level to the "safe" exposure level) is less than 1, there is low

Remedial Investigation (RI): A study to determine if past site activities have contaminated the environment and pose a threat to human health or the environment as part of the CERCLA process.

Screening Level Ecological Risk Assessment (SLERA): A study of current and future on-site activity with regards to site contaminants on animals, including plants, invertebrates, birds, and mammals that are native to the site.

Unacceptable risk: A quantification of potential harm to humans, animals, or plants from exposure to contaminants at elevated levels. An unacceptable risk means there is a threat to human health or the environment and that a remedial action/removal action must be taken.

References

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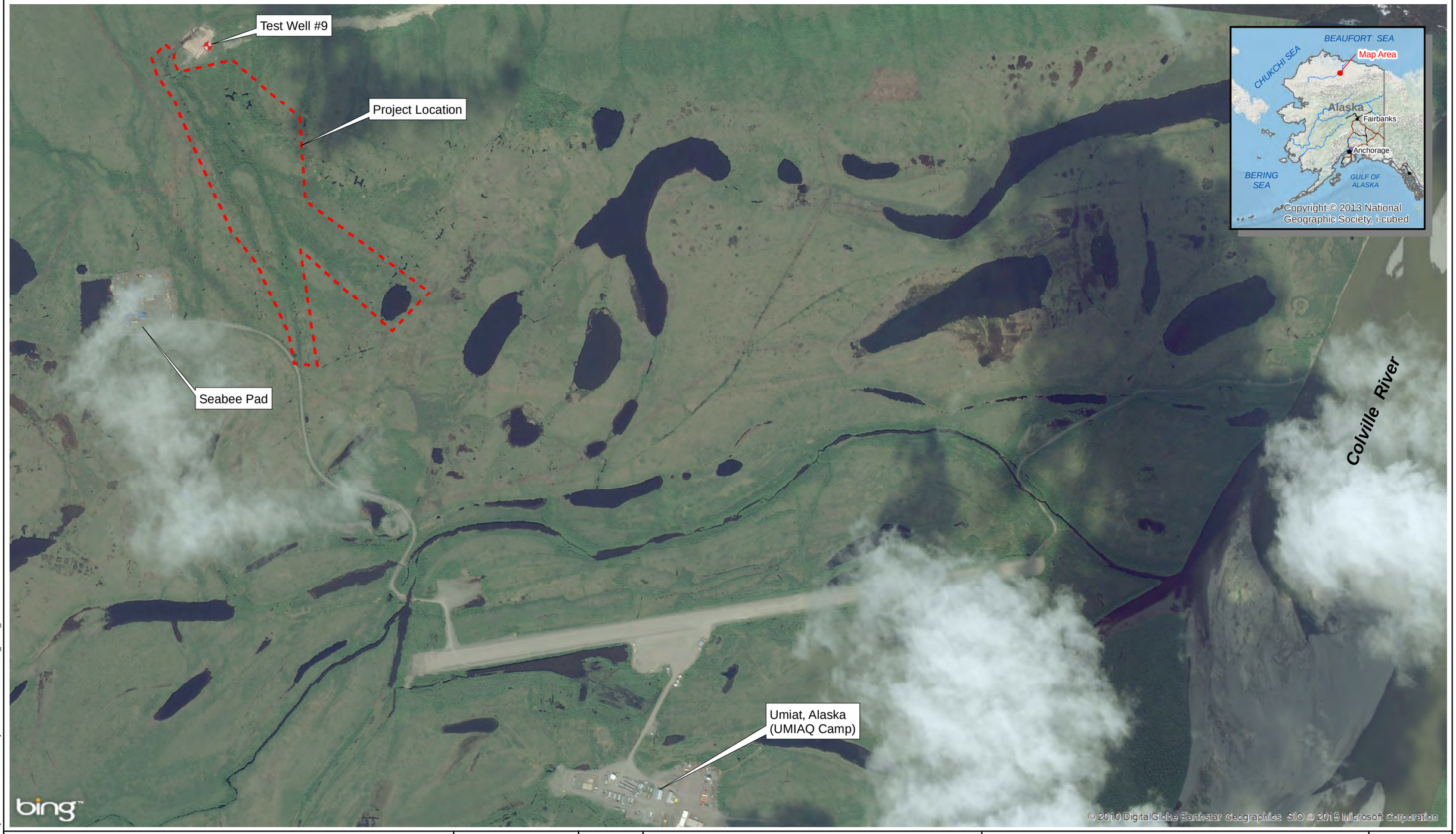
FIGURES



N

0 250 500 1,000 1,500 Feet

SCALE: AS INDICATED	DRAWN: SJ	
THIS BAR IS 1" AT FULL SCALE	DESIGNED:	
PROJECT NO.:	CHECKED:	

SITE LOCATION AND VICINITY

U.S. Army Corps of Engineers
Umiat, Alaska

FIGURE 1

DATE: 07 DEC 2015

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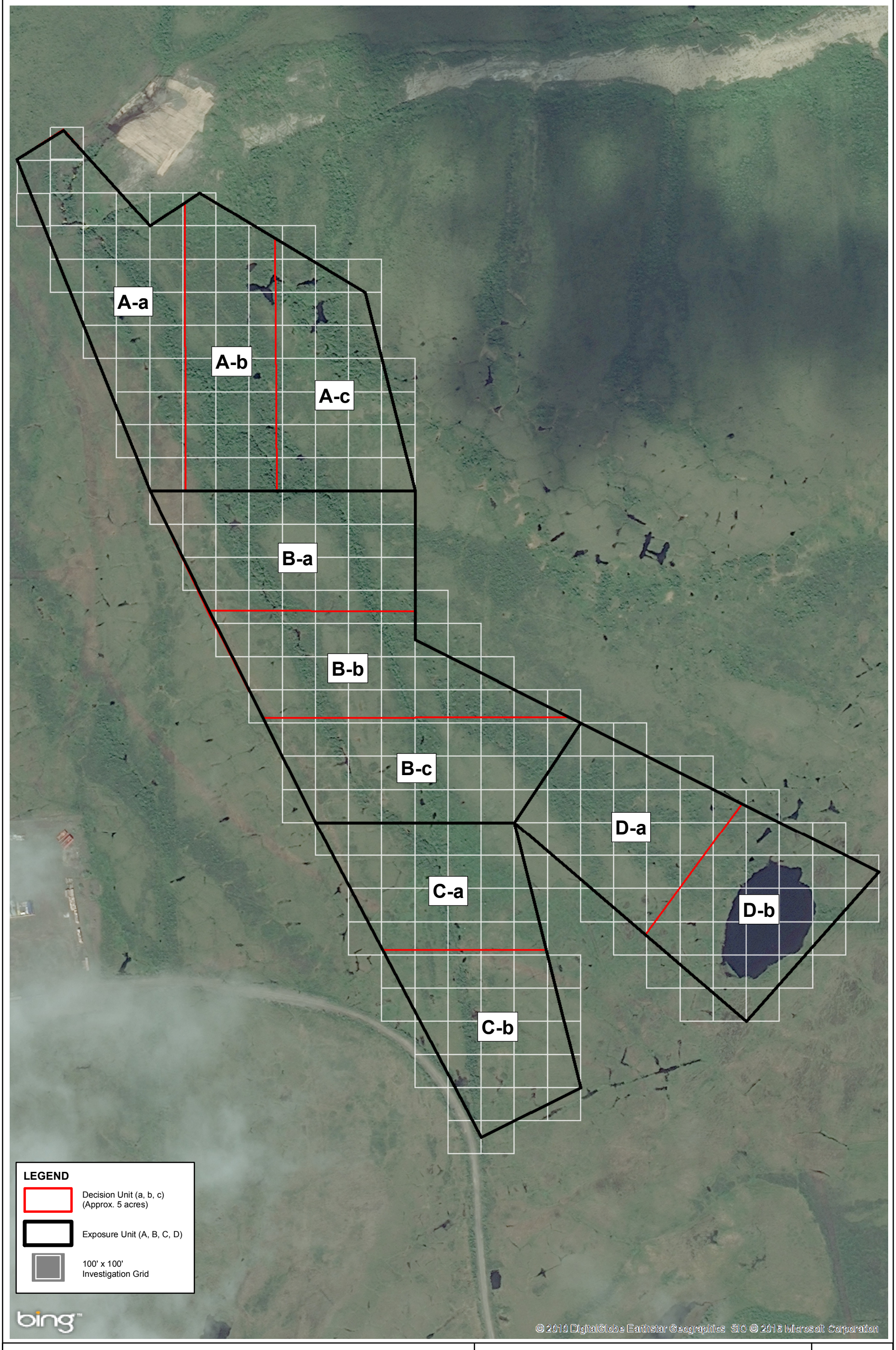

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Feet

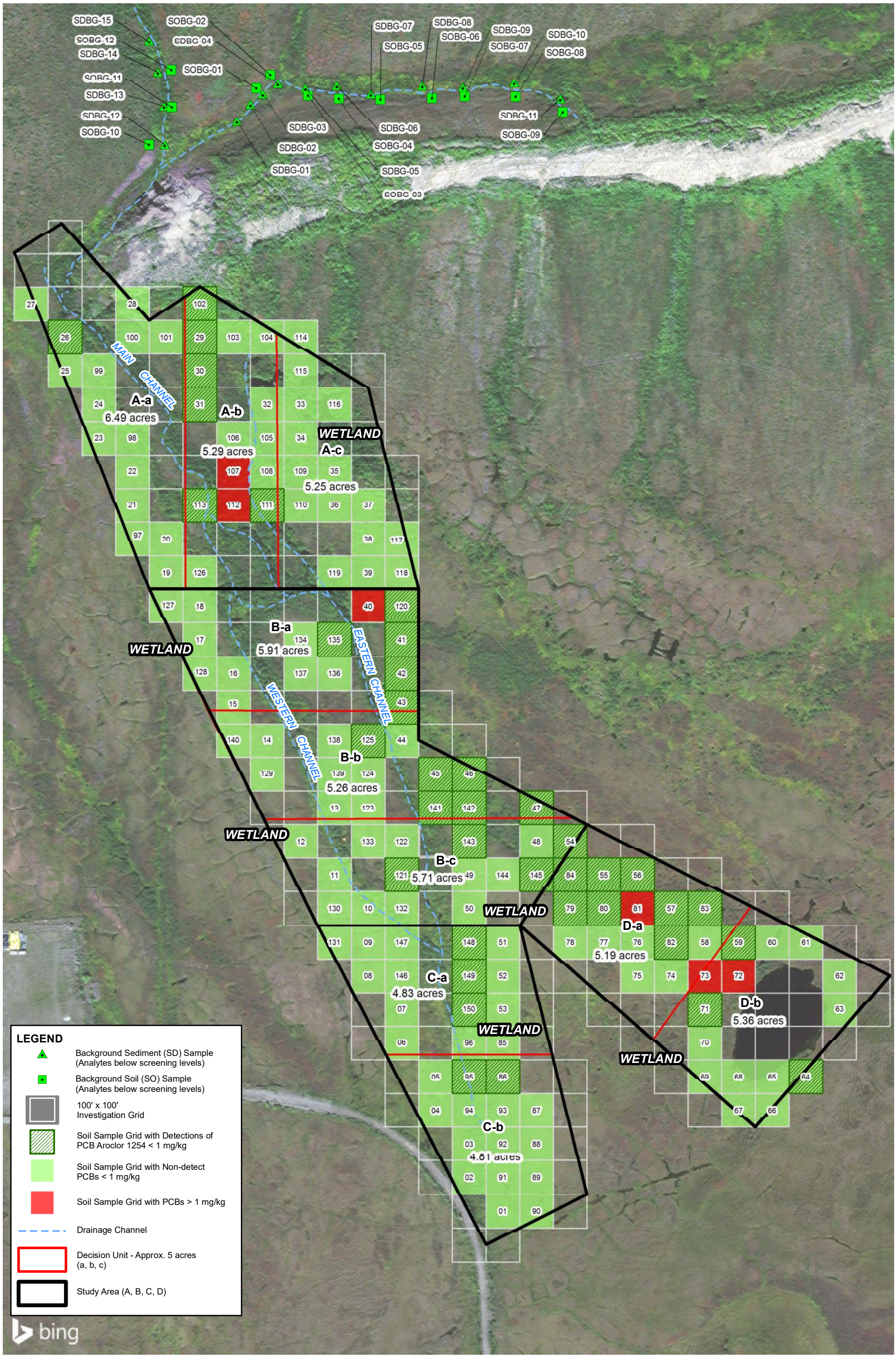
INVESTIGATION AREA, EXPOSURE UNITS, AND DECISION UNITS

U.S. Army Corps of Engineers
Umiat, Alaska

FIGURE 2

DATE:
25 JAN 2016

Date: 01 Mar 2018 Drawn by: SJ K:\PROJECTS\Army\Umiat\MXDs\2018\2018_Umiat_RI-03.mxd



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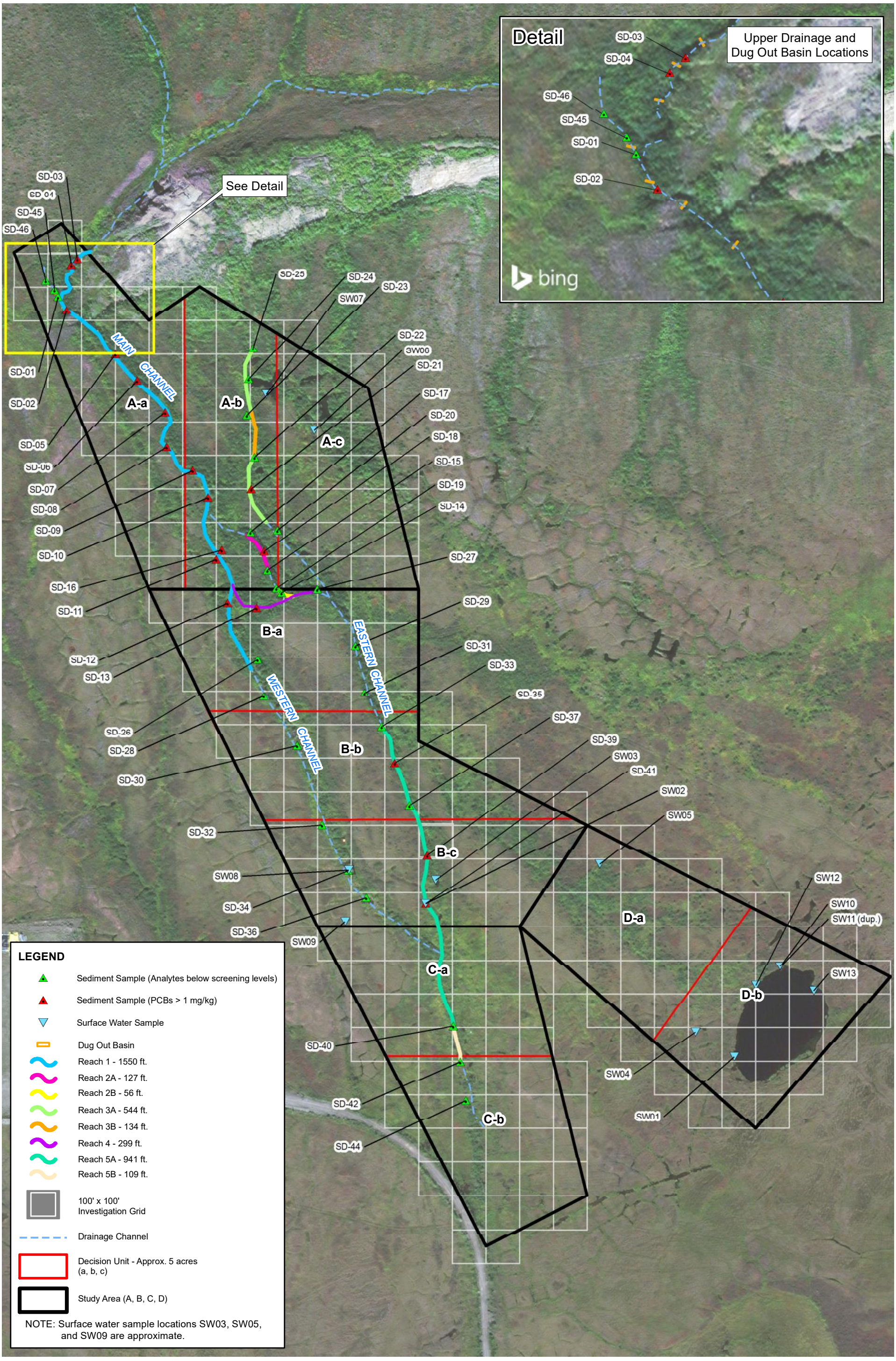
2015 BACKGROUND AND COMPOSITE SOIL SAMPLE LOCATIONS

U.S. Army Corps of Engineers
Umiat, Alaska

FIGURE 3

DATE: 01 MAR 2018

Date: 01 Mar 2018 Drawn by: SJ K:\PROJECTS\Army\Umiat\MXDs\2018\2018_Umiat_RI-01.mxd



2015 SEDIMENT AND 2015 / 2016 SURFACE WATER SAMPLE LOCATIONS

U.S. Army Corps of Engineers
Umiat, Alaska

FIGURE
4

DATE:
01 MAR 2018

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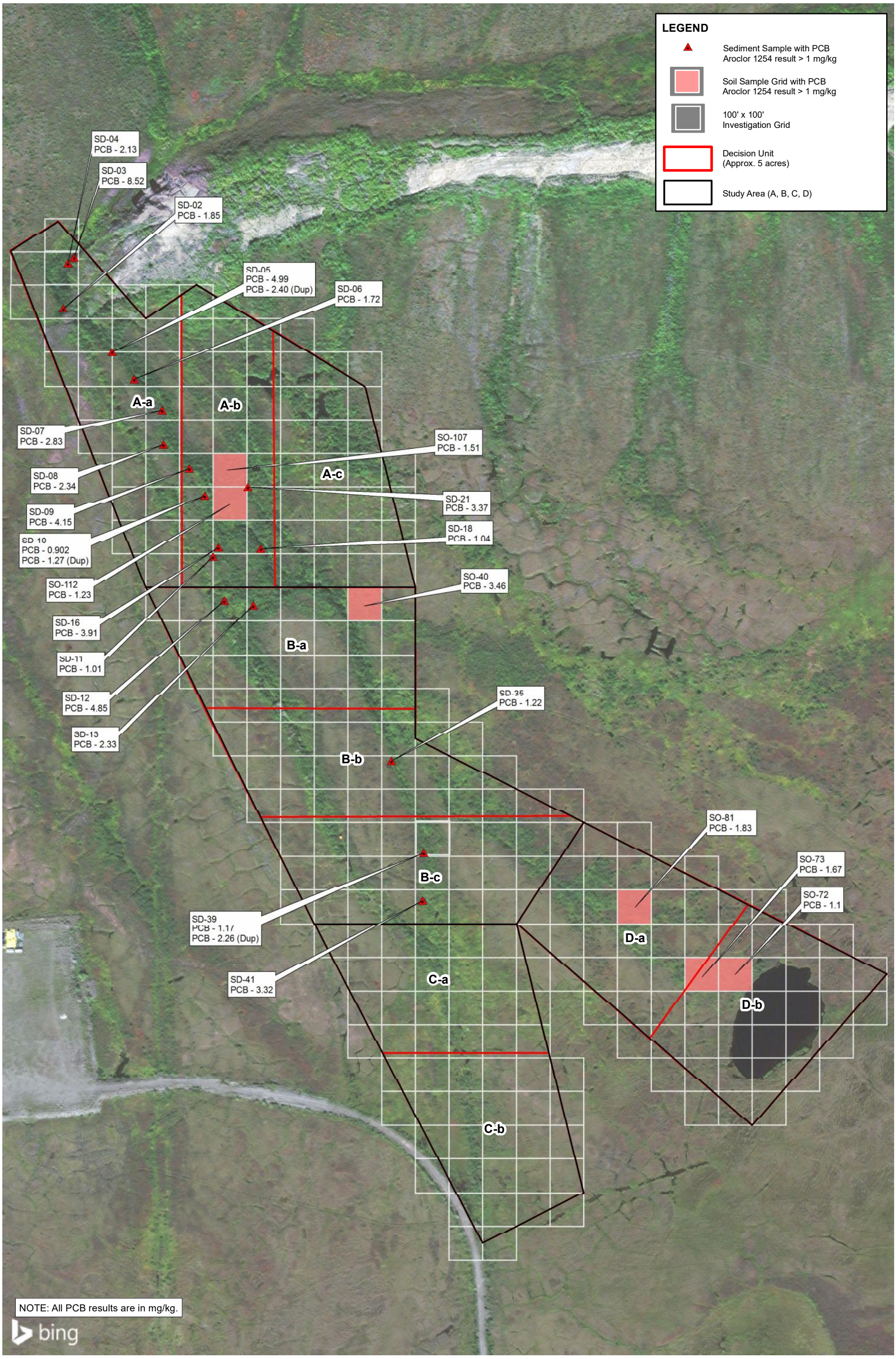

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2015 EXTENT OF PCB CONCENTRATIONS ABOVE THE CLEANUP LEVEL

U.S. Army Corps of Engineers
Umiat, Alaska

FIGURE 5

DATE: 02 MAR 2018